I-595 RFP Volume II - Technical Requirements

Division II, Section 3 - Design and Construction Criteria

Florida Department of Transportation

District 4

To Design, Build, Finance, Operate and Maintain

The I-595 Corridor Roadway Improvements Project

Final Version for Execution

Financial Project Number: 420809-3-52-01
Federal Aid Project Number(s): 595-1 (553), 595-1 (556), 595-1 (557)
Contract Number: E4J69

Table of Contents

Section 3 Design and Construction Criteria

A. General

The design and construction activities of the Project generally consist of 10.5 miles of reconstruction, widening, milling and resurfacing of the I-595 mainline and all associated improvements from the I-75/Sawgrass Expressway interchange west of SW 136th Avenue to the I-595/I-95 interchange, which include the following main components:

- Reconstruction, widening, milling and resurfacing of the I-595 mainline.
- Modification and construction of auxiliary lanes, braided ramps, crossroad bypasses and various geometric improvements to eliminate operational deficiencies caused by merge, diverge and weaving segments along the corridor.
- Reconstruction, widening, milling and resurfacing and providing a continuous connection of the EB and WB SR-84 frontage road system.
- Construction of three (3) reversible Express Lanes in the median serving express traffic to/from I-75/Sawgrass Expressway from/to east of SR-7 with a direct connection to the Florida's Turnpike.
- Geometric improvements to the I-595/Florida's Turnpike interchange and widening / reconstruction of the Florida's Turnpike mainline from north of Griffin Road to south of Peters Road, and widening of the median of Florida's Turnpike to integrate the Express Lanes direct connections.
- Deployment of various Intelligent Transportation System (ITS) elements for the Express Lanes and General Purpose Lanes along both I-595, Florida's Turnpike, SR-84 and associated ramps.
- Preservation of an envelope within the Project Right of Way that would accommodate construction of a future transit system.
- Construction of portions of the Broward County Greenways System plan from just east of SW 136th Avenue to east of the SR-7/US 441 interchange with I-595.
- Other improvements including construction of sound barriers, bridge works, drainage, utility relocations, signing and pavement markings, signalization, lighting, landscaping, etc.

Except as expressly provided otherwise in the Contract Documents, the Concessionaire shall provide within 60 calendar days of Final Acceptance of the Project, electronic files (with chronological indexes) of all Project correspondence, submittals, etc. The files shall be in TIFF format.

The Department and FHWA will have full oversight of this Project during both design and construction.

The Department shall be the authority having jurisdiction regarding issues of structural integrity.

All design and construction documents shall be prepared using the English system.

The Concessionaire shall be responsible for: detailed plan checking as outlined in the Plans Preparation Manual (PPM), as described in the Technical Requirements, and as provided in the Concessionaire's Design Quality Plan described in Vol II Div II Sect 2.N.1. This includes a checklist of the items listed in the PPM for each completed phase submittal.

All work shall be performed within existing right of way or easement. The Department is acquiring right of way for portions of the Project and is anticipating having right of way clearance as stipulated in Vol II Div II Sect 2.C of the Technical Requirements.

The Concessionaire shall fence the Limited Access Right of Way. The Concessionaire shall be responsible for the replacement or modifications to the existing fence accommodating for the design or means and methods of construction except where sound barriers provide delineation.

B. Information Provided by the Department

All preliminary information provided by the Department in the Reference Documents is for information only except as otherwise set forth in this Section 3. The Concessionaire is responsible for obtaining all support information necessary for the Project design and construction.

C. Services Provided by the Department

The Department will be responsible for the following:

- Contract administration
- Management services
- Quality assurance compliance reviews of all work associated with the development and preparation of the contract plans and construction of the improvements – including recommendations based on undesirable, contaminated and/or hazardous materials
- Shop Drawing concurrence
- Oversight Construction Engineering and Inspection Services.
- Review and recommendations of Concessionaire's specialty contractors and services to handle undesirable, contaminated and/or hazardous wastes
- FTE will provide, install, operate and maintain the electronic tolling equipment for the Express Lanes, and will manage all SunPass customer services and violation enforcement.
- NEPA reevaluation review and submittal to FHWA

D. Forms

The Concessionaire is required to make use of all standard FDOT forms for design and construction (i.e. submittals, daily reports, etc.). This shall apply to all issues for which a standard FDOT form is available.

E. Survey

Preliminary design surveys were conducted for the development of the Indicative Preliminary Design. Those surveys are included in the Reference Documents in electronic format. The Concessionaire shall perform all surveying and mapping services necessary to complete the Project. The information shall meet the following:

Survey services must comply with all pertinent Florida Statutes and applicable rules in the Florida Administrative Code. All field survey data will be furnished to the District Surveyor in a Department approved digital format, readily available for input and use in CADD Design files. All surveying and mapping work must be accomplished in accordance with the

Department's Surveying Procedure, Topic Nos. 550-030-101; Right of Way Mapping Procedure, Topic No. 550-030-015; Aerial Surveying Standards for Transportation Projects Procedure, Topic No. 550-020-002. This work must comply with the Minimum Technical Standards for Professional Surveyors and Mappers, Chapter 61G17, Florida Administrative Code (F.A.C.), pursuant to Section 472.027, Florida Statutes (F.S.) and any special instructions from the Department. This survey also must comply with the Department of Environmental Protection Rule, Chapter 18-5, F.A.C. pursuant to Chapter 177, F.S., and the Department of Environmental Protection.

All survey work shall be made to conform to the Florida State System of Plane Coordinates, using the North American Datum of 1983 (1990 or most recent adjustment) for horizontal control, and the North American Vertical Datum of 1988 (NAVD 1988) for vertical control.

The Concessionaire shall be responsible to determine where additional design survey is necessary. It is noted that additional design survey may be necessary at the following specific locations:

- Turnpike Interchange and mainline – The Concessionaire shall update the design survey as needed to include the Turnpike SB Project FM No. 406094-1-52-01 currently under construction from Griffin Road to Peters Road.
- Turnpike Interchange and mainline – The Concessionaire shall update the design survey as needed to include the Florida Gas Transmission Proposed 36" Mainline Relocation, Project Number 419336-1.6.4.3 currently under construction.
- Broward County Project No. 5243 for Commodore Drive and SW 125th Avenue – The Concessionaire shall update the design survey as needed to include the bridge crossings currently under construction.
- Turnpike Interchange – The Concessionaire shall perform additional design survey/soundings within the lake areas of the Turnpike interchange to complete the design of the Express Lanes direct connectors and general purpose ramps.
- Broward County Greenways – The Concessionaire shall perform additional design survey as needed within the areas of the Greenways and bulkhead along the North New River Canal east of the Turnpike to west of SR-7/US 441.
- Bridge widening – The Concessionaire is responsible to supplement any design survey necessary to complete the final design of bridges proposed to be widened within the Project limits.
- The Concessionaire shall be responsible to field-station each of the I-595, Turnpike mainline and crossroads as necessary to facilitate construction stakeout.
- Any other adjacent project that may overlap into the Project limits.

F. Environmental Approach: NEPA Requirements / Permitting / Mitigation

1. General

On June 29, 2006 the Federal Highway Administration (FHWA) approved a Type II Categorical Exclusion for the Project (the "Project Development and Environment Study" or "PD&E Study"), according to the National Environmental Policy Act of 1969 (NEPA) and 23 CFR 1771. Refer to the Reference Documents for the I-595 PD&E Study. A Categorical Exclusion signifies a category of actions which do not individually or cumulatively have a significant effect on the human environment; therefore, neither an

Environmental Assessment nor an Environmental Impact Statement was required for the Project.

The Department recently decided to change the previously approved elevated alignment for the Express Lanes and provide an at-grade alignment for the Express Lanes. The Department completed a Design Change Project Reevaluation of the original PD&E Study to address the change in typical section and further document any changes in the Project commitments, criteria, environmental documentation and scope that have occurred subsequent to the Type II Categorical Exclusion from FHWA. The Department has also recently completed a Construction Advertisement Reevaluation to address updates to Project Design Exceptions and Variations, completion of the Traffic and Revenue Study, and updates to the various Project commitments and environmental documentation. Refer to the recently approved Design Change and Construction Advertisement Reevaluation in Volume III. However, any design proposal by the Concessionaire that may change the existing approved PD&E Study and approved Design Change and Construction Advertisement Reevaluation documents may require additional reevaluations. It will be the responsibility of the Concessionaire to complete all work associated with the preparation of subsequent reevaluations. This includes coordination with the Department's District Planning and Environmental Management Office regarding the reevaluation submittal to FHWA for approval. The Concessionaire will complete all work in accordance with the NEPA process.

2. Project Commitments

During the development of the I-595 corridor improvements through the Master Plan and PD&E Study phases, extensive coordination with numerous government officials, agencies, municipalities, general public, and organizations took place to ultimately establish the approved corridor design concept and Project commitments. See Volume III for the Design Change Reevaluation, which contains a detailed status update and list of commitments made during the PD&E Study and for subsequent phases of the Project. The Concessionaire shall adhere to these commitments in the design, construction and O&M portions of the Project. The Concessionaire shall be responsible for tracking the status of Project commitments. The Concessionaire shall be responsible for the coordination, scheduling, and evaluation of changes to previous Project commitments or the establishment of new commitments.

3. Permits and Approval

The proposed Project improvements shall require different types of permits from federal, state, and local jurisdictional regulatory agencies, including the Broward County Environmental Protection Department (BCEPD), Central Broward Water Control District (CBWCD), Old Plantation Water Control District (OPWCD), Tindall Hammock Irrigation and Soil Conservation District (THISCD), Florida Department of Environmental Protection (FDEP), South Florida Water Management District (SFWMD), US Army Corps of Engineers (ACOE), and United States Coast Guard (USCG).

The Department has identified a number of regulatory permits that will likely be required for the Project. This list is indicative only and is not meant to be comprehensive.
In the interest of expediency, the Department has commenced the process for securing the following permits until execution of the Agreement:

- BCEPD Surface Water Management License
- BCEPD Environmental General Resource License
- CBWCD Surface Water Management Master Plan Permit
- OPWCD Surface Water Management Master Plan Permit
- Joint FDEP/SFWMD/USACOE Individual Environmental Resource Permit (including USACOE Dredge/Fill Permit)
- SFWMD Standard Right of Way Occupancy Permit
- THISCD Surface Water Management Master Plan Permit
- USCG Bridge Permit

These permit applications have been submitted to the regulatory agencies and are provided in the Reference Documents, along with all Requests for Additional Information (RAI) letters and responses to the regulatory agencies. The Concessionaire is advised that the permit plans and permit sketches submitted to the various regulatory agencies have been provided for preliminary permitting purposes only and are subject to change based on the Final Design.

In the event that the Department has secured any of these permits, the Concessionaire will be responsible for complying with all permit conditions. The Concessionaire will also be responsible for modifying these permits, if such modifications are acceptable by the applicable regulatory agency, to reflect the Final Design components.

The Concessionaire shall comply with the following Department commitments to the USCG:

- The minimum Proposed Navigational Limits as shown in the USCG Bridge Permit Sketches.
- East of the Sewell Lock, the North New River Canal shall be dredged and stabilized as defined in the SFWMD Right-of-Way Occupancy Permit Sketches.

The Individual Environmental Resource Permit will modify and/or supersede all existing Standard General Permits that cover I-595 from I-75 to east of SR-7, as well as Florida's Turnpike from Griffin Road to Peters Road. The Concessionaire will be responsible for performing any tasks related to transferring and/or modifying any previously secured permits.

The Department has identified additional regulatory permits that will likely be required for this Project and will be the responsibility of the Concessionaire for securing. This list is indicative only and is not meant to be comprehensive:

- FDEP National Pollutant Discharge Elimination System (NPDES) Stormwater Pollution Prevention Plan
- SFWMD Water Use Permit
- Toll Building Permit

The Concessionaire shall be responsible for obtaining all permits required for the Project, as well as any permit modifications, local permits (such as building permits), and any construction permits related to the final design components. This also includes any permits still pending at the time of execution of the Agreement. The Concessionaire

must comply with all permit conditions, environmental mitigation and other permitting requirements. Should any penalties be assigned including additional mitigation as a result of the Concessionaire's actions that are not in compliance with permit conditions, the Concessionaire will be responsible for such penalties/mitigation.

If any dewatering activities will be performed – especially in the vicinity of the Turnpike interchange and the Florida Petroleum Reprocessors (FPR) Superfund plume FDEP, BCEPD and SFWMD permits will be needed. These permits will likely include groundwater influence and groundwater treatment system modeling, and may require review by the EPA.

For groundwater monitoring wells found within the Project limits, the Concessionaire shall conform with the "plugging" requirements described in FDEP Chapter 62-532.500(4), (F.A.C.), and in SFWMD Rule 40E-3.531(3) for well abandonment.

The Concessionaire shall be responsible for preparing any necessary permit applications and all documents required thereby, to obtain FTE permits for the toll building work. It is not anticipated that the Concessionaire would be required to obtain any permits from any governmental agency external to the FTE, except for the State Fire Marshall, to perform work for the toll building since the FTE is self-permitting. The permit application shall be submitted to the FTE's Permit Coordinator for review and issuance of a permit to the Concessionaire.

The Concessionaire shall prepare and submit toll building design documents for all building disciplines (Civil, Structural, Architectural, Mechanical, Electrical, and Landscaping) for review and approval by the FTE. Upon approval, the Concessionaire shall coordinate through the FTE Permit Coordinator the submittal of the approved 100% design documents to the FTE's Building Code Administrator for a building permit and to the State Fire Marshall for approval.

4. Water Quality

Water quality shall be maintained during the duration of the Construction Work. Upland erosion and sedimentation into surface waters will be prevented via the use of approved erosion control devices, and other Best Management Practices (BMPs). In segments of the Project where the roadway conveyance systems discharge into offsite golf course pond systems, including the area of the I-595 right-of-way between SW 136th Avenue and Flamingo Road which will drain into Lago Mar Golf Course, the area of the I-595 right-of-way between Nob Hill Road and Pine Island Road which will drain into Pine Island Ridge Golf Course, and the area of the I-595 right-of-way between Pine Island Road and University Drive which will drain into Arrowhead Golf Course, the Concessionaire shall provide the maximum amount of pre-treatment for the roadway runoff that can feasibly and practically be constructed. In these prescribed drainage areas of I-595, such pre-treatment will include, at a minimum, the use of two (2) foot to four (4) foot sumps (depending on the depth to groundwater table at the inlet location) and the use of Type I Skimmers (or equivalent, approved devices) in all inlets with contributing impervious areas. The sumps will serve to collect heavier solids and debris so as to avoid conveyance of such materials into the golf course pond systems. The skimmers will serve to collect oils and other floatables so as to avoid conveyance of such materials into the golf course pond systems. It shall be required that two-to-three chambered

sedimentation boxes be installed along the roadway drainage conveyance systems upstream of all discharge points to the Forman Rock Pit and offsite golf course pond systems which are utilized for the Project. The Concessionaire is advised that the aforementioned sump, skimmer, and sedimentation box requirements will impact the drainage structure size requirements and trunk line configurations, and shall consider such design, construction, and maintenance impacts.

To prevent the potential for spread of contamination into the offsite golf course pond systems from the roadway drainage system during or after catastrophic spills or similar events, the Concessionaire shall furnish and install water control devices at or directly adjacent to all discharge points into the offsite golf course pond systems. Such devices may include, but not be limited to, sluice gates, slide gates, stop gates, and flap gates.

The Concessionaire shall be required to submit a Notice of Intent for a construction NPDES permit prior to the initiation of the Construction Work which will identify erosion and sedimentation control devices, locations and scheduled inspection and maintenance of the selected devices.

Turbidity thresholds and corrective actions will be defined in the permits to be issued for the Project. The Concessionaire will be required to comply with all such conditions.

As related to ground water compliance, the Concessionaire is required to comply with the requirements of Chapters 62-500.400 (Minimum Criteria for Groundwater) and 62-520.430 (Standards for Class G-III Ground Water) during any dewatering to ground water wells associated with this Project, and any other regulating laws, rules, and statutes associated with dewatering on the Project. The Concessionaire will be required to meet any additional general or specific requirements included in the South Florida Water Management District (SFWMD) Dewatering Permits issued for this Project. The Concessionaire is advised that the No-Notice General Dewatering Permit may not be issued in locations of the Project that are in close proximity to contamination, landfills, or wetlands.

5. Mitigation

All mitigation due to wetland impacts associated with the Indicative Preliminary Design is the responsibility of the Department. All additional permitting and mitigation associated to wetland impacts as a result of the Concessionaire's proposed design modifications, deviations from the Indicative Preliminary Design or off-project site land use, shall be the responsibility of the Concessionaire.

The Concessionaire shall coordinate with the Department's District Planning and Environmental Management Office and District Environmental Permitting staff prior to developing any site specific mitigation plans.

6. Noise and Vibration

Construction noise and vibration have the potential to disturb the public to the point that it can hinder a project's schedule and damage adjacent structures. In addition, there currently are outdoor commercial recreation areas, schools and park areas within close proximity to the Project. Balancing the needs of the community for peace and quiet

against the Concessionaire's needs to progress the work without undue or unattainable restrictions is required.

The Concessionaire shall submit to the Department a Vibration Monitoring Plan (VMP) for review and concurrence in writing prior to NTP 2. The Concessionaire shall monitor and record vibration levels produced by vibratory construction equipment used on the Project. Any equipment used by the Concessionaire shall not produce vibration levels exceeding 0.20 inches per second at any point between the Project Right of Way and 100 feet outside of the Project Right of Way. The monitoring and protection of existing structures shall be as per the FDOT Standard Specifications, Section 455, except as described herein.

The VMP shall include: (1) provisions for documenting existing adjacent property conditions, monitoring, reporting and abatement as necessary to protect all properties, structures or improvements within 200 feet of the Project Right of Way; and (2) a process for the Concessionaire to address, settle or dispose of any vibration damage concerns, disputes or claims.

7. Cultural Resources

Cherry Camp is an archaeological site that is eligible for listing on the National Register of Historic Places (NRHP). This site is not within the Project limits but is within the FDOT right of way at SR-84 and Weston Road. This site will not be available to the Concessionaire for staging or stockpiling activities.

The Sewell Lock is listed and the North New River Canal is eligible for listing on the National Register of Historic Places. The PD&E Study's preliminary design did not impact the Sewell Lock; however, the bulkhead and sound barrier placement along the canal were reviewed by the State Historic Preservation Office (SHPO). In letters dated January 9, 2006 and April 26, 2006, the State Historic Preservation Officer concurred that the proposed Project will have no adverse effect on any resources listed or potentially-eligible for listing on the National Register of Historic Places. Copies of these letters are included in the Appendix C of the Type II Categorical Exclusion document available in Volume III.

The design change to the at-grade reversible lanes required further coordination with SHPO. On October 12, 2007, the Department met with an Architectural Historian from the Florida Division of Historical Resources regarding the design change of the I-595 preferred alternative. The Department stated the canal will not be re-routed, cut off, filled in, substantially widened or severed from other waterways. The direction of water flow will not be modified; no crossovers or elements will be introduced that will limit navigability; the canal will not be separated from other related waterways; and no ancillary historic resources original to the canal's design or purpose will be removed. The canal is currently navigable from the Sewell Lock downstream to the Atlantic Ocean; the canal's navigability or use will not be affected by the bulkheads. The canal will still retain the ability to convey its importance as an example of an early water management system and as one of the primary canals of the former Everglades Drainage District. Therefore, the improvements in the Design Change Reevaluation will have no adverse effect on the North New River Canal. This finding of no adverse effect is consistent with the earlier determination of no adverse effect on the canal in the 2006 Case Study Report.

This finding is also consistent with the types of improvements that do not rise to the level of adverse effect according to the Historic Canals Committee, which held its initial meeting on June 25, 2007. The Architectural Historian from the Florida Division of Historical Resources has concurred that the additional bulkhead will not have an adverse impact on the canal's eligibility; however, SHPO requests continued coordination regarding the placement of the bulkheads, sound barriers and the new structures that will cross the canal. Refer to the Construction Advertisement Reevaluation in Volume III for correspondence with SHPO.

No staging, stockpiling or permanent roadway feature is allowed within the property limits of the Sewell Lock Park. The Concessionaire must comply with all applicable requirements regarding the construction methodologies and precautionary guidelines for archeological resources that may be present. The Project will follow an alignment that is expected to avoid conflict with resources of historical or archaeological significance. The Concessionaire shall comply with the requirements with respect to the discovery of human remains during construction. In the event that human remains are found during construction activities, the provisions of Chapter 872.05, Florida Statutes will apply. Chapter 872.05 states that, when human remains are encountered, all activity that might disturb the remains shall cease and may not resume until authorized by the State Medical Examiner or the State Archaeologist.

8. Threatened and Endangered Species

An *Endangered Species Biological Assessment* (ESBA) was prepared for the Project in accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended, to evaluate potential impacts to Federally-listed species. The proposed Project was evaluated for potential impacts to Federally-listed species. A literature review, Geographic Information Systems (GIS) analysis, discussions with resource agencies, and field surveys were conducted to identify threatened or endangered species that may potentially occur in the Project area. The species considered include the American alligator, American crocodile, Eastern indigo snake, Crested caracara, Bald eagle, Wood stork, Snail kite, Florida panther, Florida manatee, and Smalltooth sawfish. It was determined that American alligator, Eastern indigo snake, Wood stork, and Florida manatee had potential to occur in the Project corridor.

The ESBA was submitted to the US Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) on January 31, 2006. As part of the Project coordination with FWS and NMFS, the Department made the following commitments that the Concessionaire must comply with regarding the Federally-listed species with potential to occur in the corridor:

- Wood storks are observed along the Project corridor. The Project limits do not fall within a core foraging area for wood storks. However, any Concessionaire proposed design change that requires permit modifications or is located outside the Project limits, coordination with FWS will be required to determine if proposed changes are impacting core foraging area of wood stork. If the proposed improvements are determined to be within the core foraging area (18.6 miles) of any active wood stork breeding colony, any wetlands impacted will be replaced within the core foraging area of the active wood stork breeding colony. The compensation plan will include a temporal lag factor, if necessary, to ensure wetlands provided as compensation adequately replace the wetland functions lost due to the Project, and the wetlands

offered as compensation will be of the same hydroperiod as the wetlands impacted. If the replacement of wetlands within the core foraging area is not practicable, the Department will coordinate with the FWS to identify acceptable wetland compensation outside the core foraging area, such as purchasing wetland credits from an "FWS Approved" mitigation bank.

- The Concessionaire shall follow the FWS Standard Protection Measures for the Florida manatee during implementation of the Project.
- The Concessionaire shall follow the FWS Standard Protection Measures for the Eastern indigo snake during implementation of the Project.

The NMFS responded in a letter dated February 23, 2006 that the information provided was not sufficient to adequately evaluate the effects of the Project on a listed species and requested the following information that the Concessionaire must furnish to the Department as the Project progresses to final design, permitting, and construction:

- A detailed description of the construction activities. The information will describe whether inwater work will be implemented, types of construction methods proposed (i.e., pile drivers, cranes, dredges, hoppers, or barges, etc.)
- A list of conservation and avoidance measures for listed species on construction methods (i.e., best management practices for water quality protection and erosion control to be implemented in the Project design and implemented during construction).
- A short description or drawings of the new bridge(s) over tidal waters. The drawing or description will indicate the number of piles in the water for the bridge fenders and the location of the new piers;
- A Stormwater Management Plan. The plan will include the type of treatment and maintenance of the stormwater treatment system. The treatment will be in accordance with state and Federal (NPDES) standards.

The Concessionaire shall be required to provide the bridge plans/drawings over tidewaters as well as the bulkhead in tidal water to the Department's District Planning and Environmental Management Office for coordination with NMFS. The Concessionaire shall continue coordination with both the FWS and NMFS in accordance with the Endangered Species Act.

The Concessionaire must comply with conditions specified in the permits regarding the protection and precautionary guidelines for any endangered species.

The Concessionaire must coordinate on site with the Department's District Planning and Environmental Management Office before initiating construction and maintain coordination throughout the Project.

9. Contaminated Materials

A contamination evaluation was completed for the Project during the PD&E Study phase. As part of the Project reevaluation process, the previous Level I Assessment (Contamination Screening Evaluation Report – CSER) information has been updated, and the Department has conducted a Level II Contamination Assessment along the Project corridor to determine potential contamination impacts for sites assigned high or medium risks. Preliminary Level II information (CSER Update and Level II Reports) is provided

in the Reference Documents. A Level III Contamination Assessment will be developed by the Department for any contaminated properties to be acquired by the Department.

The I-595 corridor passes over an area affected by a deep groundwater contamination plume from an offsite source identified by the U.S. Environmental Protection Agency (EPA) under Sections 106 and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, aka Superfund). The offsite source of the groundwater contamination is known as the Florida Petroleum Reprocessors (FPR) Superfund Site.

Based on coordination with the EPA, a Consent Decree, which provides provisions to design and construct all roadway improvements within the contaminated area, was drafted and lodged by the U.S. Department of Justice. Refer to the Design Change Reevaluation and the Consent Decree in Volume III, and the RD/RA Consent Decree Preliminary Constructability Review in the Reference Documents, for additional information and criteria. The Concessionaire shall adhere to, and abide by, any and all mandated provisions and stipulations found within the Consent Decree.

The Concessionaire will be responsible for any contamination assessment necessary and any necessary remediation based upon the final project design. The Concessionaire shall provide plans to the District Contamination Impact Coordinator (DCIC) for constructability review. The DCIC will review the plans and advise/recommend the course of action if/when contamination issues are apparent. The DCIC will coordinate with the Concessionaire's delegated, qualified authority concerning the removal, handling, transportation and disposal of previously identified and/or unknown undesirable, contaminated and/or hazardous material encountered during construction.

In the event that any suspected contamination is encountered during construction, or if any spill of contaminated or hazardous materials occurs, the Concessionaire shall stop work immediately and notify the Department's Project Manager who will coordinate with the DCIC. The DCIC will coordinate with the Concessionaire's delegated, qualified authority concerning the removal, handling, transportation and disposal of previously identified and/or unknown undesirable, contaminated and/or hazardous material encountered during construction.

If any dewatering activities will be performed – especially in the vicinity of the Turnpike interchange and the FPR Superfund plume FDEP, BCEPD and SFWMD permits will be needed. These permits will likely include groundwater influence and groundwater treatment system modeling, and may require review by the EPA.

The Concessionaire will be responsible for responding to, and addressing the removal, handling, transportation and disposal of all Contaminated Material releases during the construction and management of the Project. This will include – but is not limited to – contaminated and hazardous materials release associated with traffic incidents, unauthorized dumping and/or similar incidents.

10. Lighting / Visual

The aesthetic appearance of the Project shall be coordinated by the Concessionaire during the preliminary design phase in order to conform to adjacent areas.

Lighting, if required for nighttime Construction Work, may have an impact on nearby residences. The Concessionaire shall coordinate, design, schedule and implement plans to avoid or control these lighting impacts to the maximum extent feasible and comply with Manuals and Guidelines for temporary lighting during construction.

The Concessionaire shall use point source luminaries which provide a full-cutoff distribution for construction site lighting and temporary roadway lighting to ensure that dark sky criteria is met and light trespass to surrounding areas is minimized. Construction site floodlights shall be aimed and shielded to keep light within the confines of the construction site.

The Concessionaire shall coordinate with the Federal Aviation Administration (FAA) and Ft. Lauderdale International Airport staff to identify any lighting restrictions or requirements.

For aesthetic and landscape considerations, refer to the Aesthetic Guidelines and Landscaping Plans.

11. Permits Office Reviews

The Concessionaire is responsible for assisting in the review of permit requests submitted to the Department's Permits Office such as access management permits, drainage connection permits, utility and general use permits that fall within the limits of the Project. The Concessionaire is required to review and provide comments based on impacts to the Work to the Permits Office within 21 calendar days of the time they receive the submittal. The Concessionaire will work with the permittee to allow construction of the permitted work to take place within a reasonable time period. Disputes will be handled by the Department's Permits Engineer and the Concessionaire.

G. Geotechnical

This section provides requirements for geotechnical design, oversight and construction. Geotechnical oversight, design recommendations and construction recommendations shall be provided and/or approved by a registered professional engineer, Geotechnical Engineering Consultant, licensed in the State for all underground elements of the work.

1. General Conditions

The Concessionaire is responsible for all geotechnical recommendations and geotechnical engineering analysis and design, and therefore, shall employ the services of an experienced and qualified professional engineer registered in the State of Florida, referenced herein as the Geotechnical Engineering Consultant. The Geotechnical Engineering Consultant shall be responsible for providing all geotechnical recommendations and compliance with design criteria for the Project.

The criteria provided in this section shall be considered as the minimum acceptable and are not considered to include all possible conditions that may be encountered in the final design selected by the Concessionaire. The Concessionaire's Geotechnical Engineering Consultant shall be responsible for determining if more stringent criteria are appropriate

and/or required by applicable codes, manuals or other references and/or if issues in addition to those listed are required to be addressed as part of the final design. Where conflicts occur in requirements between documents, the most stringent requirement shall apply.

The Geotechnical Engineering Consultant may employ the services of outside geotechnical consultants licensed in the State of Florida. All reports and other work submitted by outside geotechnical consultants shall be signed and sealed by the outside consultant. In addition, all reports/work submitted by outside geotechnical consultants shall be accompanied with a signed and sealed statement from the Geotechnical Engineering Consultant indicating that it has reviewed the report/work and found it in conformance with Project-wide criteria and that the recommendations have been found to be reasonable and acceptable.

The Concessionaire's Geotechnical Engineering Consultant shall provide geotechnical reports for all additional subsurface data collected in accordance with Department guidelines.

Geotechnical reports shall be prepared, sealed and submitted to the Department's Project Manager. Separate reports shall be submitted for:

- Bridges
- Retaining walls
- Bulkhead walls for the canal
- Sound barriers
- Miscellaneous structures
- Surface roadways, embankments, and utilities
- Buildings.

As a minimum, each geotechnical report shall satisfy all requirements of the Department's Soils and Foundation Handbook including, but not limited to:

- Geotechnical profile(s) along the alignment and at other locations as required to support the design
- All geotechnical parameters required by the designer for each specific structure
- Identify any conditions different than assumed in these Contract Documents or Reference Documents that would impact the work
- Recommended final design foundation types, foundation design and design parameters
- Recommended final design earth support methods that ensure ground movements are kept to a minimum
- Predictions of soil behavior and structure deformation associated with each specific structure
- Geotechnical instrumentation and monitoring considerations and requirements
- Requirements for field testing, geotechnical field tests and in-situ foundation tests such as pile load tests to confirm design assumptions
- Recommended final design parameters, for construction and permanent conditions, for all ground types and structure types
- Complete stability (external, global and internal) analysis for retaining wall structures

2. Additional Subsurface Investigations

Additional field testing (i.e. investigations regarding the roadways, bridge structures, retaining walls, bulkheads, sound barrier walls, sign structures and mast arms) shall be performed in accordance with the Manuals and Guidelines.

For surface roadways, abutments, bridge piers, surface features and embankments, test borings shall be in accordance with the Manuals and Guidelines.

For buildings, test borings shall be per the Florida Building Code.

The Concessionaire shall complete the borings and testing before the completion of the final design and prior to any excavation and/or construction for any given project element of the Project. The Concessionaire shall be solely responsible for determining the need for, and for obtaining, all additional subsurface explorations required for final design and for the interpretation of all existing data.

In addition to above, the Concessionaire shall continuously during construction and as conditions require, determine the need for further supplemental borings or testing. The Concessionaire will be responsible for identifying and performing in full any further geotechnical analysis and design dictated by the Project needs. Any geotechnical work necessary shall be performed in accordance with the Manuals and Guidelines.

The Concessionaire shall provide the Department signed and sealed design and construction reports. The reports shall be a record set of all geotechnical information, including relevant support data.

3. Pile Foundations

The Concessionaire shall provide geotechnical consultant services in accordance with the Technical Requirements to perform geotechnical design, foundation construction services and dynamic testing. Pile installation shall comply with FDOT Specifications Section 455. The geotechnical services for the foundation also encompass setting production pile lengths and establishing driving criteria and addressing all foundation construction problems.

- Production pile lengths and driving criteria shall be developed by the same engineering firm performing the dynamic pile testing under the direct supervision of a registered professional engineer in the State of Florida. This engineer must have been in responsible charge of the geotechnical foundation construction engineering and dynamic testing work on at least five (5) FDOT bridge projects, including FDOT structures design Category 2 bridge projects, having driven pile foundations. The engineer's experience shall include the pile type being proposed in the Concessionaire's design. This "responsible charge" experience shall include verifiable and successful static, Osterberg Load Cell and/or Statnamic load test (as will be utilized on the Project) experience, as well as Pile Driving Analyzer (PDA), Wave Equation Analysis Program (WEAP) computer program and Case Pile Wave Analysis Program (CAPWAP) computer program experience. Production pile lengths and driving criteria shall be authorized in a letter signed and sealed jointly by the engineer responsible for the dynamic testing and the geotechnical foundation

design Engineer of Record.

- The pile foundation installation shall be supervised and certified by the geotechnical foundation design Engineer of Record. These services shall include providing Construction Training Qualification Program (CTQP) certified pile driving technicians in the numbers necessary to comply with Department specifications for recording pile driving records. Provide pile-driving logs to Department within 24-hours of completing the driving of each pile. The geotechnical foundation design Engineer of Record shall be responsible for addressing any foundation installation problems with the assistance and concurrence of the engineer responsible for the dynamic testing.

The Concessionaire shall perform a subsurface investigation, analysis and design for all aspects of the Project in accordance with the Technical Requirements. Supplemental subsurface investigation and testing will be required to ensure all aspects of the Project are covered.

The Concessionaire shall be responsible for the following:

- Selection of pile type.
- Selection of test pile lengths and locations.
- Selection of the hammer driving system(s).
- Handling and driving piles without damage.
- Installing Embedded Data Collectors (EDCs) in all test piles and providing clear and safe access to the Department for monitoring the test pile EDC data. Provide at least 48-hours notice to the Department prior to driving test piles.
- Performance of the test pile program, including dynamic load test personnel and equipment. The Department may observe the installation of test piles and all pile testing.
- Selection of production pile lengths.
- Development of the driving criteria in accordance with the specifications.
- Development of a foundation plan (FP) for the installation of piles.
- Upon completion of the test pile program, selection of the production pile lengths and driving criteria development, the Department shall be given one copy of the dynamic testing data and engineering analysis. At least five (5) working days prior to beginning production pile driving, submit the authorized pile lengths, authorized driving criteria, dynamic testing data and engineering analyses to the Department. Include the following electronic files (on Windows compatible 5-1/4 inch CD ROM or DVD) in the driving criteria submittal: pile driving simulation input data results (GRLWEAP, PDPWAVE or equivalent), pile driving monitoring data (PDA data and PDIPLOT data or equivalent) and pile driving analysis results (including the input data and results of signal matching using CAPWAP, DLTWAVE or equivalent), PDA data and PDIPLOT data.
- Driving piles to the required capacity and minimum penetration depth.
- Recording the pile driving information and keeping a pile-driving log for each pile driven.
- Submitting the foundation certification packages: Submit two copies of a certification of pile foundations signed and sealed by the geotechnical foundation design Engineer of Record to the Department within seven (7) calendar days of

finishing each foundation unit and prior to pile verification testing.

- A foundation unit is defined as all the piles within one bent or pier for a specific bridge. Each foundation certification package shall contain an original signed and sealed certification letter, and clearly legible copies of all pile driving logs, all supplemental dynamic testing data and analyses for the foundation unit. The certification shall not be contingent on any future testing or approval by the Department.
- Within two working days of receipt of the foundation certification package, the Department will examine the certification package and determine whether piles in that foundation unit will be selected for dynamic testing. For bridge widening, the Department may select a maximum of 10% (minimum of two (2) per bridge) of the total number of piles (rounded up to the nearest whole number) for dynamic load testing. For new bridges, the Department may select a maximum of 10% (minimum one (1) per foundation unit) of the production piles (rounded up to the nearest whole number) for dynamic load testing.
- The Concessionaire shall provide the dynamic load test equipment (i.e. PDA, etc.) and personnel for the pile verification testing. The Concessionaire shall provide the driving equipment and pile driving crew(s) for the pile verification testing and provide support as needed to prepare the piles for testing. The Department shall determine whether verification testing shall be accomplished by dynamic load testing during set check, over the shoulder review of the pile driving operation and/or other means acceptable to both the Concessionaire and the Department.
- If the capacity or integrity of any pile is found to be deficient, the Concessionaire shall correct the deficiency (i.e. re-drive or replace) and/or modify the design to compensate for the deficient pile capacity. After the Concessionaire corrects the deficiency, the pile shall be retested. If the capacity or integrity of a verification pile is found to be deficient, an additional pile (not considered part of the 10% maximum) shall be verified by dynamic testing. This process shall continue until no more pile capacity or integrity deficiencies are detected and all previous deficiencies have been corrected and retested or the design is modified accordingly. Piles shall not be cut-off nor bent/pier caps placed prior to successful completion of the pile verification testing program for that foundation unit.

After the pile verification testing for a foundation unit is performed, the Concessionaire will provide the Department the results and, as necessary, the Department will provide requirements for additional verification testing within two (2) working days.

The Concessionaire shall develop a FP for the installation of piles and shall submit the proposed FP to the Department for concurrence. The FP is intended to establish process control standards and quality assurance for the installation of piles. The Concessionaire shall establish a FP to ensure: (1) the operation of the pile driving system(s) during production pile driving compares to the pile driving system(s) during the test pile program, (2) the proper operation and maintenance of the driving system, (3) the replacement of hammer/pile cushions to comply with the specifications, and (4) a dynamic monitoring program is established for production piles at a pre-determined frequency and after re-working/modifying the pile driving system.

The FP will be used to govern all piling installation. The Department may perform independent verification testing/review of the Concessionaire's equipment, procedures, personnel and pile installation FP at any time during production pile driving. If dynamic

testing is performed by the Department, the Department will provide the results within two (2) calendar days. If, as determined by the Department, pile driving equipment, procedures and/or personnel for the FP is deemed inadequate to consistently provide undamaged driven piling meeting the requirements set forth in the Contract Documents, the Concessionaire's FP concurrence may be withdrawn pending corrective actions. Production driving shall then cease and not restart until corrective actions have been taken and the FP reinstated.

4. Drilled Shaft Foundations

The Concessionaire is responsible for identifying and performing all geotechnical investigation, analysis, and design required for the Project in accordance with the Department's guidelines, procedures, and specifications. Drilled shaft installation shall comply with FDOT Specifications Section 455. The Concessionaire will also be responsible for quality control and verification. All designs shall be signed and sealed by the geotechnical foundation design Engineer of Record.

The Concessionaire shall provide geotechnical and drilled shaft testing consultants with the following minimum qualifications:

- Professional engineer registered in the State of Florida with at least three (3) years of post-registration experience in drilled shaft foundation design and construction. The geotechnical foundation design Engineer of Record must have designed and worked on at least three (3) FDOT bridge projects, including at least one (1) FDOT structures design Category 2 bridge project with drilled shaft foundations. This "responsible charge" experience shall include verifiable and successful implementation of static, Osterberg Load Cell and/or Statnamic load test results, and evaluation of pilot hole data.

- Drilled shaft superintendent in responsible charge of drilling operations experienced in drilled shaft installation and testing in the State of Florida. This "responsible charge" experience shall include at least three (3) FDOT bridge projects, including at least one (1) FDOT structures design Category 2 bridge project with drilled shaft foundations.

Acceptance of the Concessionaire's personnel does not relieve the Concessionaire of the responsibility for obtaining the required results in the completed work.

The Concessionaire shall perform a geotechnical investigation, analysis and design for all aspects of the Project in accordance with the Technical Requirements. Supplemental subsurface investigation and testing will be required to ensure all aspects of the Project are covered. The Department reserves the right to observe and perform independent verification and independent assurance testing on any drilled shafts during any phases of the foundation operation.

The Concessionaire shall develop a FP for drilled shaft construction and shall submit the proposed FP to the Department for concurrence. The FP is intended to establish process control standards and quality assurance for drilled shaft construction. Include in the FP the items required in Standard Specification 455-15.1.2 (drilled shaft installation plan),

the equipment and procedures for visual inspection of drilled shaft excavations, and any additional methods to identify and remediate drilled shaft deficiencies. If the FP is updated based on the construction of the test shaft(s), or other changes in circumstances, the update will not be in effect until concurrence by the Department has been received.

The FP will be used to govern all drilled shaft Construction Work. In the event that deviations from the FP are observed, the Department may perform independent verification testing/review of Concessionaire's equipment, procedures, personnel and drilled shaft construction FP at any time during production drilled shaft construction. If, as determined by the Department, drilled shaft construction equipment, procedures and/or personnel for the FP are deemed inadequate to consistently provide drilled shafts meeting the requirements set forth in the Contract Documents, the Concessionaire's FP concurrence may be suspended pending corrective actions. All drilled shaft Construction Work shall then cease and not restart until corrective actions have been taken and the FP has been reinstated.

The Concessionaire shall be responsible for the following:

- Evaluating geotechnical conditions and designing the foundations including the drilled shaft diameter and length, and construction methods to be used.
- Determining whether the resistance factors used for drilled shaft design will be based on load testing. Before the resistance factors for load testing may be used for drilled shafts in any of the following bridges of the Project as per the Indicative Preliminary Design included in the Reference Documents, the following minimum number of successful load tests must be performed in representative locations of those bridges:

Bridge Widening	Bridge New	Minimum Number of Load Tests
860383		1
860384		1
860369		1
860368		1
860371		1
860370		1
	000011	1
860359		1
860360		1
860357		1
860358		1
	000016	1
860391		1
860392		1
860378		1
860379		1
860475		1
860420		1

Bridge Widening	Bridge New	Minimum Number of Load Tests
860419		1
860418		1
860422		1
860413		1
860414		1
860426		1
860425		1
	Ramp J-1 (#000010)	1
	Ramp K (#000012)	1
	#000014	1
	#000015	1
	#000017	2
	#000018	3
	#000020	1
	#000019	2
	#000033	1
	#000031	2
	#000032	3
	#000021	2
	#000025	1
	#000026	1
	#000024	1
	#000023	1
	#000022	2

- Confining all materials used or generated by drilled shaft installations, ie slurry, dirt, or other materials such as to avoid water quality or environmental issues.
- Completing the subsurface investigation and drilling pilot holes prior to establishing the drilled shaft tip elevations and socket requirements.
- Determining the location of the test shaft(s) and the types of tests that will be performed on the test shaft(s), and submitting to the District Geotechnical Engineer for review and concurrence.
- Providing pilot hole boring results from the test hole location to the Department at least 48 hours before beginning test hole construction.
- Constructing the method shaft (test hole) successfully and conducting integrity tests on the shaft using both crosshole sonic logging and gamma-gamma density logging test methods. Providing all personnel and equipment to perform a load test program on the test shaft(s). When there is more than one size of drilled shaft, perform a test hole for the largest diameter for each condition (land and water).
- The frequency of static tests, Osterberg Load Cell tests or Statnamic Load tests will be dictated by the variability of the geology and the size of the Project. Provide sufficient instrumentation to determine side friction components in segments not

longer than five feet and the end bearing component. Provide a caliper tool or system to measure accurately and continuously the actual shape of test shafts prior to placing concrete.

- Determining the production shaft lengths. Production shaft lengths may be based on the load transfer characteristics measured during the load test. End bearing characteristics may be based on load test results if the properties of the material below the tips of the production shafts meet or exceed the strength of the materials below the tip of the test shaft. If the theoretical bearing strength of the material below the tips of the production shafts is less than the theoretical bearing strength of the materials below the tip of the test shaft, the production shafts shall be extended to meet design capacity by side shear only, unless the end bearing of the weaker material is verified by additional load testing.
- Documenting and providing a report that includes all test shaft data, analysis, and recommendations to the Department. The report should include but not be limited to the following: results of the load testing program, crosshole sonic logging, gamma-gamma density logging, pilot borings for all drilled shafts, and recommended production drilled shaft tip elevations and socket requirements. This report shall be signed and sealed by a professional engineer licensed in the State of Florida and shall be submitted to the Department for review and concurrence at least 14 calendar days prior to beginning production shaft construction. Additional data or analysis may be required by the Engineer.
- Constructing all drilled shafts to the required tip elevation and socket requirements.
- Verifying level and clean hole bottom conditions and properties of the drilling fluid at the time of concrete placement.
- Furnishing and using an underwater television camera or any other approved shaft inspection device to continuously videotape the inspection of each excavation after final cleaning of drilled shaft foundations. By audio or other means, recordings shall clearly identify the location and items being observed.
- Documenting and submitting the drilled shaft excavation and concreting logs to the Department within 24-hours of concrete placement. The documentation shall include the drilled shaft installation procedures and sequencing as well as any problems encountered during construction and concrete placement.
- Provide a report to the Department of integrity test results with additional testing and analysis for each shaft exhibiting anomalies and a plan signed and sealed by a professional engineer with the proposed method for correcting anomalies. Allow seven (7) calendar days for the Department to review the data before any further construction on the tested shafts.
- Repairing all detected defects and conducting post repair integrity testing using 3D tomographic imaging and gamma-gamma density logging. Submitting all results to the Department within seven (7) calendar days of test completion.
- Submitting the foundation certification packages:

    - Each foundation certification package shall contain an original signed and sealed letter certifying capacity and integrity of all drilled shafts, and clearly legible copies of all shaft excavation and concreting logs, video-tapes of visual shaft bottom inspections, all CSL reports and electronic data, slurry test data, supplemental testing data and analyses for the foundation unit. The certification shall not be contingent on any future testing or concurrence by the Department.
    - Submit two copies of the foundation certification package signed and sealed by the geotechnical foundation design Engineer of Record to the Department within

14 calendar days of finishing each foundation unit and prior to verification testing. A foundation unit is defined as all the shafts within one bent or pier for each phase of each bridge.

- Providing safe access and needed equipment, and cooperating with and working with the Department in independent verification of the drilled shafts, both during construction of shafts and after submittal of the certification package.

    - The Department may verify the bottom cleanliness of all drilled shaft excavations prior to and at the time of concreting. The Department may verify bottom cleanliness by review of the Concessionaire's visual inspection methods and/or by independent means.
    - The Department may verify properties of drilling fluid at the time of concreting. The Department may determine whether verification of drilling fluid properties shall be accomplished by review of the Concessionaire's slurry testing and/or by independent means.
    - Within seven (7) calendar days of receipt of a foundation certification package, the Department will examine the certification package and determine whether shafts in that foundation unit will be selected for verification testing. The Department may select every shaft for verification testing, if defects are suspected. The Department will provide equipment and personnel as needed for independent verification testing. Methods used for verification testing of a completed shaft are at the discretion of the Department and may include coring, cross-hole sonic logging, gamma-gamma density logging, low-strain dynamic integrity testing, and/or other methods.
    - After independent verification testing for a foundation unit is performed, the Department will provide the results within 14 calendar days. Integrity testing access tubes shall not be grouted and construction of footings, caps, columns or any superstructure elements shall not occur until the Department has notified the Concessionaire that additional verification testing is not required.
    - If any shaft is found to be deficient, the Concessionaire shall correct the deficiency (i.e. repair or replace the shaft) and/or modify the design to compensate for the deficiency. After the deficiency is corrected, the shaft shall be retested and recertified by the Concessionaire. The Department may then perform additional independent verification testing.

H. Utilities

1. Concessionaire Roles & Responsibilities

The Concessionaire shall ensure FDOT standards, policies, procedures and design criteria are followed concerning utility coordination and design. The FDOT standards, policies, procedures and design criteria are contained in the current adopted Design Standards; Standard Specifications for Road and Bridge Construction; Rule 14-46.001 (Utility Accommodation Manual); and any Supplemental Specifications or Provisions.

The utilities that are in conflict with the proposed construction shall be redesigned, permitted and relocated at the Concessionaire's expense. The Concessionaire shall be responsible for all utility coordination efforts. These coordination efforts shall include, but are not limited to permitting; review; construction oversight; initiating, drafting, negotiating, and executing all necessary legal agreements;

administering utility coordination meetings and ensuring that all necessary permits are acquired. When utility work is necessary, an approved FDOT Utility Work Permit is required. In this case, the Concessionaire is responsible for ensuring that the Utility Agency/Owner (UAO) obtains the necessary permits; including planning, design, drafting, and submission as coordinated with the UAO. Concessionaire is responsible for ensuring that all easements necessary to complete utility work are obtained. All related costs are to be borne by the Concessionaire. This does not include the subordination or acquisition of easement area by the Department necessary for the Department's acquisition of Project Right of Way described in Vol II Div II Sect 2.C.

2. Utility Adjustment Work

All Utility Adjustment Work shall require cooperation between the Concessionaire and the UAO's. The Concessionaire shall be responsible for all coordination with the affected UAO's in order to accomplish the Utility Adjustment Work. In the discharge of its coordination responsibilities, the Concessionaire shall:

- provide to the UAO's, as soon as practical an estimated schedule for their respective utility work and notify the UAO's of any significant changes to the schedule as soon as practical;
- keep UAO's fully informed of Project Schedule and changes that affect or may affect their facilities;
- consider UAO's needs for the allocation of resources for design, materials procurement, and outage requirements needed to perform their Utility Adjustment Work;
- keep uninterrupted service to UAO's customers or coordinate unavoidable interruptions with the UAO; and
- Avoid multiple utility relocations of the same utility.

All Utility Adjustment Work shall be done in accordance with approved Utility Work Permits, the current Utility Accommodation Manual, F.S. 337 and/or Rule 14-46.001 of the Florida Administrative Code. For the utility design, relocation, or construction, a legal agreement and/or a Utility Work Schedule between the Concessionaire and UAO owner should be drafted detailing responsibility and pertinent areas such as construction specifics, cost, schedules, etc. In addition, all utility services shall be maintained unless alternate service or temporary interruptions are coordinated in such a manner that is acceptable to the UAO.

Preparation and submission of the following documents are the sole responsibility of the Concessionaire:

- Meeting Agendas and Minutes
- Utility Work Plan
- Utility Tracking Report
- Conflict Matrix
- Coordination of Permit Applications
- Coordination of Utility Work Schedules
- Master Utility Relocation Plan
- Utility Certification

The Concessionaire shall submit a Utility Work Plan as part of the response that sets forth the Concessionaire's plan to coordinate all utilities for the Project. The Concessionaire's Utility Work Plan shall include the following requirements at a minimum:

- A detailed description of the Concessionaire's plan to identify and locate utilities during the Project.
- A detailed description of the Concessionaire's plan to coordinate activities with each UAO during the Project.
- A detailed description of the Concessionaire's plan to coordinate activities with the UAO's on unknown or newly discovered utilities during the Project.
- A description of the Concessionaire's plan to meet with the UAO's and keep them informed of the Concessionaire's schedule related to Utility Adjustment Work.

The Concessionaire shall maintain a Utility Tracking Report to track coordination and the disposition of impacted utilities. The Utility Tracking Report shall contain the following information for each UAO at a minimum:

- The name of the UAO with contact information
- A brief description of the impacted utility by size and type
- The location/limits of the utility, by station and offset based upon the Project
- The proposed disposition of the utility and the date such disposition was approved by the UAO
- The party responsible for performance of such Utility Adjustment Work
- The scheduled start and completion dates for construction of the Utility Adjustment Work
- The actual start and completion dates for construction of the Utility Adjustment Work
- The status of construction for the Utility Adjustment Work, including percentage complete
- Such other information as the Department may request

The Concessionaire shall submit the Utility Tracking Report and updates on a monthly basis to the Department and affected UAO's.

3. Betterments

Replacements for any impacted utilities shall be designed and constructed to provide service at least equal to that offered by the existing facilities (unless the UAO specifies a lesser replacement), but shall not include any Betterments, unless added to the Utility Adjustment Work through a Utility Agreement between the UAO and the Concessionaire. Utility Agency/Owners may request the Department to permit the Concessionaire to perform additional Utility Adjustment Work relating to Betterments at the UAO's expense. The Concessionaire shall provide all coordination, including all definitive cost estimates and billing information necessary to address requested Betterments.

4. Reference Documents

Included in the Reference Documents are an Existing Utility Base Map (DGN format), Conceptual Utility Conflict Matrix, Subsurface Utility Investigation Report (XLS format), and Utility Markup Plans from impacted Utility Agencies/Owners (UAO). The information provided to the Concessionaire represents the outcome of prior utility coordination efforts to identify utilities within the Project limits and anticipated utility conflicts. The Existing Utility Base Map represents ASCE Quality Level D information and the Subsurface Utility Investigation represents ASCE Quality Level A; both are provided in a single CADD file (DGN format). The Utility Conflict Matrix is based on the current Indicative Preliminary Design provided in the Reference Documents. The Concessionaire is responsible for updating/modifying the Utility Conflict Matrix based on the actual conditions encountered and the Construction Documents.

5. Utility Agency / Owner Contacts

Listed below, but not limited to, are UAO's that have been contacted by the Department, have shown up on a Sunshine One Call Design Ticket, or are known to own facilities within the area of the Project.

Utility Type / Facility Type	Owner	Contact	Phone Number
Telephone	AT&T Corp.	Craig Petrie	407-578-8000
Telephone	AT&T Florida	Otis Keeve	954-723-2540
Electric	FPL Distribution	Nelson Gonzales	954-321-2052
Electric	FPL Transmission	Neelesh Shah	561-694-3507
Communications	FPL Fibernet	Robert Mendoza	305-522-3840
ITS Fiber Optic	Broward County Traffic Engineering (ITS)	Robert Blount	954-847-2745
ITS Fiber Optic	District 4 (ITS)	Tony Mendoza	954-847-2798
Fiber Optics	Level 3	John Boedeker, II	512-742-1479
Cable	Comcast	Leonard Maxwell-Newbold	954-534-7380
Petroleum	Alligator Alley Pipeline	Richard Johnson	954-474-1385
Gas	Florida Gas Transmission	Joseph Sanchez	407-838-7171
Gas	TECO Peoples Gas	Alex Roche	954-453-0817
Water and Sewer	Broward County OES	Dave O'Connor	954-831-0910
Water and Sewer	City of Sunrise	Tim Welch	954-888-6037
Water and Sewer	City of Hollywood	James Rusnak	954-921-3302
Water and Sewer	Ferncrest Utilities	Robert Salerno	954-587-8833
Water and Sewer	City of Fort Lauderdale	Jon Stahl	954-828-7830
ITS Fiber Optic	Florida's Turnpike	Robert Mastascusa	407-902-8129

Utility Type / Facility Type	Owner	Contact	Phone Number
Fiber Optics	Fiberlight	Chris Pancione	954-596-2559
Water Mgmnt Dist	Old Plantation Water Control	Pat O'Quinn	954-472-5596
Water and Sewer	Town of Davie	Bill Peele	954-327-3743

6. Utility Coordination Personnel

The Concessionaire may employ more than one individual or utility engineering consultant to provide utility coordination and engineering design expertise. However, the Concessionaire shall employ and identify a Utility Coordination Manager responsible for managing all utility coordination and utility design activities.

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

- Ensuring utility coordination and design is conducted in accordance with the Department's standards, policies, procedures and design criteria.
- Assisting the Engineer of Record in identifying/coordinating all existing utilities, anticipated relocations, and new installations.
- Scheduling utility meetings, keeping and distribution of minutes of all utility meetings, and ensuring expedient follow-up on all unresolved issues.
- Distributing all plans, conflict matrixes and changes to affected utility owners and ensuring this information is properly coordinated.
- Identifying and coordinating the completion of any utility owner agreement that is required for reimbursement, or accommodation of the utility facilities associated with Project.
- Review of all Utility Work Schedules for accuracy and resolution of the utility conflicts.
- Obtaining and maintaining Sunshine State One Call Design and Dig Tickets.
- QA Review of construction plans prior to construction activities for completeness.
- Acquisition/procurement of any required easements as required by the Utility Adjustment Work.
- Provide monthly updates to the FDOT District Utility Office.

7. Location of Existing Utilities

Locations of the existing utilities, to the extent such locations are available and/or have been verified by field-testing, are depicted in two CADD files. Locations of such utilities, along with other utilities that may exist but whose locations are not clear, shall be verified by the Concessionaire with the utility companies or agencies prior to the start of construction.

Although the CADD files depict utility locations, actual locations are uncertain. The Concessionaire is required to verify all locations, in accordance with Florida Statute. The

Concessionaire shall call Sunshine State One-Call of Florida, Inc. at 1-800-432-4770 and coordinate with each UAO prior to any and all Work impacting utilities.

ASCE Quality Level A – Subsurface Utility Investigation Test Hole Data
Physical excavation (test holes) to expose the utility and determine accurate horizontal and vertical location.

ASCE Quality Level D – CADD Utility Base Map
Record search (permits, as-built drawings) to assist in identifying utility owners that may have facilities that are impacted by the Project. Develop utility composite drawings of findings.

Below is a listing of each UAO along with the roles and responsibilities for both the UAO and Concessionaire:

Utility Agency Owner (UAO):	Alligator Alley Pipeline
Utility Type:	Petroleum
Utility Placement:	Underground
ASCE Data Quality Level:	A & D
Status:	Conflict Exists
Utility Contact:	Richard Johnson
Phone:	954-474-1385
Email:	71702.640@compuserve.com
Address:	1261 NW 78th Terrace, Plantation, Fl 33322

Alligator Alley Pipeline Roles & Responsibilities:
Coordination

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Costs; Planning; Design; Permitting; Utility Work

Notes:
Facilities Abandoned Out-of-Service

Utility Agency Owner (UAO):	AT&T Florida
Utility Type:	Communication
Utility Placement:	Underground
ASCE Data Quality Level:	A & D
Status:	Conflict Exists
Utility Contact:	Otis Keeve
Phone:	954-723-2540
Email:	otis.keeve@att.com
Address:	8601 W. Sunrise Blvd., Plantation, FL 33322

AT&T Florida Roles & Responsibilities:
Coordination; Planning; Design; Permitting; Utility Work; Acceptance

Concessionaire Roles & Responsibilities:

Coordination; Utility Location; Utility Agreements; All Reimbursable Costs

Notes:
Formerly BellSouth

Utility Agency Owner (UAO): AT&T Corp. (Long Distance)
Utility Type: Communication
Utility Placement: Underground
ASCE Data Quality Level: D
Status: Conflict Anticipated
Utility Contact: Craig Petrie
Phone: 407-578-8000
Email: cpetrie@pea-inc.net
Address: 6000 Metrowest Blvd., Suite 201, Orlando, FL 32835

AT&T Long Distance Roles & Responsibilities:
Coordination; Planning; Design; Permitting; Utility Work; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Reimbursable Costs

Notes:
Some Fiber Optics

Utility Agency Owner (UAO): Broward County OES (Water & Sewer)
Utility Type: Water & Sanitary
Utility Placement: Underground
ASCE Data Quality Level: D
Status: No Conflicts Anticipated
Utility Contact: Dave O'Connor
Phone: 954-831-0910
Email: doconnor@broward.org
Address: 2255 W. Copans Road, Pompano Beach, FL 33069

Broward County OES (Water & Sewer) Roles & Responsibilities:
Coordination

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Costs

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Utility Agency Owner (UAO): City of Hollywood
Utility Type: Water & Sanitary
Utility Placement: Underground
ASCE Data Quality Level: D
Status: No Conflicts Anticipated
Utility Contact: James Rusnak
Phone: 954-921-3302

Email: jrusnak@hollywoodfl.org
Address: P.O. Box 229045, Hollywood, FL 33022-9045

City of Hollywood Roles & Responsibilities:
Coordination

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Costs

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Utility Agency Owner (UAO): City of Sunrise
Utility Type: Water, Sanitary, & Gas
Utility Placement: Underground
ASCE Data Quality Level: A & D
Status: Conflict Exists
Utility Contact: Tim Welch
Phone: 954-888-6037
Email: TWelch@cityofsunrise.org
Address: 777 Sawgrass Corporate Parkway, Sunrise, FL 33325

City of Sunrise Roles & Responsibilities:
Coordination; Contractor Approval; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Costs; Planning; Design; Permitting; Utility Work

Notes:
Some Facilities Abandoned Out-of-Service/Some Asbestos

Utility Agency Owner (UAO): Comcast
Utility Type: Communication
Utility Placement: Overhead & Underground
ASCE Data Quality Level: D
Status: Conflict Exists
Utility Contact: Leonard Maxwell-Newbold
Phone: 954-534-7380
Email: leonard_maxwell-newbold@cable.comcast.com
Address: 2501 SW 145 Avenue, Miramar, FL 33027

Comcast Roles & Responsibilities:
Coordination; Planning; Design; Permitting; Utility Work; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Reimbursable Costs

Notes:
Some Fiber Optics

Utility Agency Owner (UAO): Ferncrest Utilities
Utility Type: Sanitary
Utility Placement: Underground
ASCE Data Quality Level: A & D
Status: Conflict Exists
Utility Contact: Robert Salerno
Phone: 954-587-8833
Email: bsalerno@ammi.net
Address: 3015 SW 54 Ave., Davie, FL 33314

Ferncrest Utilities Roles & Responsibilities:
Coordination; Contractor Approval; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Costs; Planning; Design; Permitting; Utility Work

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Utility Agency Owner (UAO): Fiberlight
Utility Type: Communication
Utility Placement: Overhead & Underground
ASCE Data Quality Level: D
Status: Conflict Exists
Utility Contact: Chris Pancione
Phone: 954-596-2559
Email: chris.pancione@fiberlight.com
Address: 792 S. Military Trail, Deerfield Beach, FL 33442

Fiberlight Roles & Responsibilities:
Coordination; Planning; Design; Permitting; Utility Work; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Reimbursable Costs

Notes:
Some Fiber Optics

Utility Agency Owner (UAO): Florida Gas Transmission
Utility Type: Gas
Utility Placement: Underground
ASCE Data Quality Level: D
Status: Conflicts Anticipated
Utility Contact: Joseph Sanchez
Phone: 407-838-7171
Email: joseph.e.sanchez@crosscountryenergy.com
Address: 601 S. Lake Destiny Road, Suite 450, Maitland, FL 32751

Florida Gas Transmission Roles & Responsibilities:
Coordination; Planning; Design; Permitting; Utility Work; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements

Utility Agency Owner (UAO): Florida Power Light (Distribution)
Utility Type: Electric
Utility Placement: Overhead & Underground
ASCE Data Quality Level: A & D
Status: Conflict Exists
Utility Contact: Nelson Gonzales
Phone: 954-321-2052
Email: Nelson_R_Gonzales@fpl.com
Address: P.O. Box 8248, Ft Lauderdale, FL 33310-8248

Florida Power Light (Distribution) Roles & Responsibilities:
Coordination; Planning; Design; Permitting; Utility Work; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Reimbursable Costs

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Utility Agency Owner (UAO): Florida Power Light (Transmission)
Utility Type: Electric
Utility Placement: Overhead
ASCE Data Quality Level: D
Status: Conflicts Anticipated
Utility Contact: Neelesh Shah
Phone: 561-694-3507
Email: neelesh_shah@fpl.com
Address: P.O. Box 14000, Juno Beach, FL 33408-0420

Florida Power Light (Transmission) Roles & Responsibilities:
Coordination; Planning; Design; Permitting; Utility Work; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Reimbursable Costs

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Utility Agency Owner (UAO): FPL Fibernet
Utility Type: Communication
Utility Placement: Underground
ASCE Data Quality Level: D
Status: Conflict Exists
Utility Contact: Israel Lopez
Phone: 305-552-2024
Email: israel_lopez@fpl.com
Address: 9250 West Flagler St, Miami, FL 33174

FPL Fibernet Roles & Responsibilities:
Coordination; Planning; Design; Permitting; Utility Work; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Reimbursable Costs

Notes:
Some Fiber Optics

Utility Agency Owner (UAO): Level 3 Communications
Utility Type: Communication
Utility Placement: Overhead & Underground
ASCE Data Quality Level: D
Status: Conflict Exists
Utility Contact: John Boedeker, II
Phone: 512-742-1479
Email: john.boedekerII@level3.com
Address: 1025 El Dorado Blvd. Bld. 33A-524, Broomfield, CO 80021

Level 3 Communications Roles & Responsibilities:
Coordination; Planning; Design; Permitting; Utility Work; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Reimbursable Costs

Notes:
Some Fiber Optics

Utility Agency Owner (UAO): Old Plantation Water Control District
Utility Type: Gas & Irrigation
Utility Placement: Underground
ASCE Data Quality Level: A & D
Status: Conflict Exists
Utility Contact: Pat O'Quinn
Phone: 954-472-5596
Email: oldplantation@earthlink.net
Address: P.O. Box 15405, Plantation, FL 33318

Old Plantation Water Control District Roles & Responsibilities:
Coordination; Contractor Approval; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Costs; Planning; Design; Permitting; Utility Work

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Utility Agency Owner (UAO): TECO Peoples Gas
Utility Type: Gas
Utility Placement: Underground
ASCE Data Quality Level: A & D
Status: Conflict Exists
Utility Contact: Alex Roche
Phone: 954-453-0817
Email: arroche@tecoenergy.com
Address: 5101 NW 21 Ave., Suite 460, Fort Lauderdale, FL 33309

TECO Peoples Gas Roles & Responsibilities:
Coordination; Planning; Design; Permitting; Utility Work; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Reimbursable Costs

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Utility Agency Owner (UAO): Town of Davie
Utility Type: Water & Sanitary
Utility Placement: Underground
ASCE Data Quality Level: A & D
Status: Conflict Exists
Utility Contact: Bill Peele
Phone: 954-327-3743
Email: bill_peele@davie-fl.gov
Address: 6591 Orange Drive, Davie, FL 33314-3399

Town of Davie Roles & Responsibilities:
Coordination; Contractor Approval; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Costs; Planning; Design; Permitting; Utility Work

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Utility Agency Owner (UAO): Florida's Turnpike
Utility Type: ITS Communication
Utility Placement: Underground
ASCE Data Quality Level: A & D
Status: Conflicts Anticipated
Utility Contact: Robert Mastascusa
Phone: 407-902-8129
Email: robert.mastascusa@dot.state.fl.us
Address: P.O. Box 613069, Ocoee, FL 34778

Turnpike ITS Roles & Responsibilities:
Coordination; Contractor Approval; Acceptance

Concessionaire Roles & Responsibilities:

Coordination; Utility Location; Utility Agreements; All Costs; Planning; Design; Permitting; Utility Work

Notes:
Some Fiber Optics

Utility Agency Owner (UAO): Broward County Traffic Engineering (ITS)
Utility Type: ITS Communication
Utility Placement: Underground
ASCE Data Quality Level: A & D
Status: Conflicts Anticipated
Utility Contact: Robert Blount
Phone: 954-847-2745
Email: rblount@broward.org
Address: 2300 W. Commercial Blvd., Fort Lauderdale, Fl 33309

Broward County Traffic Engineering (ITS) Roles & Responsibilities:
Coordination; Contractor Approval; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Costs; Planning; Design; Permitting; Utility Work

Notes:
Some Fiber Optics

Utility Agency Owner (UAO): District 4 (ITS)
Utility Type: ITS Communication
Utility Placement: Underground
ASCE Data Quality Level: A & D
Status: Conflicts Anticipated
Utility Contact: Tony Mendoza
Phone: 954-847-2798
Email: anthony.mendoza@dot.state.fl.us
Address: 2300 W. Commercial Blvd., Fort Lauderdale, Fl 33309

District 4 (ITS) Roles & Responsibilities:
Coordination; Contractor Approval; Acceptance

Concessionaire Roles & Responsibilities:
Coordination; Utility Location; Utility Agreements; All Costs; Planning; Design; Permitting; Utility Work

Notes:
Some Fiber Optics

I. Transit

A preliminary envelope for a future elevated transit corridor is proposed on the south side of I-595, generally north of eastbound SR-84, between SW 136th Avenue and SR-7 and stays within the highway right of way. The transit envelope must be preserved, including considerations for future foundations. Construction of transit elements, including substructures, will not be part of this Project.

Based on the current Indicative Preliminary Design for I-595, a preliminary transit alignment envelope is provided in the Preliminary Central Broward East-West Transit Analysis (CBEWTA) Alignment through I-595 Corridor in the Reference Documents. The minimum transit design criteria used to develop this preliminary alignment is included in the Transit Design Criteria in Volume III. The Concessionaire is required to modify (if necessary) this preliminary alignment to coincide with the Concessionaire's proposed I-595 roadway alignment including SR-84, associated ramps, and crossroads in accordance with the Transit Design Criteria in Volume III. The Concessionaire is required to develop the alignment to a design level sufficient to minimize and preferably eliminate future reconstruction of roadway facilities built by the Concessionaire and to identify/preserve future foundation footprints for transit. Any re-alignment by the Concessionaire would need to comply with the design criteria established in the Transit Design Criteria.

Any modifications to the preliminary transit alignment envelope along the corridor will require approval from the Department prior to commencing final design activities for I-595. The Concessionaire will meet with the Department and the CBEWTA representatives on a regular basis to ensure accommodation of key transit design components, including geometry, transit entry/exit points and structural depth requirements.

J. Aesthetics

1. Introduction

Plans Preparation Manual, Aesthetic Guidelines

Chapter 26 of the FDOT Plans Preparation Manual (PPM), Section 26.9.4 Aesthetics, states, "Any bridge design must integrate three basic elements: efficiency, economy and elegance." This statement shall be applied to the Project corridor and in particular to the structural elements which include the bridges, retaining walls and sound barriers that contribute to the visual impression of the corridor. Bridges are a prominent feature on the travel way. These guidelines establish consistent, elegant/high impact aesthetics along the corridor.

Secondary to the bridges are the retaining walls and sound barriers that will line the roadway in some areas. The most significant aesthetic consideration for the walls is the uniformity and continuity of color, style, textures, and profile.

The Concessionaire shall adhere to Aesthetic Level 3.

2. Overall Aesthetic Theme

Plans prepared by the Concessionaire shall promote a consistent aesthetic "theme" for the entire Project corridor. The Concessionaire shall select and develop an aesthetic theme that will guide decisions about aesthetics throughout the Project. Upon NTP 1, the

Concessionaire will be responsible to coordinate and obtain concurrence from the Department for the selected aesthetic theme for the Project. Potential aesthetic themes may include, but are not limited to:

- Ecosystem – Interpret ecosystems unique to Southeast Florida. Focus could be on natural water resources and ecological systems, including the Everglades or other natural system.
- Tourism – Celebrate the theme of travel and Southeast Florida as a destination. Focus on beaches, Everglades, cruise port, and other local attractions.
- Wind / Weather / Tropics – Educate users about local climate and how we live in the tropics. Southeast Florida has a unique weather experience that could be interpreted through aesthetic elements.
- Transportation – Highlight aspects of transportation such as past, present, and future of transportation. Include land, water, and air transportation for design ideas.

The Concessionaire shall adhere to the following aesthetic criteria in the design and construction of the Project.

3. Bridges and Ramps

a) General

Comply with Section 26.9.4 of the Plans Preparation Manual (PPM), including:

- The emphasis is on full integration of efficiency, economy and elegance in all bridge components and the structure as a whole. Structure components shall be evaluated both individually and as a system. Components should be simple, economical and efficient, designed to be harmonious and thus contribute to the elegance of the total structure.
- The bridge design shall be compatible with the site by proper attention to forms, shapes and proportions. Attention to details is of primary importance to achieving continuity of line and form.
- High visibility elements should receive greater aesthetic emphasis.

b) Scale of Aesthetic Treatment

- Details shall be simple, pronounced, and easy to distinguish.
- Textures and patterns shall be visible at highway speeds
- Structural steel bridge components shall have a consistent color scheme.
- Concrete bridge components and walls shall receive a consistent color Class 5 Applied Finish Coating.

c) Bridge Design and Materials

- Each bridge shall be of a single superstructure type and material.
- On multi-span bridges the exterior beams/girders for all spans shall be the same, except for the widening of an existing bridge(s) where the exterior girder in one or more spans is currently different from the exterior girder in another span(s) in order to meet the existing vertical clearance requirement.

At these existing bridges only (if the bridge is to remain), different depth exterior girders may be used to meet the proposed vertical clearance requirements.

- Straddle bents, straddle piers and cantilever piers shall be integral with the superstructure element(s) that they support.
- Straddle bents, straddle piers and cantilever piers shall match the depth of the superstructure element(s) that they support.
- No stiffeners shall be permitted on the outside of exterior steel plate girders.
- No pile bents shall be used except for Ramp T-7, surface street bridges and Greenways structures over the canals.
- All existing bridges to remain, widened bridges, and new bridges within the O&M Limits of the Construction Period shall receive a Class 5 Applied Finish Coating, with the exception of the following bridges:
  - I-595 EB over Pond Apple Slough (#860428)
  - Any existing bridge over the NNRC to remain that is not widened.

  The Class 5 coating shall be applied to all faces of concrete columns to one (1) foot below existing grade, all faces of intermediate and end bent concrete caps (excluding the top), end bent cheek walls and wing walls, MSE / retaining walls and wall copings, exterior face of exterior prestressed beams, exposed edge of deck, and all faces of barriers including sound walls (exterior, top, and roadway). The Class 5 coating shall not be applied to the segmental box components of segmental bridges. Color is to be coordinated with the Department. The Concessionaire shall clean and coat all existing structure surfaces above as per the Governing Regulations.

d) Design by Bridge Type

- Proposed third level bridges shall have a closed box superstructure type.
- Second Level Bridges: Structural type, material and span shall be consistent. Where existing bridges are to remain, widening or new construction shall match the existing structural type and material. Deviation from this requirement shall be considered on a case-by-case basis, at the Department's sole discretion.
- All braided ramps along the entire corridor shall be grouped into no more than two superstructure/material types. The grouping of the braided ramps shall complement the overall aesthetic theme and shall be sequenced to provide a sense of continuity.
- Ramp T-1 and Ramp T-5 shall have the same superstructure type and materials (Refer to the Indicative Preliminary Design in the Reference Documents for ramp locations).
- Ramp P-1 and Ramp N shall have the same superstructure type and materials (Refer to the Indicative Preliminary Design in the Reference Documents for ramp locations).
- Ramp R-7 and Ramp R-9 shall be considered third level bridges (Refer to the Indicative Preliminary Design in the Reference Documents for ramp locations).
- All new steel superstructure elements at a given location shall be painted the same color.
- Unpainted weathering steel shall not be permitted for bridges on this project.

- All new concrete superstructure elements at a given location shall be the same color.

4. Walls

a) General

- Two or three colors shall be used for concrete elements.
- The use of murals or integral patterns is encouraged
- The monotonous repetition of stamped elements is discouraged.

b) Retaining Walls

Coordinate aesthetic appearance of retaining walls with bridges and other elements.

Where an existing bridge retaining wall is kept and expanded as part of the Concessionaire's design, the new portions of the retaining wall shall match the existing retaining wall aesthetic properties.

c) Sound Barriers

- Construction of sound barriers shall be according to standard approved FDOT systems.
- Finish on the roadway side of the sound barriers shall be the same for the entire corridor. In some cases the sound barrier may have roadways on both sides.
- Finishes on sound barriers are subject to public involvement. Finishes currently available include Fractured Rib, Ashlar Stone, Split Face Block/Fractured Rib, and Smooth Surface.
- Consideration shall be given to aesthetically pleasing sound barrier wall profiles. Excessive undulation of the walls' top edge will not be allowed. The elevation changes in the top edge of the ground mounted sound barrier shall be limited to changes of approximately 1 ft. per 100 ft. of length.
- Consider the appearance of sound barriers from both sides. Ground mounted sound barriers shall receive a painted finish or a Class 5 applied finish on both sides. No unfinished surfaces shall be allowed.
- Coordinate aesthetics of sound barriers with MSE walls, bridges, and other elements.
- Shoulder mounted sound barrier walls and the supporting traffic railing barriers shall receive a Class 5 applied finish coating that matches the color of nearby ground mounted sound barrier walls.

d) Bulkhead Walls

If steel sheet piling is used in a bulkhead wall, the top of the sheet piling shall be embedded in a concrete cap. No bare sheet piling will be allowed along the top of the cap.

5. Miscellaneous Structures

a) All metals, fixtures, and the like shall be black, fade-resistant finish as per the Federal Standard 595-B ID No.17038 or black vinyl coating. This includes sign structures, poles, mast arms, and fences.

b) Metal elements such as light poles and sign structures shall have a coordinated appearance.

c) Lighting

- Lighting fixtures shall be of a consistent style throughout the corridor.
- High-mast lighting shall be permitted only in portions of the corridor where they are already in use.

d) All toll gantries shall be consistent in color and complimentary in style to other elements within the corridor.

6. Landscape

a) General

Refer to Landscaping in Vol II Div II Sect 3.V for landscaping requirements.

- Use low-maintenance, native or naturalized plants well suited to the microclimate where they are installed.
- Use small shrubs, closely spaced, to minimize the opportunity for weeds to invade planting areas.
- No permanent irrigation shall be used within the Operating Period O&M Limits.
- Avoid delicate shrubs.
- Avoid the use of large shrubs that may eventually grow to become trees, such as large sea grape to avoid potential permitting issues.
- Size and quality of plant material shall comply with FDOT standards.
- A diversity of plant species and sizes is required.
  A. Plant species diversity- minimum number of species required for each category (design should include all appropriate categories):
     a. Large trees: 3 unique species
     b. Small trees: 2 unique species
     c. Palms: 2 unique species
     d. Shrubs: 5 unique species
  B. Plant size diversity- minimum recommended size for each category:
     a. Large trees: 45 gallon minimum size
     b. Small trees: 25 gallon minimum size
     c. Shrubs: 3 gallon minimum size
- Wherever possible, landscape material shall be used to highlight and frame pleasing views, and to screen or buffer unsightly conditions.

b) Interchange Infield Areas

- Introduce color where possible.
- Use bold, simple design, enjoyable at highway speeds.

c) Crossroads

- Wherever possible, intersections at crossroads connecting to the corridor shall be landscaped.
- New landscape shall compliment nearby existing landscape, and shall be approved by Department and coordinated with the local municipality.

The Concessionaire shall submit an Aesthetics Master Plan to the Department prior to any design phase submittals for review. The Concessionaire should allow 28 calendar days for the review by the Department.

K. Broward County Greenways

Broward County has identified a major component of the Broward County Greenways System to be within the I-595 corridor. The Concessionaire is required to design and construct portions of the Greenways system as shown in the Indicative Preliminary Design (L&G Concept) and the approved Typical Section Package included in the Reference Documents. The Concessionaire is also to refer to the Broward County Greenways Plan (New River Section) included in the Reference Documents for further details. The Greenways alignment is a 12-foot 6-inch thick concrete bi-directional mixed use path from just east of SW 136th Avenue to just west of University Drive and from Sewell Lock Park to east of SR-7. The majority of the Greenways is to be constructed in South Florida Water Management District (SFWMD) Right of Way. The Concessionaire is required to design and construct the splitter islands shown in the Indicative Preliminary Design (L&G Concept) and detailed in the Broward County Greenways Plan. The Concessionaire is to follow the depth and size specifications for all of the ceramic tile inserts: mile markers/corridor identification tiles and the splitter island tiles. After Final Acceptance of the Greenways portion of the Work, Broward County will install the ceramic tiles, landscape and hardscape features.

The Concessionaire shall be responsible to obtain additional survey along the existing 2-lane road located on the north side of the canal west of SR-7/US 441. The length of the road affected by the improvements is approximately 2,500 feet. The Concessionaire shall be responsible to provide all the required improvements to accommodate the Broward County Greenways, including but not limited to milling and resurfacing, pavement markings, curb and gutter, curb inlets, positive drainage, pedestrian/bike railing, sheet piling, etc. Any existing features impacted by the construction, such as trees, lighting, utilities, etc., shall be the sole responsibility of the Concessionaire to restore them to the original condition or better.

For the portion of the Greenways north of the canal, a 12-foot minimum clearance between the paved part of the Greenways and the nearest top of canal bank and/or revetment shall be maintained, except in the area from east of the Florida's Turnpike to SR-7 where the distance to the bulkhead may be less than 12 feet. In all areas where bulkhead is to be constructed on the north side of the NNRC, a 4'-6" bicycle picket railing will be required along the bulkhead. A bicycle picket railing shall also be required along Greenways underneath all bridges. Wherever concrete traffic railing or concrete barrier wall or concrete parapet is adjacent to the Greenways, a

bicycle bullet railing shall be provided where possible, otherwise, a pedestrian bullet railing shall be provided. Within the northeast quadrant of the SR-7 / I-595 interchange, a Fence Type 'B" shall be installed between the roadway(s) and the Greenways.

Within the limits of the Greenways are four (4) proposed finger canal bridge crossings, one (1) existing finger canal bridge structure requiring an asphalt overlay and pedestrian / bicycle railing and two (2) proposed North New River Canal crossings. See the Bridge Database Matrix and the approved Typical Section Package in the Reference Documents for further details. The pedestrian bridge crossing the North New River Canal east of the Sewell Lock is required to have a 20-foot vertical clearance and a 30-foot horizontal clearance (15 feet each side of the centerline of the waterway for navigation), as per USCG permit requirements. The pedestrian bridge east of the Sewell Lock is also required to have navigational lights as per USCG permit requirements. All Greenways pedestrian bridges west of the Sewell Lock are required to have a minimum vertical clearance of six (6) feet above the optimum water elevation or two (2) feet above the design water surface elevation, whichever produces the higher low member elevation, and a horizontal clearance of 25 feet clear bent spacing, measured perpendicular to the channel for the center span.

The relocated Greenways is required to be built prior to the removal of the existing Greenways thereby resulting in no net loss of the Greenways or its function. Any existing Greenways not used for the final Greenways shall be removed by the Concessionaire. See the Programmatic Section 4(f) Evaluation that was approved by FHWA and contained in the PD&E Study in the Reference Documents.

As per SFWMD permit requirements, the path shall be flush with the ground in order not to impact maintenance activities along canal and its rights of way. In areas where it will be necessary to adjust the level of the Greenways relative to the existing ground, such as at bridge approaches, the profiles and cross slopes shall adhere to ADA requirements. The Concessionaire will coordinate with Broward County and SFWMD as to the acceptable typical section for the path, pedestrian bridges and associated drainage needs.

The Concessionaire shall comply with the Department commitments to the Old Plantation Water Control District (OPWCD) as listed below and as shown in the Additional Project Commitment Sketches, Commitments to OPWCD Figures 1 of 2 and 2 of 2 in Volume III. The Concessionaire will be responsible for the following:

- Provide a concrete block wall parallel to the northern SFWMD property line. The limits of the wall will be from the west OPWCD property line to the existing fence parallel to the finger canal. Height of wall shall be sufficient to obstruct pedestrian view of the above ground gas tank from all points along the Greenways.
- Adjacent to Nob Hill Road, provide slope protection along the east bank of the finger canal from the existing bulkhead wall to 20' south of the Greenways bridge.
- Adjacent to Pine Island Road, provide slope protection along each bank of the finger canal from the existing bulkhead walls to 20' south of the Greenways bridge to minimize maintenance of finger canal.

The Concessionaire shall comply with the Department commitments to the Plantation Acres residential community as listed below and as shown in the Additional Project Commitment Sketches, Commitments to Plantation Acres Figure 1 of 1 in Volume III. The Concessionaire will be responsible for the following:

- Provide Fence Type B generally along the northern SFWMD property line from Flamingo Road to Hiatus Road. The fence shall start and stop at existing north-south fence lines when applicable. For every section of proposed fence along an individual property owner's backyard, a gate shall be provided to allow access to the Greenways. Fence locations including offsets to property lines are subject to individual property owner permits through SFWMD and public involvement.

During design and construction of the Greenways system, the Concessionaire is to coordinate with the Department and Broward County. The Concessionaire shall allow a total of 28 calendar days for review and concurrence by the Department and review and approval by Broward County prior to starting construction. Final Acceptance is contingent upon the Greenways built as per the Concessionaire's approved plans and Broward County acceptance.

Once Broward County has accepted the construction of the Greenways system, Broward County will assume maintenance responsibilities.

In addition to the Broward County Greenways, a 6-foot sidewalk is proposed along EB SR-84. Undesignated 4-foot (6-foot next to barrier wall) bicycle lanes are also proposed along SR-84 in both directions. The bicycle lanes will be undesignated because of proximity to the interstate ramps and high speed traffic.

L. Roadway

1. General

The Concessionaire shall make use of the Indicative Preliminary Design as a starting point for the design. The Indicative Preliminary Design serves as a general guideline of the design concept for the Project. The Concessionaire is to develop solutions in general conformance with the Indicative Preliminary Design which adhere to the design criteria requirements provided herein.

The Roadway Plans Package shall be prepared by the Concessionaire. This work effort includes the roadway design and drainage analysis needed to prepare a complete set of Roadway Plans, Drainage Plans, Traffic Control Plans, Environmental Permits and other necessary documents.

The Department will require continuous coordination during the design analysis and final plans development. During key points of the design analysis and final plans development, the Concessionaire will be required to present key design components (line and grade concepts, component master plans, design reports, calculations, etc.) in order to assure the Department that the Concessionaire is meeting the design requirements of the Concession.

2. Design Analysis

The Concessionaire shall develop and submit signed and sealed Typical Section Packages and Pavement Design Packages for review and approval by the Department and FHWA prior to any plan phase submittals by the Concessionaire.

a) Design Speed

Except as provided herein, the Concessionaire must comply with the minimum Design Speed for each of the roadways listed in the Typical Section Packages provided in the Reference Documents. Any refinements to the geometrics of the facility by the Concessionaire shall not result in a reduction of the design speed of any roadway, unless an existing bridge is retained, and then the minimum design speed shall not be less than the existing design speed.

b) Typical Section Package

Two Typical Section Packages are included in Reference Documents, one for the I-595 corridor and one for the Turnpike portion of the Project. The Concessionaire is to re-submit two complete signed and sealed Typical Section Packages, one for I-595 corridor and one for the Turnpike, for review and approval. The Typical Section Packages must be in accordance with the Manuals and Guidelines stipulated in Vol II Div II Sect 2.A and submitted for FDOT/FHWA review and approval in writing prior to any 90% design submittal for review. The Concessionaire shall allow 28 calendar days for review by the Department. The Concessionaire shall not propose to reduce any of the following criteria:

- Design Speed
- Number of General Purpose Lanes or Auxiliary Lanes between interchanges
- Lane widths
- Shoulder widths

In addition, the Concessionaire shall not increase the Turnpike mainline sideslopes shown in the Typical Section Package.

c) Pavement Design Package

The Concessionaire shall be responsible for preparing a Pavement Design Package for review and approval in writing by FDOT and FHWA in accordance with the Manuals and Guidelines stipulated in Vol II Div II Sect 2.A prior to any 90% design submittal. Notwithstanding other standards included in Vol II Div II Sect 2.A, the FDOT Flexible Pavement Design Manual and the FDOT Rigid Pavement Design Manual shall apply to all pavement designs subject to the minimums heretofore stated. With the submittal, a layout plan shall be submitted which indicates the pavement design locations/limits along the corridor for I-595, Florida's Turnpike, SR-84, Express Lanes, ramps, and crossroads. The Concessionaire shall allow 28 calendar days for review by the Department. Asphalt or concrete pavement design can be specified; however the minimum length for an asphalt section is 500 feet. The Concessionaire shall reconstruct, or widen and/or mill and resurface all roadways within the Construction Period O&M Limits and as described below. The design shall be based on the following parameters:

- New construction and widening: minimum design period of 20 years or year 2035, whichever is greater.

- Along I-595 a minimum 2-inch structural course on paved shoulders is required for mainline shoulders.
- Milling & resurfacing adjacent to widening (including shoulders): minimum design period of 20 years or year 2035, whichever is greater.

Milling and resurfacing not adjacent to widening and/or outside the Operating Period O&M Limits, the design shall be based on the following parameters:

- The limits of milling and resurfacing for crossroads shall extend 500' from the curb return (north of SR-84 WB; south of SR-84 EB) or to the limits of the traffic control or Construction Work, whichever is greater. The limits of resurfacing for I-595, SR-84 and Ramps shall extend 500' from the limits of the Construction Period O&M Limits or to the limits of traffic control or Construction Work, whichever is greater. The limits of resurfacing for driveway connections and side streets to SR-84 shall be to the limits of traffic control or Construction Work impacts. The Concessionaire shall adhere to the minimum applicable pavement design standards for milling and resurfacing.

I-595 mainline, Express Lanes, SR-84, and Ramps:
- Notwithstanding any provision to the contrary in the Contract Documents, all open graded friction course shall use the 100% crushed granite option.
- Minimum Design Reliability Factor of 90%
- Minimum Resilient Modulus of 12,000 PSI
- Use a Modified Binder of PG 76-22 on the top 2 structural layers and friction course.

Equivalent Single Axle Load (ESAL) information to be used for the development of the pavement design has been provided in the ESAL Report in Volume III.

Pavement coring information to be used for the development of the pavement design has been provided in the Pavement Coring Data in Volume III.

Turnpike Mainline
- The Concessionaire shall follow the FTE Minimum Pavement Design Guide in Volume III for the pavement design criteria along Florida's Turnpike mainline within the Construction Period O&M Limits but outside the Operating Period O&M Limits.
- Notwithstanding any provision to the contrary in the Contract Documents, all open graded friction course shall use the 100% crushed granite option.

d) Geometrics

The Indicative Preliminary Design has been developed with consideration given to the design traffic volumes, adjacent land use, design consistency, aesthetics and ADA requirements. The Concessionaire shall be solely responsible for development of a design that meets all applicable standards and criteria.

The design elements shall include, but not be limited to, the horizontal and vertical alignment, lane widths, shoulder widths, median widths, cross slopes,

borders, sight distance, side slopes, front slopes and ditches. The geometric design developed by the Concessionaire shall be an engineering solution that is not merely an adherence to the minimum FDOT standards but meets acceptable industry practice.

The following alignment criteria are to be adhered to:

- The Concessionaire will be allowed to refine the horizontal and vertical alignments depicted in the Indicative Preliminary Design (L&G Concept), due to existing field conditions or proposed design elements, but shall adhere to the general locations, number of lanes, number of braided ramps, number of bypass ramps and configurations for all roadways, auxiliary lanes, ramps, braided ramps and bypass ramps. Lane configurations at signalized intersections shall not reduce the number of lanes per movement or eliminate any movement compared to the existing configuration.
- The Concessionaire will be allowed to refine the horizontal and vertical alignments depicted in the Indicative Preliminary Design (L&G Concept), due to field conditions or proposed design elements, but the separation between the Express Lanes and Express Lanes Ramps from all other roadways shall be with a combination of concrete barrier wall of varying types, MSE wall with concrete traffic railing, or with concrete traffic railing on bridge(s). Use of any type of guardrail, including W-Beam guardrail, Thrie-beam guardrail, or tensioned cable guardrail is prohibited for separation of the Express Lanes and Express Lanes Ramps from all other roadways.
- The Concessionaire will be allowed to refine the horizontal and vertical alignments depicted in the Indicative Preliminary Design (L&G Concept), due to field conditions or proposed design elements, but the shoulder widths for the Express Lanes and General Purpose Lanes shall remain a minimum ten (10) feet in width, and shall not be reduced for the gantry system, ITS, overhead sign structures, signing, lighting, approaches to bridges, or for any other reason except for specific locations identified in applicable Design Exception/Variation documentation included in the Reference Documents.
- Cross slopes for the Express Lanes and the General Purpose Lanes shall be designed and constructed such that they remain consistent along tangent sections and shall not be rotated other than for necessary superelevation transitions and for cross slope transitions to and from approach slabs and bridges.
- The Concessionaire will be allowed to refine the horizontal and vertical alignments depicted in the Indicative Preliminary Design (L&G Concept), due to field conditions or proposed design elements, but the Express Lanes alignment and/or General Purpose Lanes alignment shall remain constant relative to each other, to the maximum extent possible, and shall not be subjected to isolated alignment adjustments due to ITS, overhead sign structures, signing, lighting, or approaches to bridges over crossroads, except where required by Express Lanes Ramp geometry, the University Drive Interchange, Davie Road Interchange, and the Turnpike Interchange.
- The Concessionaire will be allowed to refine the horizontal and vertical geometry of the braided ramps and bypass ramps depicted in the Indicative Preliminary Design (L&G Concept), due to field conditions or proposed

design elements. Profile grades for the braided ramps and bypass ramps shall comply with all applicable design standards. Profile grade changes that create roller-coaster type effects shall not be used.

- The Concessionaire will be allowed to refine the horizontal and vertical geometry of Ramp L-1 as shown in the Indicative Preliminary Design (L&G Concept) but shall not reduce the decision sight distance to the departure point and painted nose of the ramp from the mainline.
- The Concessionaire will be allowed to refine the University Drive / I-595 Interchange horizontal and vertical alignments depicted in the Indicative Preliminary Design (L&G Concept), due to existing field conditions or proposed design elements, but shall adhere to the general locations, movements and number of lanes. The horizontal and vertical elements of any new bridge structure shall be designed such that future expansion of the Express Lanes bridge over University Drive (from the 59'-1" three lanes with standard shoulders structure depicted in the Indicative Preliminary Design (L&G Concept) to a minimum 81'-1" wide bridge with four lanes divided) would result in the required horizontal and vertical clearances without further modifications to any new proposed structure. The Concessionaire shall not propose a four (4) level interchange for the University Drive interchange.
- The Concessionaire will be allowed to geometrically refine the west and east end ramp movements to and from the Express Lanes and Express Lanes Ramps as well as the direct connector ramps to the Florida's Turnpike due to existing field conditions or proposed design elements, but shall adhere to the locations, configurations and number of movements as depicted in the Indicative Preliminary Design (L&G Concept).
- For the Express Lanes profile between Sta. 2480+67.89 to Sta. 2542+25.00, the Concessionaire shall not raise the profile grade line by more than one (1) foot from what is shown in the Indicative Preliminary Design (L&G Concept).
- The Concessionaire will be allowed to refine the horizontal and vertical geometry of Ramp T-1 as depicted in the Indicative Preliminary Design (L&G Concept), due to field conditions or proposed design elements with the following conditions: 1) a minimum design speed of 50 mph for Ramp T-1 where the ramp exits Florida's Turnpike Southbound; 2) a minimum design speed of 45 mph from the beginning of Bridge No. 000024 to near the beginning of Bridge No. 860561, except the horizontal stopping sight distance on Ramp T-1 for Bridge No. 000024 shall meet the requirements for a speed of 40 mph.
- Ramp R-9 shall be designed and constructed with the following: 1) a 50 mph design speed; 2) compound curves with a ratio of 1.5:1 or better, or with spirals and curves; 3) an inside shoulder that varies (6'-0" to 10'-0") such that no Design Exception is required for stopping sight distance.
- For the northbound Florida's Turnpike improvements from Sta. 4715+00 to Sta. 4755+00, the Concessionaire's design for the outside edge of pavement shall not deviate eastward more than one (1) foot horizontally from the edge of pavement provided in the Indicative Preliminary Design (L&G Concept) for the mainline, auxiliary lanes and ramps within these station limits.
- For the northbound Florida's Turnpike improvements from Sta. 1811+00 to Sta. 1836+00, the Concessionaire's design for the outside edge of pavement shall not deviate eastward from the edge of pavement provided in the

Indicative Preliminary Design (L&G Concept) for mainline, auxiliary lanes and ramps within these station limits.

- The Concessionaire must assume the existing FGT 18 inch and 24 inch gas lines from Griffin Road to Sta. 4731+00 (including all appurtenances) will remain in place, and the existing 18 inch and 24 inch gas lines located approximately between Station 4731+00 and Station 4853+15 (Peters Road) will be out of service and removed or filled with grout by others by no later than 90 days after NTP 2. The Concessionaire must assume the 36 inch gas line currently under construction from Sta. 4731+00 to Peters Road (including all appurtenances) will remain in place.
- The Concessionaire shall design the west end exchange area for the Express Lanes in such a manner as to minimize the future reconstruction of the exchange area in providing a 2-lane direct connection to the median of I-75 towards the south. The Department is currently conducting a PD&E Study for I-75 and desires to minimize future rework for a potential direct connection if the PD&E study determines that it would be warranted in the future. The Concessionaire is to coordinate with the Department as it relates to the development of this study and the desire to minimize future rework in this area.
- The Concessionaire shall design the east end exchange area to the Express Lanes in such a manner as to minimize the rework if the Department desires to construct in the future the Ultimate Concept Plan depicted in the Reference Documents.
- Between any two crossroads that span the North New River Canal, the Concessionaire shall design bulkheads with profiles that are level, providing a constant vertical distance from the controlled water surface elevation to the bottom of the bulkhead cap. In addition, the bulkhead along the south side of the canal and along the north side of SR-84 westbound shall use concrete barrier wall for canal protection. The top of concrete barrier wall profile shall be designed so that the distance from the bottom of the bulkhead cap to the top of the concrete barrier wall is constant. The top of concrete barrier wall profile criteria does not apply at Ramp L-1, Ramp T-16 and where a 14 foot shoulder sound barrier is required.
- In all other areas that are not adjacent to the bulkhead, the Concessionaire shall design the top of concrete barrier wall profiles in such a manner as to create a profile that is similar to the roadway profile and does not 'sawtooth' with a rocking shoulder design.

The Concessionaire shall submit their L&G Concept to the Department for review and concurrence in writing prior to any 90% design submittal for review. The Concessionaire shall allow 28 calendar days for the review by the Department.

e) Emergency Response Provisions

Emergency Access Gates

The Concessionaire shall provide five (5) Emergency Access Gates (EAGs) to provide emergency responders with strategic accessibility to the Express Lanes from the I-595 General Purpose Lanes.

The required locations of the EAGs and the ramp access they will need to accommodate are provided in the table below:

Gate Location Limits (Between)	Service Ramp
Hiatus Road and Nob Hill Road (Eastbound Access)	H
University Dr. and Davie Road (Eastbound Access)	O
Davie Road and University Dr. (Westbound Access)	Q-3
Nob Hill Road and Hiatus Road (Westbound Access)	L-2
Hiatus Road and Flamingo Road (Westbound Access)	F

The minimum requirements of the EAGs are as follows:

- The minimum distance from the Service Ramp to the I-595 General Purpose Lanes and the EAG shall be 1,320 ft.
- The sites where the gates are installed shall not exceed 8% longitudinal grade and 4% lateral cross slope.
- For additional EAG requirements refer to Vol II Div II Sect 3 Att 1.

Fire Suppression System

The Concessionaire shall provide a standpipe-type fire suppression system to service the Express Lanes. The system shall be designed and constructed in accordance with the FDOT Utility Accommodation Manual, the Florida Fire Prevention Code, the National Fire Protection Association (NFPA) 14 and 24, and other applicable Governing Regulations. The system shall enable the fire department to deliver water from fire hydrants along the south side of eastbound SR-84 (or other water main(s)) to hose connections in the median barrier wall through underground piping. The piping system will only be pressurized by the fire department during emergency situations. Surface waters or stormwater management facilities shall not be used as a water source.

The Concessionaire shall provide sidewalk-type fire department connections (FDCs) installed adjacent to fire hydrants (either existing hydrants or new hydrants). In the location of sound barriers or similar walls, flush-type FDCs shall be installed in the wall. The Concessionaire shall also install sleeves for wall-type fire hydrants. All FDCs shall be equipped with caps and chains.

The Concessionaire shall determine the exact number and locations of underground pipes and FDCs. No pavement cuts are permitted along newly placed asphalt and/or base material in order to install the piping system. Piping run longitudinally (parallel to travel lanes) shall not be located under any travel lanes, and shall be located as close to the barrier walls as permitted by the applicable codes and standards. No piping shall be located under MSE walls. The underground piping shall be cement-lined ductile iron or DR18, Class 150 PVC; PVC pipe shall not be installed above ground.

Piping shall be a minimum size of 6-inch diameter. 6-inch piping shall be limited to 500 feet of equivalent length (pipe and fittings). Additional piping upstream of the 6-inch piping (between the connection and source) shall be a

minimum of 8-inch pipe, which is limited to an additional 3,000 feet of equivalent length. Any additional piping length shall be 10-inch minimum.

The Concessionaire shall determine the locations of the hose connections. Each location shall include two hose connections on each side of the Express Lanes in the median barrier walls. The minimum limits of coverage are from the gore of Ramp R-1/Ramp R-2 at the west end of the Express Lanes to the gore of Ramp R-12/I-595 eastbound at the east end of the Express Lanes. The maximum distance between two locations shall be such that complete coverage of the Express Lanes, from barrier wall to barrier wall on each side of the Express Lanes, is obtained with a maximum 1,000 foot hose. Multiple hose connections may be served by a single FDC in accordance with the piping requirements described herein.

Hose connections shall consist of single pumper (steamer) connections at each connection point. The size of the connection and threads shall be confirmed with the Davie Fire Department Standards for hydrants. A gate valve shall be installed below each pumper connection. Fire hydrants shall not be used as hose connections. Hose connection access shall be provided by a horizontal connection. Hose connection material shall be protected from corrosion similar to hydrants and FDCs.

The Concessionaire shall label/number hose connections and FDCs to clearly identify which hose connection(s) are served by which FDC. Labels shall be visible and legible from the roadway. The Concessionaire shall identify all hose connections and FDCs by blue reflectors installed in the roadway and on the barrier wall at each hose connection and each FDC. Placement shall be coordinated with the Davie Fire Department.

The Concessionaire shall coordinate with the UAO being requested to provide water service to each FDC to ensure compatibility between the standpipe system and the location of the hydrant to be the water source. The UAO shall provide all water main extensions, fire hydrants and lateral connections required for water service to the FDCs at no cost to the Concessionaire. The Concessionaire shall consider the UAO's utility work that is required to provide water service when designing the locations of the FDCs. Existing water services may need to be extended by the UAO outside of the Project Right of Way to provide a suitable location within the Project Right of Way. East of University Drive, water service can be provided through the extension of existing water mains along SW 71st Terrace and College Avenue, as well as the existing water main along the frontage east of Davie Road. The Concessionaire shall locate the FDCs no more than 100 feet from where the UAO has agreed to provide the hydrant for water service.

Testing and maintenance requirements for the system are provided in Vol II Div II Sect 4.

f) Design Exceptions / Variations

All allowable Design Exceptions / Variations for the Indicative Preliminary

Design have been identified. Two Draft Design Exception / Variation Packages are included in the Reference Documents, one for the I-595 corridor and one for the Turnpike portion of the Project. The Concessionaire is to re-submit two complete signed and sealed Design Exception / Variation Packages, one for I-595 corridor and one for the Turnpike, for review and approval in writing.

The Design Exception / Variation Packages must be in accordance with the Manuals and Guidelines stipulated in Vol II Div II Sect 2.A and submitted for FDOT/FHWA approval prior to any 90% design submittal for review. The Concessionaire shall allow 28 calendar days for review by the Department.

For the tables below, the following definitions apply:
Number of Locations is a sum of single occurrences of a substandard design
Length of Need / Station Limits represents the distance, or length of one location of a substandard design
Mainline represents all lanes, including auxiliary lanes, on I-595 and the Turnpike

Table 3.e.1: Design Exceptions Restrictions

Design Exception*	Roadway	Number of Locations	Length of need / Station Limits
Lane Width; Shoulder Width; Bridge Width	I-595 WB	(1)	(2)
Lane Width; Shoulder Width; Bridge Width	I-595 EB	(1)	(2)
Shoulder Width; Bridge Width	Mainline	(1)	(2)
Stopping Sight Distance	Ramp R-7	(1)	(2)

Notes:
(1): New or additional locations for this Design Exception are prohibited.
(2): Length of need for a Design Exception at any location is limited to a 10% increase based on the Concessionaire's design and is as explicitly defined and justified in the Reference Documents. Stationing (not location) may be adjusted based on the Concessionaire's stationing.
* For all Design Exceptions the dimension of the substandard design is limited as explicitly defined and justified in the Reference Documents.

Table 3.e.2: Design Variations -- Restrictions Level 1

Design Variation**	Roadway	Number of Locations	Length of need / Station Limits
Shoulder Width	Mainline	(3)	(6)
Shoulder Width	Turnpike	(3)	(7)
Shoulder Width	1-Lane Ramps	(3)	(7)
Shoulder Width	2-Lane Ramps	(3)	(6)
Vertical Alignment (Curve Length)	Mainline	(4)	N/A
Vertical Alignment (K Value)	Mainline	(5)	N/A
Vertical Clearance	I-595 EB I-595 WB	(5)	N/A
Vertical Clearance	Turnpike bridges Over I-595 EB	(3)	N/A
Cross Slope Crossover	R-7 & R-9	(3)	(7)

Notes:
(3): New or additional locations for this Design Variation are prohibited.
(4): A net increase in the number of locations, per roadway, per direction, of this Design Variation is prohibited. Each ramp is considered a roadway.
(5): A net increase in the number of locations of this Design Variation is allowed only for I-595 over an urban principal arterial with exterior curb and gutter and if the reason that the design criteria is not appropriate and the justification are as explicitly defined and justified in the Reference Documents.
(6): Length of need for this Design Variation at any location may be adjusted based on the Concessionaire's design and shall be applied with the same justification as indicated in the Reference Documents.
(7): Length of need for this Design Variation at any location is limited to a 10% increase based on the Concessionaire's design. Length of need is as explicitly defined and justified in the Reference Documents. Reductions in the length of need or elimination of the Design Variation are allowed. Stationing (not location) may be adjusted based on the Concessionaire's stationing.
** For all Design Variations the dimension of the substandard design is limited as explicitly defined and justified in the Reference Documents.

Table 3.e.3: Design Variations -- Restrictions Level 2

Design Variation***	Roadway	Number of Locations	Length of need / Station Limits
Horizontal Alignment (Curve Length)	CD & Ramps	(8)	N/A
Horizontal Alignment (Curve Length)	I-595 Mainline	(8)	N/A
Horizontal Alignment (Curve Length)	Turnpike	(8)	N/A
Cross Slope (No. of Lanes)****	I-595 Mainline	(9)	(10)
Cross Slope (No. of Lanes)****	Turnpike	(8)	(11)
Border Width	I-595 Mainline	(8)	N/A
Border Width	Turnpike	(8)	N/A
Border Width	CD	(8)	N/A

Notes:
(8): A net increase in the number of locations, per roadway, per direction, of this Design Variation is prohibited. Each ramp is considered a roadway.
(9): A net increase in the number of locations for a Design Variation may be adjusted based on the Concessionaire's design and shall be applied with the same reason that the design criteria is not appropriate and justification as indicated in the Reference Documents.
(10): Station Limits are allowed to vary from those defined in the Reference Documents. Length of need for this Design Variation at any location may be adjusted based on the Concessionaire's design and shall be applied with the same intention as indicated in the Reference Documents.
(11): Station Limits are allowed to vary from those defined in the Reference Documents. Length of need shall not exceed the length of need defined in the Reference Documents.
*** For all Design Variations the dimension of the substandard design is limited as explicitly defined and justified in the Reference Documents.
**** As part of the Cross Slope Design Variation documentation, the Concessionaire shall be required to submit a hydroplaning analysis of the project once the pavement type, profile grades and cross slopes have been determined.

g) Design Documentation and Computations

The Concessionaire shall submit to the Department design notes and computations to document the design conclusions reached during the development of the construction plans.

The design notes and computation sheets shall be fully titled, numbered, dated, indexed and signed by the designer and the checker. Computer output forms and other oversized sheets shall be folded to a standard size 8 1/2 X 11. All submittals shall be as per Vol II Div II Sect I.1. The data shall be in a hard-back folder for submittal to the Department. At the Project completion, a final set of design notes and computations, signed by the Concessionaire, shall be submitted with the record set of plans and tracings.

The design notes and calculations shall include, but not be limited to the following data:

- Design standards used for the Project.
- Geometric design calculations for horizontal alignments.
- Vertical geometry calculations.
- Drainage computations.
- Documentation of decisions reached resulting from meetings, telephone conversations or site visits.
- Documentation of Design Variations and Exceptions.
- Traffic Capacity and Operational Analysis

3. Roadway Plans

The Concessionaire shall prepare all necessary roadway plans in full-scale format (11" x 17") with typical sections, tabulations, and notes. The plans will include all the sheets necessary to convey the intent and scope of the Project for the purposes of construction.

4. Drainage

a) Drainage Analysis

- The Concessionaire shall make use of the Stormwater Management Facility Design Evaluation Report included in Reference Documents as a starting point for the design. Permit applications have been submitted based upon the design concept depicted on the Indicative Preliminary Design and the Stormwater Management Facility Design Evaluation Report. The Concessionaire shall be responsible for designing the drainage and stormwater management systems. All design work shall be in compliance with the FDOT's Drainage Manual; Florida Administrative Code, chapter 14-86; Federal Aid Policy Guide 23 CFR 650A; and the requirements of the regulatory agencies. In addition, for the Turnpike mainline the Concessionaire's drainage design shall also be in compliance with the Turnpike's Plan Preparation Handbook and Drainage Manual Supplement. The effort by the Concessionaire shall include the engineering analysis

necessary to design any or all of the following: cross drains, french drains, roadway ditches, outfall ditches, storm sewers, retention/detention facilities, interchange drainage and water management, temporary drainage, and other drainage systems and elements of systems as required for a complete analysis. Full documentation of all meetings and decisions are to be submitted to the District Drainage Engineer. These activities and submittals should be coordinated through the FDOT Project Manager.

- The proposed stormwater management facilities include wet/dry detention/retention ponds located within interchange infield areas, shared use ponds within adjacent golf courses, offsite rock pits, and exfiltration trench within the roadway corridor. As part of the shared use drainage agreements the golf course owners would be responsible for all improvements necessary within the respective golf course properties.

- The Concessionaire shall be responsible for any conveyance and/or outfall connections between the Project Right of Way and the golf course waterbodies. This includes all conveyance pipes and structures between the Project Right of Way and the golf course waterbodies, as well as all outfall pipes and structures between the golf course waterbodies and the SFWMD North New River Canal. The Concessionaire is advised that the subject conveyance and outfall pipes and structures shown in the conceptual permit application sketches and conveyance easement exhibits are illustrated for concept purposes only. The final conveyance pipe sizes shall be determined by the Concessionaire.

- If pump stations are utilized for conveyance purposes, the Concessionaire shall locate such pump stations within the Project Right-of-Way. The Concessionaire shall be responsible for all design, permitting, construction, operating, and maintaining responsibilities associated with the pump stations. Any required pump station design for the Project shall be in accordance with FHWA HEC-24 and will require redundant pumping capacity and redundant power generation. The primary power shall be provided by electricity with backup power provided by generators and diesel storage tanks capable of operating all pumps for no less than seventy-two (72) continuous hours.

- The Concessionaire shall utilize all golf course pond systems in which shared use right of way agreements have been executed by the Department and the respective golf course owner. The Concessionaire shall use the golf course pond systems to the maximum extent possible as follows:

    1. Storing no less than 70 percent of the Final Design runoff volume from post-development Basin 1-2, as defined in the Stormwater Management Facility Design Evaluation Report included in the Reference Documents, within the Lago Mar Golf Course pond system for the 25yr-3day SFWMD design storm event and storing no more than 50.43 ac-ft for the 25yr-3day SFWMD design storm event.

    2. Storing no less than 90 percent of the Final Design runoff volume

from post-development Basin 4, as defined in the Stormwater Management Facility Design Evaluation Report included in the Reference Documents, within the Pine Island Ridge Golf Course pond system for the 25yr-3day SFWMD design storm event and storing no more than 51.70 ac-ft for the 25yr-3day SFWMD design storm event.

3. Storing no less than 90 percent of the Final Design runoff volume from post-development Basin 5, as defined in the Stormwater Management Facility Design Evaluation Report included in the Reference Documents, within the Arrowhead Golf Course pond system for the 25yr-3day SFWMD design storm event.

Alternative drainage designs, such as exfiltration trenches, shall only be utilized after storing the minimum required volume within the golf course pond systems.

Connections to all three golf courses are mandatory. This includes collecting and conveying the 10yr-1day design storm event stormwater runoff from I-595 and collecting and conveying the 3yr-1day design storm event stormwater runoff from SR-84. If pump stations are utilized for conveyance purposes, the Concessionaire shall provide a conveyance system design that meets the 50yr-1day design storm event as required by the FDOT Drainage Manual.

The amended Volume 1-2 dated July 2008, amended Volume 4 dated July 2008, and amended Volume 5 dated June 2008, of the Stormwater Management Facility Design Evaluation Report shall be used as the basis for the design.

- The exact number of drainage basins, outfalls and water management facilities (retention/detention areas, weirs, etc.) will be the Concessionaire's responsibility. For dry retention areas, the Concessionaire's Geotechnical Engineer is required to concur as to the hydraulic performance capabilities in the area.

- The objective is to design and construct approved stormwater treatment/attenuation facilities. This service shall include, but is not limited to the following.

    - Review any permit documentation for the Project.
    - Coordinate with the SFWMD and local permitting agencies as necessary.
    - Perform design and generate construction plans documenting the permitted systems function to criteria.
    - Submit permit applications and support data for the proposed construction plans related to the drainage design and follow through with agency Request for Additional Information (RAI's) to obtain necessary permits.
    - Determine existence of current drainage issues (interview maintenance staff, etc.) including, but not limited to, flooding, erosion and

sedimentation. Document findings and discuss incorporating solution in final design at drainage coordination meetings with the Department.

- The Concessionaire shall check all existing cross drains to determine capacity, condition and design life. Flood flow requirements will be determined in accordance with Department's procedures.

- The Concessionaire will consider optional culvert materials in accordance with FDOT's Drainage Manual Criteria. If an optional pipe is used, an analysis shall be required demonstrating that the required design service life will be obtained. The actual material used must be identified in the final construction plans.

- Prior to completing the drainage design, the Concessionaire shall meet with the District Drainage Engineer. The purpose of this meeting is to provide information to the Concessionaire that will coordinate completion of the design and any permit applications that may be necessary. This meeting is mandatory and is to occur at least 21 calendar days prior to commencing any design submittals containing drainage components.

- The Concessionaire shall provide FDOT's District Drainage Engineer a Final Drainage Design Report for review and concurrence in writing prior to any 90% design submittal for review. The Concessionaire shall allow 28 calendar days for review by the Department. It shall be a record set of all drainage computations, both hydrologic and hydraulic. The engineer shall include all support data such as soil borings and permeability tests.

- Upon completion of the construction, the stormwater system shall be video inspected demonstrating that the system is free of debris and all joints are sealed.

- Other design requirements

  All existing drainage pipes that are not used shall be removed or abandoned in place. All existing drainage pipes within the Project limits that are to be abandoned in place shall be filled with flowable fill.

  Stormwater runoff from bridges spanning the North New River Canal shall be contained within closed drainage systems which convey the runoff to the downstream stormwater management facilities. No bridge deck scuppers, having direct discharge to the North New River Canal, shall be allowed on bridges spanning the North New River Canal.

  The bridge structure minimum low member elevation over a stormwater management facility pond shall be set at the greater of 1-foot above the 100-year design maximum stage and 2-feet over the 50-year design stage.

  The type(s) of stormwater collection and conveyance system to be utilized on all other bridges in the Project shall be a function of the vertical geometry of the bridges and adjoining roadway sections. While the type(s) of stormwater

collection and conveyance system shall ultimately be determined during the Concessionaire's hydraulic analysis, in no circumstances shall the bridge drainage be permitted to drop directly over roadway sections. The Concessionaire is advised that closed drainage systems may also be required on some bridges within the Project that do not span the North New River Canal.

The Concessionaire shall conduct a Storm Sewer System Evaluation Survey of any existing drainage structure, pipe, or manhole that will become part of the permanent drainage system(s) to determine serviceability and recommended repairs if needed. As a minimum, and unless otherwise approved by FDOT, the Concessionaire shall implement the recommendations contained in the survey. The Concessionaire will be responsible to determine whether additional repairs are necessary to any other drainage pipes or structures that are to become part of the permanent drainage system(s) within the Project limits and to perform those repairs.

The Concessionaire is to contact immediately the District Contamination Impact Coordinator if any monitoring wells are encountered within public rights-of-way that have not been grouted to coordinate the proper abandonment of the wells. The Concessionaire shall cut off all grouted wells at least one (1) foot below final proposed grade.

The Concessionaire shall coordinate with the District Contamination Impact Coordinator prior to the removal, handling, transportation and disposal of any contaminated soil, groundwater, drilling mud and/or any other Contaminated Material resulting from the construction of the drainage improvements in these areas.

All existing drainage pipes/culverts within the Construction Period O&M Limits but out of the Operating Period O&M Limits that are to remain in use are to be desilted and are to be free of any debris at the completion of construction activities.

All legal outfalls of adjacent drainage systems or properties (via Drainage Connection Permits or historical overland flow) shall be maintained in the final design and throughout construction.

b) Drainage Plans

The Concessionaire shall prepare plan sheets, notes, and details as per the Department's Plans Preparation Manual. It is noted that for this Project, the Department has determined that the Drainage Maps will not be included within the construction contract plans; but rather, will be included within the Final Drainage Design Report. The Concessionaire will be responsible to include final Drainage Maps within the Final Drainage Design Report.

The Concessionaire shall submit a Master Drainage Plan for review and concurrence in writing to the Department prior to any 90% design submittal for

review. The Concessionaire shall allow 28 calendar days for the review by the Department.

5. Stormwater Pollution Prevention Plans (SWPPP)

The Concessionaire is responsible for the design of erosion and sediment protection. The Concessionaire shall prepare an erosion control plan that complies with the Stormwater Pollution Prevention Plan (SWPPP) as required by the National Pollutant Discharge Elimination System (NPDES). The Concessionaire shall refer to the Plans Preparation Manual for information in regard to the SWPPP and Florida Department of Environmental Protection (FDEP) Rule 62-25 for requirements on the erosion control plan. Detailed limits of the erosion control items will be necessary. This plan shall be submitted for review and concurrence in writing to the Department along with the Concessionaire's Certification at least 28 calendar days prior to beginning construction activities.

6. Traffic Control

a) Traffic Control Analysis

The Concessionaire shall design a safe and effective Traffic Control Plan to move vehicular, bicycle and pedestrian traffic during all phases of construction. The areas shall include, but are not limited to, construction phasing, utility relocation, drainage structures, signalization, lighting, ditches, front slopes, back slopes, drop offs within clear zone, and traffic monitoring sites. Special consideration shall be given to the drainage system when developing the construction phases. Positive drainage must be maintained at all times utilizing existing, temporary and/or permanent drainage systems. The Concessionaire shall be solely responsible to ensure that positive drainage is maintained at all times for all Project areas and that the construction activities do not adversely affect offsite drainage to or from the Project areas. Documentation of temporary drainage analysis, including necessary calculations, shall be submitted as part of the Drainage Design Documentation. The Concessionaire shall make use of the criteria contained in the latest FDOT Drainage Handbook – Temporary Drainage Design for selection of temporary barrier wall to satisfy spread requirements during construction as well as address other temporary drainage issues associated with maintenance of traffic.

The Traffic Control Plan shall address coordination with other construction projects within and adjacent to the Project limits.

The Concessionaire shall submit a Master Traffic Control Plan to the Department for review and concurrence in writing prior to any 90% design submittal for review. This will include a detailed sequence of construction that describes how the Project will be constructed. The Concessionaire shall allow 28 calendar days for the review by the Department.

b) Traffic Control Plans

The Concessionaire shall utilize Index series 600 of the Florida Department of Transportation's Roadway and Traffic Design Standards where applicable. Detailed Traffic Control Plans shall be developed. The Concessionaire shall prepare plan sheets, notes, and details as per the Department's Plans Preparation Manual. The Concessionaire shall prepare additional plan sheets such as cross sections, profiles, drainage structures, retaining wall details and temporary sheet piling as necessary for proper construction and implementation of the Traffic Control Plan.

The Traffic Control Plans shall address adjustments to existing signing and placement of additional signs (including overhead signing) as necessary to accommodate construction phasing, lane closures and lane shifts. The Concessionaire shall remove or cover any existing or proposed signs that conflict with the Traffic Control Plans. When the conflict no longer exists the Concessionaire shall restore the sign to their original position.

The Concessionaire shall provide, operate and maintain variable message signs (VMS) as necessary for maintenance of traffic. A minimum of two (2) VMS should be used for all crossovers, crossroads, and lane closures for each direction. The VMS signs shall be in place two (2) weeks prior to the start of any Work items affecting vehicular and pedestrian traffic. VMS signs shall be posted two (2) weeks ahead of lane closures and one (1) mile ahead of a construction site. The Concessionaire shall notify the Public Information Consultant (PIC) two (2) weeks prior to any lane closures.

At locations of temporary crossovers, lane shifts or other locations where headlight glare may affect opposing traffic, the Concessionaire shall install glare screens on temporary barrier wall between opposing traffic to shield the headlight glare.

The Concessionaire shall be responsible for removal of all conflicting pavement markings and reflective pavement markings (RPM's) for each phase of construction for the duration of the Agreement. The only acceptable removal of pavement markings shall be by asphalt overlay or high pressure water blasting. Along I-595, Turnpike and associated ramps locations of temporary crossovers, lane shifts or transitions where it is necessary to remove existing markings and replaced with temporary striping, the removal shall be accomplished through the use of a temporary sacrificial asphalt overlay. For ramps entering/departing mainlines (I-595 or Turnpike), the overlay will proceed past the connection/departure point for a minimum of 500 feet. For mainline I-595 and Turnpike, a crossover is defined as any lane shift of 34 feet or more. Temporary crossovers for expressway traffic will require an FC-5 overlay over the entire travel width.

The only exception to a complete temporary sacrificial overlay along I-595, Turnpike and associated ramps would be for a short term lane shift or transition with a seven (7) calendar days or less duration.

Regulatory speed during construction shall be 65 MPH on I-595 and Turnpike mainlines unless otherwise directed by the FDOT Project Manager.

A full time certified maintenance of traffic supervisor shall be on site when the Concessionaire is working and shall be on call for emergencies when the Concessionaire is not working.

The Concessionaire shall be responsible for establishing a work schedule so that any location under construction will not be left in a hazardous condition at the completion of any work period.

The Concessionaire shall provide a transition with temporary asphalt to all bridges and existing roadways during the traffic control phasing to eliminate bumps at high speeds. The transition length shall be not less than 17 feet for each one (1) inch in height.

The Concessionaire shall be responsible for the design and construction of all temporary signalization as necessary to accommodate vehicular, bicycle and pedestrian traffic for each phase of the Project. Refer to the section on Signalization for additional information on temporary signalization.

Transit stops affected by construction along SR-84 and crossroads shall be maintained. If a transit stop is impacted by the construction a temporary stop shall be accommodated. The Concessionaire shall coordinate any temporary relocation with Broward County Transit.

c) Temporary Roadway Lighting

The Concessionaire shall maintain/provide existing illumination levels throughout the length of the Project during all construction phases at all ramps and interchanges where roadway lighting currently exists including underdeck lighting. Existing and proposed lighting systems and temporary lighting systems may be used at the discretion of the Concessionaire. If a conventional lighting system or temporary high mast lighting system is proposed, the design criteria used shall be in accordance with the FDOT Plans Preparation Manual and Vol II Div II Sect 3.U Lighting. No temporary high mast lighting system shall be allowed outside the limits of an existing high mast system.

The Concessionaire shall be responsible for constructing, maintaining and then removing and disposing all temporary lighting systems. This includes and is not limited to coordinating temporary service points, modifying existing service points, paying electric service fees and avoiding conflicts with underground and overhead utilities. All installations shall be in accordance with the National Electric Code and local municipal codes.

The Concessionaire shall submit shop drawings for the proposed temporary lighting systems showing the layout for each phase, including photometric computer-run printouts of the lighting model used. The output of each computer model run shall depict the roadway and interchange areas showing adherence to

the above criteria. Footcandle calculations shall be spaced no more than 10 feet apart on the road surface.

Design of any temporary high mast light structures shall be in accordance with the appropriate Standard Index(s). The Concessionaire shall be responsible for coordinating with the FAA, Fort Lauderdale-Hollywood International Airport and obtaining any required permits for installation of temporary high mast light structures.

d) Traffic Control Restrictions

The Concessionaire shall develop a Lane Closure Analysis for all phases of traffic control for the Department's review and concurrence. In the event of any changes during construction, the Concessionaire shall be required to revise the analysis and re-submit to the Department for review and concurrence. Temporary lane closures, including auxiliary lanes are allowed during the times described below, from Sunday evening through Friday morning. Temporary lanes closures are prohibited after noon on Friday through Sunday evening. There will be NO LANE CLOSURES INCLUDING AUXILARY LANES ALLOWED on holidays or during special events. See Vol II Div II Sect 3.R Work Restrictions for Special Event Days. Access to and from staging areas, field offices, and/or material storage areas from I-595, the Turnpike and ramps is prohibited.

1. I-595

There will be NO LANE CLOSURES INCLUDING AUXILARY LANES ALLOWED between the hours of 5:00 AM to 9:00 PM. A lane may only be closed during active work periods. All lane closures, including ramp closures, must be reported to the local emergency agencies, the media and the FDOT Oversight CEI Consultant. Also, the Concessionaire shall develop the Project to be able to provide at least three lanes of traffic on I-595 to be open in each direction in the event of an emergency.

One lane may be allowed to close during active work periods between the hours of 9:00 PM and 5:00 AM.

Two lanes may be allowed to close during active work periods between the hours of midnight and 5:00 AM.

In the event the Express Lanes are opened to traffic during construction, the lane closure policy shall be as per the hours stated above for I-595.

An auxiliary lane may only be closed when associated ramp movement is closed to traffic.

The Concessionaire shall coordinate lane closures with all local agencies to avoid conflict with special events. The Concessionaire shall notify the

Public Information Consultant (PIC) two (2) weeks prior to any lane closures.

Lane widths may be reduced such that, at a minimum, two (2) eleven-foot lanes and one (1) twelve-foot lane are provided in each direction during normal work hours. For this condition, the middle lane in each direction shall be the twelve-foot lane. The minimum lane width for auxiliary lanes shall be eleven feet wide. Along the mainline, one continuous shoulder shall be ten (10) feet in width except for shoulder widths along bridges and bridge approaches which can be reduced to two (2) feet during construction.

Reduced shoulder widths shall be restricted to two (2) miles maximum.

2. Turnpike Mainline

There will be NO LANE CLOSURES INCLUDING AUXILARY LANES ALLOWED between the hours of 5:00 AM to 9:00 PM. All lane closures must comply with Florida's Turnpike lane closure policy. A lane may only be closed during active work periods. All lane closures, including ramp closures, must be reported to the local emergency agencies, the media and the FDOT Oversight CEI Consultant. Also, the Concessionaire shall develop the Project to be able to provide at least three lanes of traffic to be open in each direction in the event of an emergency. Ramp lane closures to and from Florida's Turnpike shall adhere to Florida's Turnpike Lane closure policy.

One lane may be allowed to close during active work periods between the hours of 9:00 PM and 5:00 AM.

Two lanes may be allowed to close during active work periods between the hours of midnight and 5:00 AM.

An auxiliary lane may only be closed when associated ramp movement is closed to traffic.

The Concessionaire shall coordinate lane closures with all local agencies to avoid conflict with special events. The Concessionaire shall notify the Public Information Consultant (PIC) two (2) weeks prior to any lane closures.

Existing lane widths shall be maintained at all times. Reduction of Turnpike travel lane and/or ramp lane widths shall be approved by Florida's Turnpike Design Engineer prior to Traffic Control Plans submittal.

Reduced shoulder widths shall be restricted to two (2) miles maximum.

Vehicle break down locations should be coordinated with Florida's Turnpike Traffic Operations and Design staff.

Any use of Traffic Pacing on Florida's Turnpike shall adhere to Florida's Turnpike Traffic Pacing Design Guide Drawings

Use of side slopes less than 1:6 during MOT on Florida's Turnpike must be approved by Florida's Turnpike officials.

3. University Drive

It is anticipated that the University Drive flyovers (existing southbound to eastbound third level bridge and northbound to westbound third level bridge) will be replaced due to the reconstruction of I-595 and the construction of the Express Lanes. The Department desires to minimize the inconvenience to the traveling public by reducing the number of ramp closure days for each flyover.

The Concessionaire is to keep the flyovers opened to the maximum extent possible while constructing I-595, Express Lanes, and the associated flyover ramp reconstruction.

Each third level flyover ramp may be closed to traffic and the closure shall be continuous for said ramp. The maximum length of closure of a third level flyover ramp at University Drive is 90 calendar days, however, the total time for the closures of the two ramps combined shall not exceed 120 calendar days. A preliminary concept for a temporary pier replacement is included in the Reference Documents to demonstrate an interim solution to keeping the flyovers open.

The Concessionaire shall not close either flyover ramp from the beginning of the Thanksgiving Day holiday through the end of the New Year's Day holiday.

4. SR-84

SR-84 EB and WB re-construction is to be phased in order not to necessitate the full road closure of the SR-84 EB or WB movements.

Single lane closures will be allowed between the hours of 9:30 PM and 5:00 AM for the reconstruction of SR-84 EB or WB.

5. Crossroads

Full or partial closure of crossroads will be allowed between the hours of 9:30 PM and 5:00 AM. Detour plans shall be implemented to accommodate all directions of traffic during the times of a full/partial crossroad closure. If needed, demolition at or near crossroads shall be done by closing the northbound side or the southbound side (never both at the same time) and shifting traffic for the closed direction to cross under I-595 under the span for opposing direction. SR-84 EB and WB detours shall be used for full crossroad closures. Lane closures along

SR-84, on both sides and in each direction, are prohibited during a partial or full crossroad closure. The Concessionaire will provide off-duty law enforcement to route emergency vehicle traffic through the closures. The forming and pouring of bridge decks shall be accomplished by shifting crossroad traffic and a full closure is not permitted for this activity. Pedestrian and bicycle traffic must be provided for at all times in both directions.

No more than one partial/full crossroad closure is permitted to occur on any given night along the Project.

Construction activities for piers and foundations are anticipated to impact crossroad traffic. U-turn movements adjacent to foundation construction are allowed to be closed. The downstream u-turn at the next crossroad is required to be maintained opened at all times in order to facilitate vehicular traffic and maintain access to adjacent properties. Closures shall be addressed with detour signing.

At any crossroad, no more than one turn lane or through lane at the crossroad is allowed to be closed continuously for the foundation and pier construction.

No additional lane closures are permitted along the crossroads including University Drive other than the time restrictions listed above.

6. Ramp Closures

The Concessionaire is required to phase the construction activities utilizing existing, temporary or permanent ramp facilities to maintain traffic at all times. Any ramp closures that adversely affect adjacent ramp traffic with backups onto the mainline shall be prohibited.

Short term ramp closures will be allowed between the hours of 10:00 PM and 5:00 AM only. Two or more short term ramp closures in the same direction are prohibited to occur at any given time along the Project.

Long term continuous ramp closures will be permitted for existing ramps only with the following restrictions:

- The table below comprises the ten (10) allowable long term continuous ramp closure locations (5 in the eastbound direction; 5 in the westbound direction), and the maximum allowable calendar days of closure. Within the limits of any one location described in the table below, up to one existing on-ramp and one existing off-ramp may be closed at any given time, unless noted otherwise.

Long Term Continuous Ramp Closures (existing ramps only)		
Location Limits	**Maximum Allowable Closure Duration**	
	Eastbound Location	**Westbound Location**
SW 136th Ave. to Flamingo Rd.	30 Cal. Days	30 Cal. Days
Flamingo Rd. to Nob Hill Rd.	180 Cal. Days	180 Cal. Days
Nob Hill Rd. to Pine Island Rd.	180 Cal. Days	180 Cal. Days
Pine Island Rd. to University Dr.	30 Cal. Days for on-ramp only	See Traffic Control Restrictions for University Drive. Long term continuous ramp closure for off-ramp prohibited.
University Dr. to Davie Rd.	Long term continuous ramp closure prohibited	120 Cal. Days for off-ramp only

- A long term continuous ramp closure shall be a consecutive calendar day event. The event may involve different existing ramp closures within that location. The Concessionaire shall not divide the allowable days per location into multiple events.
- While a long term continuous ramp closure is in operation, no short term ramp closure in the same direction is permitted.
- Two (2) or more long term continuous ramp closures in the same direction are prohibited to occur at any time.
- Two (2) long term continuous ramp closures in opposite directions are permitted, provided that they are separated by at least two (2) crossroads.
- At a minimum, the Concessionaire is to maintain the same number of lanes along SR-84 (including auxiliary lanes) as existing for the entire detour route during a long term continuous ramp closure.
- No lane closures including turn lanes are permitted along the crossroads immediately prior to and after long term continuous ramp closures. No crossroad bridge construction is permitted over the North New River Canal immediately prior to and after long term continuous ramp closures.
- Signal head adjustments and signal timing along the crossroads shall be adjusted to accommodate temporary changes in traffic patterns and to minimize traffic delays. All signal timing for existing or temporary signals shall be actuated. The Concessionaire shall coordinate signal head adjustments and signal timing with the Broward County Traffic Engineering Division and FDOT District Four Traffic Operations staff.

- Long term continuous ramp closures are intended solely for safe and efficient entrance/exit ramp and/or braided ramp and/or bypass ramp construction and shall not be used for staging and stockpiling activities.

e) Other Design Requirements

A minimum offset of two (2) feet shall be provided between the travel lane and any temporary barriers or barricades used on the Project.

M. Structures

1. General

This section establishes the structural design criteria to be used for bridges, retaining walls, and miscellaneous highway structures.

An Indicative Preliminary Design is available in the Reference Documents for the Concessionaire's use. The Concessionaire shall submit to the Department final signed and sealed plans and design documentation for all structural elements of the Project. The Structures portion of the Indicative Preliminary Design and related items include the following elements:

- The Bridge Database Matrix in the Reference Documents identifies proposed bridge structures (location, bridge type, span configuration, clearance criteria, etc.), and existing bridges identified for removal, to remain, and to be widened. The Concessionaire is advised that some of the proposed structure types are atypical. Examples include, but not limited to, straddle bents and integral cantilever pier caps.
- The Indicative Preliminary Design in the Reference Documents identifies the approximate locations of proposed bridges, bridges to be widened, bridge plan and profiles, estimated depth of structures, and estimated span arrangements, as well as retaining walls and bulkhead walls.
- The Typical Section Packages in the Reference Documents contain the proposed and widening bridge typical sections.

The Concessionaire shall submit a Bridge Concept Report (BCR) for review and concurrence in writing prior to any 90% design submittal for review by the Department. The BCR shall include a plan and elevation with begin and end bridge stations of each proposed new bridge and/or widening identifying span arrangement, a typical section indicating superstructure type and depth, and a foundation layout plan indicating type of foundation to be used. The Concessionaire shall allow 28 calendar days for the review by the Department.

2. Design Analysis and Criteria

a) Existing box culverts to remain shall be analyzed for structural capacity due to any additional fill heights proposed in the roadway plans. If required, the Concessionaire shall include in the Contract Documents a design to accommodate the additional load above the box culvert. The Concessionaire

shall prepare plans and design documentation for the design and coordinate the construction with the Traffic Control Plans.

b) The Engineer of Record for bridges shall analyze the effects of construction related loads on the permanent structures. The Engineer of Record shall review all submittals (camber curves, falsework systems, etc.) to ensure compliance with the intent and requirements set forth in the Contract Documents.

c) All plans and designs are to be prepared in accordance with the latest editions of the Manuals and Guidelines.

d) Navigational lighting shall be provided for all bridges over the North New River Canal east of the Sewell Lock, as per the USCG requirements. In addition, minimum navigation limits and fendering requirements are included in the USCG Bridge Permit Sketches. Refer to VII DII Section 3.F.3.

e) For all Greenways pedestrian bridges, Section 3.6.1.6 of the AASHTO LRFD Bridge Design Specifications shall be modified to include a vehicular live load consisting of the design truck loading only (HS-20 equivalent) in the LRFD Strength II Load Combination.

f) Dapped ends for steel girders, and concrete beams, and box girders are not permitted.

g) Straddle bents, straddle piers and cantilever piers shall be integral with the superstructure element(s) that they support.

h) Straddle bents, straddle piers and cantilever piers shall match the depth of the superstructure element(s) that they support.

i) For each crossroad, the existing minimum horizontal clearance to bridge piers and abutments (except University Drive) for each direction of travel shall not be reduced.

j) The environmental classifications for the Project bridge sites are as follows:

- Superstructure – Slightly Aggressive
- Substructure (Concrete) – Moderately Aggressive
- Substructure (Steel) – Extremely Aggressive

3. Existing Bridge Structures

a) The following elements are included in the related sections:

- The Bridge Database Matrix in the Reference Documents provides a list of existing structures, as well as a description of the bridges to be removed, widened or replaced.
- Existing Bridge Plans of structures within the project limits are located in the Reference Documents.

- Existing Bridge Inspection Reports including load ratings performed during the most recent inspection are located in the Reference Documents.
- All available plans for existing facilities are provided in the Reference Documents.
- The Adjacent Projects section in the Reference Documents includes the construction plans for the North New River Canal crossings at Commodore Drive and 125th Avenue currently under construction. The FTE NB and SB Widening Projects from Griffin Road to Sunrise Boulevard are also included for reference in the Adjacent Projects section.

b) The existing bridges to be removed within the corridor that are not utilized for the final configuration shall be removed. Disposal of the existing bridge components shall be the responsibility of the Concessionaire. The re-use of a bridge component from a partial or complete demolition of an existing or temporary bridge for use as part of a new structure, at the same location or a different location, is prohibited.

c) The following bridge structures to remain or to be widened are to be painted by the Concessionaire during the construction phase: Bridge Nos. 860370, 860371, 860358, 860359, 860360, 860426, and 860537. The Concessionaire shall secure the services of a painting consultant to evaluate the existing bridge paint system and determine the painting surface preparation requirements. All proposed painting requirements shall conform to the Manuals and Guidelines. Color of steel plate girders shall be in accordance with the Aesthetics Master Plan.

d) The following bridge structures are required to have post-tensioning tendon ducts inspected and grouted, tendon pour backs removed and restored, and to receive an epoxy wearing surface over the entire riding surface during the construction phase: Bridge Nos. 860476 (Ramp U-5 Flyover to NB SR-7) and 860477 (Ramp T-11 Flyover to Florida's Turnpike from NB SR-7. A sample scope of work has been provided for the Concessionaire's consideration in the Reference Documents. Refer to the sample set of plans for bridge structures 860387 and 860511.

e) If, as a result of the Traffic Control Plan, an existing bridge requires a temporary widening then the Concessionaire shall prepare and submit to the Department signed and sealed detailed plans and design documentation for the temporary widening. The spans of the temporary widening shall generally match the existing bridge spans. In addition, if as a result of the Traffic Control Plan, a temporary bridge structure is required the Concessionaire shall prepare and submit to the Department signed and sealed detailed plans and design documentation for the temporary bridge structure.

f) A bridge load rating analysis is not required for existing bridges that remain as is. The existing load ratings previously performed by the Department and included in the Existing Bridge Inspection Reports located in the Reference Documents may be used. For existing bridges with any changes to their existing loading conditions, the Concessionaire shall "Load Rate" the bridge to reflect the final condition in accordance with the Manuals and Guidelines. The bridge load rating shall be submitted to the Department with the 90% plans. A final, signed and

sealed copy of the Bridge Load Rating, updated for the as-built conditions shall be submitted to the Department's Project Manager with the as-built bridge plans prior to opening to traffic.

4. Proposed Bridge Structures

Based on the Indicative Preliminary Design, the proposed new bridge structures are identified in the Bridge Database Matrix in the Reference Documents. Refer to the Aesthetic Guidelines in Vol II Div II Sect 3.J for treatment of proposed bridges.

5. Retaining Walls

a) Refer to the Aesthetic Guidelines in Vol II Div II Sect 3.J for treatment of retaining walls.

b) Critical Temporary Retaining Walls: Any temporary retaining wall that is necessary to maintain the safety of the traveling public, structural integrity of nearby structures or utilities shall be considered critical and shall be designed and detailed in the plans. In such cases, the Concessionaire is responsible for designing and detailing the wall in the set of plans to be included in the Contract Documents. These plans must be signed and sealed by the Structural Engineer in responsible charge of the critical temporary wall design.

6. Bulkhead Walls

a) Bulkhead walls will be required along the North New River Canal (NNRC). Refer to the Design Change Reevaluation in Volume III for information on bulkhead wall requirements. The bulkhead walls are mostly required due to the design change lowering of the Express Lanes at-grade. Refer to Indicative Preliminary Design in the Reference Documents for approximate locations of proposed bulkhead walls.

b) A preliminary North New River Canal Hydraulic Analysis Report is included in the Reference Documents. Further analysis is required to determine the maximum allowable encroachment of the I-595 roadway improvements into the NNRC, and therefore, the final bulkhead requirements.

c) After the Concessionaire is completed with construction, SFWMD will only have the north side of the canal available for maintenance. Therefore, SFWMD will require a minimum 40 foot maintenance berm between the top of bank on the north side of the NNRC to any ground mounted sound barrier to be constructed on the north side. Any reduction in the 40 feet width will require a waiver by its Governing Board. The Indicative Preliminary Design (L&G Concept) currently holds two potential locations along the NNRC that may require such waiver. In these two locations, the Concessionaire must implement design features along the canal bank that will not require SFWMD to maintain these areas, such as approved asphalt or concrete surfaces.

d) The bulkhead wall requirements along the NNRC and the bridge crossing work will likely require canal dredging by the Concessionaire to maintain the hydraulic

conveyance required as per SFWMD. Refer to the preliminary North New River Canal Hydraulic Analysis Report included in the Reference Documents. Further analysis and coordination with SFWMD is required to determine the exact amount of dredging.

N. Sound Barriers

As part of the completed PD&E Study and the subsequent noise reevaluation, sound barriers at thirteen (13) locations were recommended for design and construction. The type, location, and dimensions of the recommended sound barrier are summarized in Table 7-1. Table 7-1 and Figure 7-1, which depict the general location of recommended sound barriers, are included in the Reference Documents. The Department intends on continuing noise workshops with communities to finalize the final placement of sound barriers. The Department is currently conducting meetings with property owners (benefited receivers) located adjacent to the proposed sound barriers to solicit community input regarding desires, types, heights, and locations of the sound barriers. A copy of the Noise Study Reevaluation Report which summarizes the methodology, results, and recommendations of the latest noise assessment is included in the Reference Documents.

The Concessionaire shall make use of the Indicative Preliminary Design included in the Reference Documents as a starting point for the design. The Concessionaire shall prepare all necessary sound barrier plans in a full-scale format with typical sections, tabulations, plan, profiles, notes and details. The horizontal limits of sound barriers as depicted in the Indicative Preliminary Design shall not be changed except as approved by the Department. The height of the sound barriers shall be as per listed in Table 7-1 located in the Reference Documents, or as updated following community input on the recommended sound barriers. The Concessionaire shall design the sound barriers in accordance with the Manuals and Guidelines.

An engineering review will be performed by the Concessionaire prior to initiating the design of the sound barrier walls to identify engineering conflicts or constraints affecting the sound barrier design. The engineering review will require coordination with the Department. The Concessionaire will be responsible for documenting any resolutions to engineering issues/conflicts that preclude the construction of or that require modification to the recommended sound barriers. Resolution of any engineering issues will be subject to approval by the Department prior to construction. Any modifications stipulated by the Department must be incorporated into the design plans and any additional costs incurred to meet the Department's requirements will be the sole responsibility of the Concessionaire. At a minimum, the engineering review will consider the following:

- Project Right of Way needs including access rights (air, light, view, ingress/egress, outdoor advertising conflicts)
- Access issues
- Adequate easement for maintenance and other maintenance issues
- Structural and vegetative restrictions within easement
- Utility conflicts
- Drainage issues
- Other criteria as applicable (such as safety, etc.)

The Concessionaire shall adhere to the Project commitments made to the SFWMD in the design and construction of the sound barriers. Below is a list of commitments to serve as design criteria for the sound barriers. For a comprehensive list of Project commitments along the NNRC refer to the Design Change Reevaluation in Volume III.

- A minimum of 40 feet shall be maintained from the top of bank or bulkhead to the ground mounted sound barrier for maintenance of the canal.
- The Concessionaire shall not meander the ground mounted sound barriers for trees and fences.
- The Concessionaire shall provide a 3-foot asphalt mow strip, similar to a guardrail treatment, in front of proposed ground mounted sound barriers. This will assist the SFWMD with maintenance adjacent to the sound barriers.

The ground mounted sound barriers shall be designed to prevent ponding of water on either side of the ground mounted sound barrier and must provide for the flow of water through the ground mounted sound barrier when required. Drainage openings shall not degrade the acoustical efficiency of the ground mounted sound barrier by more than 0.5 dBA at any location. Openings and details for openings will be shown in the plans.

The Concessionaire shall maintain all existing fences at all times during construction. The fences shall not be removed until the ground mounted sound barrier is in place. Temporary fencing shall be constructed when existing fences cannot be maintained during ground mounted sound barrier construction (i.e. when fences cross proposed sound barriers). Fencing shall conform to Standard Index 802, Fence Type 'B'. All line, corner, end, pull posts, and rails shall be galvanized steel. Chain link shall be zinc-coated steel. All welded areas shall be thoroughly cleaned and 2 coats of galvanized compound shall be applied in conformance with FDOT Specifications.

When the sound barriers have been completed, the existing owners' fences shall be extended to meet the ground mounted sound barriers. The type of fencing and material used shall match their existing fencing. The Concessionaire shall be responsible to coordinate and obtain the right of entry to perform this work.

The number and locations of fire access holes (fire access panels) for the sound barriers shall be coordinated with the appropriate Fire Department having jurisdiction of the area and the locations shall be indicated in the final design plans. Fire access panels shall not be coincident with drainage panels or graphic panels. Signs shall be mounted to the sound barriers above all fire access holes. Access holes and details for access holes will be shown in the plans.

For each ground mounted sound barrier, construction activities shall be continuous until complete. This includes final paint applications.

Refer to the Aesthetic Guidelines in Vol II Div II Sect 3.J for treatment of sound barriers.

Sod shall be placed on the property owner's side of the ground mounted sound barriers in all areas disturbed by construction. Sod type shall match existing sod type of each property owner. The Concessionaire shall coordinate with property owners as necessary.

O. Specifications

The Division I Specifications are included in Volume II Division I General Requirements, and shall not be modified.

The Concessionaire shall use the marked up copy of the Specifications Workbook submitted in the Technical Proposal to prepare the Division II and III Special Provisions and Supplemental Specifications which will apply to the Work. The Department Specifications may not be modified or revised.

The Concessionaire shall also include the applicable Technical Special Provisions submitted in the Technical Proposal which apply to the Work. Technical Special Provisions shall be written only for items not addressed by Department Specifications, and shall not be used as a means of changing Department Specifications.

The Concessionaire shall use the Division I Specifications provided in Volume II Division I General Requirements. Before construction activities can begin, the Concessionaire shall prepare and submit a signed and sealed Construction Specifications Package for the Project, containing all applicable Division II and III Special Provisions and Supplemental Specifications from the applicable Specifications Workbook, posted on the Department's website at the following URL address: http://www2.dot.state.fl.us/specificationspackage/. The signed and sealed Construction Specifications Package shall also include individually signed and sealed Technical Special Provisions for any and all Work not addressed by the Department Specifications. Any Technical Special Provisions included in the signed and sealed Construction Specifications Package which had not been included in the proposal phase may require a contract cost modification as a condition of approval.

The Concessionaire shall allow 28 calendar days for review by the Department. Upon review and concurrence in writing by the Department, the Construction Specifications Package will be stamped "Released for Construction" and initialed and dated by the reviewer.

P. Shop Drawings and Plan Revisions

The Concessionaire shall be responsible for the preparation and approval of all Shop Drawings. A Shop Drawing submittal plan shall be submitted 30 calendar days prior to the first shop drawing being submitted. Shop Drawings shall be submitted to the Department and shall bear the stamp and signature of the Concessionaire and signed and sealed by the Engineer of Record (EOR) and Specialty Engineer, if applicable. The Department shall review the Shop Drawing(s) to evaluate compliance with Project requirements and provide any findings to the Concessionaire. The Departments procedural review of shop drawings is to assure that the Concessionaire and the EOR have both accepted and signed the drawing, the drawing has been independently reviewed and is in general conformance with the plans. The Department's review is not meant to be a complete and detailed review. Upon review of the shop drawing the Department will stamp "Released for Construction" or "Released for Construction as noted" and the drawing will be initialed and dated by the reviewer.

Component submittals must be accompanied by sufficient information for adjoining components or areas of Work to allow for proper evaluation of the component submitted for review.

Q. Sequence of Construction

The Concessionaire shall construct the Work with the following main objectives:

- Achieve Interim Milestone Works as set forth in Appendix 3-A of the Concession Agreement.
- Maintain or improve, to the maximum extent possible, the quality of existing traffic operations, both in terms of capacity and safety, throughout the duration of the Project.
- Minimize the number of different Traffic Control Plan (TCP) phases, i.e., number of different diversions and detours for a given traffic movement.
- Take advantage of newly constructed portions of the permanent facility as soon as possible when it is in the best interest of traffic operations and construction activity.
- Maintain reasonable direct access to adjacent properties at all times, with the exception in areas of limited access right of way where direct access is not permitted.
- Provide proper coordination with adjacent construction projects and maintaining agencies.
- Provide design features that allow for accommodation of traffic during construction, i.e. trench drains in shoulders and shoulder pavement designs that can accommodate traffic during long phases of construction.

The Concessionaire shall provide a sequence of construction plan for the entire design and construction effort that is logical and continuous.

R. Work Restrictions

The Concessionaire must comply with all local ordinances which may affect construction activities. All associated work activities shall take place within public right of way. The Concessionaire will be solely responsible for obtaining any temporary permits, leases, etc. that it desires for any required construction staging outside the Project Right of Way, without any involvement by the Department.

Sound barriers included in Interim Milestone Works 1 shall be completed no later than the applicable Interim Milestone Deadline identified in Appendix 3-A of the Concession Agreement. If such Interim Milestone Deadline is not met, construction activities, except for sound barrier construction included in Interim Milestone Works 1, shall cease within the Department's right of way between the begin station and end station of such sound barriers until such sound barrier construction is complete.

The Turnpike Widening Project FM No. 406095-4-52-01 will let for construction in July 2010. The limits of this project are from Johnson Street to north of Griffin Road. The construction duration is anticipated to be three and a half years. The Concessionaire shall restrict all construction and traffic control activities that conflict with this project.

The Turnpike SB Project FM No. 406094-1-52-01 is currently under construction from Griffin Road to north of Sunrise Boulevard. Work is anticipated to be completed in November of 2010. The Concessionaire shall restrict all construction and traffic control activities that conflict with this project.

The Turnpike Northbound Widening Project FM No. 406094-4-52-01 will let for construction in March 2009. The limits of this project begin just to the south of Peters Road (Station 4850+00 +/-) to Sunrise Boulevard. Work is anticipated to have a two (2) year construction duration. The

Concessionaire shall restrict all construction and traffic control activities that conflict with this project.

The FDOT SR-84 Milling and Resurfacing Project FM No. 415323-1-20-01 will let for construction in July 2009. The limits are from Weston Road to SW 136th Avenue on both on both eastbound and westbound. The Concessionaire shall restrict all construction and traffic control activities that conflict with this project.

The FDOT SR-7 Milling and Resurfacing Project FM No. 416876-1 will let for construction in January 2010. The limits are from Orange Drive to south of I-595. Work is anticipated to have a one (1) year construction duration. The Concessionaire shall restrict all construction and traffic control activities that conflict with this project.

The FDOT University Drive Transit Amenity Enhancements Project FM Numbers 414155-1 is anticipated to be under construction from August of 2008 to September of 2011. The limits of the project are from I-595 to Sunrise Boulevard. The Concessionaire shall restrict all construction and traffic control activities that conflict with this project.

The FDOT I-595 / I-75 Interchange Bridge Repair/Rehabilitation projects FM Numbers 411852-1, 411846-2 and 411846-1 are anticipated to be under construction from August of 2008 to July 2010. The Concessionaire shall restrict all construction and traffic control activities that conflict with this project.

The Florida Gas Transmission Proposed 36" Mainline Relocation, Project Number 419336-1.6.4.3 is currently under construction along the northbound Turnpike. Work is anticipated to be completed by others 90 calendar days after NTP 2. The Concessionaire shall restrict all construction and traffic control activities that conflict with this project.

The Broward County Project No. 5243 which includes both Commodore Drive and SW 125th Avenue is currently under construction. Work is anticipated to be completed in September 2008. The Concessionaire shall restrict all construction and traffic control activities that conflict with this project.

The Concessionaire shall not conduct construction activities within the areas mentioned in Vol II Div II Sect 2.C.1 Right of Way Furnished by the Department until after the right of way clear has been obtained.

Miscellaneous utility construction in conjunction with this Project will be constructing relocations of and adjustments to their facilities within and adjacent to the Project limits. Coordination will be required for maintenance of traffic and for providing access to their work. Refer to other sections of this document for additional information.

The Concessionaire shall not drive piling or sheet piling within one (1) mile of any school on Florida Comprehensive Assessment Test (FCAT) testing days. The Concessionaire shall coordinate with Broward County School Board for specific dates of this testing.

The Concessionaire, their employees and/or agents are strictly prohibited from parking or staging on crossroads (outside of the I-595 limited access or SR-84 right of way) or on any other local streets or private properties.

Access to a work zone from I-595 or the Florida's Turnpike shall have a deceleration and/or acceleration lane in accordance with Standard Index Series 600.

Concessionaire shall coordinate with FAA and Fort Lauderdale-Hollywood International Airport staff related to construction activities. Any construction related permits required shall be the responsibility of the Concessionaire.

FTE is currently removing 3,000 cubic yards of known petroleum contaminated soil and performing groundwater cleanup along the northbound entrance ramp to the Turnpike from I-595. The soil removal is located generally on the south side of this ramp. The Concessionaire shall coordinate with FTE's contractor and restrict construction activities in this area in order to allow FTE's contractor to expedite the soil removal. FTE's contractor is scheduled to complete this activity by July 2009. The 3,000 cubic yards of embankment is not anticipated to be replaced as part of the remediation work.

In addition to the requirements in Division I for Suspension of Concessionaire's Operations during holidays, no lane closures shall be allowed during the following special event days:

- NFL Superbowl held at Dolphin Stadium (Turnpike only)
- Miami Dolphins and Miami Hurricanes home games held at Dolphin Stadium (Turnpike only)
- College Football Bowl Games held at Dolphin Stadium (Turnpike only)
- Florida Marlins Major League Baseball Playoff Games held at Dolphin Stadium (Turnpike only)
- Toys for Tots Motorcycle Event (I-595 only)

The Concessionaire is not entitled to any additional compensation for the removal and or reinstating any active lane closures during such special event periods.

S. Signing and Pavement Marking

The Concessionaire shall make use of the pavement marking file included in the Indicative Preliminary Design (L&G Concept) as a starting point for the design. The Concessionaire shall complete all necessary Signing and Pavement Marking plans in a full-scale format with tabulations and notes as per the Department's Plans Preparation Manual. The Concessionaire will use traffic paint for all pavement markings (including crossroads) until the appropriate curing period in which the permanent markings will be applied.

The completion of temporary pavement markings (double application of paint) shall be required prior to Substantial Completion. Permanent pavement markings shall be completed prior to Final Acceptance.

For Turnpike mainline only, thermoplastic markings shall be required prior to Final Acceptance. For any existing pavement markings disturbed outside the Operating Period O&M Limits, the markings shall be replaced in-kind and with the same type/material as used for the existing markings.

The Concessionaire shall submit a Master Signing Plan for review and concurrence in writing to the Department prior to any 90% design submittal for review. The Master Signing Plan will include details that will differentiate signing for the Express Lanes from the signing for the

General Purpose Lanes. The Project limits for the guide signs may extend beyond the roadway construction as shown in the Indicative Preliminary Design (L&G Concept). The Concessionaire shall allow 28 calendar days for the review by the Department.

The Concessionaire shall develop additional signing and marking to enhance the driver awareness approaching and within the I-595/Turnpike interchange.

All overhead signs shall be lighted with induction luminaire(s) per Interim Index 17505. All signs shall be lighted from below the sign face. The number of luminaires shall be per Index 17505. The minimum vertical clearance for all overhead sign structures shall be measured from the highest roadway elevation over the entire roadway width of the pavement and shoulder to the lowest light fixture of the sign. Existing guide signs within the O&M Limits shall be lighted. The Concessionaire shall maintain the existing lighting to these signs during construction (or shall provide temporary lighting where existing lighting cannot be maintained). Electrical power for lighting of signs shall be coordinated and provided by the Concessionaire (solar power will be permitted where appropriate).

The Concessionaire shall coordinate electrical power to the signs with the proposed lighting system.

Cantilever sign foundation locations will need to be reviewed and/or tested for contamination issues The DCIC will coordinate with the Concessionaire's delegated, qualified authority concerning the removal, handling, transportation and disposal of all identified and/or unknown undesirable, contaminated and/or hazardous material encountered during construction.

The Concessionaire will be responsible for the removal, handling, transportation and disposal of all identified and/or unknown undesirable, contaminated and/or hazardous material encountered during construction.

T. Signalization

The Concessionaire shall make use of the Indicative Preliminary Design (L&G Concept) as a starting point for the design. The Concessionaire shall prepare any necessary Signalization Plans in a full-scale format with quantity tabulations and notes as per the Department's Plans Preparation Manual.

New signals are anticipated to be designed and installed by the Concessionaire at all crossroads that intersect SR-84 EB and WB except SW 136th Avenue and SR-7.

As a minimum, the design of all signals shall comply with the Manual of Uniform Traffic Control Devices (MUTCD). The signal design, details and installation must be approved by the Department and Broward County Traffic Engineering Division. All permanent signalization shall be Standard Mast Arm Assemblies. An outline of specific signalization requirements are as follows:

- The Concessionaire shall be responsible to establish the optimum initial signal timing and phasing. Traffic volumes shall be furnished by Department and the Concessionaire shall use the MUTCD and Institute for Transportation Engineer's (ITE) methodology for determining pedestrian and all red clearances.
- New signal controllers shall be installed at each signal.

- Mast arm structures shall be designed in accordance with the FDOT Standard Indexes for Mast Arm Assemblies (Index Nos. 17743, 17745 and 17746). Mast arms are to satisfy Broward County requirements.
- New traffic signal heads shall be mounted horizontally unless otherwise approved.
- Internally illuminated signs shall be installed on each pole.
- Placement of the mast arms shall be in accordance with MUTCD requirements.
- Existing signal poles that are to be removed shall become the property of the Concessionaire and shall be disposed of at a location provided by the Concessionaire. Unless otherwise authorized, none of the existing equipment may be reused in the Project.
- The Concessionaire shall be responsible for mast arm foundation design.
- The Concessionaire shall be responsible to coordinate with FP&L and BellSouth for service points.
- Advance loops are required as outlined in Broward County Traffic Signal Standards.
- Signal equipment shall meet the requirements of the FDOT Minimum Specifications for Traffic Control Devices and be listed on the FDOT's Approved Product List. All signal equipment shall be compatible with the Broward County Central Computer System.
- Video detection technology shall be used.
- Cameras and fiber optic cables are required as per Broward County Traffic Engineering Division.

The Concessionaire shall coordinate with the District Contamination Impact Coordinator (DCIC) for the review and/or recommendations for testing for contamination issues. The DCIC will coordinate with the Concessionaire's delegated, qualified authority concerning the removal, handling, transportation and disposal of all identified and/or unknown undesirable, contaminated and/or hazardous material encountered during construction.

The Concessionaire will be responsible for the removal, handling, transportation and disposal of all identified and/or unknown undesirable, contaminated and/or hazardous material encountered during construction.

The Concessionaire shall be responsible to design and construct temporary signalization at each of the existing signalized intersections as necessary for each of the phases of construction. The Concessionaire shall develop and finalize the design of all temporary signalization and shall submit the designs to the Department and to the Broward County Traffic Engineering Division for review and concurrence prior to initiating any construction that would require signal modifications. All signal timing for existing or temporary signals shall be actuated. Span wire assemblies will be allowed for any temporary signal construction. All signal design and construction shall be coordinated with the Broward County Traffic Engineering Division.

The Concessionaire shall be responsible to coordinate, design and install a signal interconnect conduit and interconnect cable between signals as required by Broward County Traffic Engineering Division. The Concessionaire shall coordinate with Broward County Traffic Engineering Division.

U. Lighting

The Concessionaire shall make use of the Indicative Preliminary Design (L&G Concept) as a starting point for the design. The Concessionaire shall complete all necessary lighting plans in a full-scale format with tabulations and notes as per the Department's Plans Preparation Manual. In addition, the Concessionaire shall comply with the Turnpike Plans Preparation and Practices

Handbook (TPPPH) for Turnpike mainline construction. A Lighting Design Analysis Report (LDAR) including photometric printouts shall be submitted to ensure sufficient illumination over the entire corridor, which is to include a needs analysis for daytime bridge underdeck lighting. The LDAR shall be based on the FDOT guidelines and current conventional lighting design criteria listed in the TPPPH. A lighting justification report will not be required.

The Concessionaire shall provide lighting for **all** roadway facilities operated and maintained by the Concessionaire (see Exhibit 4.2 O&M Limits (Operating Period) in Volume III) including the Turnpike mainline maintained by the Department. The design shall provide, as a minimum, the light levels required by the PPM. Underdeck lighting shall be provided for each of the new or widened bridges over SW 136th Avenue, Flamingo Road, Hiatus Road, Nob Hill Road, Pine Island, University Drive, Davie Road, Florida's Turnpike, and SR-7/US 441.

The Concessionaire will be responsible for any adjustments needed to the crossroad lighting system affected by the construction. The Concessionaire shall coordinate with the Department, municipality and/or maintaining agency having jurisdiction in the area. Any adjustments or replacement of existing crossroad lighting system due to construction would be replaced with similar type. The Concessionaire shall be responsible to perform any repairs and to provide maintenance for all street lighting within the Project limits for the duration of the Term (both new and existing lighting) in accordance with Vol II Div II Sect 4.

The Concessionaire shall submit a Master Lighting Plan for review and concurrence in writing to the Department prior to any 90% design submittal for review. The Concessionaire shall allow 28 calendar days for the review by the Department.

High mast lighting systems will not be permitted except at existing high mast lighting locations. Any existing high mast system shall be removed and replaced with a new system in accordance with the lighting criteria.

Conventional lighting system shall be designed to the following minimum criteria:

- FDOT Standard Index 17515 and Qualified Products List for Standard Roadway Aluminum Light Poles.
- Uniformity ratio – Avg./Min. 4:1 or less
- Uniformity ratio – Max./Min. 10:1 or less
- Average initial illumination -Min. 1.5 HFC
- Design speed -150 MPH
- Luminaire shall either be 400, 250, or 150-watt high pressure sodium lamps.
- Luminaire pole, bracket and fixture shall be consistent with General Electric Photometric Curve No. M-400A or approved equal and shall be a cut-off type fixture. Underdeck fixtures shall be placed as required to maintain minimum FDOT illumination levels.
- The Concessionaire will be responsible to coordinate FP&L service points for the system. Location of load center shall be accessible to the maintenance personnel. Separate service points shall be required for: 1) Turnpike mainline, maintained by FTE after acceptance by the Department; 2) Turnpike interchange, maintained by the Concessionaire; 3) The remaining portion of I-595 and associated roadways excluding crossroads maintained by the Concessionaire. The Concessionaire is responsible to pay for electric service charges beginning at NTP 2.
- All conduit crossing the travelways shall be installed by directional bore or jack and bore methods unless otherwise approved by the Department.

- All pullboxes shall have non-metallic covers and in accordance to the latest FDOT Design Standards.
- Screw type foundations for light poles will not be permitted.
- One photoelectric cell shall be installed for each load center and should be located adjacent to the load center panel.
- All electrical design, construction and materials shall meet the requirements of the National Electric Code (NEC).
- Allowable voltage drop for a circuit shall be no more than 6%. Minimum conductor size to be used is 6 AWG.
- The lighting system shall be designed and constructed in accordance to the latest lighting protection and grounding system recommended by the NEC and the FDOT Design Standards.

Lighting foundation locations will need to be reviewed and/or tested for contamination issues. The DCIC will coordinate with the Concessionaire's delegated, qualified authority concerning the removal, handling, transportation and disposal of all identified and/or unknown undesirable, contaminated and/or hazardous material encountered during construction.

The Concessionaire will be responsible for the removal, handling, transportation and disposal of all identified and/or unknown undesirable, contaminated and/or hazardous material encountered during construction.

V. Landscaping

The Concessionaire shall make use of the Indicative Preliminary Design (L&G Concept) and the Landscape Concept Plan as a starting point for the design. The landscape construction budget for the Project has been established at a minimum of ten (10) million dollars. The Concessionaire shall prepare Landscape Plans in a full-scale format with tabulations and notes as per the Department's Plans Preparation Manual.

The Department has completed a tree survey for the I-595 corridor that inventories existing trees to remain, to be relocated, and to be removed. Refer to the Existing Tree Survey in the Reference Documents, which includes a tree index table and survey plan. The Department, in collaboration with local agencies, has elected to relocate select trees within the Project corridor. The Department will be responsible for ensuring the relocation of all designated existing trees prior to NTP 2. Additional trees may be relocated (prior to NTP 2) above and beyond those designated in the tree index table, but have not yet been identified. The Concessionaire shall be responsible for the removal and disposal of all remaining trees within the O&M Limits in conflict with the Construction Work. The removal and disposal of these trees are not part of the landscape construction budget.

The Concessionaire shall submit a Master Landscape Plan for review and approval in writing to the Department prior to any 90% design submittal for review. The Concessionaire shall allow 28 calendar days for the review by the Department.

After execution of the Concession Agreement, the Concessionaire is to meet with the District Landscape Architect to select a landscape theme. The selected theme will be incorporated into the Master Landscape Plan consistent with Vol II Div II Sect 3.J.6.

Refer to the Outdoor Advertisement Information provided in the Reference Documents. The Concessionaire is responsible to ensure that the Landscape Design provides a minimum 1,000

feet of unobstructed view (from the appropriate direction and from the closest thru-lane) for all legally permitted billboards unless otherwise directed by the Department.

The Concessionaire shall closely coordinate landscape design concepts with the Department and local municipalities. The final Landscape Design shall be submitted to the Department and the municipalities affected for review and concurrence prior to installation. The Concessionaire should allow 28 calendar days for the review by each municipality affected. Each municipality shall be given the opportunity to be involved with the final inspection of all landscaping and irrigation construction. Any requirements imposed by the local municipality shall be binding on the Concessionaire. Volume III contains copies of the Landscape and Irrigation Maintenance Agreements between the Department and the local municipalities. Also, the Concessionaire shall assist the Department in coordination with the local municipalities on revisions to the Landscape and Irrigation Maintenance Agreements (or preparation of new Agreements) upon Substantial Completion.

Matching sod shall be placed on all public right of way areas disturbed by construction.

The Concessionaire is to coordinate with the Department's District Planning and Environmental Management Office and adjacent property owners concerning the disposition of any ornamental trees and shrubs within the Project Right of Way.

The Concessionaire is to coordinate with Broward County or the appropriate municipality prior to the removal of any native vegetation from within the Project Right of Way.

W. Traffic Monitoring

1. Permanent Traffic Monitoring Site

The Concessionaire shall design and construct three (3) Permanent Traffic Monitoring Sites (PTMS). The location of these sites shall be coordinated with the Department's District Planning and Environmental Management Office.

This Work shall be in accordance with the applicable FDOT Standard Indexes and shall include the following items:

- Grounding electrodes
- Buried conduit (underground)
- Buried conduit (under pavement)
- Pull boxes
- Inductive loop assemblies
- Type III TMS base mounted cabinets. Coordinate locations for loop assemblies and cabinets with FDOT prior to installation.
- Placement of the cabinets is to be outside the clear zones with the rear of the cabinet facing towards the road.
- The Concessionaire is to contact the Department's District Planning and Environmental Management Office at (954) 777-4364, at least five (5) days prior to cutting the inductive loops into the structural course, for a final inspection.
- Refer to Roadway and Traffic Design Standard Index Plans 17900 for TMS installation.

The Concessionaire shall be responsible for the maintenance and repair of the PTMS sites.

2. Telemetered Traffic Monitoring Site

The Concessionaire shall design and construct a Telemetered Traffic Monitoring Site (TTMS) 0186. The approximate location of this TTMS site is at MP 6.151.

This Work shall be in accordance with the applicable FDOT Standard Indexes and shall include the following items:

- Directional Bore (Less than 6")
- Buried conduit (underground)
- Pull boxes
- TMS Vehicle Sensor (Class II, Type I)
- TMS Solar Power Unit
- TMS Vehicle Speed/Classification Unit
- Inductive loop assemblies
- Type IV TMS pole mounted cabinets. Coordinate locations for loop assemblies, sensors, pole and cabinets with Department's Central Office Transportation Statistics Office prior to installation.
- Placement of the cabinets is to be outside the clear zones with the rear of the cabinet facing towards the road.
- The Concessionaire is to contact the Department's Central Office Transportation Statistics Office, Tallahassee, at (850) 921 7300 or (800) 399 5523 ten calendar days prior to any roadwork performed in the vicinity of the Traffic Monitoring Site, and ten calendar days prior to installation of new site.
- Refer to Roadway and Traffic Design Standard Index Plans 17900 for TMS installation.

The Concessionaire shall be responsible for the maintenance and repair of the TTMS site.

X. Intelligent Transportation System (ITS)

Refer to the ITS Deployment Requirements in Vol II Div II Sect 3 Att 1 for ITS criteria.

Y. Toll System

Refer to the Toll Infrastructure Support Requirements in Vol II Div II Sect 3 Att 2 for toll system requirements.

Z. Demolition of Structures

Portions of existing structures will have to be demolished as part of the Work. Prior to any demolition activity, the Concessionaire shall comply with all Governing Regulations regarding demolition means and methods, demolition material disposal, site safety, and site cleanup.

The Department does not expect abatement of lead prior to bridge demolition – their guidance concurs with EPA's position that the debris is not expected to be hazardous. Lead-based paint

surveys were performed on 29 corridor bridges and no hazardous levels of lead, cadmium, chromium or zinc were found in the coating systems. The Department indicates in their guidance that they do not expect generators to characterize demolition debris prior to disposal. The Bridge Paint Screening Summary Report is included in the Reference Documents.

Additionally, 64 bridges along the corridor were assessed and sampled for asbestos containing materials (ACM). One bridge, the University Drive crossing over the North New River Canal, was found to have asbestos-graphite bearing pads. No other bridges tested along the corridor were found to have ACM. The Level II Bridge Asbestos Survey Summary Reports are included in the Reference Documents.

The Concessionaire is required to complete the abatement work as described and transport and dispose of all debris in accordance with all Federal, State, and Local laws and regulations.

All temporary structures installed during construction of the Project shall be completely removed, including foundations, prior to Substantial Completion.