FEASIBILITY STUDY REPORT

Feasibility Study for SR 9 (I-95) Rest Areas in St. Lucie County
Financial Project Number: 417073-5-22-01

FDOT Contract Number: CA130
Continuing Services for PD&E/ETDM Support Activities

PREPARED FOR

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District Four
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The Florida Department of Transportation may adopt this planning product into the environmental review process, pursuant to Title 23 U.S.C. § 168 (d) or the state project development process.

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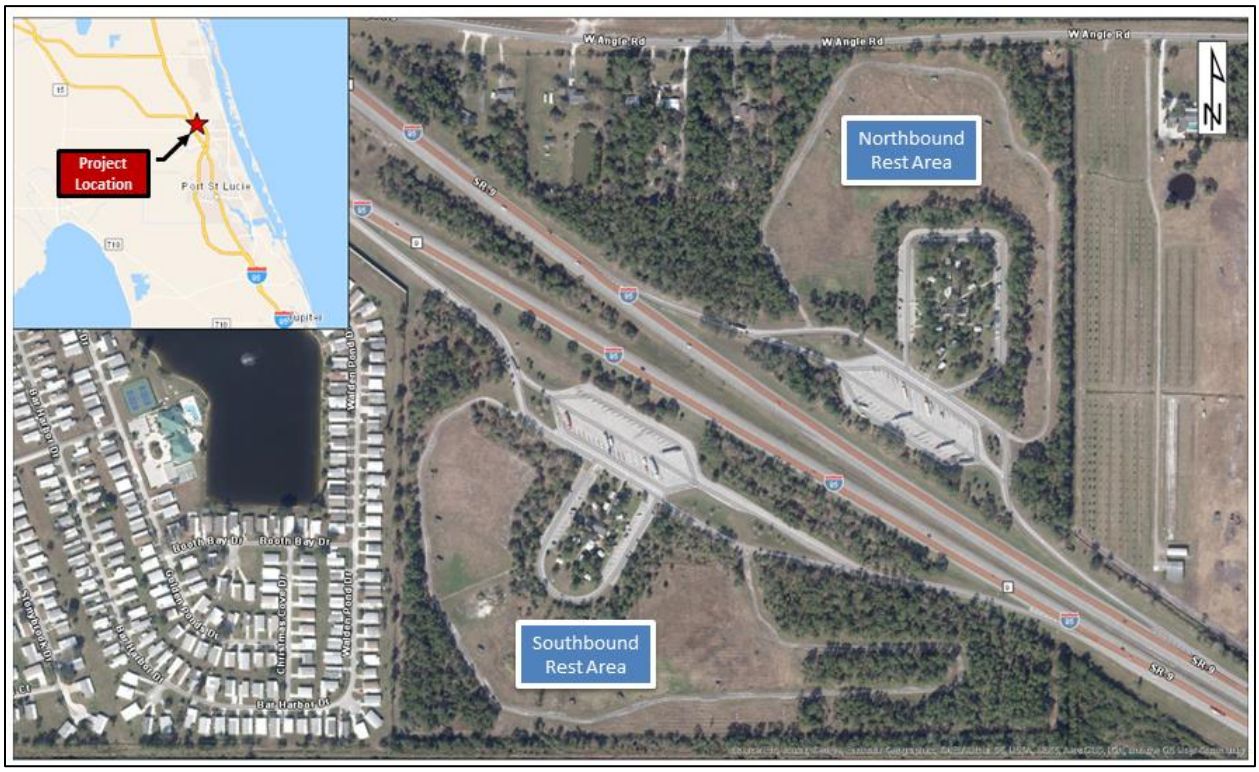
1 INTRODUCTION

The Florida Department of Transportation (FDOT) District 4 is conducting a feasibility study to evaluate improvements to the SR 9 (I-95) Rest Areas in St. Lucie County. The rest areas are located along I-95 (roadway ID 94001000) between approximately milepost (MP) 19.435 to 19.864 within unincorporated St. Lucie County, Florida. There is a rest area facility servicing the northbound traffic and another rest area facility servicing the southbound traffic. A project location map is provided in **Figure 1.**

The purpose of this feasibility study is to identify, evaluate, and recommend improvements to redevelop the northbound and southbound rest areas along I-95 in St. Lucie County. This document will be used to inform the design phase.

The facility, which was constructed in 1984, is outdated and functionally obsolete. The buildings are aging with limited restroom capacity and there is limited truck and passenger vehicle parking. The purpose of the project is to increase the parking capacity for cars and trucks and upgrade the facilities to meet the current demand and be consistent with the state of the practice for rest areas in accordance with the FDOT Facilities Design Manual and relevant guidance. The improvements evaluated in this study focus on a complete reconstruction of the rest area.

Figure 1 Project Location Map



1.1 Background

The existing northbound and southbound rest areas along I-95 in St. Lucie County are almost 40 years old with an original construction year of 1984. The original construction included truck and automobile parking, restroom buildings, and picnic tables. Since then, there have been several improvement projects to add-ons to the existing facilities, new picnic table areas, rehabilitation of the existing buildings such as water and sewer improvements, and expansion of truck parking area. These improvements are temporary solutions to an outdated rest area.

A Candidate Project Technical Scope was prepared in 2020 to establish the basic needs for the St. Lucie rest area improvements. This document generally describes a preliminary scope of services for the rest area reconstruction and preliminary costs. However, FDOT District 4 would like to explore additional refinements to improve the facility and advance to the design phase.

1.2 Study Methodology

This document builds on the efforts included in the Candidate Project Technical Scope and refines the scope of services and cost estimates. Three build alternatives are identified and evaluated, as described in subsequent sections. The major activities for this evaluation are as follows:

- Programmatic Planning: The purpose of this task is to provide a baseline to define site improvement elements. This includes a review FDOT practices in other Districts, parking and site requirements based on current standards and needs, public concerns, and an understanding of District Transportation Operation needs. Recent State and Federal law changes will be evaluated to verify truck parking requirements, such as the Federal Highway Administration's Jason's Law as described under *2.1 Existing Reference Material* This task will outline best practices and build on the recommendations included in the Candidate Project Technical Scope document.

- Alternatives Evaluation: Based on the programmatic planning elements, three build alternatives will be identified and evaluated. This task includes the development of conceptual plans, cost estimates, and an evaluation matrix. The evaluation matrix will include advantages / disadvantages and cost estimates.

- Recommendations: Select a preferred alternative based on coordination with FDOT District 4. This alternative will be advanced to the design phase.

2 PROGRAMMATIC PLANNING

This section describes the programmatic planning assessment and recommendations which will be used to develop and evaluate alternatives. The programmatic planning includes a review of existing reference material and design criteria, existing rest area site characteristics and public perceptions, other rest area projects around the State of Florida including the nearby rest area along I-95 in Martin County, and recommendations of the site elements that will be common between the build alternatives (i.e., bathroom facilities).

2.1 Existing Reference Material

A review of FDOT and federal resources was conducted to determine if their relevancy to the St. Lucie rest area project. These documents are described below:

- FHWA Truck Parking Development Handbook (2022): This handbook provides tools for quantifying truck parking needs, benefits, and cost, and strategies for designing truck parking facilities. It highlights why ensuring adequate truck parking is important and is used as a reference for evaluating the efficiency of truck parking facilities. The document can be used as a resource for FDOT's truck parking planning initiatives.

- FDOT Statewide Truck Parking Study (2020): Statewide Truck Parking Study provides the recommendations, implementation plan, and supporting resources that consolidate potential solutions into a portfolio of actionable projects, policies, and partnerships to address truck parking problems throughout Florida. One of the recommendations of the study is to optimize existing pavement at rest areas and other public truck parking facilities by revising rest area formula, redesigning sites, and updating the Statewide Rest Area Long Range Plan.

- Candidate Project Technical Scope (2020): This served as the initial scoping document for the reconstruction of the St. Lucie rest area. It provides the basic scope of service needs to reconstruct the rest area to meet the minimum criteria for bathroom facilities and parking areas. The scope assumes a complete reconstruction of the facility with new parking and bathroom facilities.

- FDOT District 4 Truck Parking Supply and Demand (2017): This study represents the first phase of District 4's efforts to examine truck parking focusing on calculating the unmet parking demand. It includes an inventory of available trucking parking supply, the calculation of demand, and recommendations on next steps. This work compliments efforts by the Federal Highway Administration (FHWA), American Transportation Research Institute (ATRI), FDOT District 6, and the Miami-Dade Transportation Planning Organization (TPO). Although the study cites excess parking supply in St. Lucie County, this seems to be correlated with private truck parking stops instead of the simpler access to rest areas along I-95. A truck driver survey was also conducted and one of the common concerns was that it takes truck drivers more than an hour to find parking with the top reason that preferred facilities were full. The study also cites pending updates to federal motor carrier regulations which will decrease the hours a driver can operate to ensure rest periods are observed. These changes will require truck drivers to have access to a greater number of parking facilities. Overall, it was concluded that District 4 has a significant demand but inadequate supply of truck parking spaces.

- FDOT District 4 Freight Mobility Implementation Guide (2016): This Implementation Plan builds on the policies, principles, and objectives laid out in the statewide Freight Mobility and Trade Plan and its Investment Element as well as the regional freight program already in place. This includes the development of the District's multimodal freight network and identification of successful efforts District 4 has undertaken to implement freight planning as part of continued efforts to promote freight mobility. The guide identifies the need for truck parking as a state and South Florida issue. These truck parking opportunities include the expanding truck parking opportunities such as the Martin County Rest Area Truck Parking Expansion Project.

- FHWA Jason's Law Truck Parking Survey Results and Comparative Analysis (2015): This survey was conducted to evaluate the capability of each state to provide adequate parking and rest facilities for commercial motor vehicles engaged in interstate transportation based on the number of spaces and truck volume. This information in this survey points to Public Rest Areas as the main source if truck parking problems and designates Florida as having Truck Parking Services. These observations highlight the need for the work being proposed under this contract.

- FDOT State Park-And-Ride Guide (2012): The purpose of this Park-and-Ride Guide is to provide a standard process and the essential information for the FDOT and other agencies in Florida to plan, implement, and manage Park-and-Ride facilities. It is used as a reference for Park-And-Ride implementation and its economic analysis, and also conceptual design considerations, including ADA requirements.

- FDOT Facilities Design Manual Topic No. 625-020-016 (2010): The document describes the FDOT guidelines and requirements for providing professional Architectural/Engineering (A/E) consulting services for building facility projects. It serves as a technical reference to produce designs compatible with the FDOT preferred details, construction methods, CADD standards, rest area conceptual layout, and rest area facility features. The guide provides facility-specific guidelines for rest areas. The rest area design guidance states that each rest area building should include two toilet rooms each for men and women so that the facility can be operated 24 hours per day. This allows 1 set of each men's and women's room to be 'closed for cleaning'. The document also includes the Rest Area Facilities Computation Form which is the primary FDOT resource for calculating the number of bathroom facilities and parking spaces for vehicles, trucks, and RV's.

- Rest Area Facilities Computation Form (2010): Included in the FDOT Facilities Design Manual, the Rest Area Facilities Computation Form is used to calculate the quantities of facilities provided at rest areas. This form helps to establish the numbers of plumbing fixtures (toilets and urinals) and parking spaces (cars, trucks, RV's) at each site. Building square footage and site layouts are determined from these values. The form is based on the Average Daily Traffic (ADT) of the roadway served.

- FDOT Statewide Rest Area Long Range Plan (2009): This provides a statewide long-range plan for rest area facilities for the Florida Department of Transportation (FDOT). The plan has general recommendations and funding guidance to the overall FDOT rest area program.

- Other FDOT online reference materials: Additional FDOT truck parking resources are included in the following website - https://www.fdot.gov/rail/studies/truck-parking

2.2 Existing Rest Area

2.2.1 General Site Characteristics

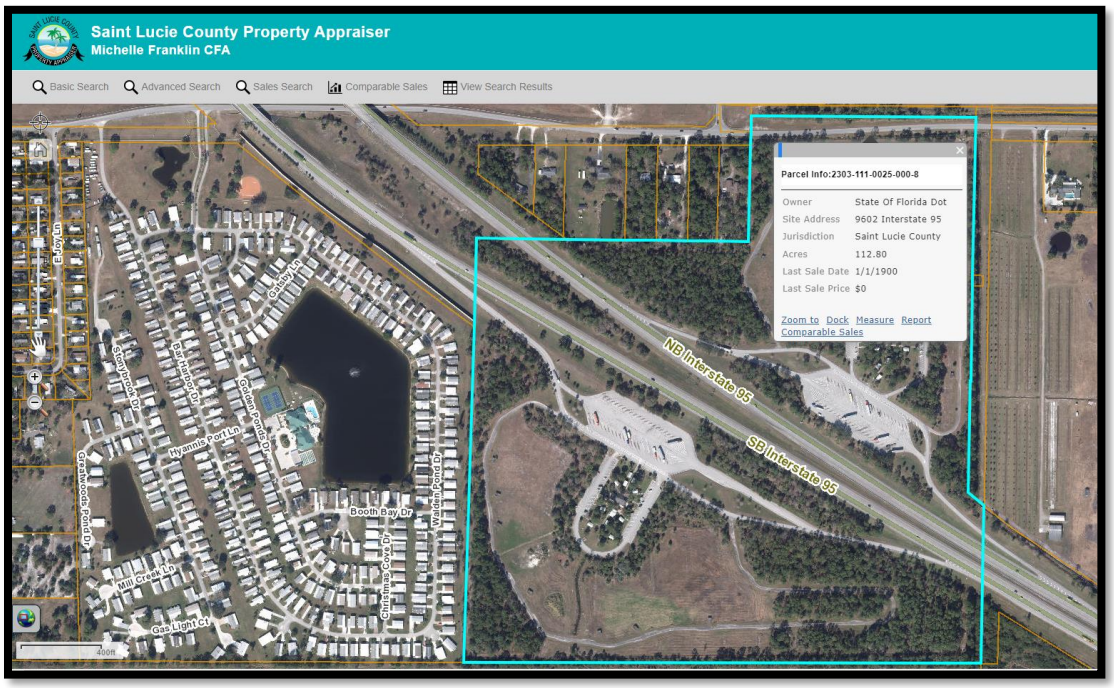
The existing I-95 rest areas in St. Lucie County are located between approximately milepost (MP) 19.435 to 19.864 within an unincorporated area of the County. It is a public facility, owned and maintained by FDOT, with an original construction of 1984 and subsequent improvements.

Both the existing northbound and southbound rest areas have a similar configuration and design as presented in **Figure 2**. They can be accessed by an off-ramp on the right side of I-95 in the direction of travel. There is a truck parking area is located between the building facilities and the I-95 right of way, and the parking area includes angled spaces. Passenger cars travel between the truck parking area and the building facilities to access the passenger car parking area which wraps around the main rest facilities in a semi-circular configuration with a one way, one lane driveway. The main rest facility buildings include bathroom and snack vending machines in the middle of the area surrounded by trees, numerous picnic area shelters, and a sidewalk network that connects the facilities with the parking areas. Vehicles exit the rest area to merge into the I-95 facility.

Figure 2 Aerial Overview of Rest Area Facilities

The rest area has right of way that goes well-beyond the rest area facilities and parking area as depicted in **Figure 3**. At both rest areas, there are vast open, sodded areas. Based on coordination with the FDOT District 4 Transportation Operations Department, Maintenance and Operations Offices, these open areas are used for equipment staging and debris storage during emergency events such as hurricanes. Any improvements should maintain these open areas, to the extent practicable, to continue allowing usage during emergency events.

Figure 3 Right of Way Limits of Rest Area



2.2.2 Parking

The existing park areas for between the northbound and southbound rest areas are slightly different. The number of parking spaces is as follows:

- Northbound Rest Area Parking:
    - 115 passenger vehicle parking spaces including 8 handicap spaces
    - 42 Trucks/RVs parking spaces
- Southbound Rest Area Parking:
    - 104 passenger vehicle parking spaces including 8 handicap spaces
    - 40 Trucks/RVs parking spaces

2.2.3 Restroom Facilities

The restrooms can be accessed from the parking areas through a pedestrian sidewalk network. The woman's and men's bathrooms are located in the center of the main facility area, and although they are technically separate buildings, both restrooms share the same roof. The roof covers an open area between the bathrooms where the public uses to access the bathrooms. Within the same building of each restroom is a storage and maintenance room which can only be accessed on the outside of the buildings instead of the center, covered area. A photo of the outside of a bathroom building is presented in **Figure 4**. The existing bathroom facilities for both the northbound and southbound rest areas are similar and include the following characteristics:

- Men's Rest Room: 10 fixtures (6 urinals and 4 toilets) including 2 family restrooms and 4 sinks
- Women's Rest Room: 10 fixtures/toilets including 2 family restrooms and 4 sinks

Figure 4 Photos of Restroom Facilities

2.2.4 Other Facilities

Both northbound and southbound rest areas include 10 picnic areas and a vending machine building. The main area is surrounded by lush shading trees along with pedestrian and street lighting.

Figure 5 Photos of Vending Machine and Tree Shading

2.2.5 General Concerns

The FDOT Operations Office maintains a record of public comments and opinions for each rest area. The public generally provides this feedback through an online survey which includes ratings for cleanliness of bathrooms, courtesy of attendants, cleanliness of grounds and parking, nighttime security, sense of safety, and overall review of their visit. The rating system includes a 1 through 5 where 1 is very poor and 5 is very good.

The general concerns for the rest area were downloaded and analyzed for an approximate three year period from March 1, 2019, to March 9, 2022. A total of 151 comments were submitted. The majority of the feedback rated the various facilities of the rest area as very poor, poor, and average. There were numerous comments submitted that mentioned the toilet facilities not functioning properly and flooding in the restrooms. A summary is included in **Appendix A**.

2.2.6 Drainage

The project falls under the jurisdiction of the South Florida Water Management District (SFWMD) and the North St. Lucie River Water Control District (NSLRWCD). A field inspection was conducted by FDOT in August of 2008, in order to assess the flooding that occurred in the area as a result of Tropical Storm Fay. According to the Field Notes that were prepared by the Department as a summary of the findings, "the flooding at the northbound rest area was more severe but the regular passenger car access driveway loops had to be closed at both rest areas .... the restrooms at both rest areas were open and above the floodline". Department maintenance workers reported that the rest area flooding due to Tropical Storm Fay was the most severe they had ever observed; although, they were accustomed to seeing the lower lying driveway loops at these rest areas flood following other heavy rainfall storm events.

As a result of these floodings, FDOT conducted a drainage improvements evaluation in 2014 (FM 229966-6-32-01). The conclusion of this evaluation stated that the flooding that took place during Tropical Storm

Fay may have been an isolated incident that was an extreme event. According to the Advanced Integrated Channel and Ponding Routing (AdICPR) model results and coordination with FDOT Treasure Coast Maintenance personnel, there are no flood concerns associated with the southbound rest area for the design storms evaluated and drainage improvements were not recommended.

2.2.7 Utilities

A sunshine 811 design ticket was submitted, and the response showed the following existing utilities in the vicinity of the St. Lucie rest areas:

- AT&T Distribution
- Comcast
- Crown Castle Fiber
- Eland Engineering (FDOT ITS)
- Florida Gas Transmission (not within project limits)
- Florida Power and Light
- Ft Pierce Utilities Authority

2.2.8 Traffic

The traffic characteristics of the I-95 facility are used to estimate the number of bathroom facilities and parking area for each rest area. The specific traffic variables that are needed for the estimation include the 20-year ADT, K-factor (proportion of daily traffic that occurs during the peak hour), D-factor (Directional Distribution during the peak hour in the peak direction), and design hour truck factor. The 20-year Annual Daily Traffic is assumed to refer to a typical future traffic design year. These variables are applied to the Rest Area Facilities Computation Form contained in the FDOT Facilities Design Manual.

The majority of the traffic characteristics were obtained from the FDOT traffic monitoring site 941905, located along I-95 north of SR 68/Orange Avenue. According to the most recently available data from 2021, the K-factor at this site is 10.5, D-factor of 61.4; and the daily truck factor is 20.1%. The design hourly truck factor is approximately 10.1% which is the daily truck factor divided by two and rounded to nearest tenth of a percent. The I-95 facility in the area of the St. Lucie rest area is considered a Rural Principal Arterial. Based on the FDOT Project Traffic Forecasting Handbook (2019), the recommended high D-factor for a rural freeway is 57.3. In order to be consistent with this handbook while staying close to the observed directional distribution factor, the D-factor was selected as 57.3 which is the upper range from the FDOT Project Traffic Forecasting Handbook (2019).

The 20-year Annual Daily Traffic was estimated as 101,000 volumes based on the future traffic projections from both the I-95 Multimodal Master Plan (2020) and the Treasure Coast Airport Connector Feasibility Study (2021) (TCACF). The I-95 Multimodal Master Plan includes traffic projections for the design year 2045 which shows 88,000 Annual Average Daily Traffic (AADT) volumes; however, this plan does not include the new planned Northern Connector interchange at both I-95 and Florida's Turnpike. The Northern Connector interchange is listed as project 107 in the Cost Feasible Plan of the St. Lucie TPO 2045 Long

Range Transportation Plan (also known as the SmartMoves 2045). Whereas the TCACF includes the Northern Connector as part of a traffic scenario comparison, the 2045 volumes in the report only include model outputs which have not been refined as traffic volumes in accordance with the FDOT Project Traffic Forecasting Handbook. The TCACF includes a comparison of the baseline scenario which is the I-95 Multimodal Master Plan, and the Northern Turnpike interchange scenario (Scenario 3A in the study). The 2045 traffic demand changes along I-95 between these scenarios shows that the Northern Connector is projected to result in an increase of traffic volumes by a factor 1.15 compared to the baseline. This factor was applied to the 2045 traffic volumes from the I-95 Multimodal Master Plan which resulted in an estimated 101,000 AADT volumes for the year 2045.

2.2.9 On-Ramp Design

The existing ramp design acceleration lanes were reviewed to determine their compliance with the FDOT Design Manual (FDM). Using a ramp design speed of 50 mph, the ramp acceleration lanes lengths and tapers have been found to be insufficient to accommodate the ramp entrance/mainline speeds and taper. According to FDM 210.2.5, the ramp requires a total length of 2,260 ft (acceleration length of 1420 ft and a taper length of 840 ft). This assumes holding the existing interstate on-ramp gore points. In order to meet the design criteria, improvements will be necessary for the on-ramps. (See **Table 1**) The northbound on-ramp extends on to the existing Belcher canal bridge. (See **Figure 6**) The Belcher Canal bridge is approximately 555' long and a partial widening will need to be evaluated during the design process unless the gore point in the rest area can be relocated.

Table 1 Acceleration Lane Lengths

REQUIRED ACCELERATION/ TAPER (1)	EXISTING NB ACCELERATION/ TAPER	EXISTING SB ACCELERATION/ TAPER
1420'/840'	1150'/155'	1150'/250'

Note:
1) Design criteria determined from FDOT FDM 210.2.5

Figure 6 Northbound Acceleration Lane Lengths

2.3 Design Criteria

The design criteria for the St. Lucie rest area is summarized in **Table 2**. This shows that the existing St. Lucie rest area is not meeting the latest standards for rest areas. The existing site St. Lucie rest area has insufficient number of passenger car and truck parking spaces. The northbound area features 115 passenger car space and 42 truck space while the southbound area features 104 passenger car spaces and 40 truck spaces. The number of bathroom fixtures at the rest area is significantly less than the recommended number of fixtures based on the Rest Area Facilities Computation Form.

Table 2 Rest Area Design Criteria

FEATURE	CRITERIA	SOURCE
Design Vehicle	WB-62FL	FDOT FDM
Passenger Parking Space Dimensions	9-ft wide by 19-ft long	FDOT Facilities Design Manual
Truck Parking Space Dimensions	15-ft wide by 80-ft long	FDOT Facilities Design Manual
Driveway aisle width	24-ft wide	FDOT Facilities Design Manual
Number of Passenger Parking Spaces	Minimum of 190 spaces (assuming a 30 minute residence time)	Rest Area Facilities Computation Form
Number of Truck Parking Spaces	Minimum of 46 spaces (assuming a 30 minute residence time)	Rest Area Facilities Computation Form
Bathroom Fixtures (Men's/Women's)	28 Fixtures / 42 Fixtures	Rest Area Facilities Computation Form
Number of toilet rooms	2 rooms each for men and women	FDOT Facilities Design Manual

2.4 Review of Other Rest Areas

Four FDOT rest area projects were reviewed to determine current state practices related to the number of car and truck parking spaces and amenities. These rest areas are fairly new projects and have either already completed construction or are in the design phase. The following is a list of the rest areas that were reviewed:

- I-10 Rest Areas Reconstruction within FDOT District 2 (FM 438608-1 & 438609-1): This project is in the construction phase and includes a reconstruction to increase parking capacity for cars and trucks.
- I-75 Rest Area Reconstruction between CR 484 and SR 200 within District 5 (438562-1): This project is in the construction phase and includes reconstruction increasing parking capacity for cars and trucks, while accommodating an envelope for future parking expansion, and updates to the restroom facilities, courtyard areas, picnic tables, and dog park.
- I-75 Northbound Rest Area Replacement in southern Hillsborough County within District 7, (437638-1): This project is in the construction phase and includes increasing parking capacity for cars and trucks with updated restrooms and pavilions.
- I-95 Rest Areas in Martin County within FDOT District 4: This project was completed years ago and includes a reconstruction of the rest area facilities to expand parking and upgrade facilities.

These rest area facilities and amenities are compared in **Table 3**. The Rest Area Facilities Computation Form was used to compare the actual buildout of the other rest area projects, and the existing facilities such as the St. Lucie rest area. This form includes a 30 minute average stop time for truck/RVs which is also known as the average residence time. Based on this comparison it is evident that the other rest areas are providing parking in excess of the required values from the Rest Area Facilities Computation Form as presented in the table with the row with “Truck Parking Spaces exceeding standard.” The other rest area projects are including 72% to 20% increase truck parking spaces compared to the minimum value from the form.

Table 3 – Existing and Planned Rest Area Amenity Comparison

Amenity	Unit (1)	Rest Area Location				
		I-10 within FDOT District 2	I-75 within FDOT District 5	I-75 within FDOT District 7	I-95 and Martin County within FDOT District 4	I-95 and St. Lucie County within FDOT District 4
		Existing	Planned / PD&E	Existing	Existing	Existing
AADT		25000	87118	62000	45000	101000 (future design year)
Approximate Site Acreage	AC	25	14	34	30/25	61/45
Passenger Vehicle Parking Spaces	#	42	170	122	121/121	115/104
Truck Parking Spaces	#	31	101	75	85/60	40/42
Truck Parking Spaces exceeding standard (2)	%	20%	30%	72%	58%	-6.5%
Tandem Spaces	Y/N	Y	N	N	Y	N
Picnic Areas	Y/N	Y	Y	Y	Y	Y
Maintenance Access	Y/N	Y	N	N	N	N
Female Bathroom Fixtures	#	24	48	36	Unknown	10
Male Bathroom Fixtures	#	16	32	32	Unknown	10
Family Fixtures	#	4	Unknown	Unknown	Unknown	4
Information Kiosk/Monitors	Y/N	Y	Y	Y	Y	Y
Vending Areas	Y/N	Y	Y	Y	Y	Y
Security Kiosk/Trooper Office	Y/N	Y	Y	Y	Y	Y
Truck Parking Availability System	Y/N	Y	Y	Y	Y	Y
Playground	Y/N	N	N	N	N	N
Dog Park	Y/N	N	Y	Y	N	N
Dumpster Enclosure	Y/N	Y	N	Y	N	N
Bug Washer - Truck	Y/N	N	N	N	N	N
Bug Washer - Car	Y/N	N	N	N	N	N
Electric Vehicles	Y/N	Planned	Planned	Planned	N	N
Wi-Fi	Y/N	N	N	N	N	N
Text Stop	Y/N	N	N	N	N	N
Fiber Connect	Y/N	Y	Y	Y	Y	Y

Notes:
1) Y = Yes; N= No
2) The percent value is the result of the number of actual truck parking spaces compared to the minimum number of truck parking spaces which is based on the Rest Area Facilities Computation Form

2.5 Programmatic Planning Recommendations

The programmatic planning provides a baseline to define site improvement elements through the review of reference material, an assessment of the existing rest area characteristics, identification of design criteria, and a review of other recent rest area projects around the State. Coordination was also conducted between various FDOT District 4 offices and staff such as the District Maintenance Engineer, District Operations Engineer, and the District Freight Coordinator. The general consensus from these discussions was that the St. Lucie rest area is in need of a reconstruction that maximizes the truck parking spaces while balancing the needs for emergency events.

A programmatic planning phase meeting was held on March 9, 2022, which outlined the recommended elements to include in the rest area final conceptual site options, designs and estimating. Following the meeting, it was determined that the number of truck parking spaces would define the alternatives. This approach would allow the District to assess the best alternative to advance which exceeds the minimum recommended number of truck parking spaces while balancing the other needs of the rest area such as emergency event staging and debris storage. The meeting presentation and meeting notes are included in **Appendix B**.

The programmatic planning recommendations are presented in **Table 4**. The Rest Area Facilities Computation Form, which is included in **Appendix C,** was used to estimate the minimum number of passenger vehicle parking spaces and bathroom fixtures.

Table 4 – Programmatic Planning Recommendations

Amenity	Unit (1)	Recommendation
Passenger Vehicle Parking Spaces	#	180
Truck Parking Spaces	#	To be determined in alternatives evaluation
Truck Parking Spaces exceeding standard (2)	%	To be determined in alternatives evaluation
Tandem Spaces	Y/N	N
Picnic Areas	Y/N	Y
Maintenance Access	Y/N	N
Female Bathroom Fixtures	#	45
Male Bathroom Fixtures	#	30
Family Fixtures	#	4
Information Kiosk/Monitors	Y/N	Y
Vending Areas	Y/N	Y
Security Kiosk/Trooper Office	Y/N	Y
Truck Parking Availability System	Y/N	Y
Playground	Y/N	N
Dog Park	Y/N	Y
Dumpster Enclosure	Y/N	Planned
Bug Washer - Truck	Y/N	N
Bug Washer - Car	Y/N	N
Electric Vehicles	Y/N	Planned
Wi-Fi	Y/N	Planned
Text Stop	Y/N	N
Fiber Connect	Y/N	Y

Notes:
1) Y = Yes; N= No
2) Passenger vehicle parking spaces and bathroom fixatures based on the Rest Area Facilities Computation Form
3) “Planned” are potential future enhancements.

3 ALTERNATIVES EVALUATION

3.1 Alternatives Development

Three build alternatives were identified for the northbound and southbound rest areas. The fundamental difference between the three options is the number of truck/RV parking spaces. The minimum number of truck/RV parking spaces was calculated as 46 from the Rest Area Facilities Computation Form. After the minimum number of truck parking spaces was determined, three alternatives were identified which include varying increases from the minimum number of truck parking spaces. All of the alternatives have the same features from the programmatic planning recommendations. It should be noted that all three altera alternatives were designed and estimated with 195 passenger vehicle parking spaces to be more conservative with the site layouts.

Alternative nomenclature includes Alternative 1 for the northbound rest area and Alternative 2 for the southbound rest areas. The alternatives are further categorized with an A through C which indicates the truck parking size. The alternatives are described as follows:

- Alternative 1A (Northbound) and Alternative 2A (Southbound): Maximized truck parking area with 101 truck/RV parking spaces at each rest area which is 120% over the minimum number of spaces calculated in the Rest Area Facilities Computation Form.
- Alternative 1B (Northbound) and Alternative 2B (Southbound): Medium sized truck parking area with 76 truck/RV parking spaces at each rest area which is 65% over the minimum number of spaces calculated in the Rest Area Facilities Computation Form.
- Alternative 1C (Northbound) and Alternative 2C (Southbound): Small sized truck parking area with 47 truck/RV parking spaces at each rest area which is 2% over the minimum number of spaces calculated in the Rest Area Facilities Computation Form.

The conceptual site plan drawings were prepared for each alternative based on the current FDOT Facilities Design Manual guidance and enhancements noted other recently developed projects. The drawings show the access ramps, parking areas and circulation, building envelopes, and labels showing site enhancements. The circulation was verified with the AutoTURN software. The number car parking spaces and bathroom fixtures was based on the Rest Area Facilities Computation Form. The new bathroom building size was determined by up scaling the existing building design to accommodate the new number of required fixtures. The conceptual sketches are included in **Appendix D.**

Right of way acquisition is not expected with these designs. It was assumed that the water and wastewater demands from the new facility can be accommodated by the existing capacity of the utilities. The utilities requirements, including water demands and wastewater flows will need to be determined in the design phase to verify if the existing facilities have the capacity to service the new facility. Fire protection requirements must also be determined and verified to establish site requirements and whether the building will be required to have interior sprinkler systems. Existing offsite water and wastewater lines may need to be updated to service the new facility.

3.2 Cost Estimates

The FDOT Long Range Estimates (LRE) system was utilized to estimate potential construction costs. The cost estimates for the alternatives were based on the current LRE estimates from the Candidate Project Technical Scope (2020). This LRE was converted to a spreadsheet and edited to add missing or updated pay item quantities. The LRE for each alternative was created using three general assumptions: assumed quantities were considered base assumptions and scaled to meet the current site plan concepts for each alternative, unit costs were not modified, and added new items to the current version of the LRE from other similar LRE estimates (i.e., retention pond).

Included in the estimates are the reconstruction of the car and truck parking lots, retention ponds, and building replacements. The design and CEI costs are not included in the estimates. The estimates include a temporary parking area and a toilet trailer. A perimeter wall was included in the estimated for the southbound rest area since the property is adjacent to residential land uses. A noise study may need to be conducted during the design phase. The on-ramp acceleration lane extension was also included in the estimates.

The total cost estimates are presented in **Table 5**. The summary of each alternative and costs are provided in **Appendix E**.

Table 5 – Cost Estimates

ALTERNATIVE	LRE CONSTRUCTION COST ESTIMATE (APPROXIMATED TO THE NEAREST $1 MILLION)
Alternative 1A (Northbound) and Alternative 2A (Southbound): Maximized truck parking area with 101 truck/RV parking spaces	$53 million
Alternative 1B (Northbound) and Alternative 2B (Southbound): Medium sized truck parking area with 76 truck/RV parking spaces	$47 million
Alternative 1C (Northbound) and Alternative 2C (Southbound): Small sized truck parking area with 47 truck/RV parking spaces	$44 million

4 RECOMMENDATIONS

Due to the future high traffic demand and facility needs, implementing rest area layouts that maximize the number of truck parking spaces are recommended to be the best fit alternative. This need is highlighted under the FHWA Jason's Law Truck Parking Survey Results and Comparative Analysis which necessitates providing adequate truck parking spaces and functional rest area facilities; maximizing truck spaces would be a major step in assuring these needs are met efficiently.

The Alternative 1A & 2A (maximized truck parking area) are recommended for implementation at the St. Lucie rest areas should sufficient funding become available. To reach this conclusion, existing design criteria and reference material were reviewed in conjunction with the three current FDOT rest area designs that are in planning and construction to see where updates could be made. The Rest Area Facilities Computation Form was then used to calculate the amount of parking spaces and restroom facilities required using the Jason's Law residence time minimum of thirty minutes and an average one hour stop. After finding that in current FDOT rest area designs that parking was being provided more than the required amount set by the thirty-minute minimum, this analysis was performed following that precedent, with the recommended alternative showing an amount of truck parking 120% over the minimum required using the 2010 criteria. The 120% over the minimum allows the rest area to fit the number of trucks needed after implementing the one-hour residence time while still providing excess for future growth, updates in trucking requirements, and/or extreme conditions.

The existing acceleration lane lengths leaving both St. Lucie Rest Areas appear to be deficient for the I-95 speed of 70 mph. According to the FDOT Design Manual, the respective existing acceleration lane and lane taper lengths should be 1420' and 840' for the lane and taper, respectively. This deficiency should be mitigated as part of the rest area reconstruction.

4.1 Funding Strategy

The rest areas were tentatively programed based on the below proposed funding schedule with the large rest area sites as the chosen options. The amount programmed was $26.03 million for the southbound rest area improvement (FM No. 449961-1-52-01). The proposed Statewide Rest Area 10-Year Plan (starting with Fiscal Year 2023) is presented **Figure 7**. This programmed amount is less than the estimated construction costs for Alternative 1A & 2A. Subsequently, the site was reduced to meet the intent of the work program as described below. **Appendix F** includes this alternate site plan with the reduced number of truck parking spaces compared to Alternative 1A & 2A. In addition, a future expansion truck parking area was included in the alternative site plan should the need or funding become available.

The alternate site plan includes the following modifications:

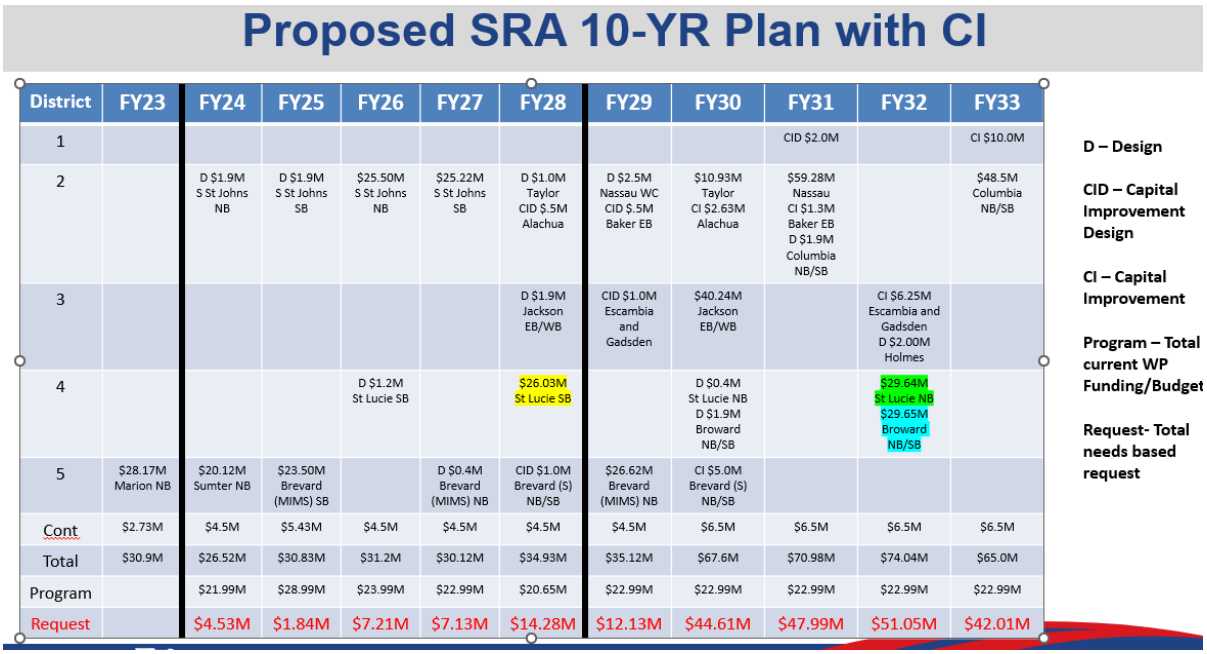
1) The concrete truck parking area was reduced to a provide a total of 77 spaces which is 65% over the minimum number of spaces calculated in the Rest Area Facilities Computation Form. This alternative provides the capacity equivalent to the medium sized rest area design.

2) The RV/Bus parking area was expanded to maintain the existing number of truck parking spaces which will be shared between the Bus/RV needs.

3) The area exclusive to truck parking includes a future expansion envelope of 38 spaces. The site should be designed assuming this area will be included when the need or funding becomes available.

4) A Traffic Control maintenance of parking concept was developed to determine the temporary parking needs. The concept shows that only car parking is needed, thus reducing the temporary throwaway cost.

Figure 7 Proposed Statewide Rest Area Plan (starting with FY 23)



Proposed SRA 10-YR Plan with CI

District	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33
1									CID $2.0M		CI $10.0M
2		D $1.9M S St Johns NB	D $1.9M S St Johns SB	$25.50M S St Johns NB	$25.22M S St Johns SB	D $1.0M Taylor CID $.5M Alachua	D $2.5M Nassau WC CID $.5M Baker EB	$10.93M Taylor CI $2.63M Alachua	$59.28M Nassau CI $1.3M Baker EB D $1.9M Columbia NB/SB		$48.5M Columbia NB/SB
3						D $1.9M Jackson EB/WB	CID $1.0M Escambia and Gadsden	$40.24M Jackson EB/WB		CI $6.25M Escambia and Gadsden D $2.00M Holmes	
4				D $1.2M St Lucie SB		$26.03M St Lucie SB		D $0.4M St Lucie NB D $1.9M Broward NB/SB		$29.64M St Lucie NB $29.65M Broward NB/SB	
5	$28.17M Marion NB	$20.12M Sumter NB	$23.50M Brevard (MIMS) SB		D $0.4M Brevard (MIMS) NB	CID $1.0M Brevard (S) NB/SB	$26.62M Brevard (MIMS) NB	CI $5.0M Brevard (S) NB/SB			
Cont	$2.73M	$4.5M	$5.43M	$4.5M	$4.5M	$4.5M	$4.5M	$6.5M	$6.5M	$6.5M	$6.5M
Total	$30.9M	$26.52M	$30.83M	$31.2M	$30.12M	$34.93M	$35.12M	$67.6M	$70.98M	$74.04M	$65.0M
Program		$21.99M	$28.99M	$23.99M	$22.99M	$20.65M	$22.99M	$22.99M	$22.99M	$22.99M	$22.99M
Request		$4.53M	$1.84M	$7.21M	$7.13M	$14.28M	$12.13M	$44.61M	$47.99M	$51.05M	$42.01M

D – Design

CID – Capital Improvement Design

CI – Capital Improvement

Program – Total current WP Funding/Budget

Request- Total needs based request

4.2 Additional Considerations

Additional considerations that should be included in the final site analysis are as follows:

1. Preliminary assessment of the proposed redevelopment appears to justify a Type 1 Categorical Exclusion (CE) environmental document. Potential impacts to nearby mobile home community should be addressed. Public involvement may be required with adjacent community to determine feasibility of the perimeter wall.
2. Fire protection and site access needs will need to be coordinated with the State and local Fire Marshals and emergency responders.
3. Existing offsite water and wastewater utilities should be evaluated to verify capacity is available in the offsite infrastructures to accommodate required site upgrades.
4. Existing building water, wastewater, and power should be evaluated to determine whether temporary restroom facilities will be required to maintain bathroom availability during construction.

5. Stormwater pond sizes provided must be reevaluated using topographic and geotechnical information.
6. The number of truck parking spaces should be maximized to the extent practical within the Work Program budget.
7. The concepts currently include debris storage areas. These should be coordinated with the District Maintenance office regarding size and access.
8. Planning for Electric Vehicle charging stations should be included in the project Mechanical, Electrical, and Plumbing (MEP) and site design.
9. Temporary Traffic Control Plan (TTCP) phasing should be evaluated to verify temporary parking needs.

APPENDIX A

Summary of General Concerns from the Public

Comment Summary

Conducted from March 01, 2019 to March 09, 2022

	Additional Comments Summary (by category)									
	Cleanliness		Functionality		Service/Security		Vending		Other	
	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG
Both NB & SB	18	38	4	20	6	6	0	9	1	2
Percentage	32%	68%	17%	83%	50%	50%	0%	100%	33%	67%

72% of the written comments received from the customer satisfaction survey performed on the St. Lucie I-95 Rest Areas were considered 'negative' and the other 28% were 'positive'.

CLEANLINESS	POS	Overall satisfaction with cleanliness of facilities.
	NEG	Overall bathroom cleanliness/conditions, standing water, urine/fecal matter on floors/surfaces, unflushed toilets, etc.
FUNCTIONALITY	POS	Overall satisfaction with functionality of facilities.
	NEG	No toilet paper, inoperative toilets, sinks and soap dispensers, height of hand dryers, running water, lack of lighting, aging facilities, no wi-fi and charging stations, etc.
SERVICE/SECURITY	POS	Attendants were very helpful and courteous (Justin/Antonio)
	NEG	Attendants/Evening Security were not attentive, combative/threatening, missing.
VENDING	POS	No comments received
	NEG	Multiple complaints of inoperative machines, lost money, no products, etc.
OTHER	POS	Praise of nature-oriented environment.
	NEG	Flooding on grounds during rainfall, etc.

APPENDIX B

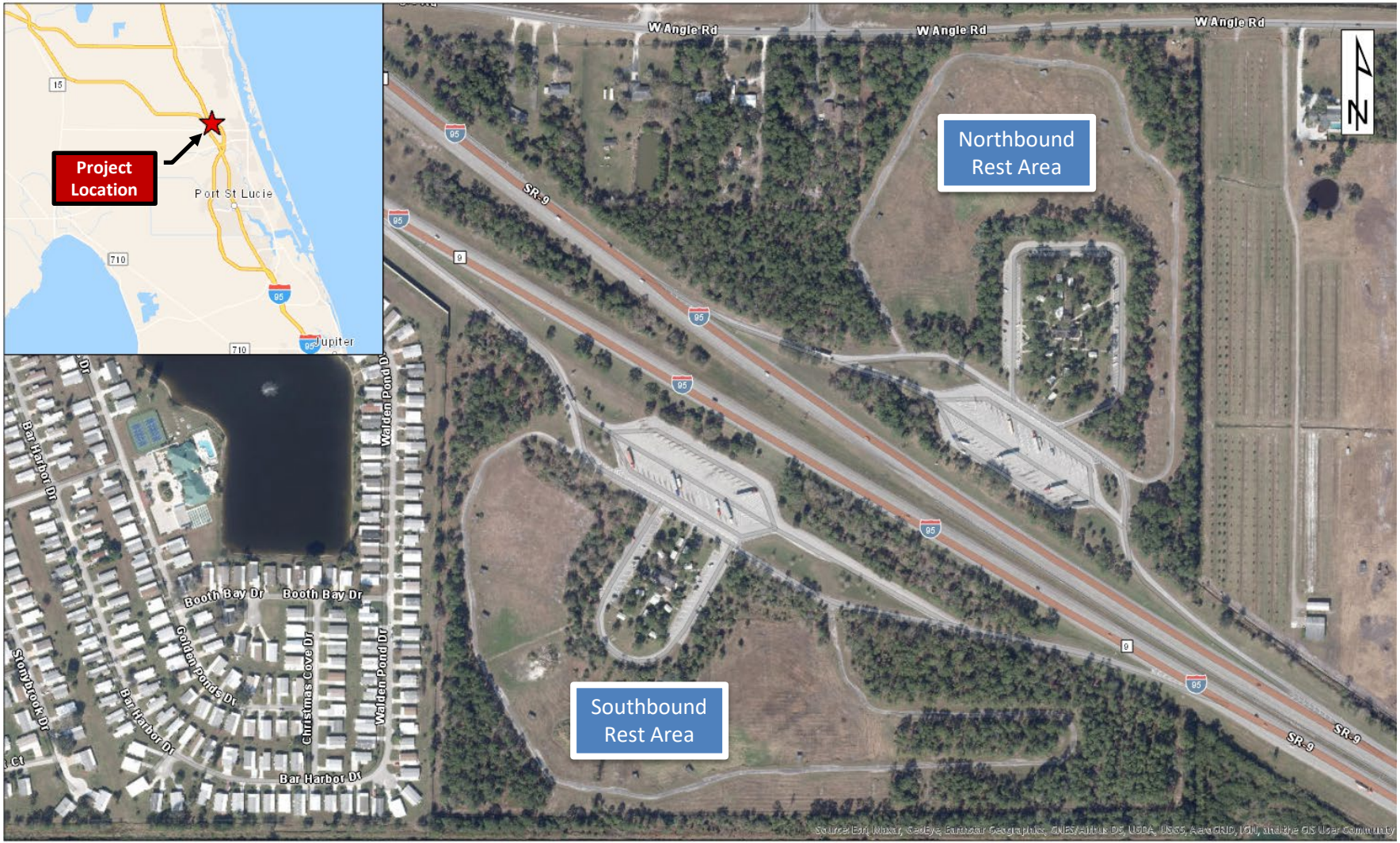
Programmatic Planning Meeting

I-95 Rest Areas in St. Lucie Feasibility Study

FDOT District 4

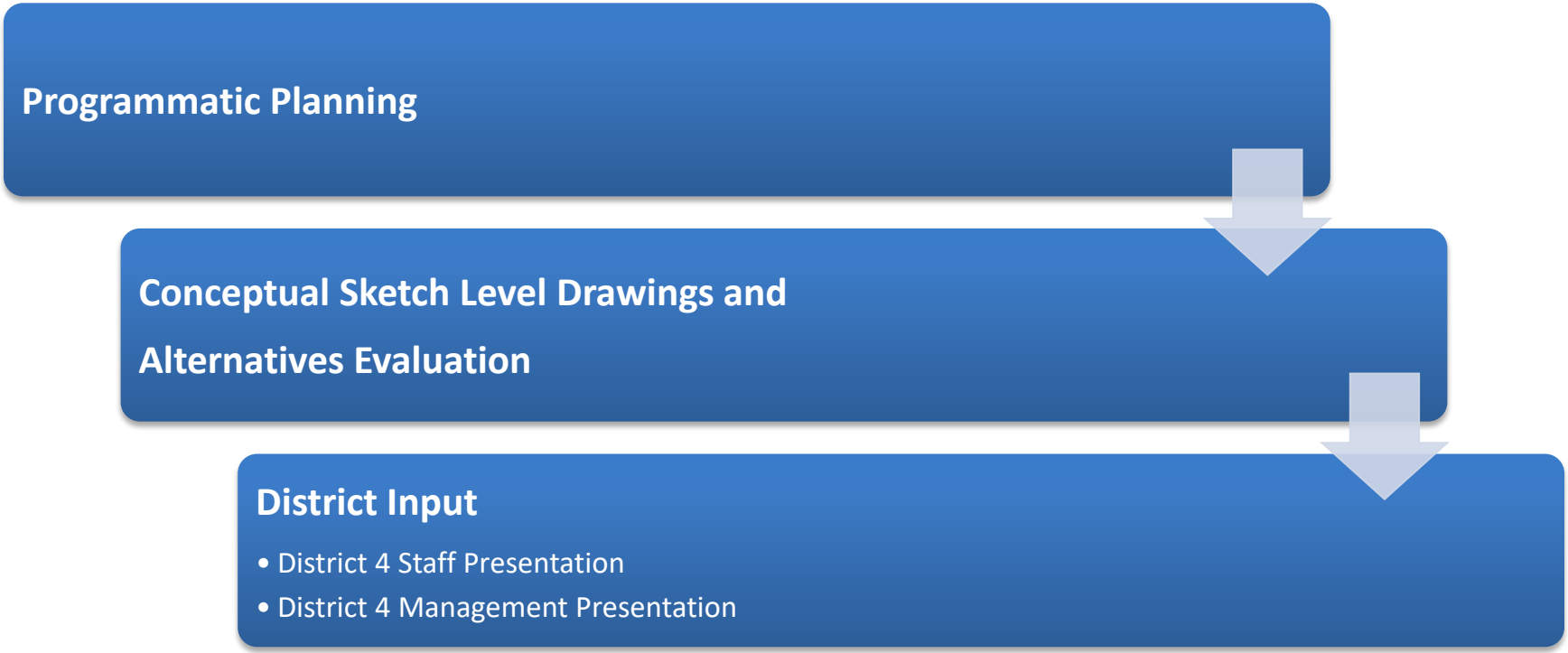
Programmatic Planning Meeting

March 9, 2022


Project Location
Port St Lucie
Jupiter
W Angle Rd
W Angle Rd
W Angle Rd
Northbound Rest Area
Southbound Rest Area
SR-9
SR-9
SR-9
N
Booth Bay Dr
Booth Bay Dr
Bar Harbor Dr
Bar Harbor Dr
Bar Harbor Dr
Golden Ponds Dr
Christmas Cove Dr
Walden Pond Dr
Walden Pond Dr
Stonybrook Dr

Feasibility Study Process

Figure 1: Process Flow Chart



Programmatic Planning

SCOPE

- Data collection
  - Review of the existing reference material and design criteria
  - Review of existing rest area construction plans, maintenance records, surveys, CADD files, general complaints, needs for evacuation/emergency staging and debris storage; and conduct field review
- Review three current FDOT rest area designs that are in planning and construction
- Communications through FDOT District 4 to Central Office to determine updates on the truck parking requirements
- Updates to the “Rest Area Facilities Computation Form” to reflect updated truck parking requirements, if any
- Preparation of a written summary of the Data Collection information
- Preparation of a programmatic planning flow chart, including Site Requirements, conceptual theme color boards to consider for building and site concepts, and general considerations related to the existing site constraints
- Presentation preparation and meeting with FDOT District 4 stakeholders to document direction regarding preparation of elements in the subsequent tasks

Data Collection

- Existing reference material and design criteria
  - FDOT Facilities Design Manual (2010)
  - FDOT Rest Area Long Range Plan
  - Statewide Truck Parking Study

- Existing Site Review
  - As-builts of original rest area design plans
  - Maintenance records or needs for evacuation/emergency staging and debris storage pending
  - Google Earth review and property appraiser
  - On-Site review planned with receipt of pending items
  - Candidate Project Technical Scope

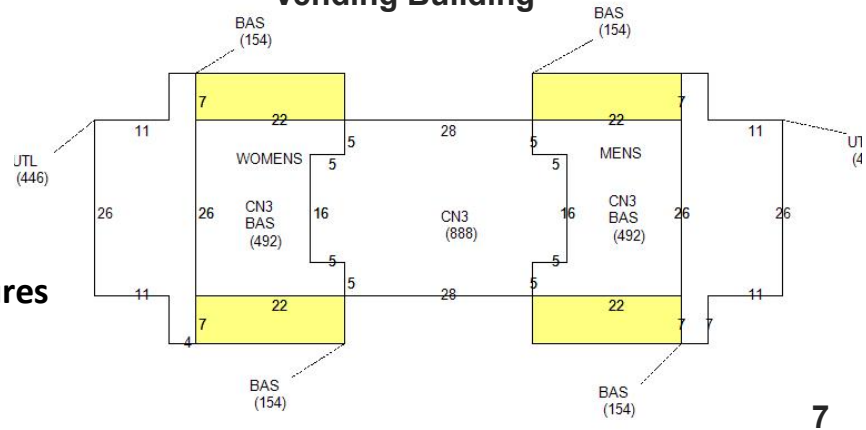
Existing Facility

112.8 Acres Total
(includes I-95 R/W)
~90 Car Spaces
~42 Truck Spaces
Each Side

Existing Facility

Rest Room Building
Year Built 1986, Latest Alterations 2016

Vending Building



Existing Bathroom Fixture Count

- Men's Rest Rooms (each rest area NB & SB):
  - 2 Rooms, 3 urinals, 2 toilets, and 2 sinks = **10 Fixtures**
- Women's Rest Rooms (each rest area NB & SB):
  - 2 Rooms, 5 toilets, and 2 sinks = **10 Fixtures**

Other Rest Area Projects and Guidance

1. Recent FDOT Rest Area Projects
   - District 2; 438608-1-52-01 & 438609-1-52-01; I-10 Rest Areas Reconstruction
   - District 5; 438562-1-52-01; I-75 Rest Area Reconstruction Between CR 484 and SR 200
   - District 7; 437638-1-52-01; I-75 Northbound Rest Area Replacement in southern Hillsborough County

2. Communications through FDOT District 4 to Central Office to determine updates on the truck parking requirements.

   - Provided by District 4 referenced Truck Parking (fdot.gov) web site.
     - Included modeling guidance for calculating parking demand, FDOT District activities and current and upcoming projects.
     - Additional guidance provided for the minimum truck parking requirements listed in the FDOT Facilities Design Manual (2010).

Rest Area Projects Parking Calculations

3. Updates to the "Rest Area Facilities Computation Form" to reflect updated truck parking requirements, if any

- There have been no known updates to the facility design manual parking computation form since 2010
- Generally, the Districts are providing parking in excess of the required. The calculated residence time over the 30-minute standard is listed.

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION — 625-000-10

Rest Areas Facilities Computation Form

PROGRAM MANAGEMENT - 6/91 2

A = 88000 = 20 Year ADT, allow for local commuter traffic
K = 0.09 = Ratio of Design Hourly Volume to ADT (generally 0.135)
D = 0.550 = Directional distribution of Design Hourly Volume (generally 0.6)
T = 13.6 = Percent of overall traffic represented by trucks & Recreational Vehicles (RV's) (generally 0.25)
Insert Factor
Total

B =	**Peak Hourly Directional Traffic (Design Hourly Volume, DHV)**	A x K x D		B=	4419
C =	**Traffic Composition, Peak Hourly Volume**				
	C1 = Cars (100% - T = 86.4 %)	86.4	% x B =	C1=	3818
	C2 = Truck & RVs (T = 13.6 %)	13.6	% x B =	C2=	601
	TOTAL of Cars, Trucks & RVs		C1 + C2 =	C=	4419
D0 =	**Vehicles stopping at Rest Area, Peak Hourly Volume**				
	D1 = Cars	10	% x C1 =	D1=	382
	(a) At rest area near commercial or recreational facilities - 5%				
	(b) At rest area on typical rural route - 10%				
	(c) At welcome centers - 15%				
	D2 = Trucks & RVs - 15%	15	% x C2 =	D2=	90
	TOTAL of Cars, Trucks & RVs		D1 + D2 =	D0=	472
E =	**Parking Spaces, Peak Hourly Volume**				
	E1 = Cars				
	(a) At rest areas - 15 to 20 minutes average stop (0.25 - 0.33hr.)	0.33	% x D1 =	E1=	126
	(b) At welcome centers - 20 to 30 minutes average stop (0.33 - 0.5 hr.)	0.5	x D2 =	E2=	45
	E2 = Trucks & RVs - 30 minutes average stop (0.5 hr.)				
	E2 = Trucks & RVs - 60 minutes average stop (1.0 hr.) Jason's Law Min 30 minutes	**1.0**	**x D2 =**	**E2=**	**90**
F =	**Persons per hour using comfort facilities, Peak Hourly Volume**	2.25	x D0 =	F=	1062
G =	**Toilet and Urinal Fixtures**	0.04	x F = x	G=	42 *
	(a) Men (2.5 minutes average use) (generally 1/3 toilets, 2/3 urinals)	0.5	G =	Men =	21
	(b) Women (3.25 minutes average use)	0.75	x G =	Women =	32

* If this number is uneven, reduce to next lower even number

The above table shows calculations for an example project. Calculations for this project can be found in Appendix C.

New Project Truck Parking Calculations

•Parking Count		D2	D5	D7
•Car	#	42	170	122
•Truck/RV	#	31	101	75
•Truck/RV % Over Required.	%	20% 36 min	30% 39 min	72% 52 min

- District 2; 438608-1-52-01 & 438609-1-52-01; I-10 Rest Areas Reconstruction
- District 5; 438562-1-52-01; I-75 Rest Area Reconstruction Between CR 484 and SR 200
- District 7; 437638-1-52-01; I-75 Northbound Rest Area Replacement in southern Hillsborough County

Truck Parking Residence Time

Literature Review

- FHWA-RD-01-159 Model Development For National Assessment Of Commercial Vehicle Parking (March 2002) purpose was to calculate truck parking demand for rest areas. The report included a driver survey listing approximate times for different activities. This survey was completed before the changes in the driver rest requirements.
- The conclusion of the survey is before the change in the trucking law, the average residence time in rest areas is approximately 0.71 hours (about 45 minutes) for public rest areas.

Table 3. Derivation of the proportion of parking demand for public rest areas and private truck stops.

a. Number of drivers reporting preference for rest areas and truck stops by activity

Activity	Average Time for Activity	Preference for Rest Area	No Preference	Preference for Truck Stop
	(hours)	(# of drivers)	(# of drivers)	(# of drivers)
Restroom	0.25	208	334	222
Eat a meal	1	8	63	668
Quick nap	1	328	287	143
Extended rest	5	47	108	593
Vending machines	0.25	227	400	111
Phones	0.25	138	340	276
Travel information	0.25	85	370	278
Weighted Average		**0.71**	**0.66**	**1.74**

Programmatic Planning

5. Preparation of a programmatic planning flow chart, including Site Requirements, conceptual theme color boards to consider for building and site concepts, and general considerations related to the existing site constraints.

FDOT Criteria.

GENERAL DESIGN GUIDELINES (9/2010)

- Code and Standards
- Design Information
- Site Design Considerations
- Paving
- Drainage
- Lighting
- Parking Space Requirements
- Site Improvements
- Signage
- Building Guidelines
- Toilets
- Vending
- Storage
- Amenities

Programmatic Planning

SITE REQUIREMENTS/CRITERIA

- Parking Dimensions
  - Car
  - Truck
- Picnic Areas
- Maintenance Access
- Buildings (number/types)
- Information Kiosk/Monitors
- Vending Areas
- Security Systems
- Irrigation Requirements
- Value Added Amenities
  - Truck Parking Availability System
  - Playground
  - Walking-Fitness Track
  - Dog Park
  - Bug Washer
  - Electric Vehicles
  - Wi-Fi
  - Text Stop
  - Trooper Station/Office
  - Trash Management
  - LEED
  - Fiber Connect

Minimum 2010 Requirements

EXISTING SITE & MINIMUM D4 CRITERIA		D2	D5	D7	D4
•Parking Count					
•Car	#	42	170	122	190
•Truck/RV	#	31	101	75	46
•Truck/RV % Over Std.	%	20%	30%	72%	0%
•Tandem Spaces	Y/N	Y	N	N	N
•Picnic Areas	Y/N	Y	Y	Y	Y
•Maintenance Access	Y/N	Y			
•Buildings	Y/N	Y	Y	Y	Y
•Female Fixtures	#	24	48	36	45
•Male Fixtures	#	16	32	32	30
•Family Fixtures	#	4	4	4	4
•Information Kiosk/Monitors	Y/N	Y	Y	Y	Y
•Vending Areas	Y/N	Y	Y	Y	Y
•Security Kiosk/Trooper Office	Y/N	Y	Y	Y	Y
•Truck Parking Availability System	Y/N	Y	Y	Y	Y
•Playground	Y/N	N	Y	Y	N
•Dog Park	Y/N	N	Y	Y	Y
•Dumpster Enclosure	Y/N	Y	Y	Y	Planned
•Bug Washer - Truck	Y/N	N	N	N	N
•Bug Washer - Car	Y/N	N	N	N	N
•Electric Vehicles	Y/N	Planned	Planned	Planned	Planned
•Wi-Fi	Y/N	N	Planned	N	Planned
•Text Stop	Y/N	N	N	N	N
•Fiber Connect	Y/N	Y	Y	Y	Y

Next Steps

Pending Data Collection

- Maintenance records, surveys, CADD files, general complaints evacuation/emergency staging and debris storage.

Conceptual Sketch Level Drawings / Alternatives Evaluation (stage 2)

- Prepare preliminary conceptual drawings of three build alternatives
- Review preliminary drawings to obtain preliminary input (FDOT District 4 staff level Virtual Meetings to select two alternatives to advance for more detailed analysis)
- Refine conceptual drawings based on preliminary comments and prepare alternative matrix with preliminary costs of two alternatives
- Prepare summary memorandum of the refined conceptual drawings with alternative matrix
- Submit summary memorandum for FDOT District 4 review (respond to comments)
- Update summary memorandum incorporating review comments

Meeting Notes

Kick-off/Programmatic Planning

Project Description:	I-95 Rest Area in St. Lucie County Feasibility Study
FM No.:	417073-5-22-01
ETDM Contract:	CA130
Consultant Project No.:	215810852
Date/Time:	March 9, 2022
Meeting Platform:	Microsoft Teams

A kickoff/Programmatic Planning meeting was held between the Florida Department of Transportation (FDOT) District 4 (D4) and the project consultant team. The intent of the meeting was to provide an overview of data collection activities to date including the potential programmatic planning for the project.

The following includes a list of the attendees, brief overview of the presentation, and a summary of key questions and statements made during the meeting. These notes reflect our interpretation of the discussions during the meeting. Please notify the author if there are any modifications needed to the meeting notes within ten (10) calendar days from issuance of the meeting notes.

ATTENDEES

The list of attendees is based on the Microsoft Teams attendance report:

Full Name	Representing	Email
Castro, Tony	FDOT D4	antonio.castro@dot.state.fl.us
Davis, Shandra	FDOT D4	shandra.Davis@dot.state.fl.us
Kehres, Kristopher	FDOT D4	kristopher.kehres@dot.state.fl.us
Kareiva, Ronald	FDOT D4	ronald.kareiva@dot.state.fl.us
Martinez, Cesar	FDOT D4	cesar.martinez@dot.state.fl.us
Srivastava, Vikrant	FDOT D4	vikrant.srivastava@dot.state.fl.us
Benitez, Chris	Project Consultant	chris.benitez@stantec.com
Van Der Heyden, Michael	Project Consultant	michael.vanderheyden@stantec.com

PRESENTATION

- The presentation provided an overview of the study approach, data collection activities to date, overview of the potential programmatic planning of the site (i.e., truck parking spaces), and next steps.

NOTES

- Project team to contact Daniel Ochoa who is the new D4 Freight Logistics Coordinator. There may be updated information related to truck parking demand.
- FDOT D4 to provide Treasure Coast Airport Connector Feasibility Study report which includes future traffic demand that accounts for a potential interchange at Oslo Road. The traffic demand may be used to update the truck parking calculations which is based on Annual Average Daily Traffic (AADT) along the limited access facility that the rest area serves (i.e., I-95).

- Project team will include Martin County rest area features in the programmatic planning table.
- Project team will request as-built plans for the Martin County Rest area.
- FDOT D4 has a desire for replacing the facility due to the age of the existing facility and outdated features and site layout. The existing facility has been updated several times already.
- FDOT D4 to provide public comments data for the St. Lucie and Martin county rest areas.
- FDOT D4 would like to maintain an area for hurricane debris storage.
- Project team will share an Oregon Study which included an alternative approach to calculating truck parking spaces.
- Project is programmed for construction in 2028.

ACTION ITEMS

- Project team will contact Daniel Ochoa
- FDOT D4 to provide Treasure Coast Airport Connector Feasibility Study
- Project team will request as-built plans for Martin County Rest area
- FDOT D4 to send public comments about the rest areas to the project team
- Project team will share with FDOT D4 the Oregon study

APPENDIX C

FDOT Rest Area Facilities Computation Form

417073-5 Feasibility Study for SR 9 (I-95) Rest Areas in St. Lucie County
Rest Areas Facilities Computation Form

A = 101000 = 20 Year ADT, allow for local commuter traffic

K = 0.105 = Ratio of Design Hourly Volume to ADT (generally 0.135)

D = 0.573 = Directional distribution of Design Hourly Volume (generally 0.6)

T = 10.1 = Percent of overall traffic represented by trucks & Recreational Vehicles (RV's) (generally 0.25)

Insert Factor

Total

B =	**Peak Hourly Directional Traffic (Design Hourly Volume, DHV)**		A x K x D =	B=	6077
C =	**Traffic Composition, Peak Hourly Volume**				
	C1 = Cars (100% - T = 89.9 %)	89.9	% x B =	C1=	5463
	C2 = Truck & RVs (T = 10.1 %)	10.1	% x B =	C2=	614
	TOTAL of Cars, Trucks & RVs		C1 + C2 =	C=	6077
D0 =	**Vehicles stopping at Rest Area, Peak Hourly Volume**				
	D1 = Cars	10	% x C1 =	D1=	546
	(a) At rest area near commercial or recreational facilities - 5%				
	(b) At rest area on typical rural route - 10%				
	(c) At welcome centers - 15%				
	D2 = Trucks & RVs - 15%	15	% x C2 =	D2=	92
	TOTAL of Cars, Trucks & RVs		D1 + D2 =	D0=	638
E =	**Parking Spaces, Peak Hourly Volume**				
	E1 = Cars				
	(a) At rest areas - 15 to 20 minutes average stop (0.25 - 0.33hr.)	0.33 x D1 =		E1=	180
	(b) At welcome centers - 20 to 30 minutes average stop (0.33 - 0.5 hr.)	0.5 x D2 =		E2=	46
	E2 = Trucks & RVs - 30 minutes average stop (0.5 hr.)				
	E2 = Trucks & RVs - Existing Parking Spaces			**E2=**	**42**
F =	**Persons per hour using comfort facilities, Peak Hourly Volume**	2.25	x D0 =	F=	1505
G =	**Toilet and Urinal Fixtures**	0.04	x F = x	G=	60*
	(a) Men (2.5 minutes average use) (generally 1/3 toilets, 2/3 urinals)	0.5	G =	Men =	30
	(b) Women (3.25 minutes average use)	0.75	x G =	Women =	45

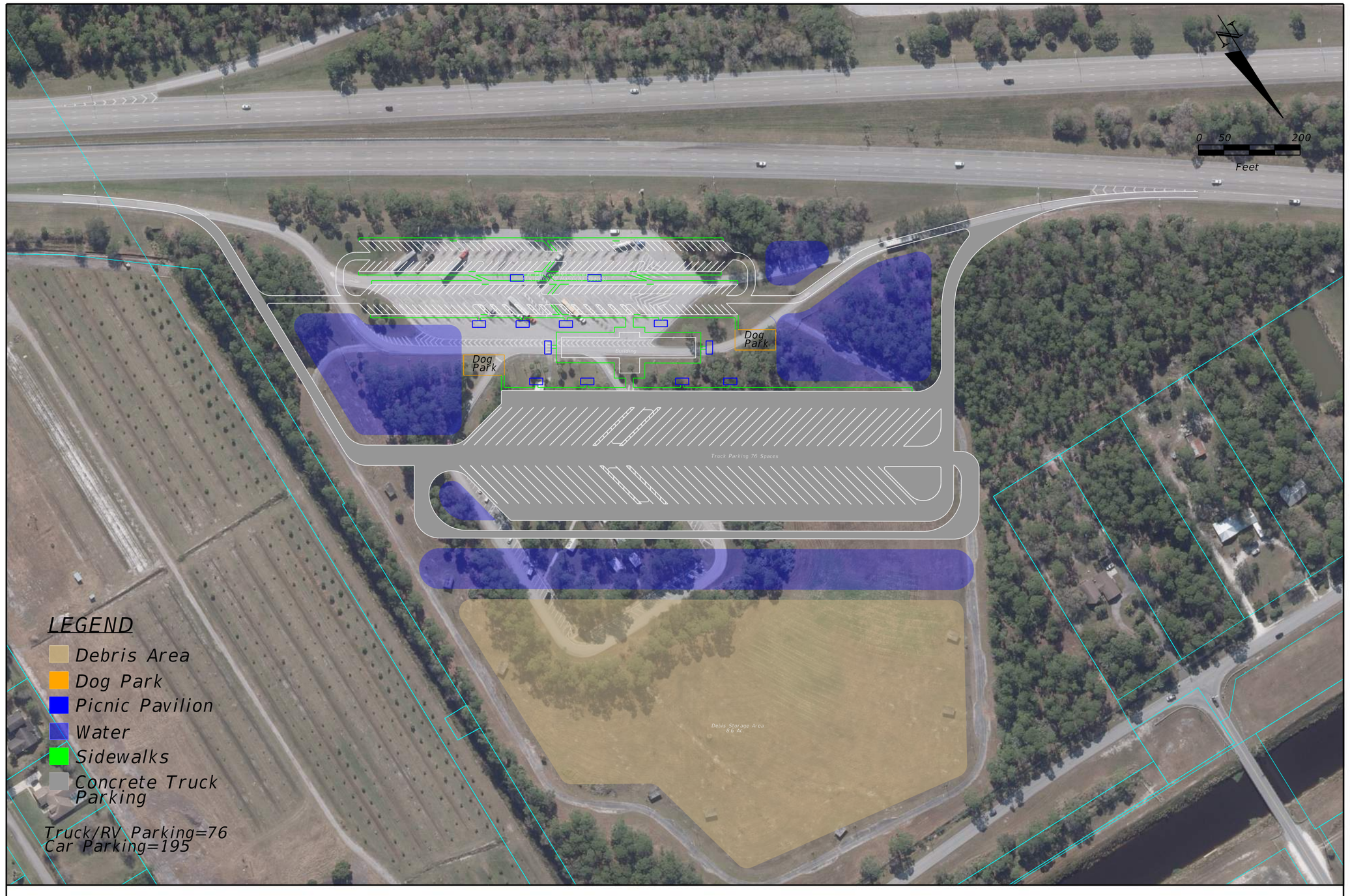
** If this number is uneven, reduce to next lower even number*

APPENDIX D

Alternative Conceptual Drawings

Stantec

I-95 St. Lucie Rest Area
Northbound 1A



Stantec

I-95 St. Lucie Rest Area
Northbound 1B

Stantec

I-95 St. Lucie Rest Area
Northbound 1C

Stantec

I-95 St. Lucie Rest Area
Southbound 2A

Stantec

I-95 St. Lucie Rest Area
Southbound 2B

Stantec

I-95 St. Lucie Rest Area
Southbound 2C

APPENDIX E

Cost Estimates

Feasibility Study for SR 9 (I-95) Rest Areas in St. Lucie County
Financial Project Number: 417073-5-22-01

Amenity/Cost Comparison		Northbound			Southbound		
SITE REQUIREMENTS/CRITERIA		**Large**	**Medium**	**Small**	**Large**	**Medium**	**Small**
•Parking Count		**1A**	**1B**	**1C**	**2A**	**2B**	**2C**
•Car	#	195	195	195	195	195	195
•Truck/RV	#	101	76	47	101	76	47
•Truck/RV % Over Std.	%	120%	65%	2%	120%	65%	2%
•Tandem Spaces	Y/N	N	N	N	N	N	N
•Debris Storage	AC	7.1	8.6	10.97	5.76	9.66	9.66
•Picnic Areas	Y/N	Planned	Planned	Planned	Planned	Planned	Planned
•Maintenance Access	Y/N	N	N	N	N	N	N
•Buildings	Y/N	Planned	Planned	Planned	Planned	Planned	Planned
•Female Fixtures	#	42	42	42	42	42	42
•Male Fixtures	#	28	28	28	28	28	28
•Family Fixtures	#	4	4	4	4	4	4
•Information Kiosk/Monitors	Y/N	Y	Y	Y	Y	Y	Y
•Vending Areas	Y/N	Y	Y	Y	Y	Y	Y
•Security Kiosk/Trooper Office	Y/N	Y	Y	Y	Y	Y	Y
•Truck Parking Availability System	Y/N	Y	Y	Y	Y	Y	Y
•Playground	Y/N	N	N	N	N	N	N
•Dog Park	Y/N	Y	Y	Y	Y	Y	Y
•Dumpster Enclosure	Y/N	Planned	Planned	Planned	Planned	Planned	Planned
•Bug Washer - Truck	Y/N	N	N	N	N	N	N
•Bug Washer - Car	Y/N	N	N	N	N	N	N
•Electric Vehicles	Y/N	Planned	Planned	Planned	Planned	Planned	Planned
•Wi-Fi	Y/N	Planned	Planned	Planned	Planned	Planned	Planned
•Text Stop	Y/N	N	N	N	N	N	N
•Fiber Connect	Y/N	Y	Y	Y	Y	Y	Y
COSTS							
Base Cost		$20,047,304.60	$17,295,245.60	$15,791,619.02	$20,235,062.83	$17,483,003.83	$15,979,377.24
Toilet Trailer		$623,029.82	$623,029.82	$623,029.82	$623,029.82	$623,029.82	$623,029.82
Temporary Parking		$4,211,980.50	$4,211,980.50	$4,211,980.50	$4,211,980.50	$4,211,980.50	$4,211,980.50
Perimeter wall (SB ONLY)					$588,516.00	$588,516.00	$588,516.00
Acceleration Lane Extension		Pvmt & Bridge	Pvmt & Bridge	Pvmt & Bridge	Pvmt Only	Pvmt Only	Pvmt Only
		$1,759,858.00	$1,759,858.00	$1,759,858.00	$382,896.31	$382,896.31	$382,896.31
TOTAL COST		$26,642,172.92	$23,890,113.92	$22,386,487.34	**$26,041,485.46**	**$23,289,426.46**	**$21,785,799.88**

APPENDIX F
ALTERNATE SITE PLAN AND LRE ESTIMATE

Date: 6/26/2023 3:04:50 PM

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 449961-1-52-01 **Letting Date:** 07/2028

Description: SR-9 (I-95) ST LUCIE SOUTHBOUND REST AREA

District: 04 **County:** 94 ST. LUCIE **Market Area:** 11 **Units:** English

Contract Class: 7 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 1.080 MI

Project Manager: WILLIAMS, D

Version 5 Project Grand Total **$26,076,517.27**

Description: Modified to Work Program amount. $26.03 million (6/26/2023)

Sequence: 1 MIS - Miscellaneous Construction **Net Length:** 0.000 MI 0 LF

Description: RISK & Contingency

Sequence 1 Total	$0.00

An alternate site plan and estimate to meet the intent of the $26.03 million work program.

The alternate site plan shows a future expansion truck parking area should the need or funding becomes available. The site was reduced to meet the intent of the work program.

1)The concrete truck parking area was reduced to a provide a total of 77 spaces which is 65% over the minimum number of spaces calculated in the Rest Area Facilities Computation Form. This alternative provides the capacity equivalent to the medium sized rest are design.

2)The RV/Bus parking area was expanded to maintain the existing number of truck parking spaces which will be shared between the Bus/RV needs.

3)The area exclusive to truck parking now is showing an future expansion area of 38 spaces. The site should be designed assuming this area will be included when the need or funding becomes available.

4) A Traffic Control maintenance of parking concept was developed to determine the temporary parking needs. The concept shows that only car parking is needed, thus reducing the temporary throwaway cost.

St. Lucie Rest Area

Alternate Site Plan

FUTURE EXPANSION 38 SPACES

Truck Parking 76 Spaces

Parking 182 Spaces (Including 10 Handicap Spaces)

Style13

Dog Walk

Building

RV/BUS - 19 SPACES
TRUCK - 20 SPACES

TOTALS
RV/BUS - 19 SPACES
TRUCK - 58 SPACES

Google Earth

N

400 ft

St. Lucie Rest Area

TTCP Concept

PHASE 1

Truck Parking 76 Spaces

Building

Temp Car Parking

Google Earth

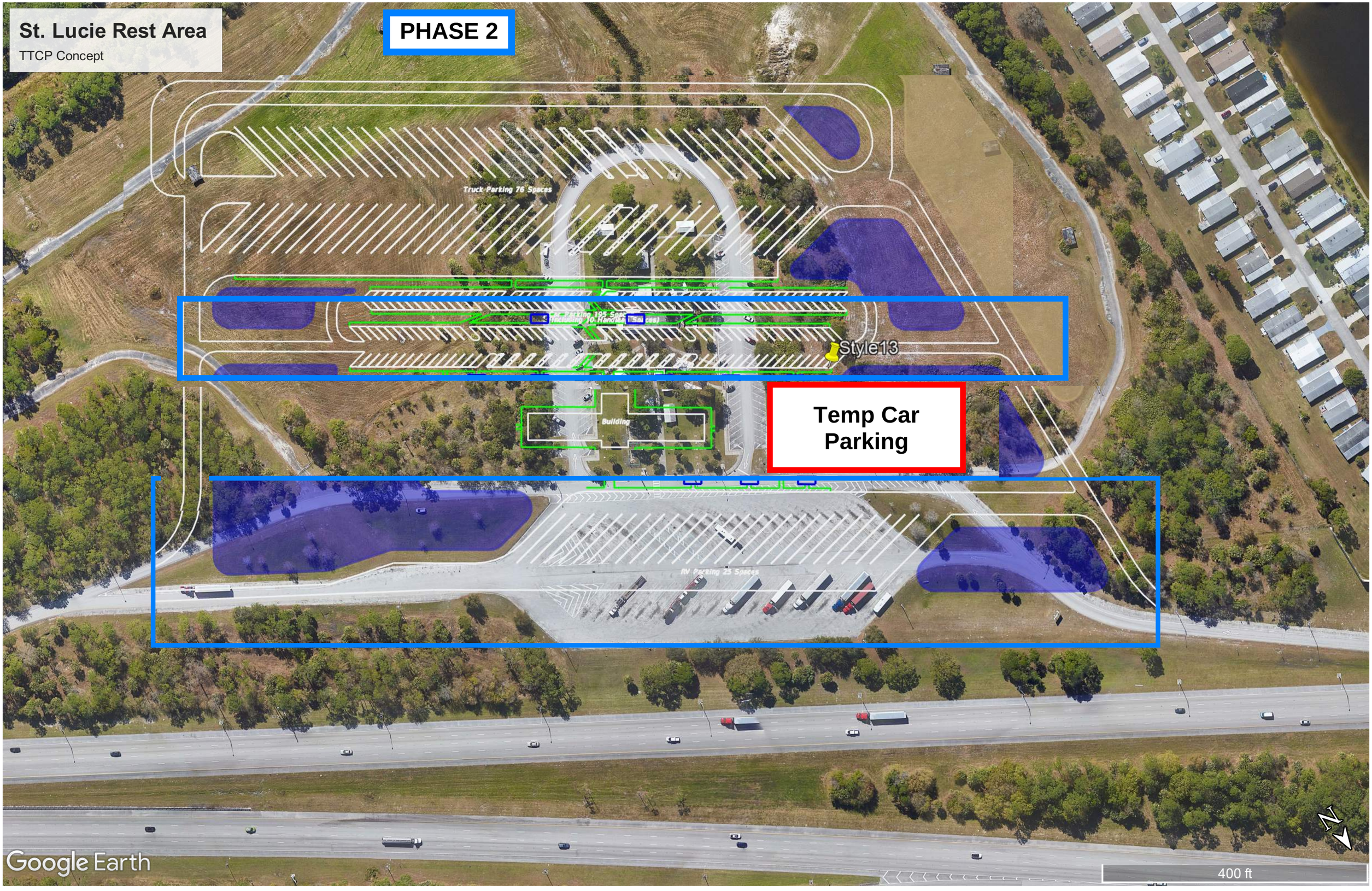
400 ft

N

St. Lucie Rest Area

TTCP Concept

PHASE 2



Temp Car Parking

Sequence: 2 MIS - Miscellaneous Construction **Net Length:** 0.000 MI 0 LF

Description: SB Rest Area - Entire Site

Special Conditions: Includes Site Preparation - Clearing & Grubbing, Parking Striping for entire SB Rest Area, ADA Compatible Toilet Trailers. Pond C&G included in overall site acreage.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.00

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	66.25	AC	$20,000.00	$1,325,000.00
	Comment: Entire Southbound Rest Area (from R/W to R/W and including Ramps)				
120-1	REGULAR EXCAVATION	40,000.00	CY	$12.00	$480,000.00
120-6	EMBANKMENT	20,820.00	CY	$14.25	$296,685.00
	Comment: Assume 2 ft increase along ramps, parking, building. Building+Parking = 2723 SY + 26756 SY = 29479 CY Ramp (1) = 1967 SY * .5 * 1 YD = 983.5 CY Ramp (2) = 1534 SY * .5 * 1 YD = 767 CY				
	Earthwork Component Total				$2,101,685.00

ROADWAY COMPONENT

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
711-11-102	THERMOPLASTIC, STD, WHITE, SOLID, 8"	3.40	GM	$7,500.00	$25,500.00
711-11-103	THERMOPLASTIC, STD, WHITE, SOLID, 12"	3.40	GM	$10,000.00	$34,000.00
711-11-124	THERMOPLASTIC, STD, WHITE, SOLID, 18"	340.00	LF	$4.50	$1,530.00
711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	170.00	LF	$5.50	$935.00
711-11-141	THERMOPLASTIC, STD, WHITE, DOT GUIDE, 6"	1.70	GM	$2,000.00	$3,400.00
711-11-160	THERMOPLASTIC, STD, WHITE, MESSAGE	17.00	EA	$125.00	$2,125.00
711-11-170	THERMOPLASTIC, STD, WHITE, ARROW	17.00	EA	$85.00	$1,445.00
711-11-180	THERMOPLASTIC, STD, WHITE, YIELD LINE	150.00	LF	$7.00	$1,050.00
711-11-224	THERMOPLASTIC, STD, YELLOW, SOLID, 18"	150.00	LF	$4.50	$675.00
711-11-421	THERMOPLASTIC, STD, BLUE, SOLID,6"	675.00	LF	$6.00	$4,050.00
	Comment: Handicap Parking Stalls				
	Roadway Component Total				$74,710.00

DRAINAGE COMPONENT

Retention Basin 1

Description	Value

Size	2 AC
Multiplier	2
Depth	6.00
Description	Wet Pond 3.4 NW quadrant of interchange

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	38,720.00	CY	$12.00	$464,640.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00	EA	$6,500.00	$13,000.00
425-2-71	MANHOLES, J-7, <10'	2.00	EA	$9,500.00	$19,000.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	112.00	LF	$300.00	$33,600.00
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	$750.00	$300,000.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	2,360.00	LF	$30.00	$70,800.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	$4,500.00	$9,000.00
570-1-1	PERFORMANCE TURF	19,360.00	SY	$3.50	$67,760.00

Retention Basin 2

Description	Value
Size	1 AC
Multiplier	2
Depth	3.00
Description	

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	9,680.00	CY	$12.00	$116,160.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00	EA	$6,500.00	$13,000.00
425-2-71	MANHOLES, J-7, <10'	2.00	EA	$9,500.00	$19,000.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	112.00	LF	$300.00	$33,600.00
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	$750.00	$300,000.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,680.00	LF	$30.00	$50,400.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	$4,500.00	$9,000.00
570-1-1	PERFORMANCE TURF	9,680.00	SY	$3.50	$33,880.00
	Drainage Component Total				$1,552,840.00

MISCELLANEOUS COMPONENT

EX-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
TOILETS	TOILET TRAILER (ADA COMPATIBLE)	48.00	1	$7,315.63	$351,150.24
	Comment: Price for 1 trailer, 2 needed to match current facilities. Estimate 24 mo. for Const. (2x24=48) One time Setup fee: $750 Monthly Rental: $4000 Monthly Cleanout: $ 2700 Monthly Env. fee: $600				
	Miscellaneous Component Total				$351,150.24

Sequence 2 Total	$4,080,385.24

Sequence: 3 MIS - Miscellaneous Construction **Net Length:** 0.050 MI 264 LF

Description: SB Rest Area - Concrete Truck Parking

Special Conditions: Assume 2.28 acres 11,035 SY) of concrete pavement for future parking area expansion.

ROADWAY COMPONENT

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	22,091.00	SY	$8.50	$187,773.50
	Comment: Truck parking area 2.28 acres (22,091 SY) (18488.89 SY including expansion)				
285-701	OPTIONAL BASE,BASE GROUP 01	22,091.00	SY	$20.00	$441,820.00
	Comment: Truck parking area 2.28 acres (22,091 SY) (18488.89 SY including expansion)				
350-3-9	PLAIN CEMENT CONC PAVT, 10"	22,091.00	SY	$90.00	$1,988,190.00
	Comment: Truck parking area 2.28 acres (22,091 SY) (18488.89 SY including expansion)				
350-5	CLEANING & SEALING JOINTS - CONC PVMT	29,130.00	LF	$3.00	$87,390.00
	Comment: 2.2 x (SB Truck Parking: 212'x707'. Joints spaced at 15'. 212/15 = 14 joints. 707/15 = 47 joints. 47x212' = 9964LF. 14*707' = 9898LF; 9964+9898=19862) Reduced by 2/3				
	Roadway Component Total				$2,705,173.50

SHOULDER COMPONENT

User Input Data

Description	Value

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	4,600.00	LF	$25.00	$115,000.00
	Comment: Curb & gutter around building footprint for truck lot. 2*1600LF + 2*700LF				
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	2,844.00	SY	$50.00	$142,200.00
	Comment: Sidewalk around building footprint. 4266LF x 6' wide sidewalk / 9.				
	Shoulder Component Total				$257,200.00

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-1	CONC CLASS II, CULVERTS	80.00	CY	$2,500.00	$200,000.00
425-1-351	INLETS, CURB, TYPE P-5, <10'	8.00	EA	$7,000.00	$56,000.00
425-1-451	INLETS, CURB, TYPE J-5, <10'	4.00	EA	$10,000.00	$40,000.00
425-1-521	INLETS, DT BOT, TYPE C, <10'	4.00	EA	$6,500.00	$26,000.00
425-2-41	MANHOLES, P-7, <10'	4.00	EA	$6,500.00	$26,000.00
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	1,600.00	LF	$100.00	$160,000.00

430-174-136	PIPE CULV, OPT MATL, ROUND,36"SD	104.00 LF	$250.00	$26,000.00
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	3.00 EA	$3,000.00	$9,000.00
570-1-1	PERFORMANCE TURF	2,200.00 SY	$3.50	$7,700.00
	Drainage Component Total			$550,700.00

Sequence 3 Total $3,513,073.50

Sequence: 4 MIS - Miscellaneous Construction **Net Length:** 0.050 MI 264 LF

Description: SB Rest Area - Asphalt Car Parking

ROADWAY COMPONENT

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	10,746.00	SY	$8.50	$91,341.00
285-709	OPTIONAL BASE,BASE GROUP 09	10,746.00	SY	$25.00	$268,650.00
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,364.00	TN	$165.00	$225,060.00
	Comment: 1.3 x Car area: 8266.67SY * 330LB/SY / 2000LB = 1364 TN				
	Roadway Component Total				$585,051.00

SHOULDER COMPONENT

User Input Data

Description	Value

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,800.00	LF	$25.00	$70,000.00
	Comment: Curb & gutter around building footprint for car lot.				
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	500.00	SY	$50.00	$25,000.00
	Comment: Sidewalk around building footprint. 750LF x 6' wide sidewalk / 9.				
	Shoulder Component Total				$95,000.00

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-1	CONC CLASS II, CULVERTS	80.00	CY	$2,500.00	$200,000.00
425-1-351	INLETS, CURB, TYPE P-5, <10'	8.00	EA	$7,000.00	$56,000.00
425-1-451	INLETS, CURB, TYPE J-5, <10'	4.00	EA	$10,000.00	$40,000.00
425-1-521	INLETS, DT BOT, TYPE C, <10'	4.00	EA	$6,500.00	$26,000.00
425-2-41	MANHOLES, P-7, <10'	4.00	EA	$6,500.00	$26,000.00
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	1,600.00	LF	$100.00	$160,000.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	104.00	LF	$375.00	$39,000.00
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	3.00	EA	$3,000.00	$9,000.00
570-1-1	PERFORMANCE TURF	2,200.00	SY	$3.50	$7,700.00
	Drainage Component Total				$563,700.00

Sequence 4 Total $1,243,751.00

Sequence: 5 MIS - Miscellaneous Construction **Net Length:** 0.050 MI 264 LF

Description: SB Rest Area - Asphalt RV Parking

Special Conditions: ALTERNATE: ASSUME expansion of existing truck area to a total of 2.77 acres. (Current = 2.4 acres. Total existing 2.77 acres. Difference 0.37 acres or add 1791 SY to total) Total = 11530+1791=13312 SY

ROADWAY COMPONENT

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	1,332.00	SY	$8.50	$11,322.00
285-709	OPTIONAL BASE,BASE GROUP 09	1,332.00	SY	$25.00	$33,300.00
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	2,167.00	TN	$165.00	$357,555.00
	Roadway Component Total				$402,177.00

SHOULDER COMPONENT

User Input Data

Description	Value

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	800.00	LF	$25.00	$20,000.00
	Shoulder Component Total				$20,000.00

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-1	CONC CLASS II, CULVERTS	80.00	CY	$2,500.00	$200,000.00
425-1-351	INLETS, CURB, TYPE P-5, <10'	8.00	EA	$7,000.00	$56,000.00
425-1-451	INLETS, CURB, TYPE J-5, <10'	4.00	EA	$10,000.00	$40,000.00
425-1-521	INLETS, DT BOT, TYPE C, <10'	4.00	EA	$6,500.00	$26,000.00
425-2-41	MANHOLES, P-7, <10'	4.00	EA	$6,500.00	$26,000.00
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	1,600.00	LF	$100.00	$160,000.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	104.00	LF	$375.00	$39,000.00
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	3.00	EA	$3,000.00	$9,000.00
570-1-1	PERFORMANCE TURF	2,200.00	SY	$3.50	$7,700.00
	Drainage Component Total				$563,700.00

Sequence 5 Total $985,877.00

Sequence: 6 MIS - Miscellaneous Construction **Net Length:** 0.050 MI 264 LF

Description: SB Rest Area - Ramps

ROADWAY COMPONENT

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	3,500.00	SY	$8.50	$29,750.00
	Comment: Ramp areas (1966.67 SY + 1533.33 SY)				
285-709	OPTIONAL BASE,BASE GROUP 09	3,500.00	SY	$25.00	$87,500.00
	Comment: Ramp areas (1966.67 SY + 1533.33 SY)				
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	288.75	TN	$165.00	$47,643.75
	Comment: Ramp area: 3500SY * 165LB/SY / 2000LB = 288.75 TN				
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	288.75	TN	$225.00	$64,968.75
	Comment: Ramp area: 3500SY * 165LB/SY / 2000LB = 288.75 TN				
	Roadway Component Total				$229,862.50

Sequence 6 Total $229,862.50

Sequence: 7 MIS - Miscellaneous Construction **Net Length:** 0.000 MI 0 LF

Description: SB Rest Area - Landscaping and Irrigation

LANDSCAPING COMPONENT

User Input Data

Description	Value
Component Detail	Y

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
580-1-1	LANDSCAPE COMPLETE (SMALL PLANTS)	1.00	LS	$36,903.33	$36,903.33
580-1-2	LANDSCAPE COMPLETE (LARGE PLANTS)	1.00	LS	$9,204.00	$9,204.00
590-70	IRRIGATION SYSTEM	1.00	LS	$30,096.69	$30,096.69
	Landscaping Component Total				$76,204.02

Sequence 7 Total $76,204.02

Sequence: 8 MIS - Miscellaneous Construction **Net Length:** 0.000 MI 0 LF

Description: SB Rest Area - Building Replacement

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.00

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00	AC	$20,000.00	$40,000.00
	Comment: Demolition of existing rest area structure. 3000sqft @ $15.00/sqft = $40k. Additional Clearing and Grubbing for building due to Environmental Factors/Risk.				
	Earthwork Component Total				$40,000.00

ROADWAY COMPONENT

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	3,912.00	SY	$50.00	$195,600.00
	Comment: Building Site Sidewalks				
	Roadway Component Total				$195,600.00

ARCHITECTURAL COMPONENT

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
750-1-11	ARCH, BUILDING, NEW, REST AREA	12,000.00	SF	$436.69	$5,240,280.00
	Comment: Rest Area Structure = 12,000 SF @ $175.00/sqft. Rest Area Build Out/Finishes = 12,200 SF @ $45.00/sqft.				
750-1-19	ARCH, BUILDING, NEW, OTHER BUILDING	5,000.00	SF	$100.00	$500,000.00
	Comment: Picnic Pavilion/Overhang - Attached = 5,000 SF @ $40.00/sqft.				
	Architectural Component Total				$5,740,280.00

UTILITIES COMPONENT

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
1050-42-208	UTILITY PIPE- HDPE, F&I, WATER/SEW, 8"	8,800.00	LF	$65.00	$572,000.00
	Comment: New 8" Sanitary Sewer Line				
1060-16	UTILITY STR,BLW GRN,R&D,CONT OWNS	1.00	EA	$2,500.00	$2,500.00
	Comment: Removal of existing pump station.				
1501-1	LIFT STATION, SANITARY SEWER	1.00	EA	$200,000.00	$200,000.00

Comment: Replacement of existing pump station.

EX-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
1060-26	UTILITY STRUCTURE- ABOVE GROUND, REMOVE & DISPOSE	1.00	EA	$5,000.00	$5,000.00
	Comment: Removal of existing pump station.				
JACKBORE	JACK & BORE - 8" PIPE	1,200.00	LF	$500.00	$600,000.00
	Comment: Jack and Bore 8" Sanitary Sewer Line under I-95 2 for water line, 1 for sanitary. (3*400LF=1200 LF				
	Utilities Component Total				$1,379,500.00

Sequence 8 Total $7,355,380.00

Sequence: 9 MIS - Miscellaneous Construction **Net Length:** 0.000 MI 0 LF

Description: SB Rest Area - Truck Parking Availability System

Special Conditions: Include removal of existing TPAS system and replacement/integration with existing ITS backbone along I-95

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	1.00	AS	$12,500.00	$12,500.00

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-2-60	MULTI- POST SIGN, REMOVE	1.00	AS	$950.00	$950.00
700-7-132	EMBED DYNAMIC MESS SIGN, F&I, FULL,12-20	1.00	EA	$45,000.00	$45,000.00
700-7-600	EMBED DYNAMIC MESS SIGN, REMOVE	1.00	EA	$5,000.00	$5,000.00
	Signing Component Total				$63,450.00

SIGNALIZATIONS COMPONENT

Signalization 1

Description	Value
Type	Miscellaneous
Multiplier	1
Description	Poles associated with TPAS

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
639-6-1	ELECTRICAL POWER SERVICE-TRANSF, F&I	2.00	EA	$4,500.00	$9,000.00
641-2-12	PREST CNC POLE,F&I,TYP P-II SRV POLE	2.00	EA	$3,000.00	$6,000.00
641-2-13	PREST CNC POLE,F&I,TYP P-III	2.00	EA	$6,000.00	$12,000.00
641-2-60	PREST CNC POLE, REMOVE	2.00	EA	$750.00	$1,500.00
641-2-80	PREST CNC POLE, REMOVE COMPLETE	1.00	EA	$4,500.00	$4,500.00
641-3-163	CONCRETE CCTV POLE, FUR & INS W/LOW	1.00	EA	$30,000.00	$30,000.00
641-3-800	CONCRETE CCTV POLE, REMOVE	1.00	EA	$6,500.00	$6,500.00
660-5-63	VEHICLE DETECTION SYSTEM- W MAG, REM MAG	136.00	EA	$75.00	$10,200.00
676-2-121	ITS CABINET- F&I, POLE, 336	2.00	EA	$6,500.00	$13,000.00
676-3-10	SMALL EQUIPMENT ENCLOSURE, F&I,>10X13X11	1.00	EA	$1,250.00	$1,250.00
685-1-12	UPS, F&I, ONLINE DOUBLE CONVERSION	2.00	EA	$5,500.00	$11,000.00
	Signalizations Component Total				$104,950.00

INTELLIGENT TRAFFIC SYSTEM (ITS) COMPONENT

Description of Work

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	2,000.00	LF	$10.85	$21,700.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	5,000.00	LF	$30.00	$150,000.00
630-2-14	CONDUIT, F& I, ABOVEGROUND	100.00	LF	$50.00	$5,000.00
633-1-121	FIBER OPTIC CABLE, F&I, UG,2-12	7,700.00	LF	$4.50	$34,650.00
633-1-620	FIBER OPTIC CABLE, REM, UG	2,000.00	LF	$1.25	$2,500.00
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	8.00	EA	$70.00	$560.00
633-3-11	FIBER OPTIC CONN HDWR, SPLICE ENCLOSURE	4.00	EA	$1,250.00	$5,000.00
633-3-12	FIBER OPTIC CONN HDWR, SPLICE TRAY	10.00	EA	$80.00	$800.00
633-3-15	FIBER OPTIC CONN HDWR, PRETERM PATCH PAN	4.00	EA	$2,500.00	$10,000.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	6.00	EA	$998.58	$5,991.48
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36"	6.00	EA	$3,500.00	$21,000.00
635-2-13	PULL & SPLICE BOX, F&I, 30" X 60" OR 36"	2.00	EA	$6,250.00	$12,500.00
639-2-1	ELECTRICAL SERVICE WIRE, F&I	1,500.00	LF	$8.50	$12,750.00
639-2-6	ELECTRICAL SERVICE WIRE, REMOVE	1,200.00	LF	$1.00	$1,200.00
639-3-11	ELEC SERV DISCON, F&I, POLE MNT	1.00	EA	$3,500.00	$3,500.00
639-3-60	ELEC SERV DISCON, REMOVE	2.00	EA	$450.00	$900.00
660-5-11	VEHICLE DETECTION SYSTEM- W MAG, CAB EQU	1.00	EA	$7,500.00	$7,500.00
660-5-12	VEHICLE DETECTION SYSTEM- W MAG, AG EQUI	8.00	EA	$6,500.00	$52,000.00
660-5-13	VEHICLE DETECTION SYSTEM- W MAG, IN-ROAD	116.00	EA	$1,250.00	$145,000.00
676-2-600	ITS CABINET- REMOVE	1.00	EA	$850.00	$850.00
682-1-113	ITS CCTV CAMERA, F&I, DOME ENCL-PRESS	2.00	EA	$8,000.00	$16,000.00
682-1-600	ITS CCTV CAMERA, REM0VE & DISPOSAL	2.00	EA	$550.00	$1,100.00
684-1-1	MANAGED FIELD ETHERNET SWITCH, F&I	2.00	EA	$4,500.00	$9,000.00
684-5-1	MEDIA CONVERTER, FURNISH & INSTALL	2.00	EA	$1,150.00	$2,300.00
	Intelligent Traffic System (ITS) Component Total				$521,801.48

Sequence 9 Total $690,201.48

Sequence: 10 MIS - Miscellaneous Construction **Net Length:** 0.000 MI 0 LF

Description: SB Rest Area - Lighting/Electrical

Special Conditions: Includes all components for a new lighting system that will be required to provide an average initial illuminance of 1.5 fc for all exterior areas of the rest area as indicated in the FDM. The estimate number of light poles was calculated using a post top LED luminaire, type 4, 34400 lumens, mounted at 40' high

SIGNALIZATIONS COMPONENT

Signalization 1

Description	Value
Type	Miscellaneous
Multiplier	1
Description	

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
641-2-12	PREST CNC POLE,F&I,TYP P-II SRV POLE	1.00	EA	$3,000.00	$3,000.00
	Signalizations Component Total				$3,000.00

LIGHTING COMPONENT

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	6,000.00	LF	$30.00	$180,000.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	72.00	EA	$998.58	$71,897.76
639-1-121	ELECTRICAL POWER SRV,F&I, UG,FUR BY POWE	1.00	AS	$5,000.00	$5,000.00
715-1-12	LIGHTING CONDUCTORS, F&I, INSUL,NO.8-6	45,000.00	LF	$4.00	$180,000.00
715-1-60	LIGHTING CONDUCTORS,R&D, CONT OWNS	40,000.00	LF	$0.35	$14,000.00
715-7-11	LOAD CENTER, F&I, SECONDARY VOLTAGE	1.00	EA	$17,500.00	$17,500.00
715-7-41	LOAD CENTER, REMOVE, SECONDARY VOLTAGE	1.00	EA	$1,150.00	$1,150.00
715-61-300	LIGHT POLE CMPLT,STD,F&I, 40'MH, 0'ARM L	75.00	EA	$9,000.00	$675,000.00
715-69-000	LIGHT POLE COMPLETE, REMV POLE AND FND	32.00	EA	$900.00	$28,800.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	75.00	EA	$750.00	$56,250.00
	Lighting Component Total				$1,229,597.76

Sequence 10 Total $1,232,597.76

Sequence: 11 MIS - Miscellaneous Construction **Net Length:** 0.000 MI 0 LF

Description: SB Rest Area - Signing

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	25.00	AS	$425.00	$10,625.00
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	25.00	AS	$1,250.00	$31,250.00
700-1-60	SINGLE POST SIGN, REMOVE	50.00	AS	$40.00	$2,000.00
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	10.00	AS	$6,500.00	$65,000.00
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	10.00	AS	$8,500.00	$85,000.00
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	10.00	AS	$12,500.00	$125,000.00
700-2-60	MULTI- POST SIGN, REMOVE	30.00	AS	$950.00	$28,500.00
	Signing Component Total				$347,375.00

Sequence 11 Total $347,375.00

Sequence: 12 MIS - Miscellaneous Construction **Net Length:** 0.050 MI 264 LF

Description: NB Rest Area - Temporary Parking (Asphalt Cars/Trucks Concrete)

Special Conditions: Temporary parking reduced to include Cars only. TTCP layout indicates temp parking not needed for trucks Temp car parking = 1.25 Acres Includes Temporary Lighting - To keep existing rest area open during construction.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.00

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.14	AC	$20,000.00	$2,800.00
	Comment: Temp parking reduced tp 1.25 AC. For cars only 24552.29 SY of new pavement				
120-6	EMBANKMENT	4,094.00	CY	$14.25	$58,339.50
	Comment: Temp parking reduced tp 1.25 AC. For cars only. Assume 2 ft of earthwork for entire area. (24552.29 SY x .6667 YD)				
	Earthwork Component Total				$61,139.50

ROADWAY COMPONENT

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	6,130.00	SY	$8.50	$52,105.00
	Comment: Temp parking reduced tp 1.25 AC. For cars only Ramps and Car Parking area: (8231.64 SY) Truck parking area: (16290.65 SY)				
285-701	OPTIONAL BASE,BASE GROUP 01	6,130.00	SY	$20.00	$122,600.00
	Comment: Temp parking reduced tp 1.25 AC. For cars only Ramps and Car Parking area: (8231.64 SY) Truck parking area: (16290.65 SY)				
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	1,200.00	TN	$175.00	$210,000.00
	Comment: Temp parking reduced tp 1.25 AC. For cars only Ramps and Car Parking area: (8231.64 SY) x 330 LB/SY / 2000 LB = 1358.22 TN				
	Roadway Component Total				$384,705.00

SHOULDER COMPONENT

User Input Data

Description	Value

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-2-4	CONCRETE CURB, TYPE D	1,080.00	LF	$25.00	$27,000.00
	Comment: Along truck parking and approaches to building				
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	200.00	SY	$50.00	$10,000.00

Comment: Connection between truck parking and building: 250 LF x 6' wide

Shoulder Component Total $37,000.00

LIGHTING COMPONENT

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	2,500.00	LF	$30.00	$75,000.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	11.00	EA	$998.58	$10,984.38
639-1-121	ELECTRICAL POWER SRV,F&I, UG,FUR BY POWE	1.00	AS	$5,000.00	$5,000.00
715-1-12	LIGHTING CONDUCTORS, F&I, INSUL,NO.8-6	7,500.00	LF	$4.00	$30,000.00
715-1-60	LIGHTING CONDUCTORS,R&D, CONT OWNS	7,500.00	LF	$0.35	$2,625.00
715-7-11	LOAD CENTER, F&I, SECONDARY VOLTAGE	1.00	EA	$17,500.00	$17,500.00
715-7-41	LOAD CENTER, REMOVE, SECONDARY VOLTAGE	1.00	EA	$1,150.00	$1,150.00
715-61-300	LIGHT POLE CMPLT,STD,F&I, 40'MH, 0'ARM L	11.00	EA	$9,000.00	$99,000.00
715-69-000	LIGHT POLE COMPLETE, REMV POLE AND FND	11.00	EA	$900.00	$9,900.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	1.00	EA	$750.00	$750.00

Lighting Component Total $251,909.38

Sequence 12 Total $734,753.88

Sequence: 13 MIS - Miscellaneous Construction **Net Length:** 0.428 MI 2,260 LF

Description: SB Rest Area - Ramp Extension

Special Conditions: Includes Bridge widening.

ROADWAY COMPONENT

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	1,360.00	SY	$8.50	$11,560.00
285-709	OPTIONAL BASE,BASE GROUP 09	1,360.00	SY	$25.00	$34,000.00
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	464.70	TN	$165.00	$76,675.50
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	372.90	TN	$225.00	$83,902.50
	Roadway Component Total				$206,138.00

Sequence 13 Total $206,138.00

Sequence: 14 MIS - Miscellaneous Construction **Net Length:** 0.000 MI 0 LF

Description: DISPUTES REVIEW BOARD, HEARING

ROADWAY COMPONENT

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-20-2	DISPUTES REVIEW BD, HEARING-DO NOT BID	2.00	EA	$4,500.00	$9,000.00
	Roadway Component Total				$9,000.00

Sequence 14 Total $9,000.00

Date: 6/26/2023 3:04:51 PM

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 449961-1-52-01 **Letting Date:** 07/2028

Description: SR-9 (I-95) ST LUCIE SOUTHBOUND REST AREA

District: 04 **County:** 94 ST. LUCIE **Market Area:** 11 **Units:** English

Contract Class: 7 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 1.080 MI

Project Manager: WILLIAMS, D

Version 5 Project Grand Total **$26,076,517.27**

Description: Modified to Work Program amount. $26.03 million (6/26/2023)

Project Sequences Subtotal **$20,704,599.38**

102-1	Maintenance of Traffic	10.00 %	$2,070,459.94
101-1	Mobilization	8.00 %	$1,822,004.75

Project Sequences Total **$24,597,064.07**

Project Unknowns		5.00 %	$1,229,853.20
Justification for high %:	Project Unknowns % by FP		
Design/Build		0.00 %	$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-16	PARTNERING (DO NOT BID)	2.00	LS	$3,000.00	$6,000.00
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	$150,000.00	$150,000.00
999-20-1	DISPUTES REVIEW BD, MEETING- DO NOT BID	24	DA	$3,900.00	$93,600.00

Project Non-Bid Subtotal **$249,600.00**

Version 5 Project Grand Total **$26,076,517.27**