

DRAFT PRELIMINARY ENGINEERING REPORT

Florida Department of Transportation

District 1

SR 70

Limits of Project: from Lorraine Road to CR 675/Waterbury Road

Manatee County, Florida

Financial Management Number: 414506-2

ETDM Number: 14263

Date: JULY 2019

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

# PRELIMINARY ENGINEERING REPORT DRAFT

## FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT ONE

### SR 70 from Lorraine Road to CR 675/Waterbury Road Manatee County, Florida

Financial Project ID: 414506-2-22-01  
Federal Aid Project No.: TBD  
ETDM No.: 14263

This preliminary engineering report contains detailed engineering information that fulfills the purpose and need for the SR 70 from Lorraine Road to CR 675/Waterbury Road project in Manatee County.

*The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding December 14, 2016 and executed by FHWA and FDOT.*

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Date

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Michael Campo, P.E.  
P.E. No. 7065

# PROFESSIONAL ENGINEER CERTIFICATE

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I hereby certify that I am registered professional engineer in the State of Florida practicing with Kisinger Campo & Associates, and that I have supervised the preparation of, and approved the analysis, findings, opinions, conclusions, and technical advice reported in:

REPORT: Preliminary Engineering Report  
PROJECT: SR 70 from Lorraine Road to CR 675  
LOCATION: Manatee County  
FINANICAL PROJECT ID.: 414506-2-22-01  
CLIENT: Florida Department of Transportation- District 1  
District Environmental Management Office

The following duly authorized engineering business performed the engineering work represented by this report:

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This preliminary engineering report contains detailed engineering information that fulfills the purpose and need for the SR 70 from Lorraine Road to CR 675/Waterbury Road PD&E Study in Manatee County, Florida.

I acknowledge that the procedures and references used to develop the results contained in this report and standard to the professional practice of transportation engineering as applied through design standards and criteria set forth by the federal, state, and local regulatory agencies as well as professional judgement and experience.

Name: Michael Campo, P.E.

Signature: \_\_\_\_\_

P.E. Number: 70651

Date: \_\_\_\_\_

# TABLE OF CONTENTS

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PROFESSIONAL ENGINEER CERTIFICATE.....	i
SECTION 1. PROJECT SUMMARY .....	1-1
1.1 Project Description and Project Location Map .....	1-1
1.2 Purpose and Need.....	1-3
1.3 Commitments .....	1-3
1.4 Description of the Recommended Alternative .....	1-4
SECTION 2. EXISTING CONDITIONS.....	2-1
2.1 Functional Classification and Access Management Classification .....	2-1
2.2 Land Use .....	2-1
2.3 Typical Section and Right-of-Way .....	2-1
2.4 Pavement Conditions .....	2-2
2.5 Horizontal and Vertical Alignment.....	2-2
2.6 Intersection Layout .....	2-3
2.7 Multimodal Accommodations .....	2-3
2.8 Drainage System Inventory.....	2-4
2.8.1 Floodways/Floodplains .....	2-4
2.8.2 Existing Drainage Conditions.....	2-4
2.9 Existing Traffic Conditions.....	2-5
2.9.1 Existing Year (2016) Traffic Volumes .....	2-6
2.9.2 Existing Year (2016) Level of Service .....	2-6
2.10 Crash Data.....	2-10
2.10.1 Crash Summary by Year and Conditions.....	2-10
2.10.2 Crash Summary by Intersection.....	2-10
2.10.3 Crash Types .....	2-11
2.11 Utilities.....	2-12
2.12 Railroads .....	2-12
2.13 Lighting.....	2-12
2.14 Soil Classifications & Geotechnical Investigations.....	2-13
2.15 Structures .....	2-13

2.16 Existing Intelligent Transportation Systems .....	2-13
2.17 Existing Environmental Features .....	2-13
SECTION 3. DESIGN CONTROLS AND CRITERIA .....	3-1
SECTION 4. ALTERNATIVE ANALYSIS .....	4-1
4.1 Corridor Analysis .....	4-1
4.2 Alternative Analysis .....	4-1
4.2.1 No Build Alternative .....	4-1
4.2.2 Transportation System Management and Operations (TSM&O Alternative) .....	4-2
4.2.3 Multimodal Alternatives .....	4-2
4.2.4 Build Alternatives .....	4-2
4.2.5 Alternatives Evaluation Matrix .....	4-8
SECTION 5. PUBLIC INVOLVEMENT .....	5-1
5.1 Local Agency/Group Meetings .....	5-1
5.2 Public Information Workshop/Alternatives Public Meeting .....	5-2
5.3 Public Hearing .....	5-2
SECTION 6. RECOMMENDED ALTERNATIVE .....	6-1
6.1 Typical Sections .....	6-1
6.2 Design Year Traffic Volumes .....	6-1
6.3 Horizontal and Vertical Alignment .....	6-4
6.4 Design Year Level of Service and Intersection Geometrics .....	6-4
6.5 Variations and Exceptions .....	6-5
6.6 Intersection and Interchange Concepts .....	6-7
6.7 Access Management .....	6-7
6.8 Drainage .....	6-8
6.8.1 Location Hydraulics .....	6-8
6.8.2 Stormwater Management .....	6-9
6.9 Right-of-Way and Relocations .....	6-10
6.10 Utility Impacts .....	6-10
6.11 Structures .....	6-10
6.12 Railroad Assessment .....	6-11
6.13 Lighting .....	6-11
6.14 Intelligent Transportation Systems (ITS) .....	6-11

6.15 Environmental Impacts .....	6-11
6.15.1 Cultural Resources (Archeological, Historical including Section 106).....	6-11
6.15.2 Wetlands .....	6-12
6.15.3 Floodplains.....	6-12
6.15.4 Threatened and Endangered Species .....	6-13
6.15.5 Contamination.....	6-15
6.15.6 Noise .....	6-15
6.15.7 Section 4(f).....	6-16
6.15.8 Construction Impacts .....	6-16
6.15.9 Summary of Permits and Mitigation.....	6-17
6.16 Recommended Alternative Matrix.....	6-17
SECTION 7. LIST OF TECHNICAL DOCUMENTS.....	7-1

**LIST OF FIGURES**

Figure 1.1: Project Location Map .....	1-2
Figure 1.2: Segment A Proposed Typical Section .....	1-6
Figure 1.3: Segment B Proposed Typical Section .....	1-6
Figure 1.4: Segment C Proposed Typical Section .....	1-7
Figure 2.1: Existing Typical Roadway Section .....	2-2
Figure 2.2: Existing Year (2016) AADT Volumes .....	2-8
Figure 2.3 Existing Year (2016) Turning Movement Volumes .....	2-9
Figure 4.1: Segment A Recommended Typical Section .....	4-6
Figure 4.2: Segment B Recommended Typical Section.....	4-6
Figure 4.3: Segment C Recommended Typical Section.....	4-7
Figure 6.4: Future Years AADT.....	6-2
Figure 6.5: Year 2025 Build Turning Movement Volumes .....	6-3
Figure 6.6: Future Build Recommended Geometry .....	6-6

## LIST OF TABLES

Table 1.1: Evaluation Matrix .....	1-8
Table 2.1: Existing Right-of-Way.....	2-2
Table 2.2: Horizontal Alignment .....	2-3
Table 2.3: Major Cross Streets.....	2-3
Table 2.4: Existing Drainage Basins.....	2-5
Table 2.5: Existing Crossdrain Summary.....	2-5
Table 2.6: Existing Year (2016) Intersection LOS Analysis Summary .....	2-7
Table 2.7: Crash Summary by Seversity and Conditions (2011-2015).....	2-10
Table 2.8: Crash Summary by Intersection (2011-2015).....	2-11
Table 2.9: Crash Summary for Project Limits .....	2-12
Table 3.1: Design Criteria used for Segment A .....	3-1
Table 3.2: Design Criteria used for Segment B and Segment C .....	3-2
Table 4.1: Evaluation Segments .....	4-3
Table 4.2: Alternatives Evaluation Matrix .....	4-9
Table 6.1: Horizontal Alignment-Recommended Alternative .....	6-4
Table 6.2: Build Alternative LOS Analysis Summary.....	6-5
Table 6.3: Final Recommended Access Management Plan for Future SR 70 .....	6-8
Table 6.4: Proposed Crossdrain Summary .....	6-9
Table 6.5: Floodplain Compensation Sites.....	6-12
Table 6.6: Federal Protected Species Effect Determination.....	6-13
Table 6.7: State Protected Species Effect Determination.....	6-14
Table 6.8: Other Protected Species Effect Determination .....	6-14
Table 6.9: Required Permits .....	6-17
Table 7.1: List of Technical Reports .....	7-1

## LIST OF APPENDICES

- Appendix A Long Range Estimate (LRE)
- Appendix B Utility Agencies and Facilities
- Appendix C Recommended Alternative Concept Plans
- Appendix D Typical Section Package
- Appendix E Agency Coordination

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# SECTION 1. PROJECT SUMMARY

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This preliminary engineering report contains detailed engineering information that fulfills the purpose and need for the State Road (SR) 70 from Lorraine Road to County Road (CR) 675/Waterbury Road project in Manatee County.

## ***1.1 Project Description and Project Location Map***

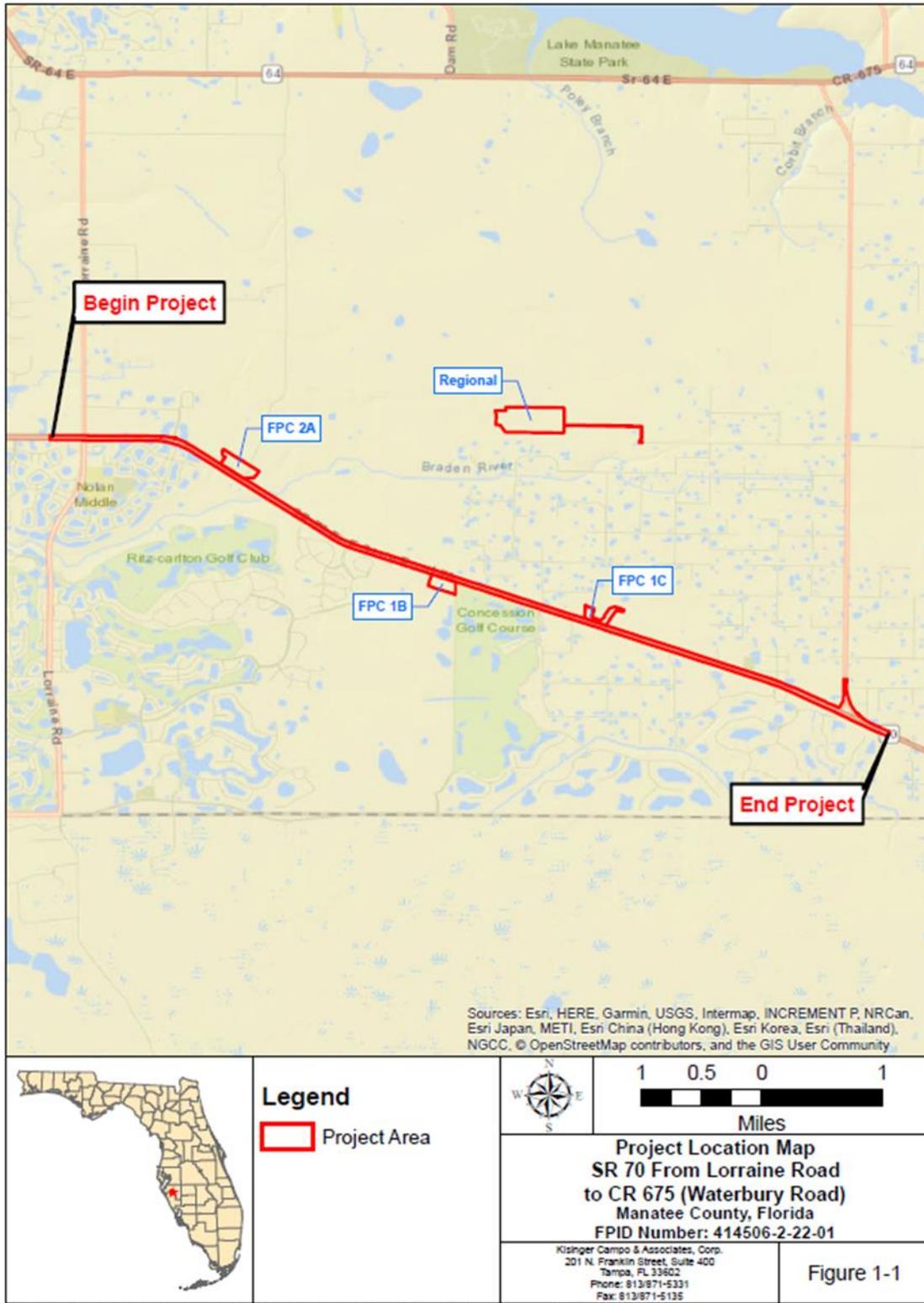
The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) study to evaluate the proposed widening of 6.1 miles of SR 70 from Lorraine Road (MP 9.478) to CR 675/Waterbury Road (MP 15.567) in Manatee County, as depicted in **Figure 1.1**.

This study evaluates the need for capacity improvements and provides engineering and environmental documentation and analysis to establish the optimal type and location of improvements to SR 70. The results of the study will aid Manatee County, FDOT District One, and the FDOT Office of Environmental Management (OEM) in determining the type, preliminary design and location of the proposed improvements.

The project was evaluated through FDOT's Efficient Transportation Decision Making (ETDM) process as project #14263. An ETDM *Programming Screen Summary Report* containing comments from the Environmental Technical Advisory Team (ETAT) was published on April 3, 2018. The ETAT evaluated the project's effects on natural, physical, cultural, social and economic resources.

Upon completion, this study will meet all requirements of the National Environmental Policy Act of 1969 (NEPA) as administered by the Florida Department of Transportation – Office of Environmental Management (OEM) and the requirements of other federal and state laws so as to qualify the proposed project for federal-aid funding.

**Figure 1.1: Project Location Map**



## ***1.2 Purpose and Need***

The purpose of this project is to improve traffic operational conditions along the SR 70 corridor from Lorraine Road to CR 675/Waterbury Road to accommodate projected travel demand, specifically increased commuter and freight traffic. Traffic flow within the corridor is of particular concern given the high percentage of heavy trucks mixed with non-truck traffic. The unique acceleration and deceleration characteristics of the trucks cause vehicular travel delay and, ultimately, impact the movement of commuter and freight traffic on the two-lane undivided roadway.

Two Developments of Regional Impact (Cypress Banks and Northwest Sector) surround the western project terminus. Of the five Planned Unit Developments that are present, two are located at the western project terminus and three surround the eastern portion of the project corridor (two of these three are Panther Trace and Concession). Del Webb Lakewood Ranch is also present south of SR 70 near Uihlein Road. The corridor further abuts a master planned community, Lakewood Ranch, to the west. Lakewood Ranch is also identified by Manatee County as one of four major growth and focus areas of the county. Growth along the project corridor is anticipated to occur most heavily within the area surrounding the western half of the corridor as the area will continue to support residential and mixed use community activities with commercial uses concentrated at the intersection of SR 70 and Lorraine Road.

Due to the fact that it provides regional access to agriculture and ranching operations, industrial/commercial areas, and freight distribution facilities throughout central Florida, particularly with its connections to several major transportation facilities, SR 70 has been designated as part of the SIS network. Accordingly, the project segment of SR 70 currently carries significant truck traffic.

This project is anticipated to improve traffic operations and preserve operational capacity along SR 70 to address increased travel demand as a result of projected growth along the corridor and higher volumes of heavy trucks on the corridor due to agricultural and ranching activities in the area. The proposed project is also anticipated to improve safety characteristics of the facility, which are particularly exacerbated by the high truck percentages, by enhancing overall traffic operations.

## ***1.3 Commitments***

Based on the field and literature reviews outlined in this report, federal- or state-listed protected species have the potential to occur within the project study area. In order to assure that the proposed project will not adversely impacts these species, the FDOT will make the following commitments:

- Impacts to suitable foraging habitat for the federally-protected wood stork will be mitigated through the purchase of credits from a U.S. Fish and Wildlife Service-approved mitigation bank pursuant to Section 373.4137, F.S. or as otherwise agreed to by the FDOT and the appropriate regulatory agencies.

- The USFWS *Standard Protection Measures for the Eastern Indigo Snake* will be implemented to assure that the Eastern indigo snake will not be adversely impacted by the project.
- The FDOT is committed to the construction of feasible and reasonable noise abatement measures at noise-impacted locations contingent on the following:
  - 1) Detailed noise analysis during the final design process support the need, feasibility, and reasonableness of providing abatement;
  - 2) Cost analysis indicates that the cost of the noise barrier(s) will not exceed the cost reasonable criterion;
  - 3) Community input supporting types, heights, and locations of the noise barrier(s) is provided to the District Office; and
  - 4) Safety and engineering aspects as related to the roadway user and the adjacent property owner have been reviewed and any conflicts or issues resolved.

## ***1.4 Description of the Recommended Alternative***

Within the limits of this study, FDOT is evaluating one project build alternative and three project segments. The proposed action of this alternative, is to increase capacity of the existing two-lane undivided roadway by widening it to a four or six-lane divided roadway to accomplish the purpose and need described in the previous section. The three segments are separated for analysis so this study can best address the local transportation needs. Segment A extends from Lorraine Road to east of Greenbrook Boulevard, Segment B extends from east of Greenbrook Boulevard to Bourneside Boulevard, and Segment C extends from Bourneside Boulevard to the eastern project limit at CR 675.

The typical section of the recommended alternative varies from Segment A to Segment C. The proposed build improvements for each of the three project segments includes the following:

**Segment A:** The design speed for this segment is 45 mph. The proposed design provides a high-speed curbed roadway with three 11-foot travel lanes in each direction, seven-foot paved outside shoulders (accommodating buffered bicycle lanes), a 22-foot wide median, a closed drainage system with curbs and gutters, and 8-foot sidewalks in both directions as depicted in **Figure 1.2**. The proposed improvements in this segment are anticipated to be accomplished within the existing 200 foot right-of-way.

**Segment B:** The design speed for this segment is 50 mph. The proposed design provides a high-speed curbed roadway with two 12-foot travel lanes in each direction, five-foot paved outside shoulders, a closed drainage system with curbs and gutters, and 8-foot sidewalks in both directions. The proposed roadway includes a 54-foot wide median designed to accommodate a six-lane section in the future when traffic needs merit an expansion. The future widening will be accomplished by adding a 12-foot travel lane in each direction on the inside as depicted in **Figure 1.3**. The proposed improvements in this segment are anticipated to be accomplished primarily within the existing 200-foot right-of-way; minimal right-of-way will be needed to construct proposed roundabouts at Uihlein Road, Del Webb Boulevard, and Bourneside Boulevard.

Segment C: The design speed for this segment is 50 mph. The proposed design provides a high-speed curbed roadway with two 12-foot travel lanes in each direction, five-foot paved outside shoulders, a 30-foot median, and a closed drainage system with curbs and gutters as depicted in **Figure 1.4**. The proposed improvements in this segment are anticipated to be accomplished primarily within the existing 200 foot right-of-way; minimal right-of-way will be needed to construct proposed roundabouts at 197th Street East/Lindrick Lane, 213th Street East, 225th Street East/Panther Ridge Trail, and CR 675.

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Figure 1.2: Segment A Proposed Typical Section

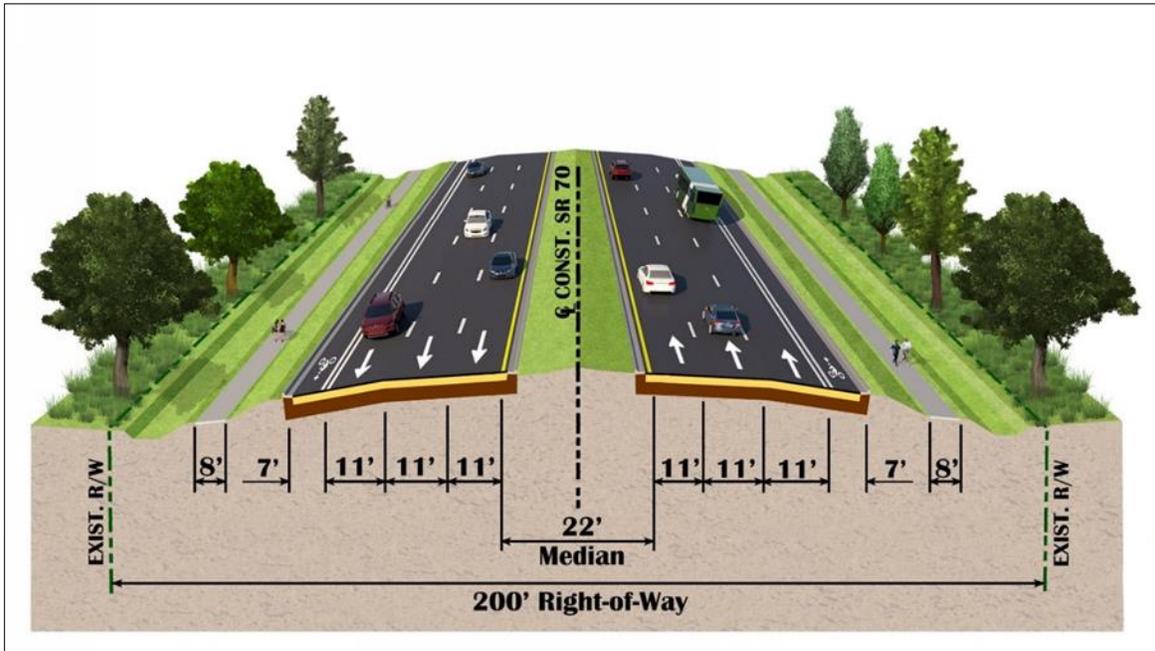
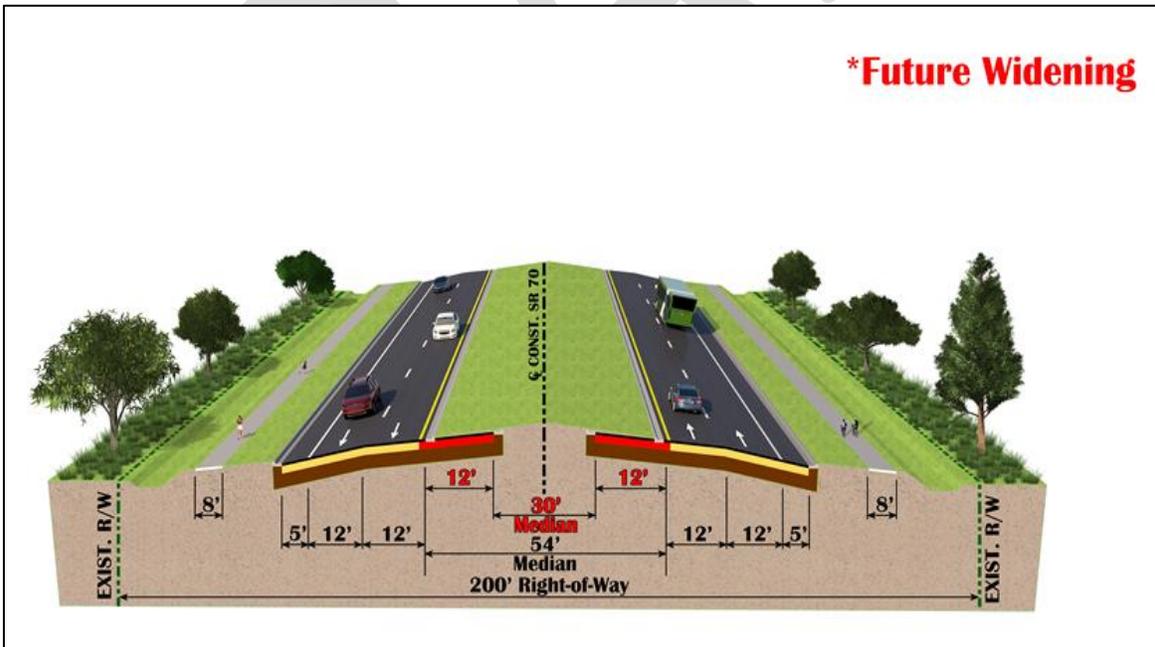
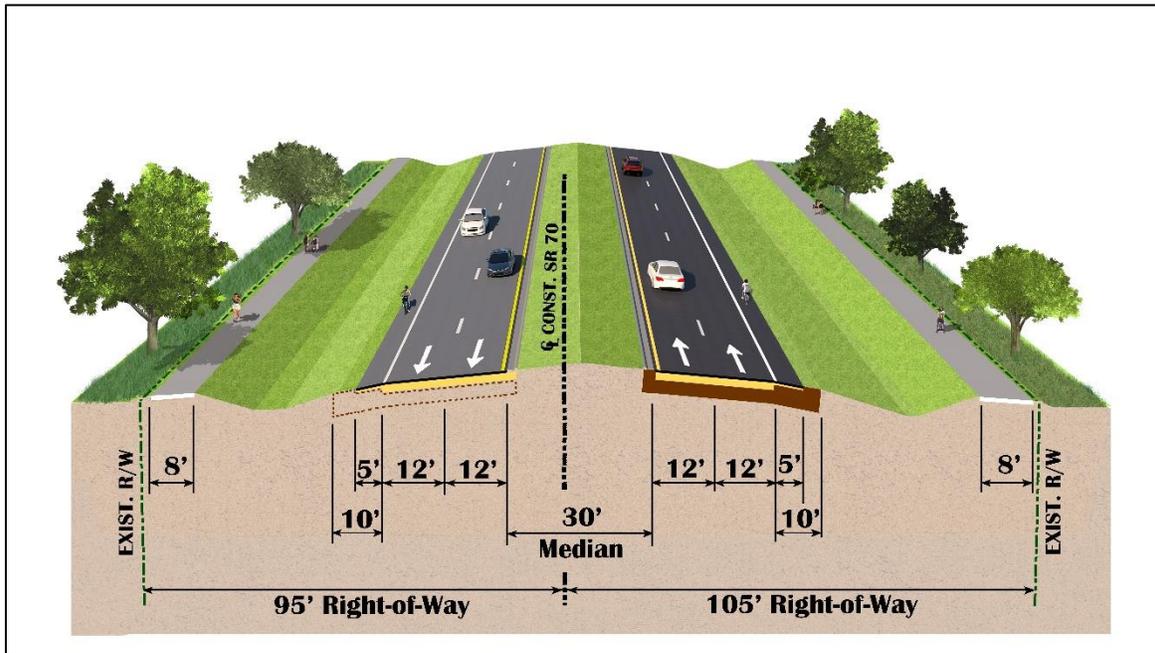


Figure 1.3: Segment B Proposed Typical Section



**Figure 1.4: Segment C Proposed Typical Section**



The evaluation matrix is based on environmental effects, right-of-way (ROW) needs, project costs, and engineering factors. It also quantifies considerations such as potential business and residential relocations, impacts to environmental resources, and the area of ROW needed for the roadway improvements and stormwater facilities. The potential for the proposed widening to impact archaeological/historic sites, noise sensitive sites, and threatened and endangered species were also included in the matrix. The bottom portion of the matrix details cost estimates for wetland mitigation, ROW acquisition, construction, design, and constructing engineering and inspection. These estimates were based on 2018 unit costs. Construction costs were estimated using the FDOT Long Range Estimates (LRE) provided in **Appendix A**. The evaluation matrix can be found in **Table 1.1**.

**Table 1.1: Evaluation Matrix**

<b>Evaluation Criteria</b>	<b>No-Build Alternative</b>	<b>Build Alternative</b>
<b>Centerline Length of Improvement (Feet)</b>	<b>N/A</b>	<b>32,161</b>
<b>Centerline Length of Improvement (miles)</b>	<b>N/A</b>	<b>6.1</b>
<b>Business Impacts</b>		
Number of business relocations	0	0
<b>Residential Impacts</b>		
Number of residential relocations	0	0
<b>Environmental Effects</b>		
Archaeological/Historical sites (potential)	None (0)	Low
Public parks, recreation areas, or wildlife refuges (acres)	None (0)	None (0)
Noise (impacted receptors)	3	0
Wetland (acres)	0.0	9.57
Floodplains (acres)	0.0	42.20
Threatened and endangered species (potential)	Low	Low
Contamination sites (high / medium)	0	5/2
<b>Right-of-Way Needs</b>		
Right-of-way to be acquired for roadway (acres)	0.0	0.77
Right-of-way to be acquired for stormwater facilities (acres)	0.0	66.19
Right-of-way to be acquired for floodplain compensation (acres)	0.0	44.30
Total right-of-way acres	0.0	111.26
<b>Estimated Total Project Costs (2017 Cost)</b>		
Wetland mitigation	\$0	\$1,131,605
Utility relocation costs	\$0	\$0
Right-of-way acquisition for roadway	\$0	\$915,000
Right-of-way acquisition for stormwater facilities	\$0	\$1,515,000
Right-of-way acquisition for floodplain compensation	\$0	\$7,780,000
<b>Total Right-of-Way Cost</b>	<b>\$0</b>	<b>\$10,210,000</b>
Construction cost for roadway	\$0	\$54,854,188
Construction cost for stormwater facilities	\$0	\$5,222,466
Construction cost for floodplain compensation	\$0	\$7,256,758
<b>Total Construction Cost</b>	<b>\$0</b>	<b>\$67,333,412</b>
Design	\$0	\$4,713,339
Construction Engineering & Inspection (15% of the Total Construction Cost)	\$0	\$6,733,341
<b>Preliminary Estimate of Engineering Cost</b>	<b>\$0</b>	<b>\$11,446,680</b>
<b>Preliminary Estimate of Total Project Cost</b>	<b>\$0</b>	<b>\$90,121,697</b>

1. Mitigation Cost is based on mitigation bank credit cost and an estimate of wetland function and value loss associated with wetland impacts.
2. Right-of-Way cost estimates were prepared by FDOT in 2019
3. Construction costs were prepared by FDOT in 2019
4. Utility costs are for the relocation of utilities not permitted within existing FDOT right-of-way.

## SECTION 2. EXISTING CONDITIONS

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Existing roadway conditions described in this section were completed based on topographic survey data, a review of as-built SR 70 drawings, the FDOT Straight Line Diagrams of Road Inventory, information provided by Manatee County, and field reviews.

### *2.1 Functional Classification and Access Management Classification*

According to the Straight Line Diagrams of Road Inventory, SR 70 is designated as a “Rural Other Principal Arterial” highway within the project limits. It is also designated as a Strategic Intermodal System (SIS) highway and evacuation route. The context classification for the project limits of SR 70 is C3R – Suburban Residential as defined in the approved Context Classification Memo. The access management classification for this project is Class 3. For this classification, the State Highway Access Management Classification System and Standards (Rule 14-97) allows for full median openings and signalized intersections spaced at 2,640 feet, and directional median openings spaced at 1,320 feet.

### *2.2 Land Use*

The project limits are located within Manatee County. The existing land uses adjacent to SR 70 consist primarily of residential uses with multiple housing subdivisions along the project corridor including Greenbrook Village, Lakewood National, Polo Run, Del Webb, and Preserve at Panther Trace. Southwest Florida Water Management District (SWFMD) holds and monitors a conservation easement on south side of SR 70 within the project limits. The vacant land east of the Greenbrook subdivision is privately owned and used as a mitigation bank and referred to as the Braden River Mitigation Bank. It is a 349-acre mitigation bank. There are some agricultural lands north and south of the project corridor.

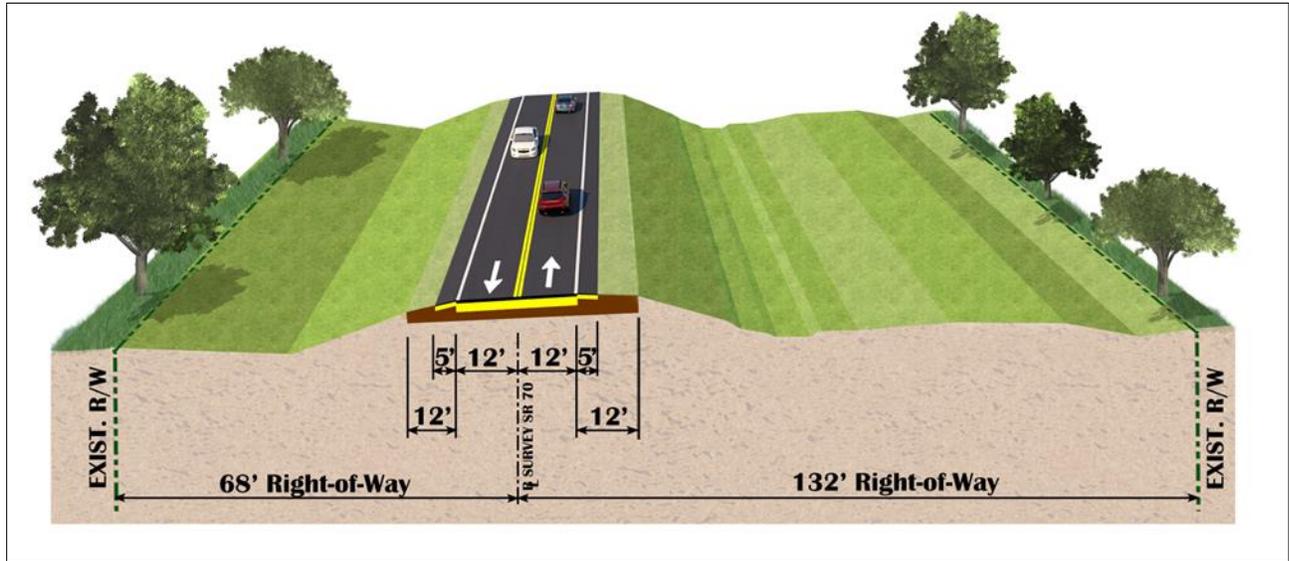
Based on 2010 U.S. Census Bureau data and projections developed for Manatee County as part of the Sarasota/Manatee Metropolitan Planning Organization’s (MPO) 2040 Long Range Transportation Plan (LRTP), population within Manatee County is projected to grow from 322,833 in 2010 to 469,100 in 2040. Growth along the project corridor is anticipated to occur most heavily within the area surrounding the western half of the corridor. That area will continue to support residential and mixed use community activities with commercial uses concentrated at the intersection of SR 70 and Lorraine Road. Although the area surrounding the eastern portion of the project corridor is intended to support agricultural uses, the Manatee County Zoning Map shows land designated for Planned Development Residential and Planned Development Agricultural south of SR 70; land north of SR 70 remains designated for agricultural activities.

### *2.3 Typical Section and Right-of-Way*

The existing SR 70 corridor consists of a two-lane undivided roadway with 12-foot travel lanes (one in each direction) and 12-foot shoulders (5 feet paved) (**Figure 2.1**). Within the study limits the existing right-of-way width is approximately 200 feet throughout the majority of the project

corridor and approximately 250 feet near the intersection of SR 70 and CR 675/Waterbury Road. **Table 2.1** summarizes the existing right-of-way for the project limits with stationing and offsets based on the baseline shown on plan sheets.

**Figure 2.1: Existing Typical Roadway Section**



**Table 2.1: Existing Right-of-Way**

Baseline Station	Offset from Centerline of Survey		Total (ft)
	Left	Right	
519+39	68	132	200
828+71	98	132	230
847+00	115	132	247
854+51	115	148	263
861+88	70	148	218
894+62	70	132	202

## 2.4 Pavement Conditions

SR 70 between Lorraine Road and CR 675 was resurfaced in 2014. The FDOT Pavement Condition Report shows cracking and ride ratings of 9.0 and 8.0 respectively for 2019. The existing pavement is generally in good condition with no signs of base failure. The pavement and base are anticipated to be in acceptable condition for reuse with milling and resurfacing as part of the Recommended Alternative for Segment C, but should be evaluated further during final design.

## 2.5 Horizontal and Vertical Alignment

The existing SR 70 alignment within the project limits is comprised of three horizontal curves and two deflections. The degree of curvature for the existing horizontal curves ranges from 1° 00' 00”

to 3° 00' 00" as shown in **Table 2.2**. The existing alignment deflections are 0° 04' 00.1" and 0° 09' 25.97" and also shown in **Table 2.2**.

**Table 2.2: Horizontal Alignment**

Centerline PI Station	Bearing		Degree of Curvature	Radius (ft)	Length (ft)
	Back	Ahead			
563+04.25	S 89° 20' 59.38" E	S 54° 57' 24.93" E	3° 00' 00"	1,909.86	1,146
642+77.50	S 54° 57' 24.93" E	S 69° 55' 31.60" E	2° 00' 00"	2,864.79	748
823+69.14	S 69° 53' 57.98" E	S 62° 32' 54.26" E	1° 00' 00"	5,729.58	735
852+02.55	S 62° 32' 54.26" E	S 62° 36' 54.32" E	-	-	-
862+71.36	S 62° 36' 54.32" E	S 62° 46' 20.33" E	-	-	-

The lowest point along the existing SR 70 alignment within the project limits is at 41 feet (NAVD 88) at the beginning of the project. The vertical alignment gradually climbs at an average grade of 0.2% to elevation 47 feet at Sta. 561+70 near the Greenbrook Blvd intersection. The vertical alignment descends to 38 feet around the Braden River crossing between Sta 579+90 and Sta 585+26. The vertical alignment climbs at an average grade of 0.15% to 86 feet at the end project limit at CR 675.

## 2.6 Intersection Layout

There are a total of five major roadways that intersect SR 70 within the project limits. Major roadways were distinguished by turning movement volumes. The five major roadways are listed in **Table 2.3**.

**Table 2.3: Major Cross Streets**

Highlands County			
Cross Street	Station	Configuration	Traffic Control
Lorraine Road	527+40	Four-Way Intersection	Signalized
Greenbrook Blvd.	562+30	Four-Way Intersection	Two-Way Stop
Uihlein Road	599+00	T-Intersection	One-Way Stop
Del Webb Blvd.	645+00	T-Intersection	One-Way Stop
CR 675	850+40	Four-Way Intersection	Two-Way Stop

## 2.7 Multimodal Accommodations

There are two segments of existing sidewalk within the project limits of SR 70. The first segment is 675 feet long and located on the south side of SR 70 east of the Lorraine Road intersection. The second sidewalk segment is 0.9 miles long and located on the south side of SR 70 east and west of Lindrick Lane. There are existing five-foot paved shoulders which function as undesignated bicycle lanes along SR 70 throughout the project limits.

There are no existing transit facilities within the project limits.

## ***2.8 Drainage System Inventory***

### ***2.8.1 Floodways/Floodplains***

The project site is located on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Community-Panel Numbers 12081C0345E, 12081C0365E, and 12081C0370E (dated March 14, 2014) in Manatee County. The project crosses the Braden River, which is designated as Zone A north of SR 70 and Zone AE and a FEMA floodway south of SR 70. Zone AE are areas of the 100-year floodplain where the base flood elevation has been determined. The floodway elevation is 36 feet (NAVD 88) on the south side of SR 70. The proposed alignment also impacts several areas designated as Zone A, which are areas of the 100-year floodplain where the base elevation has not been determined.

The Southwest Florida Water Management District (SWFWMD) has modeled the Braden River watershed to revise the 100-year floodplain elevations in Manatee County and to update the FEMA Federal Insurance Rate Maps (FIRM). The Braden River Watershed model was approved by the SWFWMD Governing Board on May 21, 2013. It is the most accurate available information and will be used to determine floodplain elevations within the project area west of Lorraine Road to west of CR 675. The remaining area of the project is located within the Cow Pen Slough Watershed. Sarasota County is presently in the process of updating the watershed model for this basin.

SR 70 is a designated hurricane evacuation route. It was agreed during a drainage and pond site coordination meeting with FDOT on February 19, 2018 to place the roadway edge of pavement above the 100 year floodplain elevation. The existing and proposed roadway profiles were raised in the area of the Braden River to meet these conditions.

### ***2.8.2 Existing Drainage Conditions***

The project is located within the Braden River and Cow Pen Slough watersheds and within the jurisdiction of the SWFWMD. The existing drainage patterns were determined using United States Geological Survey (USGS) quadrangle maps, existing plans, and LiDAR contours where available. The existing drainage basins can be found in **Table 2.4**. This project contains “open” drainage basins and flow is generally from north to south. The roadway drains through roadside ditches to twelve cross drains and two bridge culverts within the project limits. There are no SWFWMD permitted stormwater management facilities within the project limits. The two bridge culverts within the project are located at the Braden River. Bridge 130113 is a triple 12’x5’ box culvert at MP 10.526 (Sta. 182+87), and Bridge 130114 is a quadruple 10’x7’ box culvert at MP 10.976 (Sta. 206+57). Both culverts were built in the year 1970. The existing cross drain summary can be found in **Table 2.5**. The project has no known flooding issues.

**Table 2.4: Existing Drainage Basins**

Basin Name	From Station	To Station
A	127+85	162+30
B	162+30	192+30
C	192+30	239+71
D	239+71	269+10
E	269+10	289+50
F	289+50	310+00
G	310+00	324+55
H	324+55	378+55
I	378+55	421+81

**Table 2.5: Existing Crossdrain Summary**

No.	MP	Station	Size	Year Built
S-200	9.706	140+15	48"	1976
S-210	10.460	179+59	36"	1970
BR 130113	10.526	182+87	3-12'x5'	1970
S-230	10.667	190+49	24"	1976
BR 130114	10.976	206+57	4-10'x7'	1970
S-250	11.923	256+80	2-30"	1976
S-260	12.052	263+55	2-24"	1976
S-270	12.252	274+24	2-42"	1976
S-280	12.629	294+08	2-42"	1976
S-290	13.028	315+05	30"	1976
S-300	13.589	344+57	2-7'-7'	1976
S-310	13.851	358+49	24"	1976
S-320	14.764	406+56	36"	1976
S-330	15.172	428+38	2-7'x6'	1976

## 2.9 Existing Traffic Conditions

This section provides a brief summary of the existing traffic conditions information that can be found in the SR 70 Design Traffic Technical Memorandum (DTTM) (2018). An analysis was performed as a part of this study for the existing year (2016) and future years- opening year (2023) and design year (2043). A more detailed analysis of the traffic data collected in support of this project is provided in the SR 70 DTTM.

### ***2.9.1 Existing Year (2016) Traffic Volumes***

A seventy-two (72)-hour classification count was conducted at one location on SR 70 just east of Lorraine Road. Twenty-four (24)-hour bi-directional volume counts were conducted at the following eighteen (18) locations in April, 2016:

- SR 70 west of Lorraine Road
- Lorraine Road north of SR 70
- Lorraine Road south of SR 70
- SR 70 east of Greenbrook Blvd.
- Greenbrook Blvd. north of SR 70
- Greenbrook Blvd. south of SR 70
- Lindrick Ln. north of SR 70
- SR 70 between Lindrick Ln. and 213<sup>th</sup> St. E.
- 213<sup>th</sup> St. E. south of SR 70
- SR 70 between 213<sup>th</sup> St. E. and TreeUmph!
- TreeUmph! north of SR 70
- 225<sup>th</sup> St. E. north of SR 70
- 225<sup>th</sup> St. E. south of SR 70
- SR 70 between 225<sup>th</sup> St. E. and CR 675/Waterbury Rd.
- Lindrick Ln. south of SR 70
- Meadow Dove Ln. south of SR 70
- CR 675/Waterbury Rd north of SR 70
- SR 70 east of CR 675/Waterbury Rd.

Four (4)-hour intersection turning movement counts for AM and PM peak hours were conducted at following seven (7) intersections:

- SR 70 at Lorraine Road
- SR 70 at Greenbrook Blvd
- SR 70 at Lindrick Ln.
- SR 70 at 213<sup>th</sup> St. E.
- SR 70 at TreeUmph!.
- SR 70 at 225<sup>th</sup> St. E
- SR 70 at CR 675/Waterbury Rd.

The 24-hour truck percentage has been calculated at 14.2% for the SR 70 corridor. The weekday turning movement counts were collected for the intersections between the peak hours of 7:00-9:00 AM and 4:00-6:00 PM. The traffic count data (72-hour volume and classification) collected were adjusted utilizing the FDOT axle and seasonal adjustment factors for Manatee County to provide 2016 annual average conditions and peak hour traffic volumes.

As shown in **Figure 2.2**, the 2016 AADT volumes on the SR 70 mainline between Lorraine Road and CR 675 range from 22,000 vehicles per day (vpd) to 10,000 vpd. **Figure 2.3** shows the existing a.m. and p.m. peak hour turning movement volumes for the study corridor.

### ***2.9.2 Existing Year (2016) Level of Service***

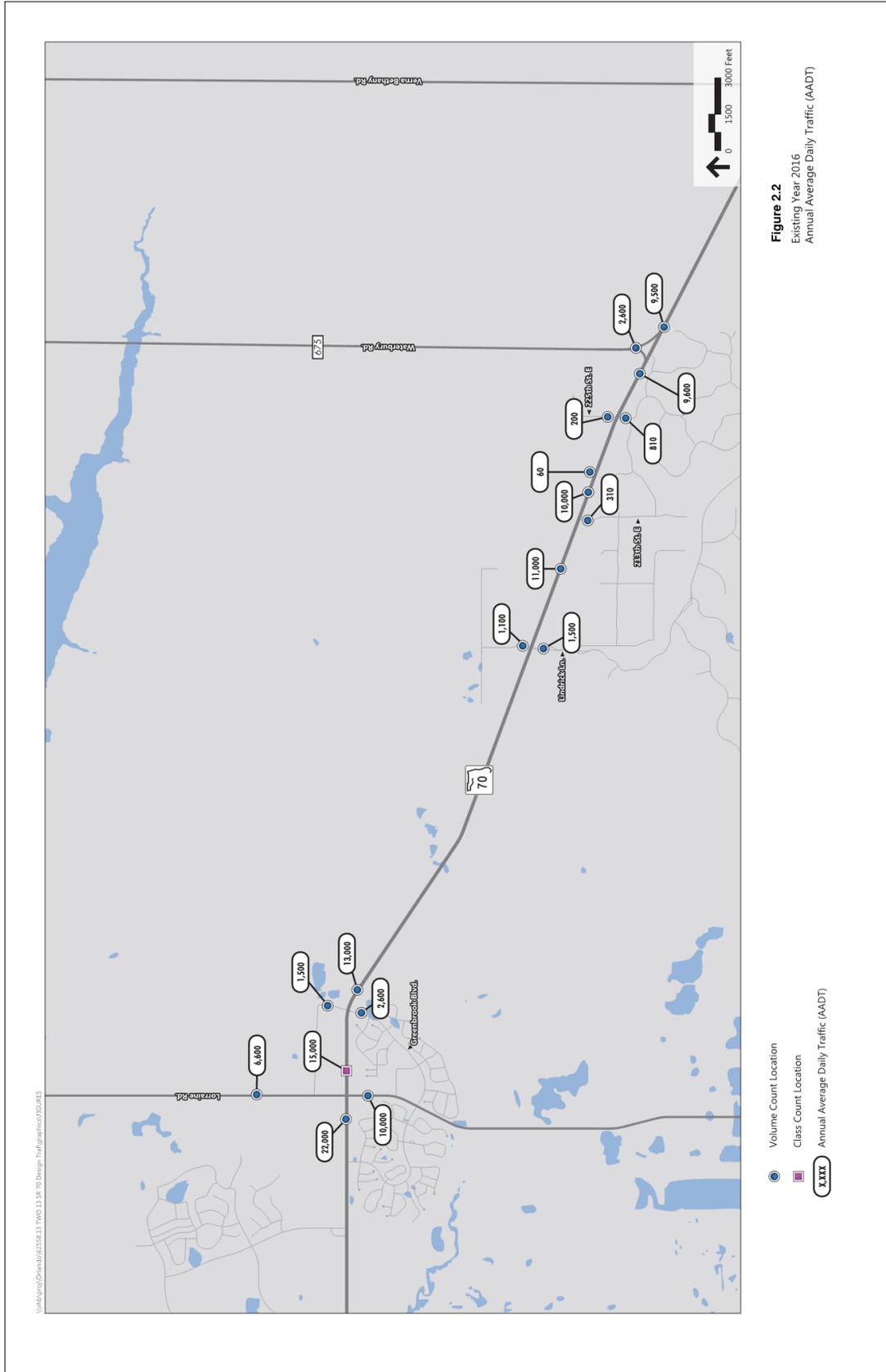
A summary of the LOS analysis for the study intersections is included in **Table 2.6**. This table shows that during the year 2016 AM peak hour conditions, the signalized intersection on SR 70 at Lorraine Road was found to operate below the standard FDOT LOS D. Additionally, the minor street approaches for the unsignalized intersections at Greenbrook Blvd/Post Blvd at SR 70 were found to operate below the standard C during both the AM and PM peak hours.

**Table 2.6: Existing Year (2016) Intersection LOS Analysis Summary**

No.	Study Intersection	Control Type	FDOT Adopted LOS	AM Peak Hour		PM Peak Hour	
				Delay (s)	LOS	Delay (s)	LOS
1	Lorraine Road	Signal	D	68.7	E	33.1	C
2	Greenbrook Blvd/Post Blvd	Stop	C	9.0/27.9	A/D	8.9/25.7	A/D
3	Lindrick Ln./197 <sup>th</sup> Street E.	Stop	C	8.9/19.8	A/C	8.7/21.4	A/C
4	213 <sup>th</sup> Street E.	Stop	C	7.7/17.6	A/C	8.7/17.5	A/C
5	Tree Umph! Park	Stop	C	8.8/12.5	A/B	7.9/0.0	A/A
6	225 <sup>th</sup> Street E.	Stop	C	8.6/16.1	A/C	8.4/14.6	A/B
7	Meadow Dove Ln./CR 675	Stop	C	8.3/12.9	A/B	8.2/15.9	A/C

Notes:

1. HCM 2010 based outputs are presented in this table for both the signalized and unsignalized intersections
2. Overall intersection delay and LOS results are reported for the signalized intersection
3. In case of unsignalized intersections, major street/minor street worst case results (movement delay and LOS) are reported
4. Result shown in color exceeds the adopted LOS standards





## 2.10 Crash Data

Based on a review of the five-year crash data, a total of 146 crashes occurred within the study limits. The most recent five-year crash history available at the beginning of this PD&E was for the period from January 1, 2011 to December 31<sup>st</sup>, 2015. This data was obtained using Signal Four Analytics for SR 70 from Lorraine Road to CR 675.

### 2.10.1 Crash Summary by Year and Conditions

On average, about 29 crashes occurred per year within the study limits. Three of them were fatal crashes and 53 were crashes that resulted in injury. The three fatal crashes did not occur at any intersection but rather along roadway segments within the project limits. Two of the three fatal crashes occurred between Greenbrook Boulevard and 197<sup>th</sup> Street East, and the other fatal crash occurred along the roadway segment between Lindrick Lane and 213<sup>th</sup> Street East. The causes of these fatalities were: rollover, opposing sideswipe, and the third crash type is unknown.

A total of 45 crashes were reported to have occurred during dark conditions (at night, dawn, or dusk) while 24 crashes were reported to have occurred in wet conditions. Other details for these crashes may be found in Appendix G of the DTTM. **Table 2.7** summarizes the crashes by severity and conditions.

**Table 2.7: Crash Summary by Severity and Conditions (2011-2015)**

Year	Total No. of Crashes	No. of Fatality Crashes	No. of Injury Crashes	Dark Conditions Crashes	Wet Conditions Crashes
<b>2011</b>	22	1	7	7	5
<b>2012</b>	20	1	5	7	5
<b>2013</b>	29	0	12	10	1
<b>2014</b>	34	1	14	10	7
<b>2015</b>	41	0	15	11	6
<b>5-Year Total</b>	<b>146</b>	<b>3</b>	<b>53</b>	<b>45</b>	<b>24</b>
<b>Average</b>	29.2	0.6	10.6	9	4.8
<b>Percent</b>	-	2.05%	36.30%	30.82%	16.44%

### 2.10.2 Crash Summary by Intersection

The crash data below is summarized by intersection. As shown in Table 2.8, the intersection of SR 70 and Lorraine Road (signalized) experienced the highest number of crashes (51 total crashes) among the analyzed intersections within the study corridor. This intersection alone is responsible

for 35% of the entire study corridor’s crashes. The other intersection along SR 70 with more than 15 crashes for the last five (5) years is Greenbrook Blvd/Post Blvd at 29 crashes. The Greenbrook Blvd/Post Blvd intersection is stop controlled.

Uihein Road, Polo Club Lane, Del Webb Boulevard, and Bourneside Boulevard are all new roads and do not have crash data available. No fatal crashes were reported to have occurred at any intersection within the project limits. **Table 2.8** shows the number of crashes by intersection for years 2011 through 2015. None of the seven analyzed intersections have lighting present.

**Table 2.8: Crash Summary by Intersection (2011-2015)**

<b>Intersection</b>	<b>Total</b>	<b>Fatal</b>	<b>Injury</b>	<b>Property Damage Only</b>	<b>Night</b>	<b>Wet</b>
Lorraine Road (signal)	<b>51</b>	0	19	32	9	9
Post Blvd/Greenbrook Blvd (stop)	<b>29</b>	0	17	12	1	4
197 <sup>th</sup> Street E/Lindrick Lane (stop)	<b>6</b>	0	2	4	5	1
213 <sup>th</sup> Street E (stop)	<b>3</b>	0	0	3	3	0
Tree UMPH Adventure Park (stop)	<b>0</b>	0	0	0	0	0
225 <sup>th</sup> Street E/Panther Ridge Trail (stop)	<b>1</b>	0	0	1	0	0
CR 675/Waterbury Rd (stop)	<b>7</b>	0	2	5	3	3
<b>Total</b>	<b>97</b>	<b>0</b>	<b>40</b>	<b>57</b>	<b>21</b>	<b>17</b>

### **2.10.3 Crash Types**

**Table 2.9** summarizes the types of crashes that occurred within the project limits between the years 2011 through 2015. According to the summary, rear-end crashes account for the majority of the crashes at about 32% of the total amount of crashes within the study corridor. 16% of the total crashes were left-turn type crashes followed by animal crashes at 14% of total, and angle type crashes at 12% of the total. No bicycle or pedestrian related crashes were reported in the last five years within the project limits.

**Table 2.9: Crash Summary for Project Limits**

Crash Type	2011	2012	2013	2014	2015	2011-2015	Per Year	Percent
Angle	3	4	2	5	4	18	3.6	12.33%
Animal	5	2	5	2	6	20	4.0	13.70%
Rear End	7	5	8	10	16	46	9.2	31.51%
Head On	0	2	0	0	0	2	0.4	1.37%
Left Turn	1	1	7	9	5	23	4.6	15.75%
Sideswipe	3	1	2	2	3	11	2.2	7.53%
Right Turn	0	0	2	0	0	2	0.4	1.37%
Off Road	3	2	1	4	4	14	2.8	9.59%
Other	0	1	1	1	0	3	0.6	2.05%
Rollover	0	2	1	1	3	7	1.4	4.80%
<b>Total</b>	<b>22</b>	<b>20</b>	<b>29</b>	<b>34</b>	<b>41</b>	<b>146</b>	<b>29</b>	<b>100.00%</b>

## ***2.11 Utilities***

Eleven utility companies were identified along the project corridor from a Sunshine 811 design tickets. The utilities include; AT&T Transmission, Braden River Utilities, Bright House Networks, Frontier Communications, Lakewood Ranch Community Development Districts, Level 3 Communications (Now CenturyLink), Manatee County Utility Operations, Myakka Communications, Peace River Electric Cooperation, TECO Peoples Gas, and Uniti Fiber.

The utility owners were contacted to identify the locations and types of utilities within the project limits. Plan sheets were sent to the utility companies with a request to identify the locations and types of utility conflicts within the existing facility and the planned facility. The utility information used in the Utility Assessment was obtained from field reviews, as-build plan information from previous projects in the area, as well as information provided by the utility companies. The list of existing utility owners within the project corridor and their facilities can be found in **Appendix B**.

One utility company, Myakka Communications, indicated that they do not have conflicts with the proposed improvements within the study limits. Braden River Utilities and Lakewood Ranch Development Districts were unresponsive to the requests for facility information within the limits of the PD&E study.

## ***2.12 Railroads***

There are no existing railroads within the project corridor.

## ***2.13 Lighting***

There is no existing lighting within the project corridor.

## ***2.14 Soil Classifications & Geotechnical Investigations***

The *Soil Survey of Manatee County* classifies the majority of soils within the project area as Myakka fine sand (30), Floridana-Immokalee-Okeelanta association (26) and Palmetto sand (38) (see **Table 2.10**). Myakka fine sand (30) is a poorly drained soil with a seasonal high water table (SHWT) at a depth of six to eighteen inches below the ground surface and is classified as Hydrologic Soil Group (HSG) Type A/D. Floridana-Immokalee-Okeelanta association (26) is a very poorly drained soil with a SHWT two feet above the ground surface to one foot below and is classified as HSG Type C/D. Palmetto sand (38) is poorly drained soil with a SHWT at the ground surface to a depth of one foot below and is classified as HSG Type A/D.

A geotechnical field study was conducted using hand auger borings, Standard Penetration Test (SPT) borings, subsurface sampling for the *PD&E Pond Siting Report*. Hand auger borings were performed in each of the proposed alternative pond sites to determine the depth to groundwater and estimate the SHWT. The hand auger borings were performed manually twisting and advancing a bucket auger into the ground. As the hand auger was slowly advanced, representative samples were obtained for classification of the soils.

## ***2.15 Structures***

There are two existing bridge culverts within the project which are located at the Braden River. Bridge 130113 is a triple 12'x5' box culvert at MP 10.526 (Sta. 182+87), and Bridge 130114 is a quadruple 10'x7' box culvert at MP 10.976 (Sta. 206+57). Both structures were built in 1970.

## ***2.16 Existing Intelligent Transportation Systems***

There are no existing Intelligent Transportation Systems within the project limits.

## ***2.17 Existing Environmental Features***

This project was screened through the Efficient Transportation Decision Making (ETDM) process as ETDM Project Number 14263. An ETDM Programming Screen Summary Report containing comments from the Environmental Technical Advisory Team (ETAT) was published on November 28<sup>th</sup>, 2016.

The Premier Sports Campus at Lakewood Ranch, recently acquired by Manatee County, is an existing recreation/park complex located along SR 70 at the Greenbrook Blvd/Post Blvd intersection. This existing park resource is considered under Section 4(f) of the U.S. Department of Transportation Act of 1966.

The historical resources survey of the project area revealed an absence of historic buildings or structures within the Area of Potential Effect (APE). However, one linear resource, SR 70, was located within the APE and recorded. Additionally, portions of three other linear resources including a segment of abandoned East & West Coast Railway railbed, the Lakewood Ranch Canal #2, and the Lakewood Ranch Canal #3, are located within the APE. Portions of the railbed have been determined eligible for listing in the National Register of Historic Places (NRHP) by the State Historic Preservation Office (SHPO). However, the portions of the railbed within the APE have been determined not to be eligible. The Lakewood Ranch Canal #2 and Lakewood Ranch Canal #3 were also determined not to be eligible. Portions of SR 70 have been recorded within Manatee County but also determined not to be eligible for listing in the NRHP.

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# SECTION 3. DESIGN CONTROLS AND CRITERIA

The design criteria for the proposed improvements to SR 70 adhere to the FDOT Design Manual (FDM), January 2018. The design year for the proposed improvements is 2043. The design criteria used for this PD&E study are listed in Table 3.1 and Table 3.2

**Table 3.1 Design Criteria used for Segment A**

Design Element			Value	Source (2018 FDOT Design Manual)	
<b>Typical Section</b>	Roadway Type		C3R – Suburban Residential	Table 200.4.1	
	Design Speed		45*	Table 201.4.1	
	Lane Widths (ft)		11	Table 210.2.1	
	Minimum Median Width (ft)		22	Table 210.3.1	
	Shoulder Width	Outside	Full (ft)	10	Table 210.4.1
			Paved (ft)	5	Table 210.4.1
	Border Width (ft)		14	Table 210.7.1	
Recoverable Terrain (ft)		24	Table 215.2.1		
<b>Horizontal</b>	Min. Stopping Sight Distance (ft)		360	Table 210.11.1	
	Max. Deflection Without Curve		1° 00' 00"	Ch. 210.8.1	
	Length of Curve	Desirable (ft)	675	Table 210.8.1	
		Minimum (ft)	400	Table 210.8.1	
	Max. Superelevation (%)		5	Table 210.9.2	
	Max Curvature (e = NC)		2° 45' 00"	Table 210.9.2	
Max. Curvature (e max = 0.05)		8° 15' 00"	Table 210.9.2		
<b>Vertical</b>	Max. Grade (Flat Terrain) (%)		6	Table 210.10.1	
	Max. Change in Grade without Vertical Curve (%)		0.7	Table 210.10.2	
	Base Course Clearance Above Water Elevation (ft)		3	Ch. 210.10.3 (2)	
	Crest Curve	K Value	98	Table 210.10.3	
		Min. Length (ft)	135	Table 210.10.4	
	Sag Curve	K Value	79	Table 210.10.3	
		Min. Length (ft)	135	Table 210.10.4	

\*The SIS minimum design speed is 50 mph. SIS Minimum Design Speed may be reduced to 45 mph for curbed roadways within C3 Context Classification.

**Table 3.2 Design Criteria used for Segment B and Segment C**

Design Element		Value	Source (2018 FDOT Design Manual)	
Typical Section	Roadway Type	C3R – Suburban Residential	Table 200.4.1	
	Design Speed	50	Table 201.4.1	
	Lane Widths (ft)	12	Table 210.2.1	
	Minimum Median Width (ft)	30	Table 210.3.1	
	Shoulder Width	Outside	Full (ft)	10 Table 210.4.1
			Paved (ft)	5 Table 210.4.1
		Inside	Full (ft)	8 Table 210.4.1
			Paved (ft)	0 Table 210.4.1
Border Width [curbed/flush shoulder] (ft)	29/40	Table 210.7.1		
Recoverable Terrain (ft)	24	Table 215.2.1		
Horizontal	Min. Stopping Sight Distance (ft)	360	Table 210.11.1	
	Max. Deflection Without Curve	0° 45' 00"	Ch. 210.8.1	
	Length of Curve	Desirable (ft)	750	Table 210.8.1
		Minimum (ft)	400	Table 210.8.1
	Max. Superelevation (%)	10	Table 210.9.1	
	Max Curvature (e = NC)	0° 30' 00"	Table 210.9.1	
Max. Curvature (e max = 0.10)	8° 15' 00"	Table 210.9.1		
Vertical	Max. Grade (Flat Terrain) (%)	6	Table 210.10.1	
	Max. Change in Grade without Vertical Curve (%)	0.6	Table 210.10.2	
	Base Course Clearance Above Water Elevation (ft)	3	Ch. 210.10.3 (2)	
	Crest Curve	K Value	136	Table 210.10.3
		Min. Length (ft)	300	Table 210.10.4
	Sag Curve	K Value	96	Table 210.10.3
Min. Length (ft)		200	Table 210.10.4	

## SECTION 4. ALTERNATIVE ANALYSIS

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The purpose of the alternatives analysis process is to identify technical and environmentally sound alternatives that meet the needs of the project, are cost-effective, and are acceptable to the community. This section describes the alternatives being considered and the results of these alternatives.

### ***4.1 Corridor Analysis***

The purpose of the corridor analysis process is to identify viable corridors in which technically and environmentally sound alignment alternatives can be developed. Constructing a new roadway in a corridor outside of the existing SR 70 corridor would result in significant environmental impacts and costs associated with those impacts. Based on the analysis of the project limits, the existing SR 70 corridor is the only viable corridor for the proposed improvements.

### ***4.2 Alternative Analysis***

#### ***4.2.1 No Build Alternative***

The No-Build Alternative assumes that SR 70 will remain as a two-lane undivided roadway through the design year 2045, with only routine maintenance being performed during this time. The traffic analysis conducted for the No-Build Alternative indicates that SR 70 will operate at Level of Service (LOS) E for the AM and PM design hour conditions by 2025. This is below the targeted LOS C for this type of a facility.

However, the No-Build Alternative remains a viable alternative throughout the study process. The following are advantages and disadvantages associated with the No-Build Alternative:

#### *Advantages of the No-Build Alternative*

- No additional right-of-way needed to acquire
- No design, right-of-way or construction costs
- No delays to motorists or inconveniences to property owners due to construction
- No construction impacts to the adjacent natural, physical and social environment

#### *Disadvantages of the No-Build Alternative*

- Increased potential for crashes due to congestion
- Increased traffic congestion and user costs associated with increased delays and reduced level of service at intersections
- Increased emergency vehicle response times
- Increased evacuation travel times

- Incompatibility with the adopted Manatee County Comprehensive Plan
- Increased vehicle emission pollutants due to higher levels of traffic congestion

#### ***4.2.2 Transportation System Management and Operations (TSM&O Alternative)***

The objective of Transportation Systems Management and Operations (TSM&O) is to identify strategies that reduce existing traffic congestion and prevent its occurrence in areas that are currently congested. These strategies are designed to modify travel behavior and increase system efficiency without costly infrastructure improvements.

TSM&O options generally include traffic signal and intersection improvements, access management, and transit improvements. The additional capacity required to meet the projected traffic volumes along SR 70 cannot be provided solely through the implementation of TSM&O improvements. Access Management recommendations are discussed in Section 6.7. Intersection improvements were assessed using FDOT's Intersection Control Evaluation (ICE) process. The evaluation recommended implementing roundabouts at the Del Webb Blvd, Bourneside Blvd, and CR 675 intersections. The intersection control evaluation also recommended implementing a continuous green t-intersection at Uihlein Road Boulevard. The intersection improvements were evaluated in conjunction with the build alternative. These improvements were presented to the public at the Public Hearing and will be further evaluated during the design phase.

#### ***4.2.3 Multimodal Alternatives***

The surrounding project corridor consists of predominantly of low-density residential with some commercial, agricultural and conservation lands. Manatee County Area Transit does not provide (bus) service along SR 70 within the project limits. The project segment of SR 70 is a Strategic Intermodal System component with a high volume of truck traffic that will benefit from the improvements to safety and LOS that will be accomplished by widening the roadway.

The proposed typical section for all three segments of this project has an eight-foot sidewalk in both directions.

#### ***4.2.4 Build Alternatives***

##### ***4.2.4.1 Segments***

Within the limits of this study, FDOT is evaluating one project build alternative for three project segments based on forecasted traffic volumes. Segment A extends from Lorraine Road to east of Greenbrook Boulevard, Segment B extends from east of Greenbrook Boulevard to Bourneside Boulevard, and Segment C extends from Bourneside Boulevard to the eastern project limit at CR 675. **Table 4.1** defines the limits of the three segments.

**Table 4.1: Evaluation Segments**

Segment	Begin Segment	End Segment	Begin Station	End Station	Segment Length (mi)
1	Lorraine Road	Greenbrook Blvd	127+56.59	168+40.40	.773
2	Greenbrook Blvd	Bourneside Blvd	168+40.40	278+50.05	2.085
3	Bourneside Blvd	CR 675	278+50.05	450+38.97	3.267

#### 4.2.4.2 Typical Sections

Proposed build improvements for each of the three project segments include the follows:

##### Segment A

The proposed typical section for Segment A will provide a high-speed curbed roadway design with three 11-foot travel lanes in each direction, seven-foot outside buffered bike lanes, a closed drainage system with curbs and gutters, and eight-foot sidewalks in both directions (**Figure 4.1**). The divided roadway is separated by a 30-foot raised median with adjacent Type E curb and gutter. The proposed improvements in this segment are anticipated to be accomplished within the existing 200 foot right-of-way.

The high speed curbed typical section was proposed in Segment A to balance the local residential traffic with the truck traffic that utilizes the SR 70 SIS facility within the project's suburban residential context.

Several configurations of six-lane high speed curbed typical sections were considered. A high speed curbed typical section was initially shown during the public workshop with six 12-foot through travel lanes and five-foot bicycle lanes. The typical section included a 30-foot raised median with curb and gutter offset 6.5 feet from the inside edge of travel. Stormwater was conveyed along outside curb and gutter to a closed storm sewer system. Six-foot sidewalks were provided on each side of the roadway near the right-of-way line.

Following the public workshop additional configurations of high speed curbed typical sections were evaluated. Variations in median curb offset, bicycle lane width, travel lane widths, and sidewalk widths were considered to control operating speed and enhance the multi-modal safety along the corridor.

A change to flush outside shoulders with stormwater conveyed along an open drainage system was also considered. It was determined that a high speed curbed typical section with flush shoulders and open ditches could not be provided within the existing right-of-way. The flush shoulders and open drainage resulted in significantly higher right-of-way impacts and compensatory utility impacts to the adjacent Peace River electric transmission lines.

## Segment B

The proposed typical section for Segment B will provide a high-speed curbed roadway design with two 12-foot lanes in each direction, five-foot paved outside shoulders, curb and gutter draining to a closed storm sewer system, and eight-foot sidewalks in both directions (**Figure 4.2**). The divided roadway is separated by a 54-foot wide raised median adjacent Type E curb and gutter. The 54-foot median design can accommodate expansion to a six-lane section in the future, when traffic needs merit an expansion, by adding a 12-foot lane in each direction on the inside. The proposed improvements in this segment are anticipated to be accomplished primarily within the existing 200-foot right-of-way; minimal right-of-way will be needed to construct proposed roundabouts at Uihlein Road, Del Webb Boulevard, and Bourneside Boulevard.

Similar to Segment A, the high speed curbed typical section was proposed in Segment B to balance local residential traffic with the truck traffic that utilizes the SR 70 SIS facility within the project's suburban residential context.

Several configurations of high speed, curbed, four-lane (expandable to six-lane), typical sections were considered. A high speed curbed typical section was initially shown during the public workshop with four twelve-foot through travel lanes and five-foot bicycle lanes. The typical section included a 54-foot raised median with curb and gutter offset 4 feet from the inside edge of travel. The median was designed to accommodate one future 12-foot travel lane in each direction. Stormwater was conveyed along outside curb and gutter to a closed storm sewer system. Six-foot sidewalks were provided on each side of the roadway near the right-of-way line.

Following the public workshop additional configurations of high speed curbed typical sections were evaluated. Variations in median curb offset, bicycle lane width, travel lane widths, and sidewalk widths were considered to control operating speed and enhance the multi-modal safety along the corridor.

The use of flush outside shoulders with stormwater conveyed along an open drainage system was also considered. Similar to Segment A, it was also determined that there is insufficient existing right-of-way width to accommodate flush outside shoulders and open ditches after the roadway is widened to six-lanes in the future.

The benefits of accommodating future expandability to six-lanes by widening the roadway within the 54-foot median were compared to the benefits of expansion by future widening on the outside of the roadway after initially constructing the roadway with a more narrow 30-foot median. Future outside widening provided a lower upfront cost to construct the initial four-lane roadway because there was sufficient border width to accommodate less costly flush outside shoulders and open ditches. However, future outside widening then required reconstruction of driveways and replacement of shoulders and ditches with curb and gutter and a closed storm sewer system. As a result, it was determined that future inside widening within the median provided a lower total construction cost.

### Segment C

The proposed typical section for Segment C will provide a high-speed curbed roadway design with two 12-foot lanes in each direction, ten-foot outside shoulders (five feet paved), an open drainage system, and eight-foot sidewalks in both directions (**Figure 4.3**). The divided roadway is separated by a 30-foot raised median with adjacent Type E curb and gutter. The proposed improvements in this segment are anticipated to be accomplished primarily within the existing 200 foot right-of-way; minimal right-of-way will be needed to construct proposed roundabouts at 197th Street East/Lindrick Lane, 213th Street East, 225th Street East/Panther Ridge Trail, and CR 675.

The high speed curbed typical section was proposed to balance local residential traffic with the truck traffic that utilizes the SR 70 SIS facility within the project's suburban residential context.

Several configurations of four-lane high speed curbed typical sections were considered. A high speed curbed typical section was initially shown during the public workshop with four twelve-foot through travel lanes and five-foot bicycle lanes. The typical section included a 30-foot raised median with curb and gutter offset 4 feet from the inside edge of travel. Ten-foot (five foot paved) flush outside shoulders drained to open ditches. Six-foot sidewalks were provided on each side of the roadway near the right-of-way line.

Other configurations of high speed curbed typical sections were evaluated after the public workshop. Changes in median curb offset, bicycle lane width, travel lane widths, and sidewalk widths were considered to control operating speed and enhance the multi-modal safety along the corridor.

Figure 4.1 Segment A Proposed Typical Roadway Section

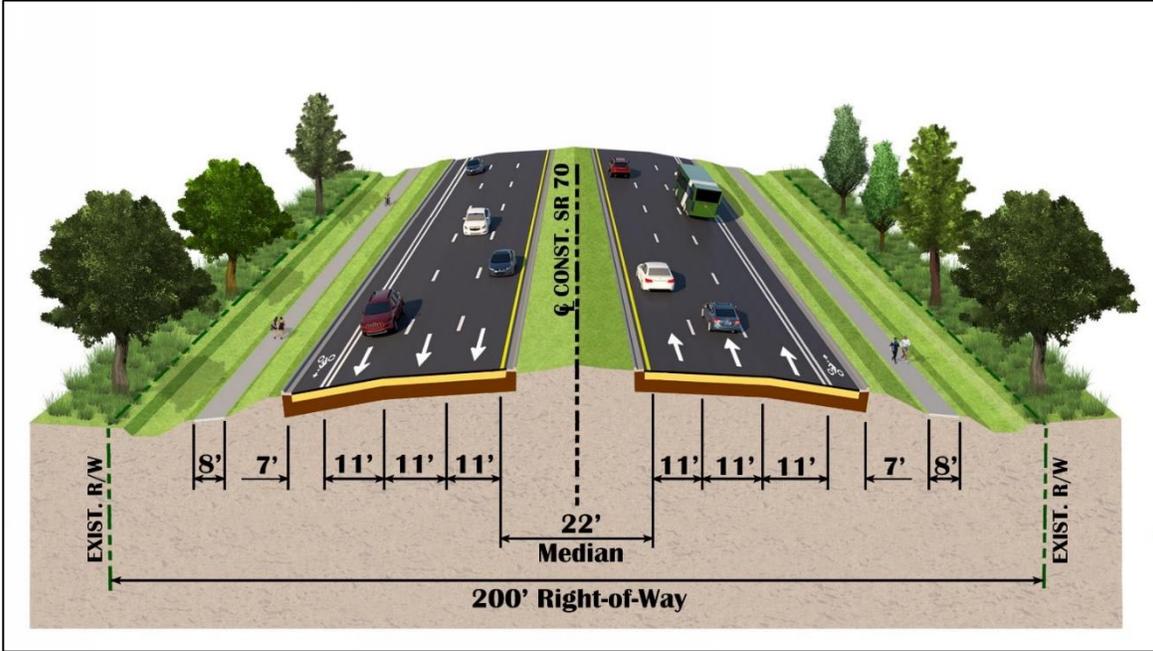


Figure 4.2 Segment B Proposed Typical Roadway Section

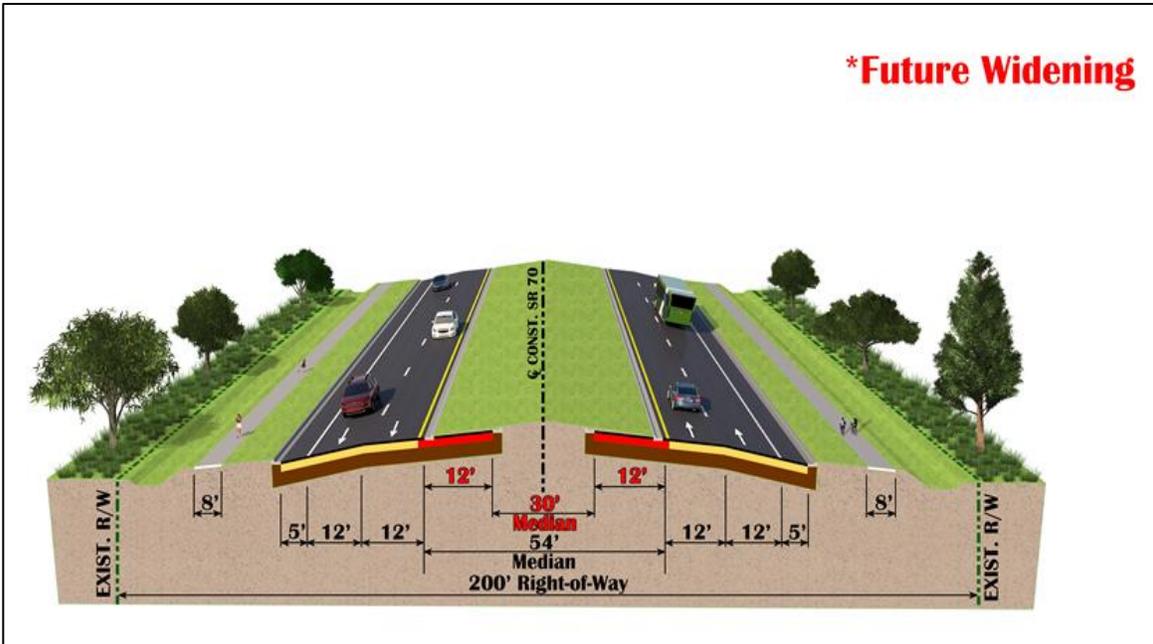
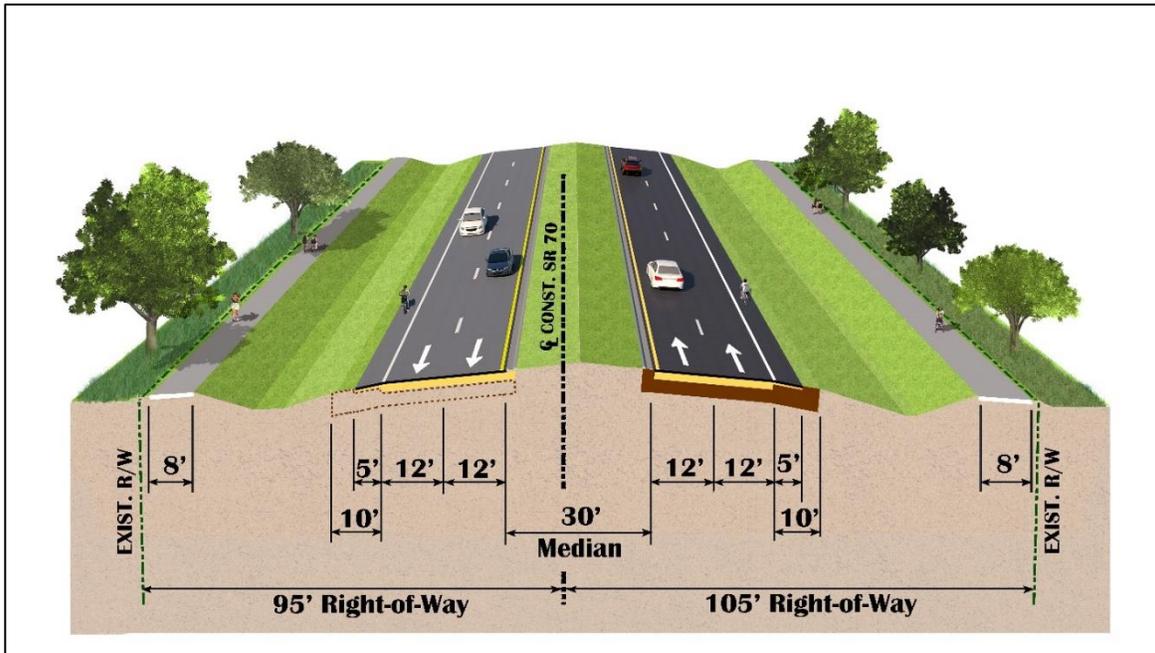


Figure 4.3 Segment C Proposed Typical Roadway Section



#### ***4.2.5 Alternatives Evaluation Matrix***

The evaluation matrix is based on environmental effects, ROW needs, project costs, and engineering factors. The evaluation matrix can be found in **Table 4.2**. The matrix quantifies considerations such as potential business and residential relocations, impacts to environmental resources, and the acres of ROW needed for roadway improvements and stormwater facilities. The matrix also quantifies potential impacts to archaeological/historical sites, noise sensitive sites, and threatened and endangered species due to the road widening.

The bottom portion of the evaluation matrix details cost of estimates for wetland mitigation, ROW acquisition, construction, design, and construction engineering and inspection. These estimates were based on the year 2018 unit costs.

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**Table 4.2: Alternatives Evaluation Matrix**

<b>Evaluation Criteria</b>	<b>No-Build Alternative</b>	<b>Build Alternative</b>
<b>Centerline Length of Improvement (Feet)</b>	<b>N/A</b>	<b>32,161</b>
<b>Centerline Length of Improvement (miles)</b>	<b>N/A</b>	<b>6.1</b>
<b>Business Impacts</b>		
Number of business relocations	0	0
<b>Residential Impacts</b>		
Number of residential relocations	0	0
<b>Environmental Effects</b>		
Archaeological/Historical sites (potential)	None (0)	Low
Public parks, recreation areas, or wildlife refuges (acres)	None (0)	None (0)
Noise (impacted receptors)	3	0
Wetland (acres)	0.0	9.57
Floodplains (acres)	0.0	42.20
Threatened and endangered species (potential)	Low	Low
Contamination sites (high / medium)	0	5/2
<b>Right-of-Way Needs</b>		
Right-of-way to be acquired for roadway (acres)	0.0	0.77
Right-of-way to be acquired for stormwater facilities (acres)	0.0	66.19
Right-of-way to be acquired for floodplain compensation (acres)	0.0	44.30
Total right-of-way acres	0.0	111.26
<b>Estimated Total Project Costs (2017 Cost)</b>		
Wetland mitigation	\$0	\$1,131,605
Utility relocation costs	\$0	\$0
Right-of-way acquisition for roadway	\$0	\$915,000
Right-of-way acquisition for stormwater facilities	\$0	\$1,515,000
Right-of-way acquisition for floodplain compensation	\$0	\$7,780,000
<b>Total Right-of-Way Cost</b>	<b>\$0</b>	<b>\$10,210,000</b>
Construction cost for roadway	\$0	\$54,854,188
Construction cost for stormwater facilities	\$0	\$5,222,466
Construction cost for floodplain compensation	\$0	\$7,256,758
<b>Total Construction Cost</b>	<b>\$0</b>	<b>\$67,333,412</b>
Design	\$0	\$4,713,339
Construction Engineering & Inspection (15% of the Total Construction Cost)	\$0	\$6,733,341
<b>Preliminary Estimate of Engineering Cost</b>	<b>\$0</b>	<b>\$11,446,680</b>
<b>Preliminary Estimate of Total Project Cost</b>	<b>\$0</b>	<b>\$90,121,697</b>

## SECTION 5. PUBLIC INVOLVEMENT

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A comprehensive Public Involvement Program (PIP) (February 2017) was developed for this project. The PIP outlines the strategies used to address public involvement and outreach over the course of the study. At the conclusion of the study, a Comments and Coordination Report will be prepared to fully document the public stakeholder involvement associated with this project

### *5.1 Local Agency/Group Meetings*

There are many local, regional, state, and federal agencies identified that have an interest in this project due to jurisdictional review or expressed interest. These agencies have been identified and will be contacted directly by the FDOT through the Advance Notification (AN) process at the outset of the project in accordance with the PD&E Manual, Part 1, Chapter 3, Preliminary Environmental Discussion and Advance Notification. As other concerned public agencies are identified throughout the study, they also will be listed and contacted by the FDOT.

A SR 70 Pond Siting coordination meeting with the Lakewood Ranch master developer, Schroader Manatee Ranch (SMR), took place April 16, 2018. The purpose of this meeting was to discuss potential stormwater pond and floodplain compensation sites affecting stormwater management facility (SMF) properties by the proposed widening. Aerials overlaid with sketches of the preliminary pond sites were presented. The location of SMF 1A and SMF 2A were limited. It was brought up in this meeting that the proposed location of SMF 1A has been sold to Publix. The recommended solution was to utilize the two existing ponds that are already hydraulically connected via a pipe, flanking Post Blvd/Greenbrook Blvd north of SR 70. Another recommendation from this meeting was considering using a joint-use pond at the location where SMF-D-J is being proposed. The pond site locations were updated following this meeting.

A pond coordination follow-up meeting was conducted October 1, 2018 in Lakewood Ranch. The purpose of this meeting was to discuss the updates in land available for pond sites. During the meeting SMR expressed that it is willing to work with FDOT on pond sites that can be identified on land that SMR controls. There are multiple vacant parcels that could be acquired for a pond location. FDOT will make a decision by March 2019 which parcel, if any, to acquire for the pond site as funds for acquisition become available in the summer of 2019 and the transaction would be complete in 2020.

A public meeting was held with the Del Webb Home Owners Association (HOA) on April 25, 2019 where in excess of 100 residents gathered to obtain information about the project and to ask questions. Many residents showed support of the proposed roundabouts, but still posed a concern of how trucks would maneuver through them. There were concerns about the noise level of the truck traffic and if the project improvements would increase the truck traffic along SR 70. Residents brought up issues with the existing traffic signal and existing speed limits that would need to be addressed with Manatee County's Traffic Operations Department.

## ***5.2 Public Information Workshop/Alternatives Public Meeting***

A public information workshop was held December 18, 2018 from 5pm to 7pm at the Risen Savior Lutheran Church, 14605 59<sup>th</sup> Avenue East in Bradenton, Florida. A total of 71 attendees signed in at the registration table. Members of the public were provided a project newsletter and a comment form. A looping slide show provided an overview of the project and played for attendees throughout the evening. Display boards illustrating the alternatives and other project information were available for review.

The public was also able to submit their comments either by phone or online until January 4<sup>th</sup>, 2019 to the email address or phone number provided on the comment forms. A total of 22 written comments were received at the workshop. Some concerns received through the comments were in regards to the anticipated increased noise due to the road widening, incorporating a safe passage for equestrians to safely cross SR 70 to access equestrian paths on either side of the roadway, adding turns lane at various intersections, adding additional signs for bike lanes, and minimizing environmental and wildlife impacts. Additional concerns that can be found in the comment forms in the *Comments and Coordination Report*.

## ***5.3 Public Hearing***

This section will be updated after the Public Hearing is completed.

## SECTION 6. RECOMMENDED ALTERNATIVE

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Based on the evaluation of the Build Alternative and No Build Alternatives described in Section 4, the Build Alternative is the Recommended Alternative. Concept plans illustrating the Recommended Alternative can be found in Appendix C.

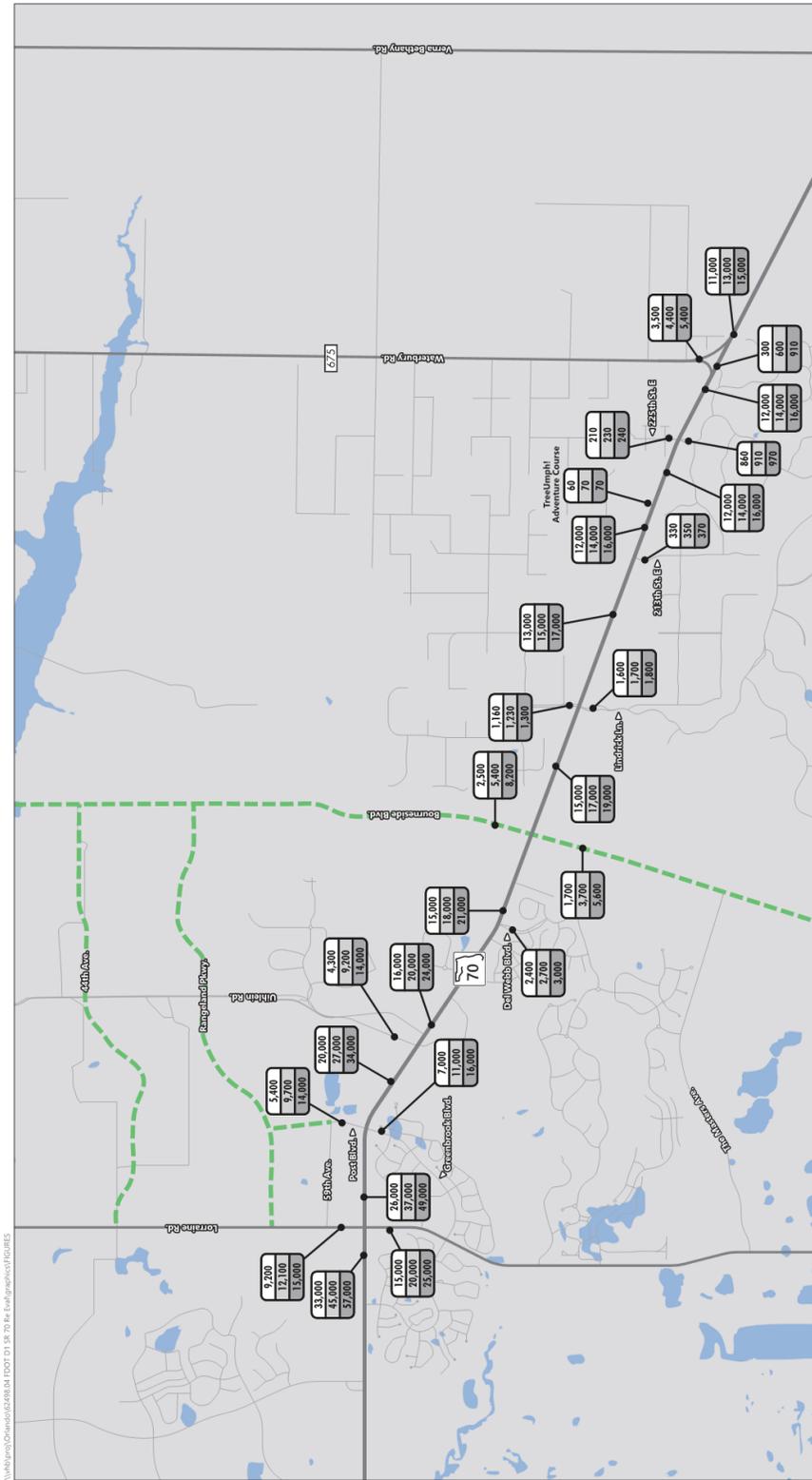
### *6.1 Typical Sections*

The proposed roadway typical sections for the Recommended Alternative are described in Section 4.2.4. The typical section package is included in **Appendix D**.

### *6.2 Design Year Traffic Volumes*

The traffic analysis findings conducted during the PD&E Study are documented in the *Design Traffic Technical Memorandum-Future Traffic Reevaluation* (DTTM) (October 2018) and prepared under separate cover.

Design year (2045) AADT volumes were developed for this study using the District 1 Regional Planning Model (D1RPM) provided by FDOT. The roadway network included in this travel demand model included the Northeast sector development- a multi-project, approximately 2,700 acre, mixed-use development that was approved in December, 2017 with a proposed build out year of 2032. Based on this information, the 2040 model volumes were grown by 0.66% (BEER estimated annual low growth rate for Manatee County) to calculate the design year 2045 AADTs for SR 70. The same assumption was made for the side streets including Lorraine Rd, Greenbrook Blvd/Post Blvd, Uihlein Rd, Bourneside Blvd, and CR 675, which will be influenced by the Northeast Sector traffic. **Figure 6.4** provides the opening year 2025, mid-design year 2035 and design year 2045 AADT volumes based on the recommended growth rate for the Build scenario. **Figure 6.5** provides the design year 2045 design hour volumes for the Build Alternative.

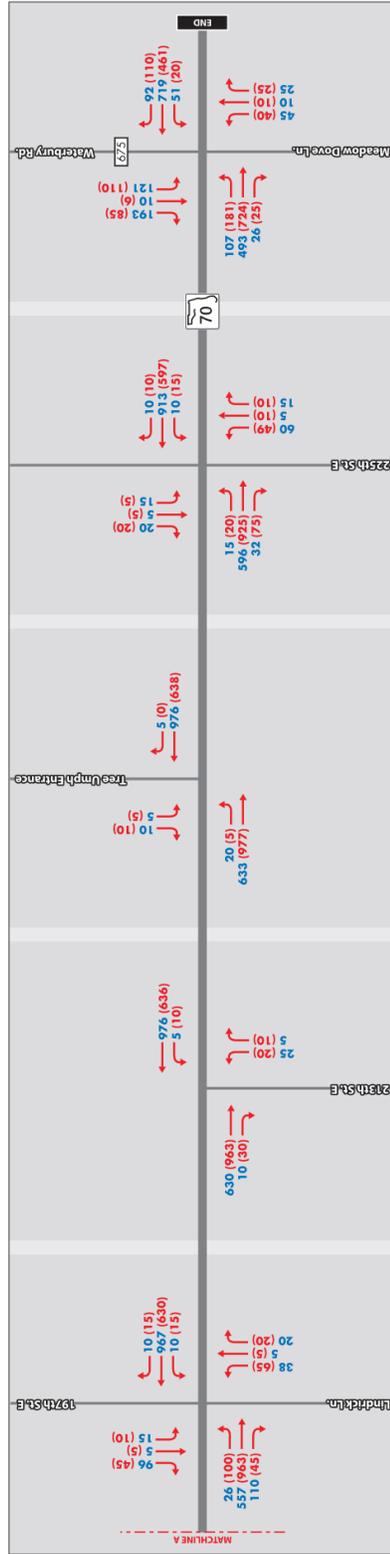
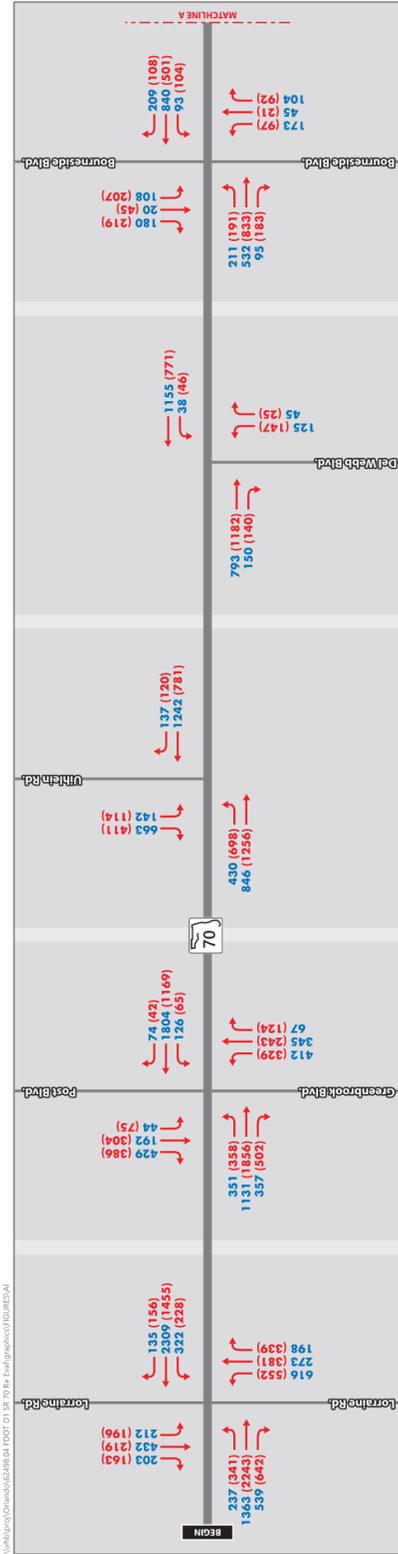


**Figure 6.4**  
 Future Year Annual Average Daily  
 Traffic (AADT) (Build)  
 SR 70 Reevaluation

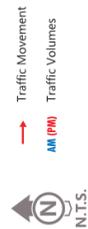


Proposed Roadways  
 Year 2022  
 Year 2035  
 Year 2045





**Figure 6.5**  
 Year 2045 Build  
 Turning Movement Volumes  
 SR 70 Reevaluation



### 6.3 Horizontal and Vertical Alignment

The horizontal alignment for the Recommended Alternative contains three horizontal curves and three deflection points. The horizontal alignment for the Recommended Alternative is described in **Table 6.1**. Plan sheets illustrating the Recommended Alternative are included in **Appendix C**.

**Table 6.1: Horizontal Alignment- Recommended Alternative**

Centerline PI Station	Bearing		Degree of Curvature	Radius (ft)	Length (ft)
	Back	Ahead			
162+94.35	S 89° 20' 59.38" E	S 54° 57' 24.93" E	3° 03' 04.04"	1,877.86	1,127
242+50.61	S 54° 57' 24.93" E	S 69° 55' 31.60" E	1° 58' 40.46"	2,896.79	757
290+18.45	S 69° 55' 31.60" E	S 70° 40' 31.83" E	-	-	-
294+00.40	S 70° 40' 31.83" E	S 69° 55' 31.60" E	-	-	-
359+87.56	S 69° 55' 31.60" E	S 69° 53' 57.98" E	-	-	-
423+41.26	S 69° 53' 57.98" E	S 62° 32' 54.26" E	1° 00' 17.04"	5,702.58	732

The Recommended Alternative generally follows the existing SR 70 horizontal and vertical alignment. However, the Recommended Alternative is typically about one foot higher than the existing roadway to allow for additional base clearance over the seasonal high groundwater level. Additionally, within Segment 1 and Segment 2, the Recommended Alternative provides minimum vertical grades over 0.3% to allow stormwater to be conveyed along the proposed gutters.

### 6.4 Design Year Level of Service and Intersection Geometrics

**Figure 6.6** shows the recommended intersection lane geometry for the Build Alternative. The roadway segment Level of Service (LOS) analysis was performed for the Build Alternative for both AM and PM design hours for SR 70 using the later HIGHPLAN 2012 software. A summary of the HIGHPLAN 2012 analysis is shown in **Table 6.2**. The results show that under the Build alternative, the entire study corridor operates within target LOS through the design year 2045 during both the AM and PM design hour conditions.

**Table 6.2: Build Arterial LOS Analysis Summary**

SR 70 Segment	Year	Number of Lanes	FDOT Target LOS	AM LOS	PM LOS
Uihlein Rd to Bourneside Blvd	2025	4	C	B	B
	2035			C	C
	2045			C	C
Bourneside Blvd to Lindrick Ln/197 <sup>th</sup> St E	2025	4	C	B	B
	2035			B	B
	2045			B	B
Lindrick Ln/197 <sup>th</sup> St E to CR 675/Meadow Dove Ln	2025	4	C	B	B
	2035			B	B
	2045			B	B

### ***6.5 Variations and Exceptions***

The design criteria for this project is provided in **Table 3.1** and **Table 3.2**. For SIS facilities with a C3R context classification a minimum design speed of 50 mph is required. However, within the C3R context classification, if curbed roadways are proposed the design speed may be reduced to 45 mph. As designed, the proposed high-speed curbed typical sections proposed for Segments A meets the FDM criteria with a 45 mph design speed. No variation for design speed is required.

A design variation for two-foot traffic separator is required to accommodate dual left turn lanes where warranted within the proposed 30-foot median. A design variation for offset to median curb is required throughout the project. It was determined by the District Design Engineer in a Context Committee meeting on January 11, 2019 that no offset to median curb was preferable to the 4-foot and 6.5-foot FDM criteria for four and six lane roadways respectively. The adjacent curb was preferred as a means to calm traffic and reduce the operating speed of the roadway.



## ***6.6 Intersection and Interchange Concepts***

The Intersection Control Evaluation (ICE) was used for this PD&E study to evaluate an optimal geometric and control solution for intersections within the SR 70 project corridor. The ICE is the process followed by the Department. Based on the ICE results, roundabouts were recommended at the Del Webb Blvd, Bourneside Blvd, and CR 675 intersections along SR 70. A continuous Green Tee control strategy was recommended at the Uihlein Road and SR 70 intersection.

## ***6.7 Access Management***

SR 70 in Manatee County is designated as Access Class 3 from Lorraine Road (MP 9.478) to County Road (CR) 675/Waterbury Road (MP 15.567). This classification allows for full median openings and signalized intersections spaced at 2,640 feet, and directional median openings spaced at 1,320 feet. The proposed median openings have been designed to provide a balance between access to adjacent properties and safety based on Access Class 3 standards. This criteria is compliant with the Department's State Highway Access Management Classification System and Standards (Rule 14-97).

**Table 6.3** below provides the final recommended access management plan for the proposed median openings for the future SR 70 and has been incorporated into the Recommended Alternative concept plans included in **Appendix C**.

**Table 6.3: Final Recommended Access Management Plan for Future SR 70**

Median Opening #	Type	Location [Station]	Adjacent Spacing		Full Spacing		Comments
			Back [ft]	Ahead [ft]	Back [ft]	Ahead [ft]	
-	Directional	115+40		1,217		-	Outside Project: Exist. Opening; private drive (ag land); 1-way inbound (EB-to-NB)
1	Full	127+57	1,217	3,464	12,757	3,464	Lorraine Rd (existing signalized)
2	Full	162+21	3,464	3,639	3,464	3,639	Greenbrook Blvd (proposed signalized)
3	Full	198+60	3,639	2,460	3,639	4,589	Uihein Road (proposed replacement)
4	Directional	223+20	2,460	2,129	-	-	Lennar Subdivision Entrance 1
5	Full	244+49	2,129	3,371	4,589	3,371	Del Webb Blvd
6	Full	278+20	3,371	4,620	3,371	4,620	Bournside Blvd
7	Full	324+40	4,620	5,450	4,620	5,450	Lindrick Lane
8	Full	378+90	5,450	1,830	5,450	4,290	213th Street E
9	Directional	397+20	1,830	2,460	-	-	TreeUmph!
10	Full	421+80	2,460	2,810	4,290	2,810	225th Street E (Panther Ridge)
11	Full	449+90	2,810		2,810		CR 675

## 6.8 Drainage

A *Location Hydraulic Report (LHR)* and a *Pond Siting Report (PSR)* were completed under separate cover. These studies were prepared as part of the PD&E study.

### 6.8.1 Location Hydraulics

The purpose of the *LHR (Location Hydraulics Report)* is to address base floodplain encroachments resulting from the roadway improvements evaluated in the PD&E Study. The intent is to avoid or minimize highway encroachment with the 100-year floodplains and to avoid supporting land use development incompatible with floodplain values. The Recommended Alternative will result in an estimated 18.83 acres-ft of potential floodplain impacts, which increased to 22.6 acres-ft with a 20% contingency (added as a conservative measure to address uncertainty in the early stages of concept development). The proposed stormwater ponds locations were selected to minimize impacts to the FEMA floodplain. All floodplain impacts are compensated for using either offsite floodplain compensation ponds and/or a longer bridge at the Braden River, as well as providing right-of-way ditches for floodplain compensation with the existing right-of-way. The final sizes and locations of

the floodplain compensation sites will be determined during the design phase of this project. **Table 6.4** shows the proposed cross drains.

The proposed cross drains and floodplain compensation areas will perform hydraulically in a manner equal to or greater than the existing condition, and backwater surface elevations are not expected to increase. As a result, there will be no significant change in flood risk, and there will not be a significant change in the potential for interruption or termination of emergency service or in emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant.

**Table 6.4: Proposed Crossdrain Summary**

Number	MP	Sta.	Size	Description
S-200	9.706	140+15	2-42"	Replace
S-210	10.460	179+60	2-30"	Replace
BR 130113 (S-220)	10.526	182+87	4-10'x5'	Replace
S-230	10.667	190+49	30"	Replace
BR 130114 (S-240)	10.976	206+58	4-12'x7'	Replace
S-250	11.924	257+01	2-36"	Replace
S-260	12.052	263+55	36"	Replace
S-270	12.254	274+02	3-42"	Replace
S-280	12.629	294+09	2-48"	Replace
S-290	13.028	315+05	30"	Replace
S-300	13.595	344+85	2-10'x6'	Replace
S-310	13.851	358+49	24"	Replace
S-320	14.764	406+56	2-30"	Replace
S-330	15.172	428+46	2-8'x7'	Replace

### 6.8.2 Stormwater Management

The purpose of the *Pond Siting Report* is to discuss the stormwater management plan for the project. The report identifies alternative pond locations, discusses right-of-way requirements, and documents possible environmental impacts associated with the alternative pond sites. All ponds are located outside the FDOT right-of-way and right-of-way acquisition is required. Basins were combined where possible to minimize the additional right-of-way needed. The report identifies two alternative pond sites for each basin and a regional pond site alternative. The preferred alternative is the regional pond site, which is a 64.4 acre wet detention pond.

Stormwater runoff from SR 70 will be collected and conveyed to crossdrains by curb and gutter and roadside ditches. Attenuation will be provided prior to discharging to the crossdrains. Stormwater management will be provided using the regional pond. The regional pond will use pollutant loading analysis to show a net improvement by converting the existing agricultural land use to a pond. The size of the ponds were estimated using a variety of sources including, not limited to, the FDOT Drainage Manual, FDOT Drainage Design Guide, and SWFWMD ERP Applicants Handbook, Volume I & II.

## ***6.9 Right-of-Way and Relocations***

Within the study limits, the existing right-of-way width is approximately 200 feet throughout the majority of the project corridor and approximately 250 feet near the intersection of SR 70 and CR 675. The project has been divided into three segments. Segment A extends from Lorraine Road to east of Greenbrook Boulevard, Segment B extends from east of Greenbrook Boulevard to Bourneside Boulevard, and Segment C extends from Bourneside Boulevard to the eastern project limit at CR 675. The proposed improvements for Segment A are anticipated to be accomplished within the existing 200-foot right of. The proposed improvements for Segment B are also expected to be accomplished primarily within the existing 200-foot right-of-way, but minimal right-of-way will be needed to construct proposed roundabouts at Uihlein Road, Del Webb Blvd, and Bourneside Blvd. Segment C is also expected to accomplish primarily within existing right-of-way. Minimal right-of-way will need to be acquired if roundabouts are proposed to be constructed at 197<sup>th</sup>/Lindrick Lane, 213<sup>th</sup> St. E./Panther Ridge Trail, and CR 675.

Additional right-of-way will be acquired for the regional pond which will be a 64.4 acre partial take of an overall 560.7 acre agricultural parcel. There is no right-of-way take that will result in any residential or business relocations. The proposed right-of-way are shown on the concept plans included in **Appendix C**.

## ***6.10 Utility Impacts***

As a result of the data collected and design tickets from Sunshine 811, eleven utility companies were identified that operate utilities within the project corridor. These utilities are shown in **Appendix B**. Myakka Communications indicated they do not have any conflicts within the limits of the PD&E study. Braden River Utilities and Lakewood Ranch Development Districts were unresponsive to the utility requests sent out.

Depending on the type of approved improvements being made as a result of the PD&E study, any work being done to the roadway would involve adjustments being made to several of the utilities, mostly Manatee County Utility Operations and TECO Peoples Gas, with potential conflicts involving road and sidewalk, light poles, power poles, among other conflicts which are all prevalent throughout the project and would require relocation for construction. Relocations within the limits of the project would be at the expense of the utility owners because their facilities are within the FDOT right-of-way permit.

## ***6.11 Structures***

It was determined that bridge culvert 130113 at MP 10.526 (Sta. 182+87) and bridge culvert 130114 at MP 10.976 (Sta. 206+57) should be replaced as flat slab bridges instead of box culverts to lower cost, reduce floodplain impacts, and minimize maintenance efforts,. A 75-foot long bridge will be constructed to replace existing bridge culvert 130113. Similarly, a 98-foot long bridge will be constructed to replace bridge culvert 130114.

## **6.12 Railroad Assessment**

There are no existing or proposed railroads within the project corridor.

## **6.13 Lighting**

No lighting is proposed within the project limits.

## **6.14 Intelligent Transportation Systems (ITS)**

No ITS is proposed within the project limits.

## **6.15 Environmental Impacts**

This project was screened through the ETDM process as ETDM Number 14263, and the *Programming Screen Summary Report* was published on April 3<sup>rd</sup>, 2018. The approved Class of Action was determined to be a Type 2 Categorical Exclusion. The Environmental Technical Advisory Team (ETAT) evaluated the project's effects on natural, physical, cultural, social, and economic resources. Upon completion, this study will meet all requirements of NEPA as administered by the Florida Department of Transportation-Office of Environmental Management (OEM) and the requirements of other federal and state laws so as to qualify the proposed project for federal-aid funding.

Of the 21 examined issues, none received a Degree of Effect (DOE) determination of "5" for Dispute Resolution. The only category that received a DOE of "4-Substantial" was Wetlands and Surface Waters. However, six categories received a DOE of "3-Moderate" including: Social, Farmlands, Historic and Archaeological Sites, Water Quality and Quantity, Floodplains, and Wildlife and Habitat. The public and officials (elected and appointed) have been kept informed about the project through the use of meetings, newsletters, and a project website.

### **6.15.1 Cultural Resources (Archeological, Historical including Section 106)**

As discussed in **Section 2.18**, the historical resources survey of the project area revealed an absence of historic buildings or structures within the Area of Potential Effect (APE). One linear resource, SR 70, is located within the APE and recorded. Additionally, portions of three other linear resources are located within the APE. Portions of SR 70 have been recorded within Manatee County but also determined not to be eligible for listing in the NRHP. The Florida Master Site File has been updated for the segment of SR 70 located within the current APE. Based on the data prepared under separate cover in the CRAS (March 2019) it was determined there are no archaeological sites or historic resources that are listed, determined eligible, or that appear to be eligible for listing in the National Register of Historic Places within the APE. The Florida State Historic Preservation Office (SHPO) found the CRAS complete and sufficient and provides concurrence May 29<sup>th</sup>, 2019.

### 6.15.2 Wetlands

A *Natural Resources Evaluation* (NRE) (April, 2019) report was prepared under separate cover for this project. The purpose of the evaluation, in part, was to assure the protection, preservation, and enhancement of wetlands to the fullest extent practicable.

Field reviews identified a total of 16 wetlands and 21 surface water habitats within the project area.

There is only one build alternative for this project, and this alternative is the preferred alternative. Impacts resulting from the Preferred Alternative totaled 9.57 acres and include 5.64 acres of wetlands and 3.94 acres of surface waters. Although unavoidable wetland impacts will occur as a result of the proposed build alternative, these wetlands are located adjacent to, and/or within the existing right-of-way and were previously disturbed by agricultural and residential development, roadway construction, maintenance activities, and the invasion of nuisance and exotic species.

The Uniform Mitigation Assessment Methodology (UMAM) analysis was performed on proposed wetland impact areas. Functional loss was calculated for the preferred alternative. Construction of the preferred alternative results in a loss of 5.46 functional units. The exact type of mitigation used to offset wetland impacts from the proposed SR 70 roadway improvements will be coordinated with the USACE and the SFWMD during the permitting phase(s) of this project.

### 6.15.3 Floodplains

Floodplain compensation sites will be required for the floodplain impacts located along the project corridor. These sites were sized using the 100-year elevations from the SFWMD Braden River Watershed model. Impacts to the 100-year floodplain will occur in three ways:

1. Transverse impacts from the cross drain extensions
2. Longitudinal impacts resulting from the road widening in areas of 100-year floodplain.
3. Impacts due to stormwater management facilities located adjacent to wetland and storage areas.

The floodplain compensation sites are shown in **Table 6.5**.

**Table 6.5: Floodplain Compensation Sites**

Compensation Site	STA Start	STA End	Size (acres)
1A	172+49	185+17	20.0
2A	180+60	197+55	20.0
1B	279+49	289+30	12.9
2B	289+97	306+08	12.8
1C	340+16	355+11	11.4
2C	337+78	351+02	10.6

### 6.15.4 Threatened and Endangered Species

An NRE (April, 2019) report was prepared under a separate cover to document and evaluate the effects of the Recommended Alternative on protected species within the project corridor.

Environmental scientists familiar with Florida natural communities conducted field reviews of the project area in April and June 2017, October 2018, and January 2019. For the purposes of this study, the project study area includes the existing and proposed right-of-way of the preferred project alignment, and proposed stormwater management pond sites. Field reviews consisted of pedestrian transects throughout the natural habitat types located within the study area. The purpose of the reviews was to verify and/or refine preliminary habitat boundaries and classification codes established through in-office literature reviews and aerial photo interpretation. During field investigations, upland and wetland communities within the study area were visually inspected. Attention was given to identifying dominant plant species composition for each community. Additional attention was given to identifying potential wildlife and signs of wildlife usage in each wetland and upland community within the study area. An effect determination was made for each of these federal- and state- species. A summary of the determinations is shown in **Tables 6.6-6.8**

**Table 6.6: Federal Protected Species Effect Determinations**

<b>Project Impact Determination</b>	<b>Federal Listed Species</b>
"No effect"	Crested caracara ( <i>Caracara cheriway</i> )
	Florida grasshopper sparrow ( <i>Ammodramus savannarum floridanus</i> )
	Florida scrub jay ( <i>Aphelocoma coerulescens</i> )
"May affect, but is not likely to adversely affect"	American alligator ( <i>Alligator mississippiensis</i> )
	Eastern indigo snake ( <i>Drymarchon couperi</i> )
	Wood stork ( <i>Mycteria americana</i> )

**Table 6.7: State Protected Species Effect Determinations**

<b>Project Impact Determination</b>	<b>State Listed Species</b>
“No effect anticipated”	Many-flowered grasspink ( <i>Calopogon multiflorus</i> )
	Tampa vervain ( <i>Glandularia tampensis</i> )
	Lowland loosestrife ( <i>Lythrum flagellare</i> )
	Florida spiny-pod ( <i>Matelea floridana</i> )
	Giant orchid ( <i>Pteroglossaspis ecristata</i> )
	Toothed maiden fern ( <i>Thelypteris serrata</i> )
	Broad-leaved nodding-caps ( <i>Triphora amazonica</i> )
“No adverse effect anticipated”	Gopher tortoise ( <i>Gopherus polyphemus</i> )
	Florida sandhill crane ( <i>Grus canadensis pratensis</i> )
	Southeastern American kestrel ( <i>Falco sparverius paulus</i> )
	Little blue heron ( <i>Egretta caerulea</i> )
	Roseate spoonbill ( <i>Platalea ajaja</i> )
	Tricolored heron ( <i>Egretta tricolor</i> )

**Table 6.8: Other Protected Species Effect Determinations**

<b>Project Impact Determination</b>	<b>Additional Protected Species</b>
“May affect, but is not likely to adversely affect”	Bald eagle ( <i>Haliaeetus leucocephalus</i> )
“No adverse effect anticipated”	Florida black bear ( <i>Ursus americanus floridanus</i> )
	Southern fox squirrel ( <i>Sciurus niger niger</i> )

### **6.15.5 Contamination**

A Level 1 contamination evaluation was completed for the study and a *Contamination Evaluation Report* (CSER) (March, 2019) was prepared under separate cover to document potential contamination concern along the project corridor.

Based on the methodologies performed as part of this study, 20 potential contamination sites were identified as having the potential for hazardous material or petroleum impacts. Of these 20 sites, four received initial risk rating of Medium or High. Two sites were rated as Medium and they operate as gasoline stations with either discharges that have not been remediated or ongoing fueling operations and must be reviewed again prior to the commencement of construction activities. Two other sites were rated as High and both these sites are box bridge structures (Bridge #130113 and #130114) that have the potential for asbestos or metal based coating. The presence of these materials would require special handling, management, and removal during bridge demolition.

For the Medium and High rated sites, Level II testing is recommended to verify or determine the extent of impacts. For the Medium rated sites, soil and groundwater samples are recommended to evaluate petroleum contamination within the existing or proposed right-of-way. For the High rated bridge structures, a comprehensive survey for asbestos containing materials (ACMs) and metal based coatings (MBCs) should be performed to determine the presence and location of any regulated levels of ACMs and MBCs.

### **6.15.6 Noise**

A Noise Study Report (NSR) (April, 2019) was prepared under separate cover for this project.

A total of ninety-six receptors were evaluated. The receptors were evaluated for eighty-eight residences, three active sports areas, two medical facilities, a place of worship, a recreational area, and a convenience store/gas station. The results of the analysis show that the existing year 2018 exterior traffic noise levels range from 48.6 to 64.5 dB(A), and the interior traffic noise levels at the two medical facilities are predicted to be 40.6 and 40.9 dB(A). In the future year 2045 for the build alternative, exterior traffic noise levels are predicted to range from 52.3 to 65.0 dB(A), and the interior levels at the medical facilities are predicted to be 47.4 and 47.7 dB(A).

Based on these results, highway traffic noise levels do not exceed the Noise Abatement Category (NAC) in the future with the proposed project improvements at any of the evaluated receptors. Compared to existing conditions, the proposed improvements are not expected to increase traffic noise levels more than 7.4 dB(A) at any receptor. As such, the project would not substantially increase highway traffic noise. Based on the PD&E Study, there are no highway traffic noise impacted land uses within the project that requires abatement consideration. Implementing the proposed roadway improvements is not expected to have a significant noise or vibration impact on these sites because it is anticipated that application of the *FDOT Standard Specifications for Road and Bridge Construction* will minimize or eliminate the potential for such impacts.

### **6.15.7 Section 4(f)**

The Premier Sports Campus at Lakewood Ranch, recently acquired by Manatee County, is an existing recreation/park complex located along SR 70 at the Greenbrook Blvd/Post Blvd intersection. This existing park resource is considered under Section 4(f) the U.S. Department of Transportation Act of 1966. No right-of way will be acquired from this location. A Section 4(f) no use determination was made for the Premier Sports Campus at Lakewood Ranch. The preferred alternative is anticipated to have no impact on the Premier Sports Campus or any other public resources protected under Section 4(f).

### **6.15.8 Construction Impacts**

Construction activities for the proposed project may cause minor short-term air quality, noise, water quality, traffic congestion, and visual impacts for residents and travelers within the immediate vicinity of the project.

The air quality effect will be temporary and primarily in the form of emissions from diesel-powered construction equipment and dust from embankment and haul road areas. The air pollution associated with the creation of airborne particles will be effectively controlled through the use of watering or the application of other controlled materials in accordance with FDOT's *Standard Specifications for Road and Bridge Construction*.

Noise and vibrations effects will come from heavy equipment movement and construction activities. It will be minimized by adherence to noise control measures also found in the FDOT's *Standard Specifications for Road and Bridge Construction*. Specific noise level issues that might arise during the construction will be addressed by the Construction Engineer in cooperation with the appropriate environmental scientist.

Water quality impacts resulting from erosion and sedimentation will be controlled in accordance with FDOT's *Standard Specification for Road and Bridge Construction*, "Prevention, Control, and Abatement of Erosion and Water Pollution," and through the use of best management practices (BMP).

Short-term construction related wetland impacts will be minimized by adhering to FDOT's *Standard Specifications for Road and Bridge Construction*. These specifications include measures known as BMPs, which include the use of siltation barriers, dewatering structures, and containment devices that will be implemented for controlling turbid water discharges outside of the construction limits.

Maintenance of traffic and sequence of construction will be planned and scheduled to reduce and minimize traffic delays throughout the project time frame. Signage will be utilized to provide pertinent information to the traveling public. Local news media will be notified in advance of road closings and other construction related activities that would excessively inconvenience the community so that motorists, residents, and business owners can make other accommodations as needed. All provisions of FDOT's *Standard Specifications for Road and Bridge Construction* will

be followed. A sign will be displayed on-site providing the name, address, and telephone number of a FDOT contact person to assist the public in obtaining immediate answers to questions and logging complaints about project activity.

Access to the local properties, businesses, and residences will be maintained to the extend practical through controlled construction scheduling and the implementation of the project’s specific Traffic Control Plan(s) and FDOT’s *Standard Specifications for Road and Bridge Construction*.

For those residents living along the project, some construction materials stored for the project may be visually displeasing; however, it is a temporary condition and should pose no substantial problem.

### **6.15.9 Summary of Permits and Mitigation**

Both the USACE and SFWMD regulate impacts to wetlands within the project area. Other agencies, including the USFWS, U.S. Environmental Protection Agency (EPA), and the FWC, review and comment on wetland permit applications. The FWC also issues permits for gopher tortoise relocation activities and nest take. In addition, the FDEP regulates stormwater discharges from construction sites. The complexity of the permitting process will depend on the degree of the impact to jurisdictional areas. It is anticipated that the permits shown in **Table 6.9** will be required for this project:

**Table 6.9: Required Permits**

<b>Permit</b>	<b>Issuing Agency</b>
Section 404 Dredge and Fill Permit	USACE
Environmental Resource Permit (ERP)	SFWMD
National Pollutant Discharge Elimination System (NPDES)	FDEP
Gopher Tortoise Conservation Permit (as necessary)	FWC
Listed Species Incidental Take Permit (as necessary)	FWC

Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344. Compensatory mitigation for this project will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements.

### **6.16 Recommended Alternative Matrix**

The Recommended Alternative has been evaluated for its impact on social and cultural makeup of the surrounding area, impacts to the environment, and its ability to meet the purpose and need of this project. The Recommended Alternative Matrix shows the impacts and costs associated with the recommended alternative as well as the No-build alternative. Because this study has only one alternative, the recommended alternative is the same as the Alternative Evaluation Matrix found in **Table 4.2**.

## SECTION 7. LIST OF TECHNICAL DOCUMENTS

The purpose of the PD&E study is to evaluate engineering and environmental data and record information that will help the Florida Department of Transportation Office of Environmental Management (OEM) in determining the type, preliminary design, and location of the proposed improvements. The study was conducted to meet requirements of the National Environmental Policy Act (NEPA) and other related federal and state laws, rules, and regulations. The technical reports that have been completed during this study can be find below in **Table 7.1**.

**Table 7.1: List of Technical Reports**

<b>Technical Reports</b>	<b>Dated</b>
Public Hearing Transcript	Pending
Advance Notification Package	August, 2016
Public Involvement Plan	February, 2017
Comments and Coordination Report	Pending
<b>Engineering</b>	
Geotechnical Technical Memorandum	March, 2019
Project Traffic Report	October, 2018
Location Hydraulic Report	January, 2019
Pond Siting Report	January, 2019
Typical Section Package	May, 2019
Utility Assessment Package	May, 2019
Intersection Control Evaluation (ICE)	
<b>Environmental</b>	
Type 2 Categorical Exclusion	Pending
Contamination Screening Evaluation Report	March, 2019
Cultural Resource Assessment Survey	April, 2019
Natural Resources Evaluation	April, 2019
Noise Study Report	April, 2019
Water Quality Impact Evaluation	April, 2019
Farmlands Evaluation	April, 2019
Air Quality Technical Memorandum	April, 2019
Sociocultural Data Report	April, 2019
ETDM Programming Screen Summary Report	April, 2018

## **APPENDICES**

**APPENDIX A**  
**LONG RANGE ESTIMATE (LRE)**

Date: 4/9/2019 1:09:22 PM

FDOT Long Range Estimating System - Production  
R3: Project Details by Sequence Report

**Project:** 414506-2-52-01 **Letting Date:** 07/2022

**Description:** SR 70 FROM LORRAINE RD TO CR 675/WATERBURY ROAD

**District:** 01 **County:** 13 MANATEE **Market Area:** 10 **Units:** English  
**Contract Class:** 7 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 6.596 MI

**Project Manager:** JMK-MJB-DCT

**Version 12**

**Project** **\$67,333,412.10**

**Grand Total**

**Description:** April 2019 Unit Cost Update with markups per PM from Version 11 - 4/4/19

**Sequence:** 1 RSD - Resurfacing, Divided **Net** 0.167 MI  
**Length:** 884 LF

**Description:** Mill and resurface existing 6 lane section from sta. 119+39 to sta 128+23.00 - segment west of the Lorraine Road intersection

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**ROADWAY COMPONENT**

**User Input Data**

Description	Value
Number of Lanes	8
Roadway Pavement Width L/R	48.00 / 48.00
Structural Spread Rate	220
Friction Course Spread Rate	80

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	9,427.97 SY	\$3.75	\$35,354.89
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,037.08 TN	\$118.98	\$123,391.78
337-7-25	ASPH CONC FC,INC BIT,FC- 5,PG76-22	377.12 TN	\$149.67	\$56,443.55

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	6

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	158.00	EA	\$3.10	\$489.80
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.67	GM	\$1,190.19	\$797.43
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.00	GM	\$420.88	\$420.88
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.67	GM	\$4,730.20	\$3,169.23
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	1.00	GM	\$1,066.52	\$1,066.52
711-15-201	THERMOPLASTIC, STD-OP, YELLOW, SOLID, 6"	0.67	GM	\$4,736.17	\$3,173.23
<b>Roadway Component Total</b>					<b>\$224,307.31</b>

**SHOULDER COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Total Outside Shoulder Width L/R	12.00 / 12.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80

Total Width (T) / 8" Overlap (O)	T
Rumble Strips $\frac{1}{2}$ No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	982.08 SY	\$3.29	\$3,231.04
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	54.01 TN	\$118.98	\$6,426.11
337-7-25	ASPH CONC FC,INC BIT,FC- 5,PG76-22	39.28 TN	\$149.67	\$5,879.04
570-1-1	PERFORMANCE TURF	524.43 SY	\$2.44	\$1,279.61

**Erosion Control**

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-11	FLOATING TURBIDITY BARRIER	16.74 LF	\$8.63	\$144.47
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	16.74 LF	\$5.46	\$91.40
107-1	LITTER REMOVAL	1.22 AC	\$49.16	\$59.98
107-2	MOWING	1.22 AC	\$70.72	\$86.28

<b>Shoulder Component Total</b>	<b>\$17,197.93</b>
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**MEDIAN COMPONENT**

**User Input Data**

Description	Value
Total Median Width	30.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	4.00 / 4.00
Paved Median Shoulder Width L/R	4.00 / 4.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips $\frac{1}{2}$ No. of Sides	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	785.66 SY	\$3.75	\$2,946.23
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	43.21 TN	\$118.98	\$5,141.13
337-7-25	ASPH CONC FC,INC BIT,FC- 5,PG76-22	31.43 TN	\$149.67	\$4,704.13
<b>Median Component Total</b>				\$12,791.49

**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00 AS	\$328.45	\$1,313.80
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	4.00 AS	\$1,382.97	\$5,531.88
700-1-50	SINGLE POST SIGN, RELOCATE	1.00 AS	\$188.08	\$188.08
700-1-60	SINGLE POST SIGN, REMOVE	3.00 AS	\$27.11	\$81.33
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$4,683.31	\$4,683.31
700-2-60	MULTI- POST SIGN, REMOVE	1.00 AS	\$869.53	\$869.53
<b>Signing Component Total</b>				\$12,667.93

**Sequence 1 Total**

\$266,964.66

**Sequence:** 2 NDU - New Construction, Divided, Urban**Net** 0.912 MI  
**Length:** 4,817 LF**Description:** New 6 lane, from sta 128+23.00 to 176+40.00 - from the Lorraine Road intersection to East of Greenbrook Blvd with type E curb on the outside.

## EARTHWORK COMPONENT

### User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	95.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.912
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	22.11	AC	\$10,000.00	\$221,100.00
120-6	EMBANKMENT	113,050.39	CY	\$8.14	\$920,230.17
<b>Earthwork Component Total</b>					<b>\$1,141,330.17</b>

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## ROADWAY COMPONENT

### User Input Data

Description	Value
Number of Lanes	6
Roadway Pavement Width L/R	40.00 / 40.00
Structural Spread Rate	330
Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	48,340.71	SY	\$7.34	\$354,820.81
285-709	OPTIONAL BASE,BASE GROUP 09	42,817.28	SY	\$13.55	\$580,174.14
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	7,064.85	TN	\$118.98	\$840,575.85
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	1,712.69	TN	\$127.07	\$217,631.52

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	3.54	GM	\$1,071.22	\$3,792.12

**Turnouts/Crossovers Subcomponent**

<b>Description</b>	<b>Value</b>
Asphalt Adjustment	15.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	7,251.11	SY	\$7.34	\$53,223.15
285-709	OPTIONAL BASE,BASE GROUP 09	6,422.59	SY	\$13.55	\$87,026.09
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,059.73	TN	\$118.98	\$126,086.68
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	256.90	TN	\$127.07	\$32,644.28

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt

Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	616.00	EA	\$3.10	\$1,909.60
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	3.65	GM	\$1,190.19	\$4,344.19
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	3.65	GM	\$420.88	\$1,536.21
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	3.65	GM	\$4,730.20	\$17,265.23
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	3.65	GM	\$1,066.52	\$3,892.80
711-15-201	THERMOPLASTIC, STD-OP,YELLOW, SOLID, 6"	3.65	GM	\$4,736.17	\$17,287.02
<b>Roadway Component Total</b>					<b>\$2,342,209.69</b>

**SHOULDER COMPONENT**

**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	10.25 / 10.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	8.00 / 8.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	4,816.94	LF	\$23.14	\$111,463.99
520-1-10	CONCRETE CURB & GUTTER, TYPE F	4,816.94	LF	\$23.14	\$111,463.99

522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	8,563.46 SY	\$35.46	\$303,660.29
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**Erosion Control**

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	9,633.89	LF	\$1.69	\$16,281.27
104-11	FLOATING TURBIDITY BARRIER	228.08	LF	\$8.63	\$1,968.33
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	228.08	LF	\$5.46	\$1,245.32
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,700.54	\$2,700.54
104-18	INLET PROTECTION SYSTEM	47.00	EA	\$144.25	\$6,779.75
107-1	LITTER REMOVAL	23.22	AC	\$49.16	\$1,141.50
107-2	MOWING	23.22	AC	\$70.72	\$1,642.12
<b>Shoulder Component Total</b>					\$558,347.10

**MEDIAN COMPONENT**

**User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	17.50

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	9,633.89	LF	\$17.89	\$172,350.29
570-1-1	PERFORMANCE TURF	9,366.28	SY	\$2.44	\$22,853.72
<b>Median Component Total</b>					\$195,204.01

**DRAINAGE COMPONENT**

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	16.42	CY	\$1,237.24	\$20,315.48
425-1-351	INLETS, CURB, TYPE P-5, <10'	33.00	EA	\$4,859.08	\$160,349.64
425-1-451	INLETS, CURB, TYPE J-5, <10'	10.00	EA	\$6,003.96	\$60,039.60
425-1-521	INLETS, DT BOT, TYPE C, <10'	5.00	EA	\$4,248.39	\$21,241.95
425-2-41	MANHOLES, P-7, <10'	5.00	EA	\$4,388.64	\$21,943.20
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	2,416.00	LF	\$95.00	\$229,520.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	216.00	LF	\$132.23	\$28,561.68
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	4,568.00	LF	\$198.63	\$907,341.84
570-1-1	PERFORMANCE TURF	277.34	SY	\$2.44	\$676.71

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
425-2-72	MANHOLES, J-7, >10'	4.00	EA	\$9,846.67	\$39,386.68
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	3,840.00	LF	\$79.95	\$307,008.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	2,992.00	LF	\$160.22	\$479,378.24
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	1,984.00	LF	\$198.63	\$394,081.92
430-175-154	PIPE CULV, OPT MATL, ROUND, 54"S/CD	1,984.00	LF	\$263.36	\$522,506.24
<b>Drainage Component Total</b>					<b>\$3,192,351.18</b>

**SIGNING COMPONENT**

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	22.00	AS	\$328.45	\$7,225.90
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	2.00	AS	\$1,382.97	\$2,765.94

700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	2.00 AS	\$5,932.07	\$11,864.14
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	2.00 AS	\$11,053.87	\$22,107.74
<b>Signing Component Total</b>				\$43,963.72

**LIGHTING COMPONENT**

**Conventional Lighting Subcomponent**

<b>Description</b>				<b>Value</b>	
Spacing				MIN	
<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	4,816.94	LF	\$7.28	\$35,067.32
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	956.09	LF	\$21.66	\$20,708.91
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$709.74	\$22,711.68
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	17,592.79	LF	\$2.35	\$41,343.06
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	32.00	EA	\$5,707.60	\$182,643.20
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	32.00	EA	\$555.10	\$17,763.20
<b>Subcomponent Total</b>					\$320,237.37
<b>Lighting Component Total</b>					\$320,237.37

**Sequence 2 Total** \$7,793,643.24

**Sequence:** 3 NDU - New Construction, Divided, Urban **Net** 1.513 MI  
**Description:** New 4 lane, from sta 176+40.00 to 279+08.00 **Length:** 7,988 LF

**EARTHWORK COMPONENT**

**User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	95.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1.513
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1 CLEARING & GRUBBING	36.68	AC	\$10,000.00	\$366,800.00
120-6 EMBANKMENT	230,268.11	CY	\$8.14	\$1,874,382.42
<b>Earthwork Component Total</b>				<b>\$2,241,182.42</b>

**ROADWAY COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	4
Roadway Pavement Width L/R	29.00 / 29.00
Structural Spread Rate	330
Friction Course Spread Rate	80

**Pay Items**

<b>Pay item Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4 TYPE B STABILIZATION	60,638.65 SY	\$7.34	\$445,087.69
285-709 OPTIONAL BASE,BASE GROUP 09	51,478.94 SY	\$13.55	\$697,539.64
334-1-13 SUPERPAVE ASPHALTIC CONC, TRAFFIC C	8,494.03 TN	\$118.98	\$1,010,619.69
337-7-83 ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	2,059.16 TN	\$127.07	\$261,657.46

**X-Items**

<b>Pay item Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
339-1 MISCELLANEOUS ASPHALT PAVEMENT	30.80 TN	\$225.95	\$6,959.26
710-11-201 PAINTED PAVT MARK,STD, YELLOW,SOLID,6"	7.88 GM	\$1,071.22	\$8,441.21

**Turnouts/Crossovers Subcomponent**

<b>Description</b>	<b>Value</b>
Asphalt Adjustment	5.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

<b>Pay item Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4 TYPE B STABILIZATION	3,031.93 SY	\$7.34	\$22,254.37
285-709 OPTIONAL BASE,BASE GROUP 09	2,573.95 SY	\$13.55	\$34,877.02
334-1-13 SUPERPAVE ASPHALTIC CONC, TRAFFIC C	424.70 TN	\$118.98	\$50,530.81
337-7-83 ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	102.96 TN	\$127.07	\$13,083.13

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt

Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

<b>Pay item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3 RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	613.00	EA	\$3.10	\$1,900.30
710-11-101 PAINTED PAVT MARK,STD,WHITE,SOLID,6"	6.05	GM	\$1,190.19	\$7,200.65
710-11-131 PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	3.03	GM	\$420.88	\$1,275.27
711-15-101 THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	6.05	GM	\$4,730.20	\$28,617.71
711-15-131 THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	3.03	GM	\$1,066.52	\$3,231.56
711-15-201 THERMOPLASTIC, STD-OP, YELLOW, SOLID, 6"	6.05	GM	\$4,736.17	\$28,653.83

**Peripherals Subcomponent**

<b>Description</b>	<b>Value</b>
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

<b>Pay item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
536-1-1 GUARDRAIL- ROADWAY, GEN TL-3	720.00	LF	\$19.63	\$14,133.60
536-85-24 GUARDRAIL END TREATMENT- PARA APP TERM	4.00	EA	\$2,595.00	\$10,380.00

**Roadway Component Total**

\$2,646,443.20

**SHOULDER COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Total Outside Shoulder Width L/R	10.25 / 10.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	8.00 / 8.00

**Pay Items**

<b>Pay item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
520-1-7 CONCRETE CURB & GUTTER, TYPE E	7,988.11	LF	\$17.89	\$142,907.29
520-1-7 CONCRETE CURB & GUTTER, TYPE E	7,988.11	LF	\$17.89	\$142,907.29
522-1 CONCRETE SIDEWALK AND DRIVEWAYS, 4"	14,201.09	SY	\$35.46	\$503,570.65

**Erosion Control****Pay Items**

<b>Pay item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
104-10-3 SEDIMENT BARRIER	15,976.22	LF	\$1.69	\$26,999.81
104-11 FLOATING TURBIDITY BARRIER	378.22	LF	\$8.63	\$3,264.04
104-12 STAKED TURBIDITY BARRIER- NYL REINF PVC	378.22	LF	\$5.46	\$2,065.08
104-15 SOIL TRACKING PREVENTION DEVICE	2.00	EA	\$2,700.54	\$5,401.08
104-18 INLET PROTECTION SYSTEM	78.00	EA	\$144.25	\$11,251.50
107-1 LITTER REMOVAL	38.50	AC	\$49.16	\$1,892.66
107-2 MOWING	38.50	AC	\$70.72	\$2,722.72

**Shoulder Component Total**

\$842,982.12

**MEDIAN COMPONENT**

**User Input Data**

<b>Description</b>	<b>Value</b>
Total Median Width	54.00
Performance Turf Width	49.50

**Pay Items**

<b>Pay item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
520-1-7 CONCRETE CURB & GUTTER, TYPE E	15,976.22	LF	\$17.89	\$285,814.58
570-1-1 PERFORMANCE TURF	43,934.62	SY	\$2.44	\$107,200.47
<b>Median Component Total</b>				<b>\$393,015.05</b>

**DRAINAGE COMPONENT****Pay Items**

<b>Pay item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
400-2-2 CONC CLASS II, ENDWALLS	27.23	CY	\$1,237.24	\$33,690.05
425-1-351 INLETS, CURB, TYPE P-5, <10'	55.00	EA	\$4,859.08	\$267,249.40
425-1-451 INLETS, CURB, TYPE J-5, <10'	16.00	EA	\$6,003.96	\$96,063.36
425-1-521 INLETS, DT BOT, TYPE C, <10'	8.00	EA	\$4,248.39	\$33,987.12
425-2-41 MANHOLES, P-7, <10'	8.00	EA	\$4,388.64	\$35,109.12
430-175-124 PIPE CULV, OPT MATL, ROUND, 24"S/CD	4,008.00	LF	\$95.00	\$380,760.00
430-175-136 PIPE CULV, OPT MATL, ROUND, 36"S/CD	360.00	LF	\$132.23	\$47,602.80
430-175-148 PIPE CULV, OPT MATL, ROUND, 48"S/CD	7,568.00	LF	\$198.63	\$1,503,231.84
570-1-1 PERFORMANCE TURF	459.92	SY	\$2.44	\$1,122.20

**X-Items**

<b>Pay item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
425-2-72 MANHOLES, J-7, >10'	28.00	EA	\$9,846.67	\$275,706.76

430-175- 118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	8,328.00 LF	\$79.95	\$665,823.60
430-175- 130	PIPE CULV, OPT MATL, ROUND, 30"S/CD	672.00 LF	\$111.52	\$74,941.44
430-175- 136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	2,976.00 LF	\$132.23	\$393,516.48
430-175- 142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	3,272.00 LF	\$160.22	\$524,239.84
430-175- 148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	1,984.00 LF	\$198.63	\$394,081.92
430-175- 154	PIPE CULV, OPT MATL, ROUND, 54"S/CD	1,984.00 LF	\$263.36	\$522,506.24

### Retention Basin 1

<b>Description</b>	<b>Value</b>
Size	15 AC
Multiplier	4
Depth	3.50
Description	quantities are for 64 acre (regional pond)

### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	60.00	AC	\$10,000.00	\$600,000.00
120-1	REGULAR EXCAVATION	338,800.00	CY	\$7.30	\$2,473,240.00
400-2-2	CONC CLASS II, ENDWALLS	192.00	CY	\$1,237.24	\$237,550.08
425-1- 541	INLETS, DT BOT, TYPE D, <10'	8.00	EA	\$4,302.35	\$34,418.80
425-2-71	MANHOLES, J-7, <10'	12.00	EA	\$7,675.46	\$92,105.52
430-175- 142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	416.00	LF	\$160.22	\$66,651.52
430-175- 160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	2,400.00	LF	\$310.52	\$745,248.00
550-10- 220	FENCING, TYPE B, 5.1-6.0', STANDARD	14,400.00	LF	\$16.04	\$230,976.00
550-60- 234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	16.00	EA	\$2,106.27	\$33,700.32
570-1-1	PERFORMANCE TURF	290,400.00	SY	\$2.44	\$708,576.00

**Retention Basin 2**

<b>Description</b>	<b>Value</b>
Size	20 AC
Multiplier	1
Depth	2.00
Description	Quantities are for 20 acre (FPC 2A) pond

**Pay Items**

<b>Pay item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1 CLEARING & GRUBBING	20.00	AC	\$10,000.00	\$200,000.00
120-1 REGULAR EXCAVATION	64,533.33	CY	\$7.30	\$471,093.31
400-2-2 CONC CLASS II, ENDWALLS	54.00	CY	\$1,237.24	\$66,810.96
425-1-541 INLETS, DT BOT, TYPE D, <10'	3.00	EA	\$4,302.35	\$12,907.05
425-2-71 MANHOLES, J-7, <10'	3.00	EA	\$7,675.46	\$23,026.38
430-175-142 PIPE CULV, OPT MATL, ROUND, 42"S/CD	152.00	LF	\$160.22	\$24,353.44
430-175-160 PIPE CULV, OPT MATL, ROUND, 60"S/CD	600.00	LF	\$310.52	\$186,312.00
550-10-220 FENCING, TYPE B, 5.1-6.0', STANDARD	4,420.00	LF	\$16.04	\$70,896.80
550-60-234 FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	6.00	EA	\$2,106.27	\$12,637.62
570-1-1 PERFORMANCE TURF	96,800.00	SY	\$2.44	\$236,192.00
<b>Drainage Component Total</b>				<b>\$11,776,327.97</b>

**SIGNING COMPONENT****Pay Items**

<b>Pay item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11 SINGLE POST SIGN, F&I GM, <12 SF	37.00	AS	\$328.45	\$12,152.65
700-1-12 SINGLE POST SIGN, F&I GM, 12-20 SF	4.00	AS	\$1,382.97	\$5,531.88
700-2-15 MULTI- POST SIGN, F&I GM, 51-100 SF	4.00	AS	\$5,932.07	\$23,728.28

700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	4.00 AS	\$11,053.87	\$44,215.48
<b>Signing Component Total</b>				<b>\$85,628.29</b>

**LIGHTING COMPONENT**

**Conventional Lighting Subcomponent**

<b>Description</b>		<b>Value</b>			
Spacing		MIN			
<b>Pay Items</b>		<b>Extended Amount</b>			
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	7,988.11	LF	\$7.28	\$58,153.44
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	1,585.52	LF	\$21.66	\$34,342.36
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	53.00	EA	\$709.74	\$37,616.22
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	29,174.76	LF	\$2.35	\$68,560.69
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	53.00	EA	\$5,707.60	\$302,502.80
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	53.00	EA	\$555.10	\$29,420.30
<b>Subcomponent Total</b>					<b>\$530,595.81</b>
<b>Lighting Component Total</b>					<b>\$530,595.81</b>

**BRIDGES COMPONENT**

**Bridge A**

<b>Description</b>	<b>Value</b>
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	75.00
Width (LF)	61.66
Type	Low Level
Cost Factor	1.25

Structure No.	
Removal of Existing Structures area	2,840.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$142.50
<b>Final Cost per SF</b>	<b>\$162.69</b>
<b>Basic Bridge Cost</b>	<b>\$658,991.25</b>
Description	BRADEN RIVER (NEW WB BRIDGE)

### Bridge Pay Items

Pay item Description	Quantity	Unit	Unit Price	Extended Amount
110-3 REMOVAL OF EXISTING STRUCTURES/BRIDGES	2,840.00	SF	\$39.96	\$113,486.40
400-2-10 CONC CLASS II, APPROACH SLABS	137.02	CY	\$508.09	\$69,618.49
415-1-9 REINF STEEL- APPROACH SLABS	23,978.50	LB	\$0.99	\$23,738.72
<b>Bridge A Total</b>				<b>\$865,834.86</b>

### Bridge B

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	88.00
Width (LF)	61.66
Type	Low Level
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	2,790.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$142.50
<b>Final Cost per SF</b>	<b>\$159.71</b>
<b>Basic Bridge Cost</b>	<b>\$773,216.40</b>
Description	BRADEN RIVER OVERFLOW (NEW WB BRIDGE)

### Bridge Pay Items

Pay item Description	Quantity	Unit	Unit Price	Extended Amount
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110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	2,790.00 SF	\$39.96	\$111,488.40
400-2-10	CONC CLASS II, APPROACH SLABS	137.02 CY	\$508.09	\$69,618.49
415-1-9	REINF STEEL- APPROACH SLABS	23,978.50 LB	\$0.99	\$23,738.72
<b>Bridge B Total</b>				<b>\$978,062.01</b>

### Bridge C

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	75.00
Width (LF)	61.66
Type	Low Level
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$142.50
<b>Final Cost per SF</b>	<b>\$162.69</b>
<b>Basic Bridge Cost</b>	<b>\$658,991.25</b>
Description	BRADEN RIVER (NEW EB BRIDGE)

### Bridge Pay Items

Pay item Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10 CONC CLASS II, APPROACH SLABS	137.02	CY	\$508.09	\$69,618.49
415-1-9 REINF STEEL- APPROACH SLABS	23,978.50	LB	\$0.99	\$23,738.72
<b>Bridge C Total</b>				<b>\$752,348.46</b>

### Bridge D

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	88.00

Width (LF)	61.66
Type	Low Level
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$114.00
Factored Cost per SF	\$142.50
<b>Final Cost per SF</b>	<b>\$159.71</b>
<b>Basic Bridge Cost</b>	<b>\$773,216.40</b>

Description BRADEN RIVER OVERFLOW (NEW EB BRIDGE)

### Bridge Pay Items

Pay item Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10 CONC CLASS II, APPROACH SLABS	137.02	CY	\$508.09	\$69,618.49
415-1-9 REINF STEEL- APPROACH SLABS	23,978.50	LB	\$0.99	\$23,738.72
<b>Bridge D Total</b>				\$866,573.61
<b>Bridges Component Total</b>				\$3,462,818.94

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**Sequence 3 Total** \$21,978,993.80

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**Sequence: 4** WDR - Widen/Resurface, Divided, Rural **Net Length:** 2.286 MI  
12,072 LF

**Description:** Widen & Resurface from 279+08 to 415+00.00. High Speed Curbed section with Type E curb on the inside only...10 foot shoulder on the outside (5 foot paved). Includes 8-foot wide sidewalks.

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### EARTHWORK COMPONENT

#### User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	68.00 / 105.00

Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	2.286
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	47.94	AC	\$10,000.00	\$479,400.00
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	7,197.34	CY	\$41.78	\$300,704.87
<b>Earthwork Component Total</b>					<b>\$780,104.87</b>

## ROADWAY COMPONENT

### User Input Data

Description	Value
Number of Lanes	4
Existing Roadway Pavement Width L/R	24.00 / 0.00

Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 24.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	67,067.73	SY	\$7.34	\$492,277.14
285-709	OPTIONAL BASE,BASE GROUP 09	32,635.16	SY	\$13.55	\$442,206.42
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	32,192.51	SY	\$3.75	\$120,721.91
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	3,541.18	TN	\$118.98	\$421,329.60
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	5,311.76	TN	\$118.98	\$631,993.20
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	1,287.70	TN	\$127.07	\$163,628.04
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	1,287.70	TN	\$127.07	\$163,628.04

**Turnouts/Crossovers Subcomponent**

<b>Description</b>	<b>Value</b>
Asphalt Adjustment	5.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	3,353.39	SY	\$7.34	\$24,613.88
285-709	OPTIONAL BASE,BASE GROUP 09	1,631.76	SY	\$13.55	\$22,110.35

327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	1,609.63 SY	\$3.75	\$6,036.11
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	177.06 TN	\$118.98	\$21,066.60
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	64.39 TN	\$127.07	\$8,182.04

### Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO- REFLECTIVE/RAISED PAVEMENT MARKERS	926.00	EA	\$3.10	\$2,870.60
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	9.15	GM	\$1,190.19	\$10,890.24
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	4.57	GM	\$420.88	\$1,923.42
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	9.15	GM	\$4,730.20	\$43,281.33
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	4.57	GM	\$1,066.52	\$4,874.00
<b>Roadway Component Total</b>					<b>\$2,581,632.92</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
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Existing Total Outside Shoulder Width L/R	10.00 / 0.00
New Total Outside Shoulder Width L/R	0.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 2.67
Existing Paved Outside Shoulder Width L/R	5.00 / 0.00
New Paved Outside Shoulder Width L/R	0.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips ½No. of Sides	0

### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	7,149.42	SY	\$21.65	\$154,784.94
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	6,706.77	SY	\$3.29	\$22,065.27
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	368.87	TN	\$118.98	\$43,888.15
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	268.27	TN	\$149.67	\$40,151.97
570-1-1	PERFORMANCE TURF	3,581.42	SY	\$2.44	\$8,738.66

### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	21,461.67	SY	\$35.46	\$761,030.82

### Erosion Control

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	27,766.04	LF	\$1.69	\$46,924.61
104-11	FLOATING TURBIDITY BARRIER	228.64	LF	\$8.63	\$1,973.16

104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	228.64 LF	\$5.46	\$1,248.37
104-15	SOIL TRACKING PREVENTION DEVICE	3.00 EA	\$2,700.54	\$8,101.62
107-1	LITTER REMOVAL	16.62 AC	\$49.16	\$817.04
107-2	MOWING	16.62 AC	\$70.72	\$1,175.37
<b>Shoulder Component Total</b>				<b>\$1,090,899.98</b>

### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	30.00
Performance Turf Width	25.50
New Total Median Shoulder Width L/R	8.00 / 8.00
New Paved Median Shoulder Width L/R	0.00 / 0.00
Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips $\frac{1}{2}$ No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
570-1-1	PERFORMANCE TURF	34,204.54	SY	\$2.44	\$83,459.08
<b>Median Component Total</b>					<b>\$83,459.08</b>

### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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400-2-2	CONC CLASS II, ENDWALLS	41.16 CY	\$1,237.24	\$50,924.80
430-174- 124	PIPE CULV, OPT MATL, ROUND,24"SD	1,832.00 LF	\$66.75	\$122,286.00
430-175- 136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	184.00 LF	\$132.23	\$24,330.32
430-984- 129	MITERED END SECT, OPTIONAL RD, 24" SD	92.00 EA	\$1,667.87	\$153,444.04
570-1-1	PERFORMANCE TURF	1,609.63 SY	\$2.44	\$3,927.50

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
425-1-559	INLETS, DT BOT, TYPE E, MODIFY	20.00	EA	\$3,462.04	\$69,240.80
430-175- 124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	400.00	LF	\$95.00	\$38,000.00

**Box Culvert 1**

<b>Description</b>	<b>Value</b>
Size	10 x 6
Length	161.00
Multiplier	2

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
400-4-1	CONC CLASS IV, CULVERTS	394.10	CY	\$1,576.82	\$621,424.76
415-1-1	REINF STEEL- ROADWAY	47,733.00	LB	\$1.06	\$50,596.98

**Retention Basin 1**

<b>Description</b>	<b>Value</b>
Size	1 AC
Multiplier	13
Depth	4.00

Description quantities are for 13 acre pond (FBC 1B)

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	13.00	AC	\$10,000.00	\$130,000.00
120-1	REGULAR EXCAVATION	83,893.29	CY	\$7.30	\$612,421.02
400-2-2	CONC CLASS II, ENDWALLS	234.00	CY	\$1,237.24	\$289,514.16
425-1-541	INLETS, DT BOT, TYPE D, <10'	13.00	EA	\$4,302.35	\$55,930.55
425-2-71	MANHOLES, J-7, <10'	13.00	EA	\$7,675.46	\$99,780.98
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	728.00	LF	\$160.22	\$116,640.16
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	2,600.00	LF	\$310.52	\$807,352.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	10,920.00	LF	\$16.04	\$175,156.80
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	13.00	EA	\$2,106.27	\$27,381.51
570-1-1	PERFORMANCE TURF	62,920.00	SY	\$2.44	\$153,524.80

### Retention Basin 2

<b>Description</b>	<b>Value</b>
Size	.5 AC
Multiplier	23
Depth	4.00
Description	quantities are for 11.5 ac (FPC 1C)

### Pay Items

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	11.50	AC	\$10,000.00	\$115,000.00
120-1	REGULAR EXCAVATION	74,213.41	CY	\$7.30	\$541,757.89
400-2-2	CONC CLASS II, ENDWALLS	414.00	CY	\$1,237.24	\$512,217.36
425-1-541	INLETS, DT BOT, TYPE D, <10'	23.00	EA	\$4,302.35	\$98,954.05
425-2-71	MANHOLES, J-7, <10'	23.00	EA	\$7,675.46	\$176,535.58
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	1,288.00	LF	\$160.22	\$206,363.36

430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	4,600.00 LF	\$310.52	\$1,428,392.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	13,800.00 LF	\$16.04	\$221,352.00
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	23.00 EA	\$2,106.27	\$48,444.21
570-1-1	PERFORMANCE TURF	55,660.00 SY	\$2.44	\$135,810.40
<b>Drainage Component Total</b>				<b>\$7,086,704.03</b>

**SIGNING COMPONENT**

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	5.00	AS	\$328.45	\$1,642.25
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	55.00	AS	\$1,382.97	\$76,063.35
700-1-50	SINGLE POST SIGN, RELOCATE	5.00	AS	\$188.08	\$940.40
700-1-60	SINGLE POST SIGN, REMOVE	55.00	AS	\$27.11	\$1,491.05
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	5.00	AS	\$4,683.31	\$23,416.55
700-2-60	MULTI- POST SIGN, REMOVE	5.00	AS	\$869.53	\$4,347.65
<b>Signing Component Total</b>					<b>\$107,901.25</b>

**Sequence 4 Total** \$11,730,702.13

**Sequence:** 5 NDS - New, Divided, Suburban (Urban In/Rural Out) **Net** 0.235 MI  
**Description:** New 4 lane, from sta 415+00.00 to 434+98.24 **Length:** 1,240 LF

**EARTHWORK COMPONENT**

**User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	95.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.235
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

### Pay Items

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	5.70	AC	\$10,000.00	\$57,000.00
120-6	EMBANKMENT	23,604.61	CY	\$8.14	\$192,141.53
<b>Earthwork Component Total</b>					<b>\$249,141.53</b>

### ROADWAY COMPONENT

#### User Input Data

<b>Description</b>	<b>Value</b>
Number of Lanes	4
Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	330
Friction Course Spread Rate	80

### Pay Items

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
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160-4	TYPE B STABILIZATION	10,077.74 SY	\$7.34	\$73,970.61
285-709	OPTIONAL BASE,BASE GROUP 09	6,793.80 SY	\$13.55	\$92,055.99
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,090.97 TN	\$118.98	\$129,803.61
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	264.48 TN	\$127.07	\$33,607.47

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
710-11-201	PAINTED PAVT MARK,STD,YELLOW,SOLID,6"	0.94 GM	\$1,071.22	\$1,006.95

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	95.00 EA	\$3.10	\$294.50
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.94 GM	\$1,190.19	\$1,118.78
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.47 GM	\$420.88	\$197.81
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.94 GM	\$4,730.20	\$4,446.39
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.47 GM	\$1,066.52	\$501.26
711-15-201	THERMOPLASTIC, STD-OP,YELLOW, SOLID, 6"	0.94 GM	\$4,736.17	\$4,452.00

**Roadway Component Total**

**\$341,455.37**

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**SHOULDER COMPONENT**

**User Input Data**

<b>Description</b>	<b>Value</b>
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2No. of Sides	0

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
285-704	OPTIONAL BASE,BASE GROUP 04	1,468.41	SY	\$21.65	\$31,791.08
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	75.76	TN	\$118.98	\$9,013.92
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	55.10	TN	\$149.67	\$8,246.82
570-1-1	PERFORMANCE TURF	735.58	SY	\$2.44	\$1,794.82

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	3,555.66	SY	\$35.46	\$126,083.70

**Erosion Control**

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
104-10-3	SEDIMENT BARRIER	3,223.33	LF	\$1.69	\$5,447.43
104-11	FLOATING TURBIDITY BARRIER	58.70	LF	\$8.63	\$506.58

104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	58.70 LF	\$5.46	\$320.50
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,700.54	\$2,700.54
104-18	INLET PROTECTION SYSTEM	2.00 EA	\$144.25	\$288.50
107-1	LITTER REMOVAL	4.21 AC	\$49.16	\$206.96
107-2	MOWING	4.21 AC	\$70.72	\$297.73
<b>Shoulder Component Total</b>				<b>\$186,698.58</b>

### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	30.00
Performance Turf Width	25.50

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	2,479.49 LF	\$17.89	\$44,358.08
570-1-1	PERFORMANCE TURF	3,512.61 SY	\$2.44	\$8,570.77
<b>Median Component Total</b>				<b>\$52,928.85</b>

### DRAINAGE COMPONENT

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	4.23 CY	\$1,237.24	\$5,233.53
425-1-551	INLETS, DT BOT, TYPE E, <10'	2.00 EA	\$4,069.79	\$8,139.58
430-175- 124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	104.00 LF	\$95.00	\$9,880.00
430-175- 136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	56.00 LF	\$132.23	\$7,404.88
430-984- 129	MITERED END SECT, OPTIONAL RD, 24" SD	2.00 EA	\$1,667.87	\$3,335.74

570-1-1	PERFORMANCE TURF	90.16 SY	\$2.44	\$219.99
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**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-559	INLETS, DT BOT, TYPE E, MODIFY	4.00 EA	\$3,462.04	\$13,848.16
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	104.00 LF	\$95.00	\$9,880.00
<b>Drainage Component Total</b>				<b>\$57,941.88</b>

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**SIGNING COMPONENT**

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	6.00 AS	\$328.45	\$1,970.70
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,382.97	\$1,382.97
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$4,683.31	\$4,683.31
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	1.00 AS	\$5,932.07	\$5,932.07
<b>Signing Component Total</b>				<b>\$13,969.05</b>

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<b>Sequence 5 Total</b>	<b>\$902,135.26</b>
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<b>Sequence:</b> 6 WDR - Widen/Resurface, Divided, Rural	<b>Net</b> 0.475 MI
	<b>Length:</b> 2,506 LF
<b>Description:</b> Resurface existing lanes (24 ft) left side - New construction (2 lanes) sta 434+98.24 to sta 467+66.32	

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**EARTHWORK COMPONENT**

**User Input Data**

<b>Description</b>	<b>Value</b>
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Standard Clearing and Grubbing Limits L/R	68.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.475
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	9.96	AC	\$10,000.00	\$99,600.00
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	1,495.51	CY	\$41.78	\$62,482.41
<b>Earthwork Component Total</b>					<b>\$162,082.41</b>

**ROADWAY COMPONENT**

**User Input Data**

<b>Description</b>	<b>Value</b>
Number of Lanes	4

Existing Roadway Pavement Width L/R	24.00 / 0.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 24.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	13,921.60	SY	\$7.34	\$102,184.54
285-709	OPTIONAL BASE,BASE GROUP 09	6,774.25	SY	\$13.55	\$91,791.09
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	6,682.37	SY	\$3.75	\$25,058.89
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	735.06	TN	\$118.98	\$87,457.44
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,102.59	TN	\$118.98	\$131,186.16
337-7-83	ASPH CONC FC, TRAFFIC C,FC-12.5,PG 76-22	267.29	TN	\$127.07	\$33,964.54
337-7-83	ASPH CONC FC, TRAFFIC C,FC-12.5,PG 76-22	267.29	TN	\$127.07	\$33,964.54

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	192.00	EA	\$3.10	\$595.20
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.90	GM	\$1,190.19	\$2,261.36
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.95	GM	\$420.88	\$399.84
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	1.90	GM	\$4,730.20	\$8,987.38
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.95	GM	\$1,066.52	\$1,013.19
<b>Roadway Component Total</b>					<b>\$518,864.17</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 0.00
New Total Outside Shoulder Width L/R	0.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 2.67
Existing Paved Outside Shoulder Width L/R	5.00 / 0.00
New Paved Outside Shoulder Width L/R	0.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips $i\frac{1}{2}$ No. of Sides	0

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	1,484.04	SY	\$21.65	\$32,129.47

327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	1,392.16 SY	\$3.29	\$4,580.21
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	76.57 TN	\$118.98	\$9,110.30
337-7-25	ASPH CONC FC,INC BIT,FC- 5,PG76-22	55.69 TN	\$149.67	\$8,335.12
570-1-1	PERFORMANCE TURF	743.41 SY	\$2.44	\$1,813.92

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	4,459.00 SY	\$35.46	\$158,116.14

**Erosion Control**

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	5,763.54 LF	\$1.69	\$9,740.38
104-11	FLOATING TURBIDITY BARRIER	47.46 LF	\$8.63	\$409.58
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	47.46 LF	\$5.46	\$259.13
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,700.54	\$2,700.54
107-1	LITTER REMOVAL	3.45 AC	\$49.16	\$169.60
107-2	MOWING	3.45 AC	\$70.72	\$243.98
<b>Shoulder Component Total</b>				<b>\$227,608.37</b>

**MEDIAN COMPONENT**

**User Input Data**

Description	Value
Total Median Width	30.00
Performance Turf Width	25.50
New Total Median Shoulder Width L/R	8.00 / 8.00
New Paved Median Shoulder Width L/R	0.00 / 0.00

Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips $i\frac{1}{2}$ No. of Sides	0

### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
570-1-1	PERFORMANCE TURF	7,100.02	SY	\$2.44	\$17,324.05

### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	5,011.78	LF	\$17.89	\$89,660.74

**Median Component Total** \$106,984.79

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## DRAINAGE COMPONENT

### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	8.54	CY	\$1,237.24	\$10,566.03
430-174-124	PIPE CULV, OPT MATL, ROUND, 24" SD	384.00	LF	\$66.75	\$25,632.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	40.00	LF	\$132.23	\$5,289.20
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	19.00	EA	\$1,667.87	\$31,689.53
570-1-1	PERFORMANCE TURF	334.12	SY	\$2.44	\$815.25

**Drainage Component Total** \$73,992.01

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### SIGNING COMPONENT

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$328.45	\$328.45
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	12.00	AS	\$1,382.97	\$16,595.64
700-1-50	SINGLE POST SIGN, RELOCATE	1.00	AS	\$188.08	\$188.08
700-1-60	SINGLE POST SIGN, REMOVE	12.00	AS	\$27.11	\$325.32
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$4,683.31	\$4,683.31
700-2-60	MULTI- POST SIGN, REMOVE	1.00	AS	\$869.53	\$869.53
<b>Signing Component Total</b>					<b>\$22,990.33</b>

### LIGHTING COMPONENT

**Rural Lighting Subcomponent**

Description	Value
Multiplier (Number of Poles)	22

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	4,400.00	LF	\$7.28	\$32,032.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	22.00	EA	\$709.74	\$15,614.28
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	13,200.00	LF	\$2.35	\$31,020.00
715-4-14	LIGHT POLE COMPLETE, F&I- STD, 45'	22.00	EA	\$6,899.30	\$151,784.60
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	22.00	EA	\$555.10	\$12,212.20
<b>Subcomponent Total</b>					<b>\$242,663.08</b>

**Lighting Component Total**

\$242,663.08

**Sequence 6 Total**

\$1,355,185.16

**Sequence:** 7 NDU - New Construction, Divided, Urban**Net** 0.144 MI  
**Length:** 760 LF**Description:** New Roundabout at Uihlein Rd.**EARTHWORK COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	95.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.144
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	3.49	AC	\$10,000.00	\$34,900.00
120-6	EMBANKMENT	16,973.16	CY	\$8.14	\$138,161.52
<b>Earthwork Component Total</b>					<b>\$173,061.52</b>

## ROADWAY COMPONENT

### User Input Data

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	330
Friction Course Spread Rate	80

### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	8,565.44	SY	\$7.34	\$62,870.33
285-709	OPTIONAL BASE,BASE GROUP 09	6,826.13	SY	\$13.55	\$92,494.06
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,126.31	TN	\$118.98	\$134,008.36
337-7-83	ASPH CONC FC, TRAFFIC C,FC-12.5,PG 76-22	563.16	TN	\$127.07	\$71,560.74

### Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	58.00	EA	\$3.10	\$179.80
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.58	GM	\$1,190.19	\$690.31
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.29	GM	\$420.88	\$122.06

711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.58 GM	\$4,730.20	\$2,743.52
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.29 GM	\$1,066.52	\$309.29
711-15-201	THERMOPLASTIC, STD- OP, YELLOW, SOLID, 6"	0.58 GM	\$4,736.17	\$2,746.98
<b>Roadway Component Total</b>				<b>\$367,725.45</b>

### SHOULDER COMPONENT

#### User Input Data

Description	Value
Total Outside Shoulder Width L/R	10.25 / 10.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	8.00 / 8.00

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	1,674.70	LF	\$17.89	\$29,960.38
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,962.23	LF	\$23.14	\$45,406.00
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	1,863.55	SY	\$35.46	\$66,081.48

#### Erosion Control

##### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,519.58	LF	\$1.69	\$2,568.09
104-11	FLOATING TURBIDITY BARRIER	35.98	LF	\$8.63	\$310.51
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	35.98	LF	\$5.46	\$196.45
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,700.54	\$2,700.54

104-18	INLET PROTECTION SYSTEM	8.00 EA	\$144.25	\$1,154.00
107-1	LITTER REMOVAL	3.66 AC	\$49.16	\$179.93
107-2	MOWING	3.66 AC	\$70.72	\$258.84
<b>Shoulder Component Total</b>				<b>\$148,816.22</b>

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**MEDIAN COMPONENT**

**User Input Data**

<b>Description</b>	<b>Value</b>
Total Median Width	30.00
Performance Turf Width	25.50

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
570-1-1	PERFORMANCE TURF	2,152.74	SY	\$2.44	\$5,252.69

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
520-2-4	CONCRETE CURB, TYPE D	318.87	LF	\$17.47	\$5,570.66
520-2-8	CONCRETE CURB, TYPE RA	417.83	LF	\$20.67	\$8,636.55

**EX-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
350-30-13	CONCRETE PAVEMENT FOR ROUNDABOUT APRON, 12" DEPTH	610.00	SY	\$71.80	\$43,798.00

<b>Median Component Total</b>					<b>\$63,257.90</b>
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**DRAINAGE COMPONENT**

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
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400-2-2	CONC CLASS II, ENDWALLS	2.59 CY	\$1,237.24	\$3,204.45
425-1-351	INLETS, CURB, TYPE P-5, <10'	6.00 EA	\$4,859.08	\$29,154.48
425-1-451	INLETS, CURB, TYPE J-5, <10'	2.00 EA	\$6,003.96	\$12,007.92
425-1-521	INLETS, DT BOT, TYPE C, <10'	1.00 EA	\$4,248.39	\$4,248.39
425-2-41	MANHOLES, P-7, <10'	1.00 EA	\$4,388.64	\$4,388.64
430-175- 124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	384.00 LF	\$95.00	\$36,480.00
430-175- 136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	40.00 LF	\$132.23	\$5,289.20
430-175- 148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	720.00 LF	\$198.63	\$143,013.60
570-1-1	PERFORMANCE TURF	43.75 SY	\$2.44	\$106.75
<b>Drainage Component Total</b>				<b>\$237,893.43</b>

### SIGNING COMPONENT

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00	AS	\$328.45	\$1,313.80
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00	AS	\$1,382.97	\$1,382.97
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	1.00	AS	\$5,932.07	\$5,932.07
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	1.00	AS	\$11,053.87	\$11,053.87
<b>Signing Component Total</b>					<b>\$19,682.71</b>

### LIGHTING COMPONENT

#### Conventional Lighting Subcomponent

Description	Value
Spacing	MIN

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	759.79	LF	\$7.28	\$5,531.27
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	150.81	LF	\$21.66	\$3,266.54
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	6.00	EA	\$709.74	\$4,258.44
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	2,774.97	LF	\$2.35	\$6,521.18
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	6.00	EA	\$5,707.60	\$34,245.60
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	6.00	EA	\$555.10	\$3,330.60
	<b>Subcomponent Total</b>				\$57,153.64
	<b>Lighting Component Total</b>				\$57,153.63

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**Sequence 7 Total** \$1,067,590.86

**Sequence:** 8 NDU - New Construction, Divided, Urban

**Net** 0.144 MI  
**Length:** 760 LF

**Description:** New Roundabout at Del Webb Blvd.

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**EARTHWORK COMPONENT**

**User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	95.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.144
Top of Structural Course For Begin Section	105.00

Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	3.49	AC	\$10,000.00	\$34,900.00
120-6	EMBANKMENT	16,973.16	CY	\$8.14	\$138,161.52
<b>Earthwork Component Total</b>					<b>\$173,061.52</b>

## ROADWAY COMPONENT

### User Input Data

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	330
Friction Course Spread Rate	80

### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	7,875.21	SY	\$7.34	\$57,804.04
285-709	OPTIONAL BASE, BASE GROUP 09	6,239.52	SY	\$13.55	\$84,545.50
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,029.52	TN	\$118.98	\$122,492.29
337-7-83	ASPH CONC FC, TRAFFIC C, FC-12.5, PG 76-22	514.76	TN	\$127.07	\$65,410.55

### Pavement Marking Subcomponent

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other Pavement Type	Y Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	58.00	EA	\$3.10	\$179.80
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.58	GM	\$1,190.19	\$690.31
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.29	GM	\$420.88	\$122.06
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.58	GM	\$4,730.20	\$2,743.52
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.29	GM	\$1,066.52	\$309.29
711-15-201	THERMOPLASTIC, STD-OP,YELLOW, SOLID, 6"	0.58	GM	\$4,736.17	\$2,746.98
<b>Roadway Component Total</b>					<b>\$337,044.34</b>

**SHOULDER COMPONENT**

**User Input Data**

<b>Description</b>	<b>Value</b>
Total Outside Shoulder Width L/R	10.25 / 10.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	8.00 / 8.00

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
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520-1-7	CONCRETE CURB & GUTTER, TYPE E	1,526.51 LF	\$17.89	\$27,309.26
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,726.59 LF	\$23.14	\$39,953.29
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	1,672.57 SY	\$35.46	\$59,309.33

### Erosion Control

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,519.58 LF	\$1.69	\$2,568.09
104-11	FLOATING TURBIDITY BARRIER	35.98 LF	\$8.63	\$310.51
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	35.98 LF	\$5.46	\$196.45
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,700.54	\$2,700.54
104-18	INLET PROTECTION SYSTEM	8.00 EA	\$144.25	\$1,154.00
107-1	LITTER REMOVAL	3.66 AC	\$49.16	\$179.93
107-2	MOWING	3.66 AC	\$70.72	\$258.84
<b>Shoulder Component Total</b>				<b>\$133,940.24</b>

### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	30.00
Performance Turf Width	25.50

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
570-1-1	PERFORMANCE TURF	2,152.74 SY	\$2.44	\$5,252.69

#### X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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520-2-4	CONCRETE CURB, TYPE D	318.87 LF	\$17.47	\$5,570.66
520-2-8	CONCRETE CURB, TYPE RA	417.83 LF	\$20.67	\$8,636.55

**EX-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
350-30-13	CONCRETE PAVEMENT FOR ROUNDABOUT APRON, 12" DEPTH	610.00 SY	\$71.80	\$43,798.00
<b>Median Component Total</b>				<b>\$63,257.90</b>

**DRAINAGE COMPONENT**

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
400-2-2	CONC CLASS II, ENDWALLS	2.59 CY	\$1,237.24	\$3,204.45
425-1-351	INLETS, CURB, TYPE P-5, <10'	6.00 EA	\$4,859.08	\$29,154.48
425-1-451	INLETS, CURB, TYPE J-5, <10'	2.00 EA	\$6,003.96	\$12,007.92
425-1-521	INLETS, DT BOT, TYPE C, <10'	1.00 EA	\$4,248.39	\$4,248.39
425-2-41	MANHOLES, P-7, <10'	1.00 EA	\$4,388.64	\$4,388.64
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	384.00 LF	\$95.00	\$36,480.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	40.00 LF	\$132.23	\$5,289.20
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	720.00 LF	\$198.63	\$143,013.60
570-1-1	PERFORMANCE TURF	43.75 SY	\$2.44	\$106.75
<b>Drainage Component Total</b>				<b>\$237,893.43</b>

**SIGNING COMPONENT**

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00	AS	\$328.45	\$1,313.80
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00	AS	\$1,382.97	\$1,382.97
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	1.00	AS	\$5,932.07	\$5,932.07
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	1.00	AS	\$11,053.87	\$11,053.87
<b>Signing Component Total</b>					<b>\$19,682.71</b>

### LIGHTING COMPONENT

#### Conventional Lighting Subcomponent

<b>Description</b>				<b>Value</b>	
Spacing				MIN	
<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	759.79	LF	\$7.28	\$5,531.27
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	150.81	LF	\$21.66	\$3,266.54
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	6.00	EA	\$709.74	\$4,258.44
LIGHTING					
715-1-13	CONDUCTORS, F&I, INSUL, NO.4-2	2,774.97	LF	\$2.35	\$6,521.18
LIGHT POLE					
715-4-13	COMPLETE, F&I- STD, 40'	6.00	EA	\$5,707.60	\$34,245.60
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	6.00	EA	\$555.10	\$3,330.60
<b>Subcomponent Total</b>					<b>\$57,153.64</b>
<b>Lighting Component Total</b>					<b>\$57,153.63</b>

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**Sequence 8 Total** **\$1,022,033.77**

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**Sequence:** 9 NDU - New Construction, Divided, Urban

**Net** 0.144 MI  
**Length:** 760 LF

**Description:** New Roundabout at Bourneside Blvd.

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### EARTHWORK COMPONENT

#### User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	95.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.144
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	3.49	AC	\$10,000.00	\$34,900.00
120-6	EMBANKMENT	16,973.16	CY	\$8.14	\$138,161.52
<b>Earthwork Component Total</b>					<b>\$173,061.52</b>

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### ROADWAY COMPONENT

#### User Input Data

Description	Value
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Number of Lanes	4
Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	330
Friction Course Spread Rate	80

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	8,137.51	SY	\$7.34	\$59,729.32
285-709	OPTIONAL BASE,BASE GROUP 09	6,171.06	SY	\$13.55	\$83,617.86
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,018.22	TN	\$118.98	\$121,147.82
337-7-83	ASPH CONC FC, TRAFFIC C,FC-12.5,PG 76-22	509.11	TN	\$127.07	\$64,692.61

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	58.00	EA	\$3.10	\$179.80
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.58	GM	\$1,190.19	\$690.31
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.29	GM	\$420.88	\$122.06
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.58	GM	\$4,730.20	\$2,743.52
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.29	GM	\$1,066.52	\$309.29

711-15-201	THERMOPLASTIC, STD- OP, YELLOW, SOLID, 6"	0.58 GM	\$4,736.17	\$2,746.98
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**Roadway Component Total**

\$335,979.57

**SHOULDER COMPONENT**

**User Input Data**

<b>Description</b>	<b>Value</b>
Total Outside Shoulder Width L/R	10.25 / 10.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	8.00 / 8.00

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
285-701	OPTIONAL BASE, BASE GROUP 01	224.80	SY	\$29.38	\$6,604.62
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	18.55	TN	\$118.98	\$2,207.08
337-7-83	ASPH CONC FC, TRAFFIC C, FC-12.5, PG 76-22	18.55	TN	\$127.07	\$2,357.15
520-1-7	CONCRETE CURB & GUTTER, TYPE E	1,508.53	LF	\$17.89	\$26,987.60
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,361.10	LF	\$23.14	\$31,495.85
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	1,703.31	SY	\$35.46	\$60,399.37
570-1-2	PERFORMANCE TURF, SOD	205.88	SY	\$4.21	\$866.75

**Erosion Control**

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
104-10-3	SEDIMENT BARRIER	1,519.58	LF	\$1.69	\$2,568.09
104-11	FLOATING TURBIDITY BARRIER	35.98	LF	\$8.63	\$310.51
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	35.98	LF	\$5.46	\$196.45

104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,700.54	\$2,700.54
104-18	INLET PROTECTION SYSTEM	8.00 EA	\$144.25	\$1,154.00
107-1	LITTER REMOVAL	3.66 AC	\$49.16	\$179.93
107-2	MOWING	3.66 AC	\$70.72	\$258.84
<b>Shoulder Component Total</b>				<b>\$138,286.78</b>

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### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	30.00
Performance Turf Width	25.50

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
570-1-1	PERFORMANCE TURF	2,152.74	SY	\$2.44	\$5,252.69

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-2-4	CONCRETE CURB, TYPE D	318.87	LF	\$17.47	\$5,570.66
520-2-8	CONCRETE CURB, TYPE RA	417.83	LF	\$20.67	\$8,636.55

#### EX-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
350-30-13	CONCRETE PAVEMENT FOR ROUNDABOUT APRON, 12" DEPTH	610.00	SY	\$71.80	\$43,798.00

<b>Median Component Total</b>					<b>\$63,257.90</b>
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### DRAINAGE COMPONENT

#### Pay Items

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
400-2-2	CONC CLASS II, ENDWALLS	2.59	CY	\$1,237.24	\$3,204.45
425-1-351	INLETS, CURB, TYPE P-5, <10'	6.00	EA	\$4,859.08	\$29,154.48
425-1-451	INLETS, CURB, TYPE J-5, <10'	2.00	EA	\$6,003.96	\$12,007.92
425-1-521	INLETS, DT BOT, TYPE C, <10'	1.00	EA	\$4,248.39	\$4,248.39
425-2-41	MANHOLES, P-7, <10'	1.00	EA	\$4,388.64	\$4,388.64
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	384.00	LF	\$95.00	\$36,480.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	40.00	LF	\$132.23	\$5,289.20
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	720.00	LF	\$198.63	\$143,013.60
570-1-1	PERFORMANCE TURF	43.75	SY	\$2.44	\$106.75
<b>Drainage Component Total</b>					<b>\$237,893.43</b>

### SIGNING COMPONENT

#### Pay Items

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00	AS	\$328.45	\$1,313.80
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00	AS	\$1,382.97	\$1,382.97
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	1.00	AS	\$5,932.07	\$5,932.07
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	1.00	AS	\$11,053.87	\$11,053.87
<b>Signing Component Total</b>					<b>\$19,682.71</b>

### LIGHTING COMPONENT

#### Conventional Lighting Subcomponent

<b>Description</b>				<b>Value</b>	
Spacing				MIN	
<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	759.79	LF	\$7.28	\$5,531.27
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	150.81	LF	\$21.66	\$3,266.54
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	6.00	EA	\$709.74	\$4,258.44
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	2,774.97	LF	\$2.35	\$6,521.18
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	6.00	EA	\$5,707.60	\$34,245.60
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	6.00	EA	\$555.10	\$3,330.60
<b>Subcomponent Total</b>					\$57,153.64
<b>Lighting Component Total</b>					\$57,153.63

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**Sequence 9 Total** \$1,025,315.54

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**Sequence:** 10 NDU - New Construction, Divided, Urban

**Net** 0.144 MI  
**Length:** 760 LF

**Description:** New Roundabout at Lindrick Ln.

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### EARTHWORK COMPONENT

**User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	95.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.144

Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	3.49	AC	\$10,000.00	\$34,900.00
120-6	EMBANKMENT	16,973.16	CY	\$8.14	\$138,161.52
<b>Earthwork Component Total</b>					<b>\$173,061.52</b>

## ROADWAY COMPONENT

### User Input Data

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	330
Friction Course Spread Rate	80

### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	8,213.59	SY	\$7.34	\$60,287.75
285-709	OPTIONAL BASE,BASE GROUP 09	5,768.26	SY	\$13.55	\$78,159.92
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	951.76	TN	\$118.98	\$113,240.40
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	475.88	TN	\$127.07	\$60,470.07

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	58.00	EA	\$3.10	\$179.80
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.58	GM	\$1,190.19	\$690.31
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.29	GM	\$420.88	\$122.06
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.58	GM	\$4,730.20	\$2,743.52
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.29	GM	\$1,066.52	\$309.29
711-15-201	THERMOPLASTIC, STD-OP, YELLOW, SOLID, 6"	0.58	GM	\$4,736.17	\$2,746.98
<b>Roadway Component Total</b>					<b>\$318,950.10</b>

**SHOULDER COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Total Outside Shoulder Width L/R	10.25 / 10.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	8.00 / 8.00

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
285-701	OPTIONAL BASE,BASE GROUP 01	495.25	SY	\$29.38	\$14,550.44
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	40.86	TN	\$118.98	\$4,861.52
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	40.86	TN	\$127.07	\$5,192.08
520-1-7	CONCRETE CURB & GUTTER, TYPE E	458.59	LF	\$17.89	\$8,204.18
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,706.66	LF	\$23.14	\$39,492.11
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	970.95	SY	\$35.46	\$34,429.89
570-1-2	PERFORMANCE TURF, SOD	1,773.95	SY	\$4.21	\$7,468.33

**Erosion Control****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
104-10-3	SEDIMENT BARRIER	1,519.58	LF	\$1.69	\$2,568.09
104-11	FLOATING TURBIDITY BARRIER	35.98	LF	\$8.63	\$310.51
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	35.98	LF	\$5.46	\$196.45
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,700.54	\$2,700.54
104-18	INLET PROTECTION SYSTEM	8.00	EA	\$144.25	\$1,154.00
107-1	LITTER REMOVAL	3.66	AC	\$49.16	\$179.93
107-2	MOWING	3.66	AC	\$70.72	\$258.84
<b>Shoulder Component Total</b>					<b>\$121,566.92</b>

**MEDIAN COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Total Median Width	30.00

Performance Turf Width 25.50

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
570-1-1	PERFORMANCE TURF	2,152.74	SY	\$2.44	\$5,252.69

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-2-4	CONCRETE CURB, TYPE D	318.87	LF	\$17.47	\$5,570.66
520-2-8	CONCRETE CURB, TYPE RA	417.83	LF	\$20.67	\$8,636.55

**EX-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
350-30-13	CONCRETE PAVEMENT FOR ROUNDABOUT APRON, 12" DEPTH	610.00	SY	\$71.80	\$43,798.00

**Median Component Total** \$63,257.90

**DRAINAGE COMPONENT**

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	2.59	CY	\$1,237.24	\$3,204.45
425-1-351	INLETS, CURB, TYPE P-5, <10'	6.00	EA	\$4,859.08	\$29,154.48
425-1-451	INLETS, CURB, TYPE J-5, <10'	2.00	EA	\$6,003.96	\$12,007.92
425-1-521	INLETS, DT BOT, TYPE C, <10'	1.00	EA	\$4,248.39	\$4,248.39
425-2-41	MANHOLES, P-7, <10'	1.00	EA	\$4,388.64	\$4,388.64
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	384.00	LF	\$95.00	\$36,480.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	40.00	LF	\$132.23	\$5,289.20

430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	720.00 LF	\$198.63	\$143,013.60
570-1-1	PERFORMANCE TURF	43.75 SY	\$2.44	\$106.75
<b>Drainage Component Total</b>				<b>\$237,893.43</b>

### SIGNING COMPONENT

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00 AS	\$328.45	\$1,313.80
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,382.97	\$1,382.97
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	1.00 AS	\$5,932.07	\$5,932.07
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	1.00 AS	\$11,053.87	\$11,053.87
<b>Signing Component Total</b>				<b>\$19,682.71</b>

### LIGHTING COMPONENT

**Conventional Lighting Subcomponent**

<b>Description</b>	<b>Value</b>			
Spacing	MIN			
<b>Pay Items</b>				
<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	759.79 LF	\$7.28	\$5,531.27
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	150.81 LF	\$21.66	\$3,266.54
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	6.00 EA	\$709.74	\$4,258.44
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	2,774.97 LF	\$2.35	\$6,521.18

715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	6.00 EA	\$5,707.60	\$34,245.60
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	6.00 EA	\$555.10	\$3,330.60
	<b>Subcomponent Total</b>			\$57,153.64
	<b>Lighting Component Total</b>			\$57,153.63

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**Sequence 10 Total** \$991,566.21

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**Sequence:** 11 NDU - New Construction, Divided, Urban

**Net** 0.144 MI  
**Length:** 760 LF

**Description:** New Roundabout at 213 St.

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### EARTHWORK COMPONENT

#### User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	95.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.144
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

#### Pay Items

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	3.49	AC	\$10,000.00	\$34,900.00
120-6	EMBANKMENT	16,973.16	CY	\$8.14	\$138,161.52
<b>Earthwork Component Total</b>					<b>\$173,061.52</b>

### ROADWAY COMPONENT

#### User Input Data

<b>Description</b>	<b>Value</b>
Number of Lanes	4
Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	330
Friction Course Spread Rate	80

#### X-Items

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	7,748.98	SY	\$7.34	\$56,877.51
285-709	OPTIONAL BASE,BASE GROUP 09	5,363.10	SY	\$13.55	\$72,670.00
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	884.91	TN	\$118.98	\$105,286.59
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	442.46	TN	\$127.07	\$56,223.39

#### Pavement Marking Subcomponent

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

#### Pay Items

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	58.00	EA	\$3.10	\$179.80
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.58	GM	\$1,190.19	\$690.31
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.29	GM	\$420.88	\$122.06
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.58	GM	\$4,730.20	\$2,743.52
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.29	GM	\$1,066.52	\$309.29
711-15-201	THERMOPLASTIC, STD-OP, YELLOW, SOLID, 6"	0.58	GM	\$4,736.17	\$2,746.98
<b>Roadway Component Total</b>					<b>\$297,849.46</b>

### SHOULDER COMPONENT

#### User Input Data

<b>Description</b>	<b>Value</b>
Total Outside Shoulder Width L/R	10.25 / 10.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	8.00 / 8.00

#### X-Items

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
285-701	OPTIONAL BASE,BASE GROUP 01	504.26	SY	\$29.38	\$14,815.16
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	41.60	TN	\$118.98	\$4,949.57
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	41.60	TN	\$127.07	\$5,286.11
520-1-7	CONCRETE CURB & GUTTER, TYPE E	464.04	LF	\$17.89	\$8,301.68
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,512.91	LF	\$23.14	\$35,008.74

522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	900.37 SY	\$35.46	\$31,927.12
570-1-2	PERFORMANCE TURF, SOD	1,730.97 SY	\$4.21	\$7,287.38

**Erosion Control**

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
104-10-3	SEDIMENT BARRIER	1,519.58	LF	\$1.69	\$2,568.09
104-11	FLOATING TURBIDITY BARRIER	35.98	LF	\$8.63	\$310.51
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	35.98	LF	\$5.46	\$196.45
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,700.54	\$2,700.54
104-18	INLET PROTECTION SYSTEM	8.00	EA	\$144.25	\$1,154.00
107-1	LITTER REMOVAL	3.66	AC	\$49.16	\$179.93
107-2	MOWING	3.66	AC	\$70.72	\$258.84
<b>Shoulder Component Total</b>					<b>\$114,944.12</b>

**MEDIAN COMPONENT**

**User Input Data**

<b>Description</b>	<b>Value</b>
Total Median Width	30.00
Performance Turf Width	25.50

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
570-1-1	PERFORMANCE TURF	2,152.74	SY	\$2.44	\$5,252.69

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
520-2-4	CONCRETE CURB, TYPE D	318.87	LF	\$17.47	\$5,570.66
520-2-8	CONCRETE CURB, TYPE RA	417.83	LF	\$20.67	\$8,636.55

**EX-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
350-30-13	CONCRETE PAVEMENT FOR ROUNDABOUT APRON, 12" DEPTH	610.00	SY	\$71.80	\$43,798.00
<b>Median Component Total</b>					<b>\$63,257.90</b>

**DRAINAGE COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
400-2-2	CONC CLASS II, ENDWALLS	2.59	CY	\$1,237.24	\$3,204.45
425-1-351	INLETS, CURB, TYPE P-5, <10'	6.00	EA	\$4,859.08	\$29,154.48
425-1-451	INLETS, CURB, TYPE J-5, <10'	2.00	EA	\$6,003.96	\$12,007.92
425-1-521	INLETS, DT BOT, TYPE C, <10'	1.00	EA	\$4,248.39	\$4,248.39
425-2-41	MANHOLES, P-7, <10'	1.00	EA	\$4,388.64	\$4,388.64
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	384.00	LF	\$95.00	\$36,480.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	40.00	LF	\$132.23	\$5,289.20
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	720.00	LF	\$198.63	\$143,013.60
570-1-1	PERFORMANCE TURF	43.75	SY	\$2.44	\$106.75
<b>Drainage Component Total</b>					<b>\$237,893.43</b>

**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
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700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00 AS	\$328.45	\$1,313.80
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,382.97	\$1,382.97
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	1.00 AS	\$5,932.07	\$5,932.07
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	1.00 AS	\$11,053.87	\$11,053.87
<b>Signing Component Total</b>				\$19,682.71

### LIGHTING COMPONENT

#### Conventional Lighting Subcomponent

Description		Value			
Spacing		MIN			
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	759.79	LF	\$7.28	\$5,531.27
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	150.81	LF	\$21.66	\$3,266.54
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	6.00	EA	\$709.74	\$4,258.44
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	2,774.97	LF	\$2.35	\$6,521.18
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	6.00	EA	\$5,707.60	\$34,245.60
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	6.00	EA	\$555.10	\$3,330.60
<b>Subcomponent Total</b>					\$57,153.64
<b>Lighting Component Total</b>					\$57,153.63

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**Sequence 11 Total** \$963,842.77

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**Sequence:** 12 NDU - New Construction, Divided, Urban

**Net** 0.144 MI  
**Length:** 760 LF

**Description:** New Roundabout at 225 St.

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### EARTHWORK COMPONENT

#### User Input Data

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	95.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.144
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

#### Pay Items

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
110-1-1	CLEARING & GRUBBING	3.49	AC	\$10,000.00	\$34,900.00
120-6	EMBANKMENT	16,973.16	CY	\$8.14	\$138,161.52
<b>Earthwork Component Total</b>					<b>\$173,061.52</b>

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### ROADWAY COMPONENT

#### User Input Data

<b>Description</b>	<b>Value</b>
Number of Lanes	4

Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	330
Friction Course Spread Rate	80

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
160-4	TYPE B STABILIZATION	8,287.02	SY	\$7.34	\$60,826.73
285-709	OPTIONAL BASE,BASE GROUP 09	5,852.10	SY	\$13.55	\$79,295.96
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	965.60	TN	\$118.98	\$114,887.09
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	482.80	TN	\$127.07	\$61,349.40

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	58.00	EA	\$3.10	\$179.80
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.58	GM	\$1,190.19	\$690.31
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.29	GM	\$420.88	\$122.06
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.58	GM	\$4,730.20	\$2,743.52
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.29	GM	\$1,066.52	\$309.29

711-15-201	THERMOPLASTIC, STD- OP, YELLOW, SOLID, 6"	0.58 GM	\$4,736.17	\$2,746.98
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**Roadway Component Total** \$323,151.14

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**SHOULDER COMPONENT**

**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	10.25 / 10.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	8.00 / 8.00

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-701	OPTIONAL BASE,BASE GROUP 01	498.93	SY	\$29.38	\$14,658.56
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	41.16	TN	\$118.98	\$4,897.22
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	41.16	TN	\$127.07	\$5,230.20
520-1-7	CONCRETE CURB & GUTTER, TYPE E	461.08	LF	\$17.89	\$8,248.72
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,668.72	LF	\$23.14	\$38,614.18
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	948.85	SY	\$35.46	\$33,646.22
570-1-2	PERFORMANCE TURF, SOD	1,749.41	SY	\$4.21	\$7,365.02

**Erosion Control**

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,519.58	LF	\$1.69	\$2,568.09
104-11	FLOATING TURBIDITY BARRIER	35.98	LF	\$8.63	\$310.51
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	35.98	LF	\$5.46	\$196.45

104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,700.54	\$2,700.54
104-18	INLET PROTECTION SYSTEM	8.00 EA	\$144.25	\$1,154.00
107-1	LITTER REMOVAL	3.66 AC	\$49.16	\$179.93
107-2	MOWING	3.66 AC	\$70.72	\$258.84
<b>Shoulder Component Total</b>				<b>\$120,028.48</b>

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### MEDIAN COMPONENT

#### User Input Data

Description	Value
Total Median Width	30.00
Performance Turf Width	25.50

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
570-1-1	PERFORMANCE TURF	2,152.74	SY	\$2.44	\$5,252.69

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-2-4	CONCRETE CURB, TYPE D	318.87	LF	\$17.47	\$5,570.66
520-2-8	CONCRETE CURB, TYPE RA	417.83	LF	\$20.67	\$8,636.55

#### EX-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
350-30-13	CONCRETE PAVEMENT FOR ROUNDABOUT APRON, 12" DEPTH	610.00	SY	\$71.80	\$43,798.00

**Median Component Total** **\$63,257.90**

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### DRAINAGE COMPONENT

#### Pay Items

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
400-2-2	CONC CLASS II, ENDWALLS	2.59	CY	\$1,237.24	\$3,204.45
425-1-351	INLETS, CURB, TYPE P-5, <10'	6.00	EA	\$4,859.08	\$29,154.48
425-1-451	INLETS, CURB, TYPE J-5, <10'	2.00	EA	\$6,003.96	\$12,007.92
425-1-521	INLETS, DT BOT, TYPE C, <10'	1.00	EA	\$4,248.39	\$4,248.39
425-2-41	MANHOLES, P-7, <10'	1.00	EA	\$4,388.64	\$4,388.64
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	384.00	LF	\$95.00	\$36,480.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	40.00	LF	\$132.23	\$5,289.20
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	720.00	LF	\$198.63	\$143,013.60
570-1-1	PERFORMANCE TURF	43.75	SY	\$2.44	\$106.75
<b>Drainage Component Total</b>					<b>\$237,893.43</b>

### SIGNING COMPONENT

#### Pay Items

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00	AS	\$328.45	\$1,313.80
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00	AS	\$1,382.97	\$1,382.97
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	1.00	AS	\$5,932.07	\$5,932.07
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	1.00	AS	\$11,053.87	\$11,053.87
<b>Signing Component Total</b>					<b>\$19,682.71</b>

### LIGHTING COMPONENT

#### Conventional Lighting Subcomponent

<b>Description</b>				<b>Value</b>	
Spacing				MIN	
<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	759.79	LF	\$7.28	\$5,531.27
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	150.81	LF	\$21.66	\$3,266.54
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	6.00	EA	\$709.74	\$4,258.44
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	2,774.97	LF	\$2.35	\$6,521.18
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	6.00	EA	\$5,707.60	\$34,245.60
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	6.00	EA	\$555.10	\$3,330.60
<b>Subcomponent Total</b>					\$57,153.64
<b>Lighting Component Total</b>					\$57,153.63

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**Sequence 12 Total** \$994,228.81

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**Sequence:** 13 NDU - New Construction, Divided, Urban

**Net** 0.144 MI  
**Length:** 760 LF

**Description:** New Roundabout at CR 675

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### EARTHWORK COMPONENT

**User Input Data**

<b>Description</b>	<b>Value</b>
Standard Clearing and Grubbing Limits L/R	95.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.144

Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	3.49	AC	\$10,000.00	\$34,900.00
120-6	EMBANKMENT	16,973.16	CY	\$8.14	\$138,161.52
<b>Earthwork Component Total</b>					<b>\$173,061.52</b>

## ROADWAY COMPONENT

### User Input Data

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	330
Friction Course Spread Rate	80

### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	9,229.00	SY	\$7.34	\$67,740.86
285-709	OPTIONAL BASE,BASE GROUP 09	6,480.04	SY	\$13.55	\$87,804.54
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,069.21	TN	\$118.98	\$127,214.61
337-7-83	ASPH CONC FC, TRAFFIC C,FC-12.5,PG 76-22	534.60	TN	\$127.07	\$67,931.62

**Pavement Marking Subcomponent**

<b>Description</b>	<b>Value</b>
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	58.00	EA	\$3.10	\$179.80
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.58	GM	\$1,190.19	\$690.31
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.29	GM	\$420.88	\$122.06
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.58	GM	\$4,730.20	\$2,743.52
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.29	GM	\$1,066.52	\$309.29
711-15-201	THERMOPLASTIC, STD-OP, YELLOW, SOLID, 6"	0.58	GM	\$4,736.17	\$2,746.98
<b>Roadway Component Total</b>					<b>\$357,483.59</b>

**SHOULDER COMPONENT**

**User Input Data**

<b>Description</b>	<b>Value</b>
Total Outside Shoulder Width L/R	10.25 / 10.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	8.00 / 8.00

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
285-701	OPTIONAL BASE,BASE GROUP 01	445.29	SY	\$29.38	\$13,082.62
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	36.74	TN	\$118.98	\$4,371.33
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	36.74	TN	\$127.07	\$4,668.55
520-1-7	CONCRETE CURB & GUTTER, TYPE E	776.55	LF	\$17.89	\$13,892.48
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,863.41	LF	\$23.14	\$43,119.31
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	934.83	SY	\$35.46	\$33,149.07
570-1-2	PERFORMANCE TURF, SOD	1,327.63	SY	\$4.21	\$5,589.32

**Erosion Control****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
104-10-3	SEDIMENT BARRIER	1,519.58	LF	\$1.69	\$2,568.09
104-11	FLOATING TURBIDITY BARRIER	35.98	LF	\$8.63	\$310.51
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	35.98	LF	\$5.46	\$196.45
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,700.54	\$2,700.54
104-18	INLET PROTECTION SYSTEM	8.00	EA	\$144.25	\$1,154.00
107-1	LITTER REMOVAL	3.66	AC	\$49.16	\$179.93
107-2	MOWING	3.66	AC	\$70.72	\$258.84
<b>Shoulder Component Total</b>					<b>\$125,241.04</b>

**MEDIAN COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Total Median Width	30.00

Performance Turf Width 25.50

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
570-1-1	PERFORMANCE TURF	2,152.74	SY	\$2.44	\$5,252.69

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-2-4	CONCRETE CURB, TYPE D	318.87	LF	\$17.47	\$5,570.66
520-2-8	CONCRETE CURB, TYPE RA	417.83	LF	\$20.67	\$8,636.55

**EX-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
350-30-13	CONCRETE PAVEMENT FOR ROUNDABOUT APRON, 12" DEPTH	610.00	SY	\$71.80	\$43,798.00

**Median Component Total** \$63,257.90

**DRAINAGE COMPONENT**

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	2.59	CY	\$1,237.24	\$3,204.45
425-1-351	INLETS, CURB, TYPE P-5, <10'	6.00	EA	\$4,859.08	\$29,154.48
425-1-451	INLETS, CURB, TYPE J-5, <10'	2.00	EA	\$6,003.96	\$12,007.92
425-1-521	INLETS, DT BOT, TYPE C, <10'	1.00	EA	\$4,248.39	\$4,248.39
425-2-41	MANHOLES, P-7, <10'	1.00	EA	\$4,388.64	\$4,388.64
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	384.00	LF	\$95.00	\$36,480.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	40.00	LF	\$132.23	\$5,289.20

430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	720.00 LF	\$198.63	\$143,013.60
570-1-1	PERFORMANCE TURF	43.75 SY	\$2.44	\$106.75
<b>Drainage Component Total</b>				<b>\$237,893.43</b>

### SIGNING COMPONENT

**Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00 AS	\$328.45	\$1,313.80
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,382.97	\$1,382.97
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	1.00 AS	\$5,932.07	\$5,932.07
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	1.00 AS	\$11,053.87	\$11,053.87
<b>Signing Component Total</b>				<b>\$19,682.71</b>

### LIGHTING COMPONENT

**Conventional Lighting Subcomponent**

<b>Description</b>	<b>Value</b>			
Spacing	MIN			
<b>Pay Items</b>				
<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	759.79 LF	\$7.28	\$5,531.27
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	150.81 LF	\$21.66	\$3,266.54
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	6.00 EA	\$709.74	\$4,258.44
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	2,774.97 LF	\$2.35	\$6,521.18

715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	6.00 EA	\$5,707.60	\$34,245.60
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	6.00 EA	\$555.10	\$3,330.60
	<b>Subcomponent Total</b>			\$57,153.64
	<b>Lighting Component Total</b>			\$57,153.63

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**Sequence 13 Total** \$1,033,773.82

**Sequence:** 14 MIS - Miscellaneous Construction

**Net** 0.000 MI  
**Length:** 0 LF

**Description:** MOT

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**ROADWAY COMPONENT**

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
102-2-1	SPECIAL DETOUR 1	1.00	LS	\$1,000,000.00	\$1,000,000.00
102-71-13	TEMPORARY BARRIER, F&I,LOW PROFILE,CONC	36,727.00	LF	\$38.29	\$1,406,276.83
102-71-23	TEMPORARY BARRIER, REL,LOW PROFILE CONC	36,727.00	LF	\$8.89	\$326,503.03
	<b>Roadway Component Total</b>				\$2,732,779.86

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**Sequence 14 Total** \$2,732,779.86

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Date: 4/9/2019 1:09:28 PM

FDOT Long Range Estimating System - Production  
R3: Project Details by Sequence Report

**Project:** 414506-2-52-01 **Letting Date:** 07/2022

**Description:** SR 70 FROM LORRAINE RD TO CR 675/WATERBURY ROAD

**District:** 01 **County:** 13 MANATEE **Market Area:** 10 **Units:** English  
**Contract Class:** 7 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 6.596 MI

**Project Manager:** JMK-MJB-DCT

**Version 12**

**Project** **\$67,333,412.10**

**Grand Total**

**Description:** April 2019 Unit Cost Update with markups per PM from Version 11 - 4/4/19

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**Project Sequences Subtotal** **\$53,858,755.89**

102-1	Maintenance of Traffic	10.00 %	\$5,385,875.59
101-1	Mobilization	8.00 %	\$4,739,570.52

**Project Sequences Total** **\$63,984,202.00**

Project Unknowns	5.00 %	\$3,199,210.10
Design/Build	0.00 %	\$0.00

**Non-Bid Components:**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

**Project Non-Bid Subtotal** **\$150,000.00**

**Version 12 Project Grand Total** **\$67,333,412.10**

**APPENDIX B**  
**UTILITY AGENCIES AND FACILITIES**

**INFORMATION RECEIVED FROM UAOs**

### **AT&T Transmission**

1. AT&T Transmission has 1-2" HDPE conduit that enters the project from the western limits and continued running east along the south side of SR 70 before it ends in a hand hole on the southeast intersection of SR 70 & Lorraine Rd.
2. AT&T Transmission has a hand hole located on the southeast corner of the SR 70 & Lorraine Rd. intersection.
3. AT&T Transmission has 1-2" HDPE conduit that runs north and south along the east side of Lorraine Rd. where it ends in the hand hole on the southeast corner of the SR 70 & Lorraine Rd. intersection.

## **Braden River Utilities**

1. Braden River Utilities was contacted, but never replied for the PD&E study limits.

### **Bright House Networks**

1. Bright House Networks has an UG facility that enters the project limits from the southwest corner of the SR 70 & Lorraine Rd intersection and runs east, crossing Lorraine Rd before it turns and runs north, crossing SR 70 and tying in to the UG Bright House facilities that came down the PRECO power pole, 300' east of the SR 70 & Lorraine Rd intersection.
2. Bright House Networks has an UG facility that runs north and south along the east side of Lorraine Rd north of SR 70. This UG facility turns and runs east at the northwest corner of the SR 70 & Lorraine Rd intersection before it ends at the PRECO power pole, 300' east of the SR 70 & Lorraine Rd intersection.
3. Bright House Networks is an aerial joint user on the PRECO power pole line, which is in an easement. These aerial facilities begin on the PRECO power pole, which is 300' east of the SR 70 & Lorraine Rd intersection on the north side of SR 70 and runs east before ending in front of the PRECO SR 70 Substation.
4. Bright House Networks has UG facilities that risers down off of the PRECO power pole just north of SR 70 & Del Webb Blvd before it runs south, crossing SR 70 and running along the east side of Del Webb Blvd.
5. Bright House Networks is an aerial joint user on the PRECO power pole line, which is in the state right of way, starting in front of the PRECO SR 70 substation and running east before ending 2400' west of the SR 70 & Lindrick Ln intersection on the north side of SR 70.
6. Bright House networks aerial facilities become UG, 2400' west of the SR 70 & Lindrick Ln intersection and runs east along the north side of SR 70 before ending and becoming aerial again on the PRECO power pole line 900' east of the SR 70 & Lindrick Ln intersection.
7. Bright House Networks has UG facilities that begin on the northwest corner of the SR 70 & 197th St E intersection that run south along the west side of Lindrick Ln, crossing SR 70.
8. Bright House Networks has UG facilities that begin on the northeast corner of the SR 70 & 197th St E intersection that run north along the east side of 197<sup>th</sup> St E.
9. Bright House Networks has aerial facilities on the PRECO power pole line starting 900' east of the SR 70 & Lindrick Ln intersection on the north side of SR 70 and runs east along the north side of SR 70 before ending and becoming UG again 500' west of the SR 70 & 225th St E intersection.
10. Bright House Networks has aerial facilities that become UG, 500' west of the SR 70 & 225th St E intersection on the north side of SR 70. These facilities run east along the north side of SR

70 before ending and becoming aerial again, on the PRECO power pole line, 250' east of the SR 70 & 225th St E intersection.

11. Bright House Networks has UG facilities that become aerial, on the PRECO power pole, line starting 250' east of the SR 70 & 225th St E intersection on the north side of SR 70 and running east before ending on the north side of SR 70 on the west side of the CR 675 off-ramp.

12. Bright House Networks has UG facilities that begin on the north side of SR 70, just west of the CR 675 off ramp that run east, crossing the CR 675 off ramp, before turning and running south, crossing SR 70 and then turning and running east along the south side of SR 70 and out of the project limits.

13. Bright House Networks has an UG facility that begins on the northeast corner of the SR 70 & Meadow Dove Lane intersection and runs south along the east side of Meadow Dove Lane.

## **Frontier Communications**

1. Frontier Communications has 1 – direct buried copper facility that enters the project from the western most limits and runs east along the north side of SR 70 before it ends in a Frontier pull box 1900’ east of Uihlein Rd.
2. Frontier Communications has 1- direct buried copper facility that enters the project from the western most limits and runs east along the south side of SR 70 before it turns south at the intersection of SR 70 & Lorraine Rd and continued south along the east side of Lorraine Rd.
3. Frontier Communications has 2-4” PVC conduit with fiber facilities that enter the project from the western most limits and run east along the south side of SR 70 before it turns south at the intersection of SR 70 & Lorraine Rd and continues south along the east side of Lorraine Rd.
4. Frontier Communications has a 1-4” PVC conduit with fiber facility that begins on the southeast corner of the SR 70 & Lorraine Rd intersection and runs north, crossing SR 70, and continuing north along the east side of Lorraine Rd.
5. Frontier Communications has a 1-4” PVC conduit with fiber facility that begins on the southeast corner of the SR 70 & Lorraine Rd intersection and runs east along the south side of SR 70 before it turn north, crossing SR 70 at the southwest corner of the SR 70 & Arbor Green Trail intersection, and continues east along the north side of SR 70 before it ends in the Frontier pull box 1900’ east of Uihlein Rd.
6. Frontier Communications has a pull box on the north side of SR 70, 1900’ east of Uihlein Rd.
7. Frontier Communications has a 1-1.25” polypipe conduit with fiber facility that begins in the Frontier pull box 1900’ east of Uihlein Rd on the north side of SR 70 and runs east on the north side of SR 70 before it turns at the northwest corner of the SR 70 & Del Webb Blvd and runs south, crossing SR 70 and continuing south along the west side of Del Webb Blvd.
8. Frontier Communications has a pull box on the north side of SR 70 that is 1200’ east of Lindrick Ln.
9. Frontier Communications has 4-4” PVC with fiber and copper cable facilities that begin in the Frontier pull box on the north side of SR 70, 1200’ east of Lindrick Ln, and runs north outside of the project limits.
10. Frontier Communications has 1 – direct buried copper facility that begin in the Frontier pull box on the north side of SR 70, 1200’ east of Lindrick Ln, and runs south, crossing SR 70 and continuing outside of the project limits.

11. Frontier Communications has 1-1.25" polypipe conduit with fiber facilities that begin 1600' east of Lindrick Ln on the north side of SR 70 and run north outside of the project limits.

12. Frontier Communications has 1 – direct buried copper cable and 3-4" PVC conduit with fiber facilities that begin in the Frontier pull box on the north side of SR 70, 1200' east of Lindrick Ln, and run east along the north side of SR 70 before it ends in a Frontier pedestal located on the northwest corner of the SR 70 & 225th St E intersection.

13. Frontier Communications has a hand hole on the north side of SR 70, 400' west of the SR 70 & 213th St intersection.

14. Frontier Communications has a hand hole on the north side of SR 70, 100' west of the SR 70 & 225th St E intersection.

15. Frontier Communications has a pedestal on the northwest intersection of SR 70 & 225th St E intersection.

16. Frontier Communications has 1 – direct buried copper cable facility, that begins in the Frontier pedestal on the northwest corner of the SR 70 & 225th St E intersection, and runs north along the west side of 225th St E.

17. Frontier Communications has 3 – direct buried copper cable facilities, that begins in the Frontier pedestal on the northwest corner of the SR 70 & 225th St E intersection, and run south, crossing SR 70, and continuing along the west side of 225th St E.

18. Frontier Communications has 3-4" PVC conduits with fiber and 3 buried copper cable facilities that begin in the Frontier pedestal on the northwest corner of the SR 70 & 225th St E intersection, and run east along the north side of SR 70 before ending in a Frontier pedestal on the west side of the CR 675 off-ramp.

19. Frontier Communications has a pedestal on the north side of SR 70, just west of the CR 675 off-ramp.

20. Frontier Communications has a hand hole on the north side of SR 70, just west of the CRF 675 off-ramp.

21. Frontier Communications has 3-4" PVC conduits with fiber and 3 direct buried copper cables that begin in the Frontier hand hole on the north side of SR 70, just west of the CR 675 off-ramp. These facilities run north along the west side of the CR 675 off-ramp and out of the project limits.

22. Frontier Communications has 1 – direct buried copper cable that begins in the Frontier hand hole on the north side of SR 70, just west of the CR 675 off ramp. This facility runs south, crossing SR 70, and continuing south along the west side of Meadow Drive Lane.

23. Frontier Communications has 2-4” PVC conduits with fiber and 2 direct buried copper cable facilities that run east and west along the north side of the CR 675 on-ramp. These facilities continue to run east along the north side of SR 70 and out of the project limits.

## **Lakewood Ranch Community Development Districts**

1. Lakewood Ranch Community Development Districts was contacted, but never replied for the PD&E study limits.

### **Level 3 Communications – (Now CenturyLink)**

1. Level 3 Communications (Now CenturyLink) has facilities, 12 ea. 1.25” HDPE housing FOC, that enters the project from north side of the CR 675 on ramp and those facilities continue to run east along the north side of the CR 675 on ramp until it is outside of the project limits along SR 70.

## **Manatee County Utility Operations**

1. Manatee County has a 36” pipe listed as unknown that enters the project from the western limits and runs east along the north side of SR 70 before it ends at a water valve located on the northwest corner of the SR 70 & Lorraine Rd intersection.
2. Manatee County has 3 water valves located on the northwest corner of the SR 70 and Lorraine Rd Intersection.
3. Manatee County has a 16” PVC water line that enters the project just south of SR 70 and runs north and south along the west side of Lorraine Rd before it ends at a water valve on the northwest corner of the SR 70 & Lorraine Rd intersection.
4. Manatee County has a 36” pipe listed as unknown that enters the project north of SR 70 and runs north and south along the west side of Lorraine Rd before it ends at a water valve on the northwest corner of the SR 70 & Lorraine Rd intersection.
5. Manatee County has a water valve on the southwest corner of SR 70 & Greenbrook Blvd.
6. Manatee County has a 8” PVC water line that begins at the water valve on the southwest corner of the SR 70 & Greenbrook Blvd intersection and runs south along the west side of Greenbrook Blvd.
7. Manatee County has water valve on the northwest corner of the SR 70 & Post Blvd intersection.
8. Manatee County has a water valve on the northeast corner of the SR 70 & Post Blvd intersection.
9. Manatee County has a 12” PVC water line that runs from the water valve on the southwest corner of the SR 70 & Greenbrook Blvd intersection to the water valve on the northwest corner of the SR 70 & Post Blvd intersection.
10. Manatee County has a 12” PVC water line that runs from the water valve on the northwest corner of the SR 70 & Post Blvd intersection to the water valve on the northeast corner of the SR 70 & Post Blvd intersection.
11. Manatee County has a 12” PVC water line that starts at the water valve on the northwest corner of the SR 70 & Post Blvd intersection and runs north along the west side of Post Blvd.
12. Manatee County has a water valve on the southwest corner of the SR 70 & Del Webb Blvd intersection. There is an 8” PVC water line that runs from the valve, south along the west side of Del Webb Blvd.

## **Myakka Communications**

1. Myakka Communications was contacted and replied that they do not have any conflicts within the PD&E study limits.

## **Peace River Electric Coop**

1. Peace River Electric Coop (PRECO) has 138kV transmission facilities that are on 115 ft. concrete poles with underbuilt distribution that has a voltage of 14.4kV and resides in a private easement. These pole lines enter the project from the western most limits and run east along the north side of SR 70 before turning north and trying in to the PRECO SR 70 substation.
2. Peace River Electric Coop has 138kV transmission facilities that are on 115 ft. concrete poles with underbuilt distribution that has a voltage of 14.4kV and resides in a private easement. These facilities begin on the northeast corner of the SR 70 & Lorraine Rd intersection where they run north along the east side of Lorraine Rd.
3. Peace River Electric Coop has three phase underground power, with a voltage of 14.4kV, that risers down off of the PRECO pole line 150' east of the SR 70 & Post Blvd intersection on the north side of SR 70 and runs south, crossing SR 70 and continuing south along the east side of Greenbrook Blvd.
4. Peace River Electric Coop has three phase underground power, with a voltage of 14.4kV, that risers down off of the PRECO pole line on the northeast corner of the SR 70 & Del Webb Blvd intersection and runs south, crossing SR 70 and continuing south along the east side of Del Webb Blvd.
5. Peace River Electric Coop has three phase underground power, with a voltage of 14.4kV, that risers down off of the PRECO pole line 1400' east of the SR 70 & Del Webb Blvd intersection, on the north side of SR 70, and runs south, crossing SR 70 and continuing south along the west side of the unnamed dirt road.
6. Peace River Electric Coop (PRECO) has 138kV transmission facilities that are on 115 ft. concrete poles with underbuilt distribution that has a voltage of 14.4kV and resides in a private easement. These pole lines run north and south, crossing SR 70 just east of the PRECO SR 70 substation.
7. Peace River Electric Coop has 14.4kV distribution facilities that are on 45' wooden poles and reside in the state right of way. These facilities begin on the north side of SR 70, directly in front of the PRECO SR 70 substation and run east, along the north side of SR 70 before turning and running south, crossing SR 70, 2400' west of 197th St E.
8. Peace River Electric Coop has 14.4kV distribution facilities that are on 45' wooden poles and reside in the state right of way. These facilities begin on the north side of SR 70, 1400' east of the SR 70 & Lindrick Ln intersection and run east, along the north side of SR 70 until it is outside of the project limits.

9. Peace River Electric Coop has 14.4kV distribution facilities that are on 45' wooden poles and reside in the state right of way. These facilities run north and south, crossing SR 70, 1400' east of the SR 70 & Lindrick Ln intersection.

10. Peace River Electric Coop has 14.4kV distribution facilities that are on 45' wooden poles and reside in the state right of way. These facilities run north and south, crossing SR 70, 1500' east of the SR 70 & 213th St E intersection.

11. Peace River Electric Coop has three phase underground power, with a voltage of 14.4kV, that comes off of the PRECO pole line on the northwest corner of the SR 70 & 225th St E intersection and runs north along the west side of 225th St E.

12. Peace River Electric Coop has three phase underground power, with a voltage of 14.4kV, that comes off of the PRECO pole line on the northwest corner of the SR 70 & 225th St E intersection and runs south, crossing SR 70, along the west side of 225th St E.

13. Peace River Electric Coop has 14.4kV distribution facilities that are on 45' wooden poles and reside in the state right of way. These facilities begin on the southwest corner of the SR 70 & Meadow Dove Lane intersection and run north, crossing SR 70, along the west side of the CR 675 off-ramp.

14. Peace River Electric Coop has three phase underground power, with a voltage of 14.4kV, that comes off of the PRECO pole line on the southwest corner of the SR 70 & Meadow Dove Lane intersection and runs south along the west side of Meadow Dove Lane.

## **TECO Peoples Gas**

1. TECO Peoples Gas has an 8" Steel gas line that runs north and south along the west side of Lorraine Rd.
2. TECO Peoples Gas has a 4" PE gas line that enters the project from the western limits and runs east along the south side SR 70, where it ties in to the 8" steel gas line that runs north and south along the west side of Lorraine Rd.
3. TECO Peoples Gas has a 4" PE gas line that runs north along the east side of Greenbrook Blvd. before it enters the project limits and runs east along the south side of SR 70 before it turns north, crosses SR 70, and ends 1,300 ft. west of Uihlein Rd. (Sta. 585+20)

## **Uniti Fiber**

1. Uniti Fiber has 2 – 1.25” HDPE fiber optic cables that run south along the east side of Post Blvd. The fiber optic cables then enter the project site on the northeast corner of the SR 70 & Post Blvd intersection where they turn and run east along the north side of SR 70 before turning and running north along an unnamed road, 1700’ east of Uihlein Rd, and out of the project limits.

**APPENDIX C**  
**RECOMMENDED**  
**ALTERNATIVE CONCEPT PLANS**

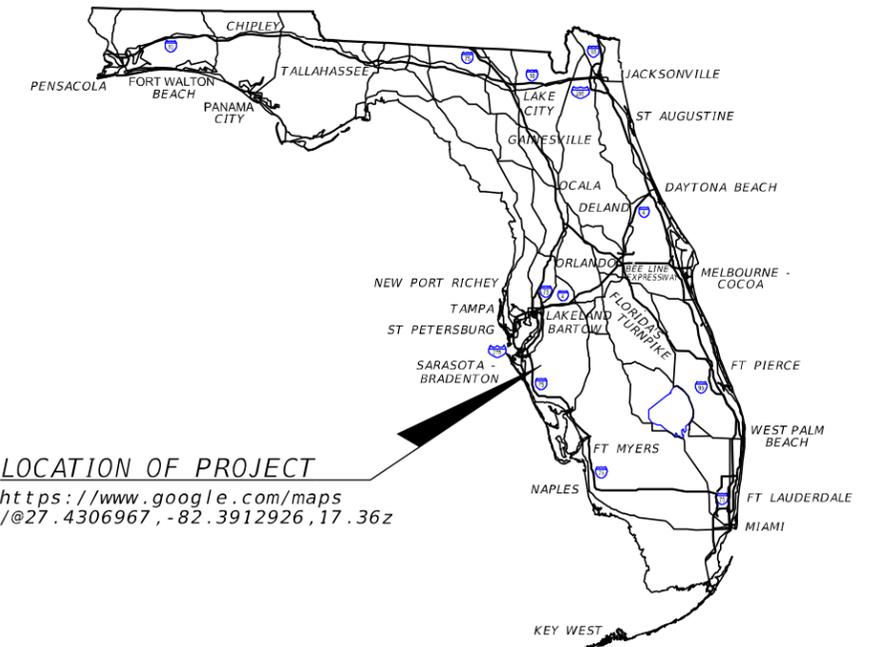
# MANATEE COUNTY

## CONCEPT PLANS

SR 70 PD&E STUDY  
FROM LORRAINE ROAD TO CR 675  
FPID: 414506-2-22-01

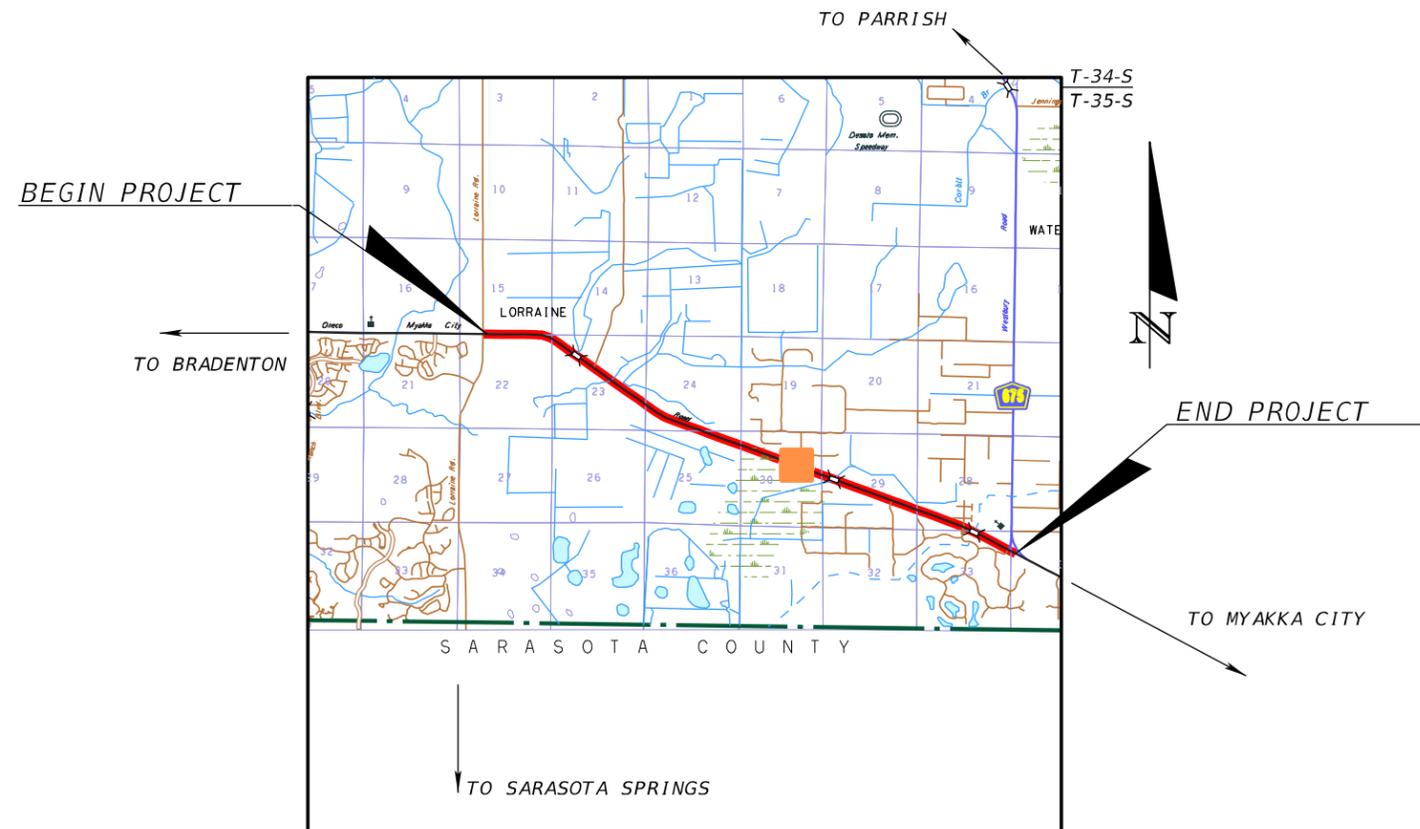
### INDEX OF PLANS

SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET
2-28	CONCEPT PLANS



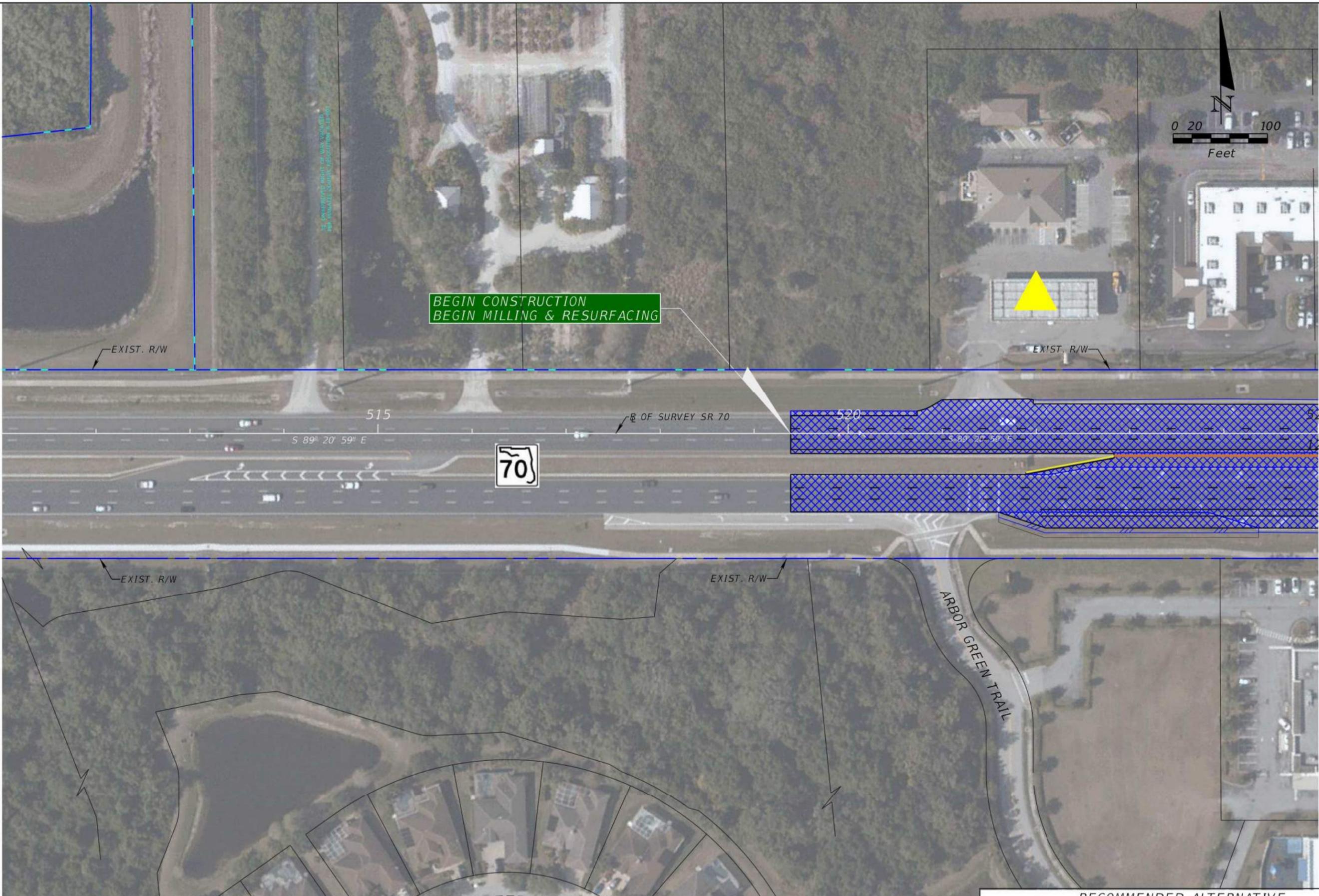
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<https://www.google.com/maps/@27.4306967,-82.3912926,17.36z>

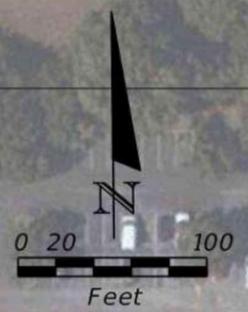


KISINGER CAMPO AND ASSOCIATES CORP.  
201 N. FRANKLIN STREET, SUITE 400  
TAMPA, FLORIDA 33602  
PHONE: (813) 871-5331  
CONTRACT NO.: C9501  
VENDOR NO.: 59-1677145  
CERTIFICATE OF AUTHORIZATION NO.: 02317

CONCEPT PLANS ENGINEER OF RECORD: DEBORAH HERNANDEZ CEDENO  
P.E. NO.: 74754



BEGIN CONSTRUCTION  
BEGIN MILLING & RESURFACING



EXIST. R/W

EXIST. R/W

515

OF SURVEY SR 70

520

525

125

S 89° 20' 59" E

S 89° 20' 59" E



EXIST. R/W

EXIST. R/W

ARBOR GREEN TRAIL

LEGEND

- EXISTING R/W LINE
- PROPOSED R/W LINE
- PROPERTY LINE
- POTENTIAL CONTAMINATION SITE
- PROPOSED ROADWAY
- TRAFFIC SEPARATOR
- ROUNDABOUT APRON
- PROPOSED SIDEWALK
- PROPOSED BRIDGE
- MILLING & RESURFACING
- WETLANDS
- PUBLIC LANDS
- SURFACE WATERS

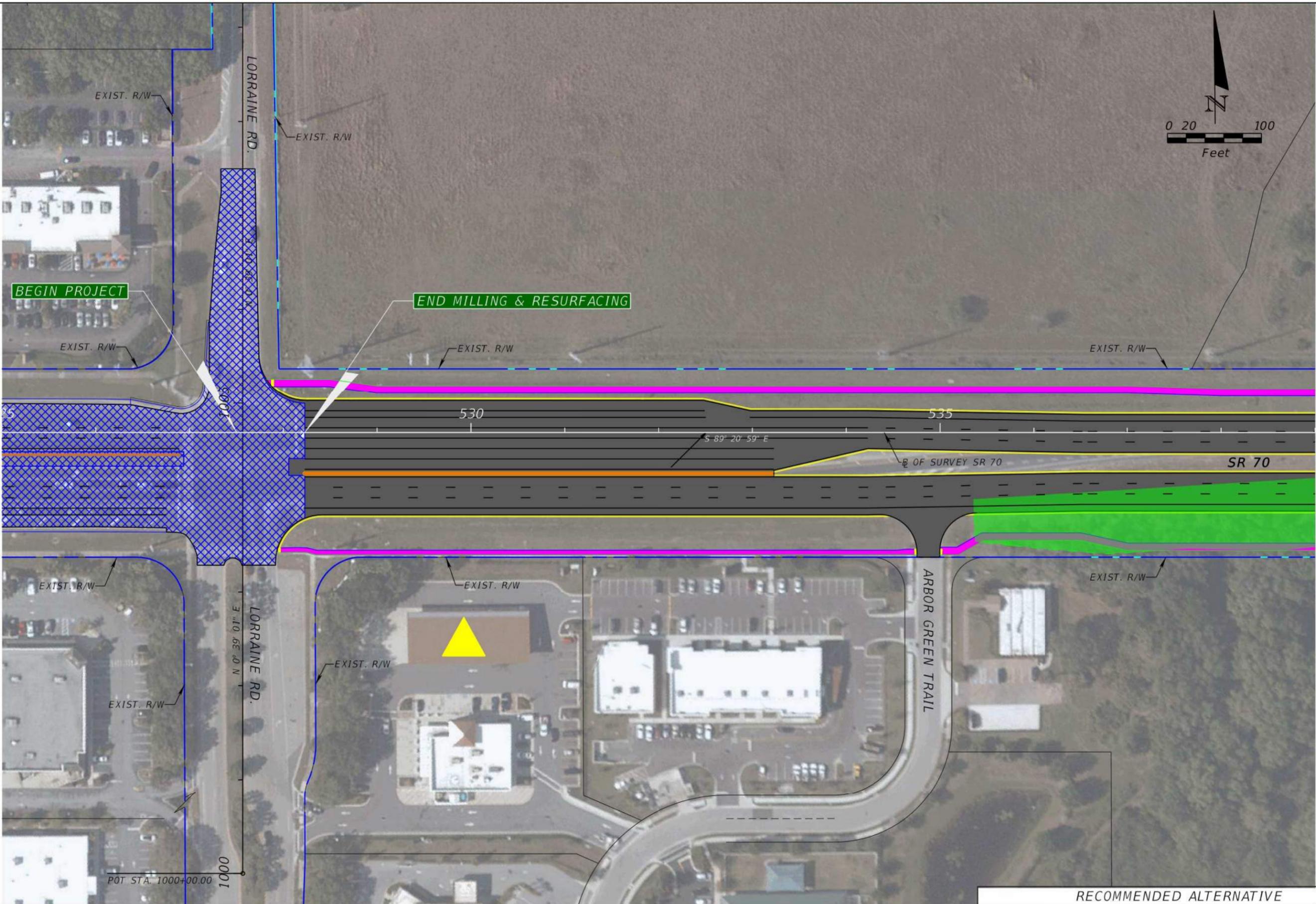
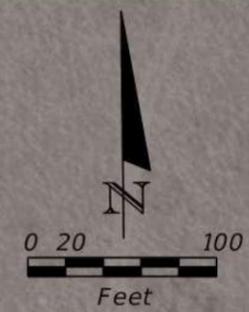
Kisinger Campo & Associates Corp.  
201 E. Franklin Street, Suite 400  
Tampa, Florida 33602  
Florida Certificate of Authorization No. 02317  
Engineer of Record: Deborah Hernandez-Cedeno, P.E.  
P.E. No.: 74754

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

**CONCEPT PLAN (1)**  
**STA. 119+39 TO STA. 125+00**

	SHEET NO. <b>2</b>
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LEGEND

EXISTING R/W LINE	PROPOSED ROADWAY	MILLING & RESURFACING
PROPOSED R/W LINE	TRAFFIC SEPARATOR	WETLANDS
PROPERTY LINE	ROUNDABOUT APRON	PUBLIC LANDS
POTENTIAL CONTAMINATION SITE	PROPOSED SIDEWALK	SURFACE WATERS
	PROPOSED BRIDGE	

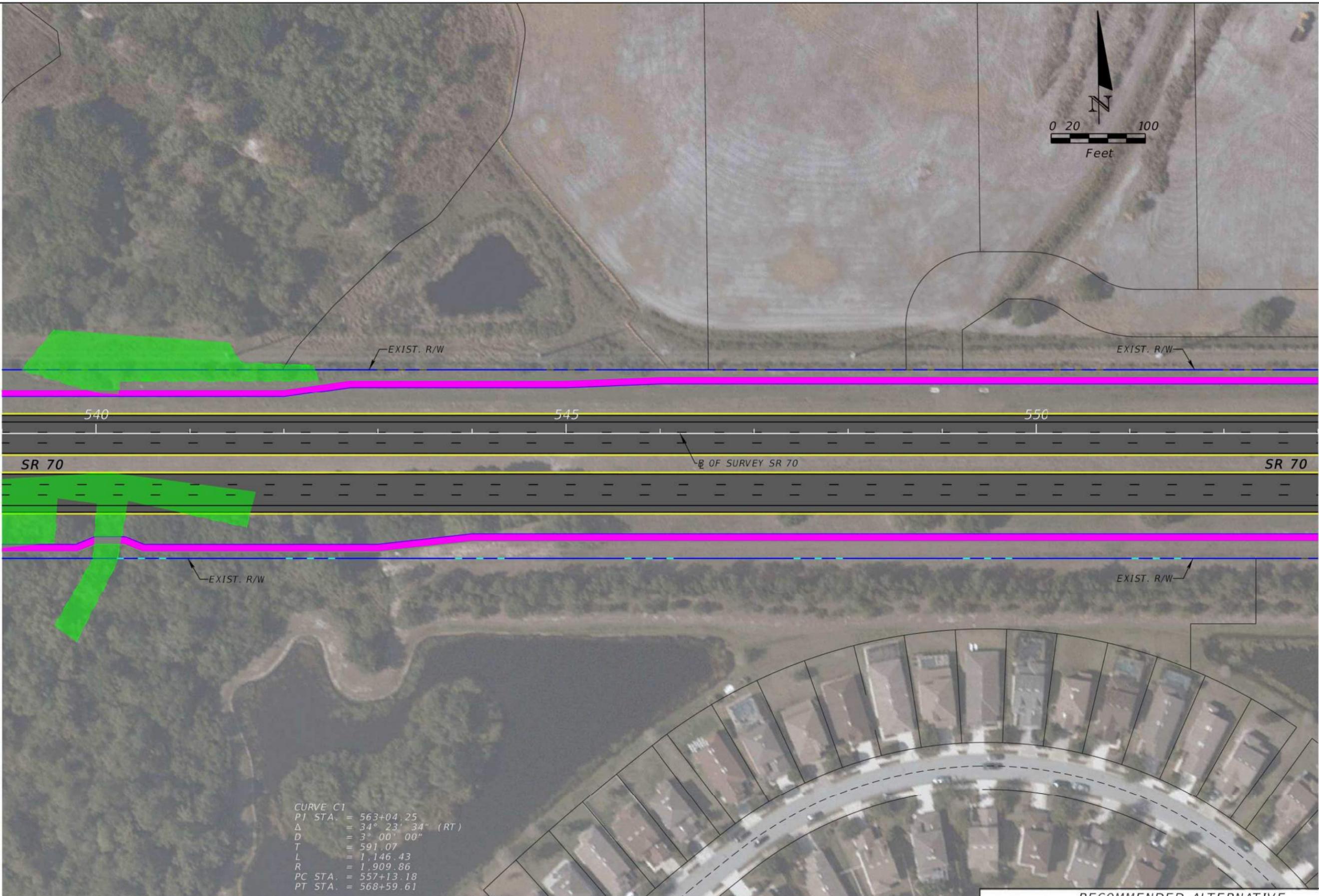
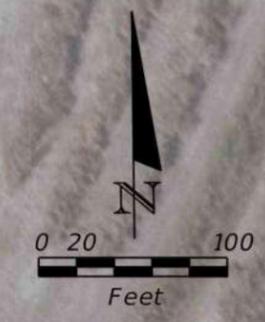
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 Florida Certificate of Authorization No. 02317  
 Engineer of Record: Deborah Hernandez-Cedeno, P.E.  
 P.E. No.: 74754

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

**CONCEPT PLAN (2)**  
**STA. 125+00 TO STA. 139+00**

SHEET NO.  
3



CURVE C1  
 PI STA. = 563+04.25  
 $\Delta$  = 34° 23' 34" (RT)  
 D = 3° 00' 00"  
 T = 591.07  
 L = 1,146.43  
 R = 1,909.86  
 PC STA. = 557+13.18  
 PT STA. = 568+59.61

LEGEND

	EXISTING R/W LINE		PROPOSED ROADWAY		MILLING & RESURFACING
	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDBOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

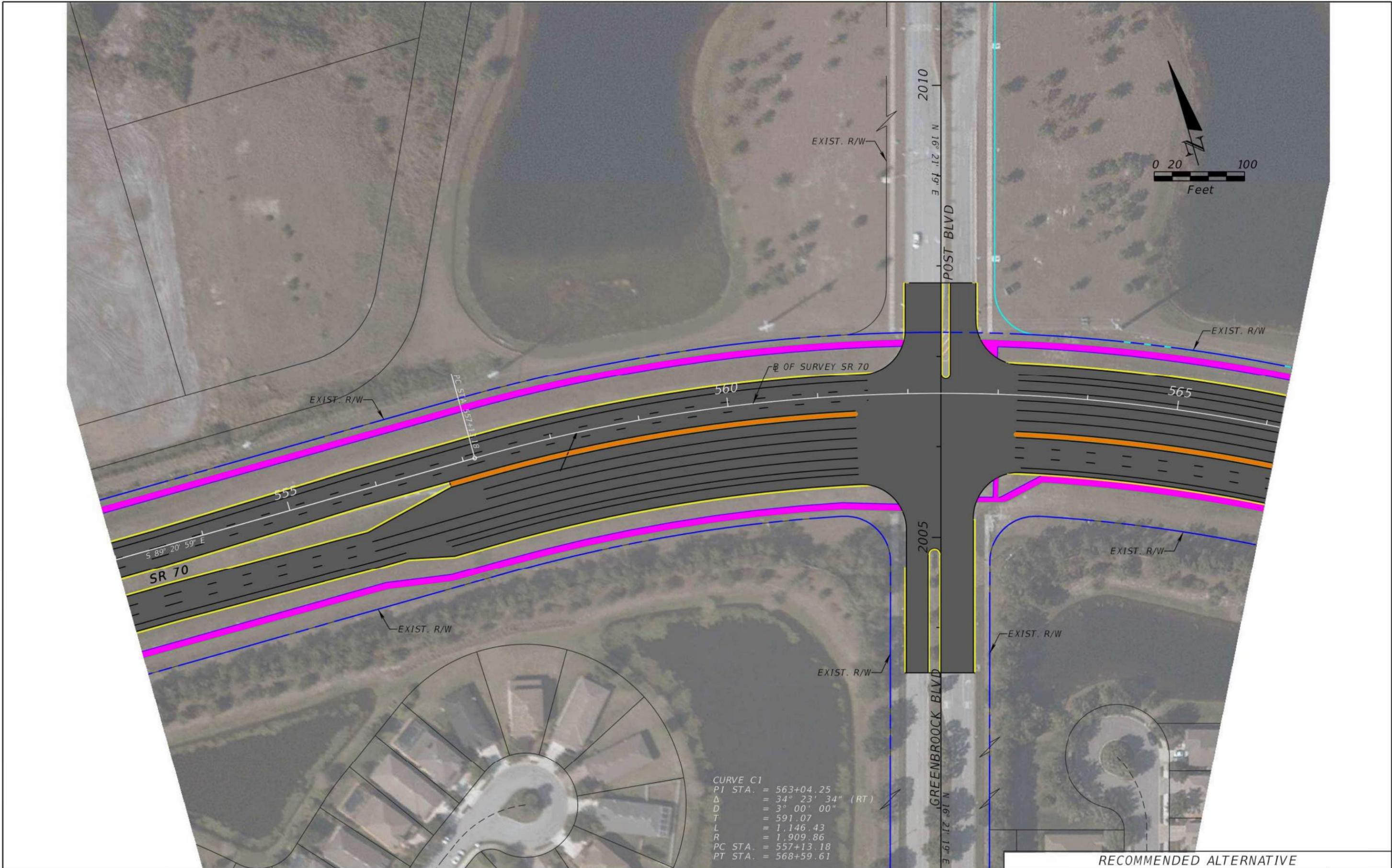
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

**CONCEPT PLAN (3)**  
**STA. 139+00 TO STA. 153+00**

SHEET NO.  
**4**



CURVE C1  
 PI STA. = 563+04.25  
 $\Delta$  = 34° 23' 34" (RT)  
 D = 3° 00' 00"  
 T = 591.07  
 L = 1,146.43  
 R = 1,909.86  
 PC STA. = 557+13.18  
 PT STA. = 568+59.61

LEGEND

EXISTING R/W LINE	PROPOSED ROADWAY	MILLING & RESURFACING
PROPOSED R/W LINE	TRAFFIC SEPARATOR	WETLANDS
PROPERTY LINE	ROUNDABOUT APRON	PUBLIC LANDS
POTENTIAL CONTAMINATION SITE	PROPOSED SIDEWALK	SURFACE WATERS
	PROPOSED BRIDGE	

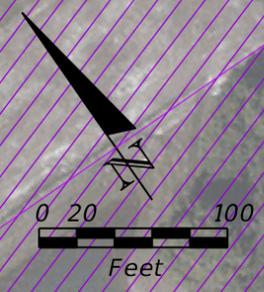
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 Engineer of Record: Deborah Hernandez-Cedeno, P.E.  
 P.E. No.: 74754

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

CONCEPT PLAN (A)  
 STA. 153+00 TO STA. 166+00

SHEET NO.  
 5



PREMIER SPORTS CAMPUS

EXIST. R/W

PT. STA. 568+59.61  
EQUATION:  
STA 568+59.61 BK =  
STA 568+71.49 AH

570

575

S 54° 57' 25" E

S 54° 57' 25" E

SR 70

B OF SURVEY SR 70

EXIST. R/W

BRANDON RIVER  
MITIGATION BANK

LEGEND

	EXISTING R/W LINE		PROPOSED ROADWAY		MILLING & RESURFACING
	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDBOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

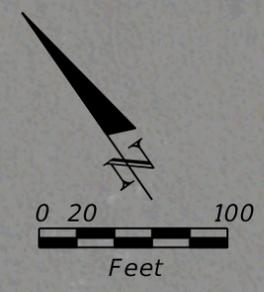
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

CONCEPT PLAN (5)  
STA. 166+00 TO STA. 179+00

SHEET NO.  
6



PREMIER SPORTS CAMPUS

BRANDON RIVER MITIGATION BANK

BRANDON RIVER MITIGATION BANK

580

585

590

B OF SURVEY SR 70

S 54° 57' 25" E

EXIST. R/W

EXIST. R/W

LEGEND

	EXISTING R/W LINE		PROPOSED ROADWAY		MILLING & RESURFACING
	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDABOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

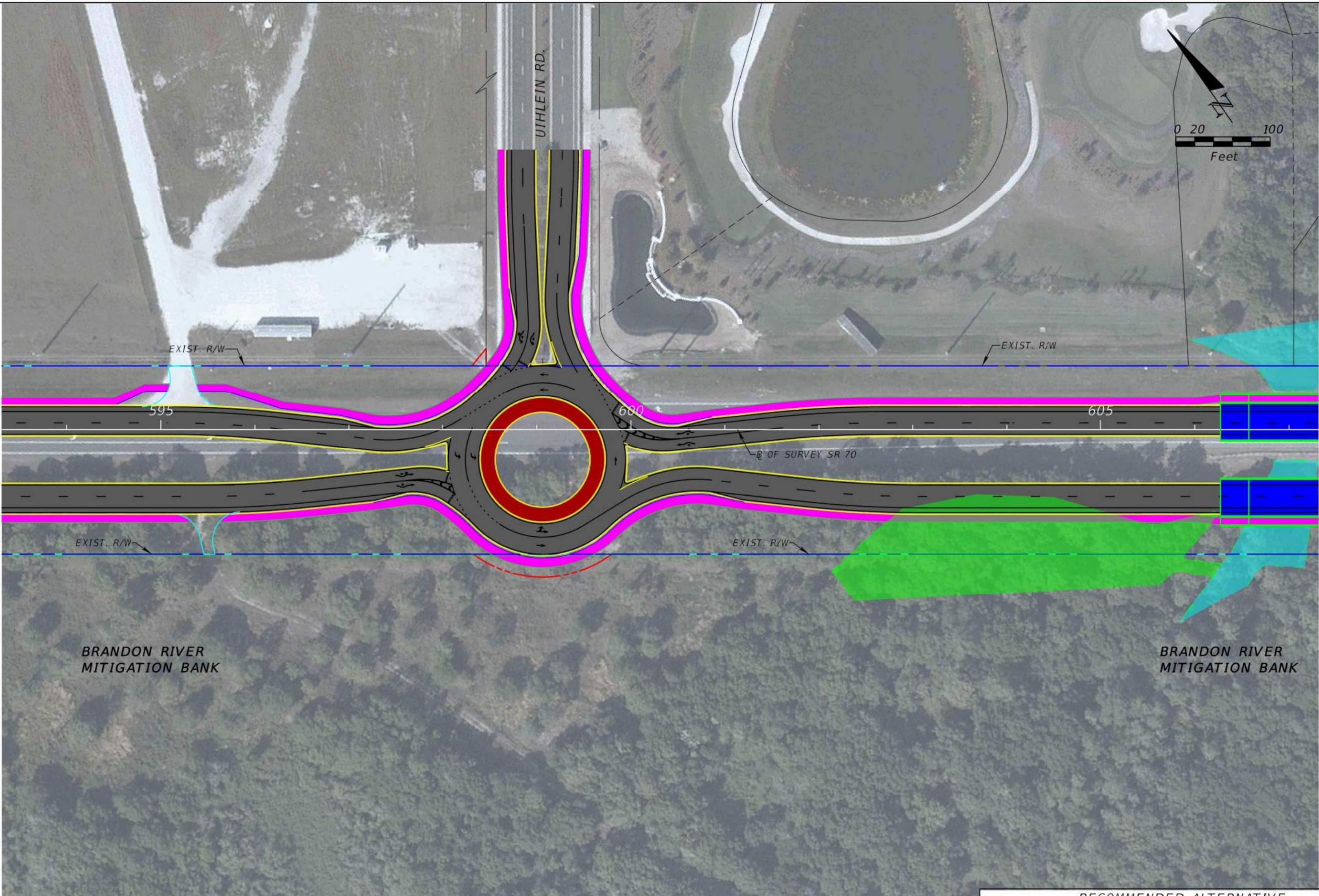
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

CONCEPT PLAN (6)  
 STA. 179+00 TO STA. 193+00

SHEET NO.  
 7



BRANDON RIVER  
MITIGATION BANK

BRANDON RIVER  
MITIGATION BANK

LEGEND

EXISTING R/W LINE	PROPOSED ROADWAY	MILLING & RESURFACING
PROPOSED R/W LINE	TRAFFIC SEPARATOR	WETLANDS
PROPERTY LINE	ROUNDABOUT APRON	PUBLIC LANDS
POTENTIAL CONTAMINATION SITE	PROPOSED SIDEWALK	SURFACE WATERS
	PROPOSED BRIDGE	

Kisinger Campo & Associates Corp.  
201 E. Franklin Street, Suite 400  
Tampa, Florida 33602  
Florida Certificate of Authorization No. 02317  
Engineer of Record: Deborah Hernandez-Cedeno, P.E.  
P.E. No.: 74754

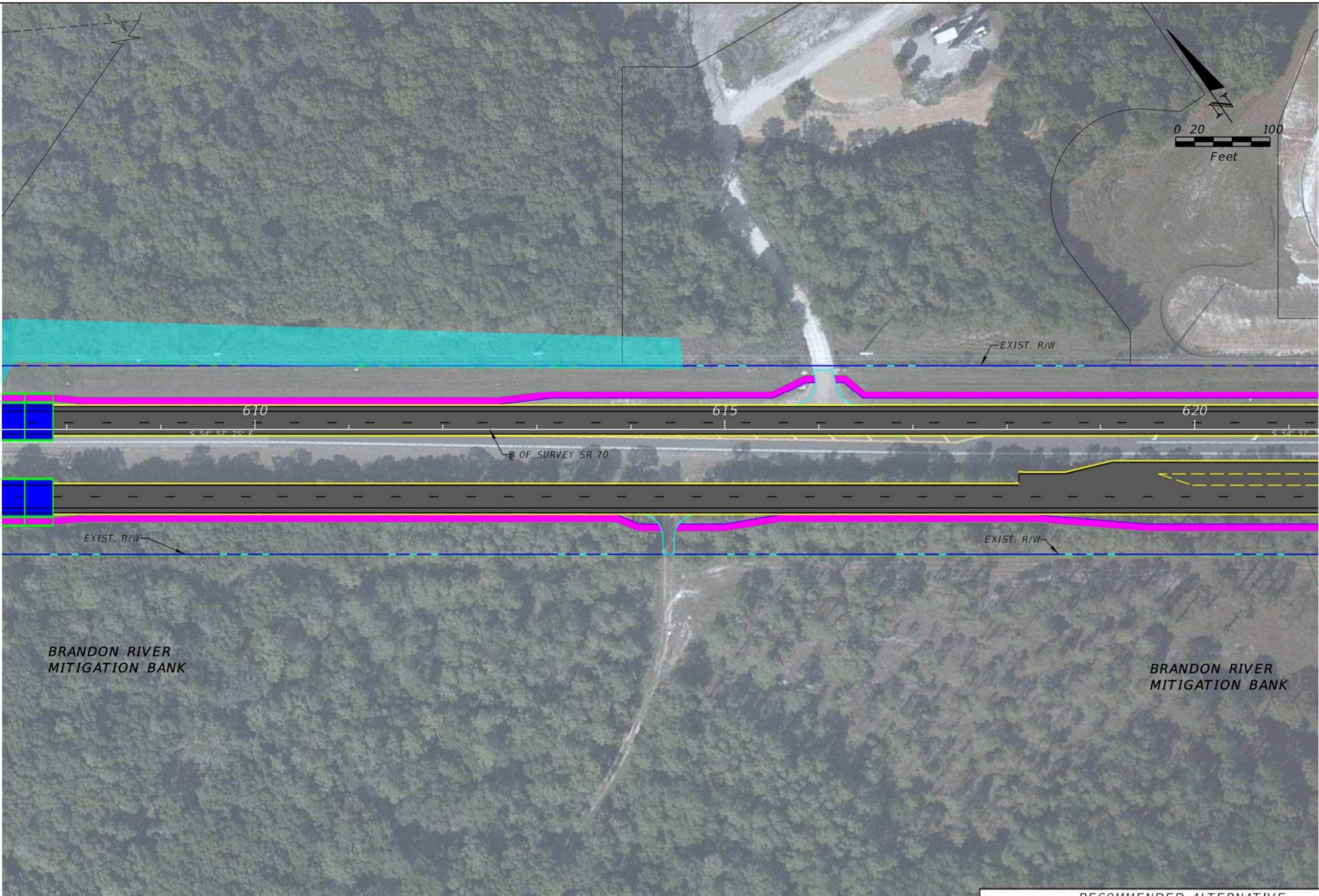
STATE OF FLORIDA  
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

**CONCEPT PLAN (7)**  
**STA. 193+00 TO STA. 207+00**

SHEET NO. 8



BRANDON RIVER  
MITIGATION BANK

BRANDON RIVER  
MITIGATION BANK

LEGEND

EXISTING R/W LINE	PROPOSED ROADWAY	MILLING & RESURFACING
PROPOSED R/W LINE	TRAFFIC SEPARATOR	WETLANDS
PROPERTY LINE	ROUNDABOUT APRON	PUBLIC LANDS
POTENTIAL CONTAMINATION SITE	PROPOSED SIDEWALK	SURFACE WATERS
	PROPOSED BRIDGE	

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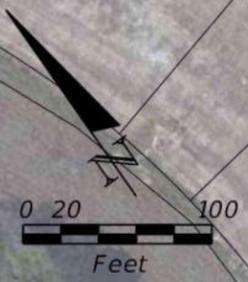
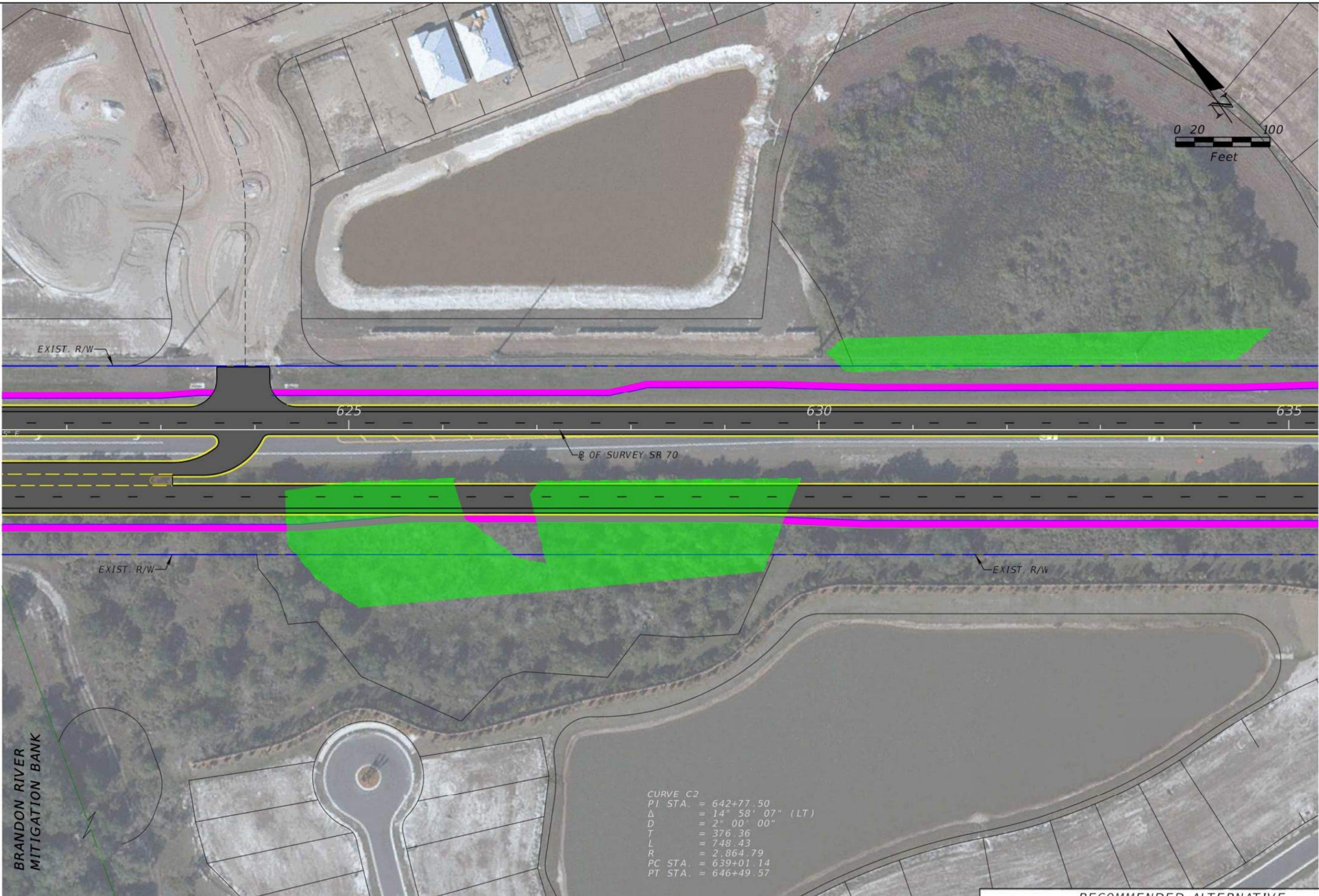
STATE OF FLORIDA  
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

CONCEPT PLAN (8)  
STA. 207+00 TO STA. 221+00

SHEET NO.  
9



LEGEND

	EXISTING R/W LINE		PROPOSED ROADWAY		MILLING & RESURFACING
	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDBOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

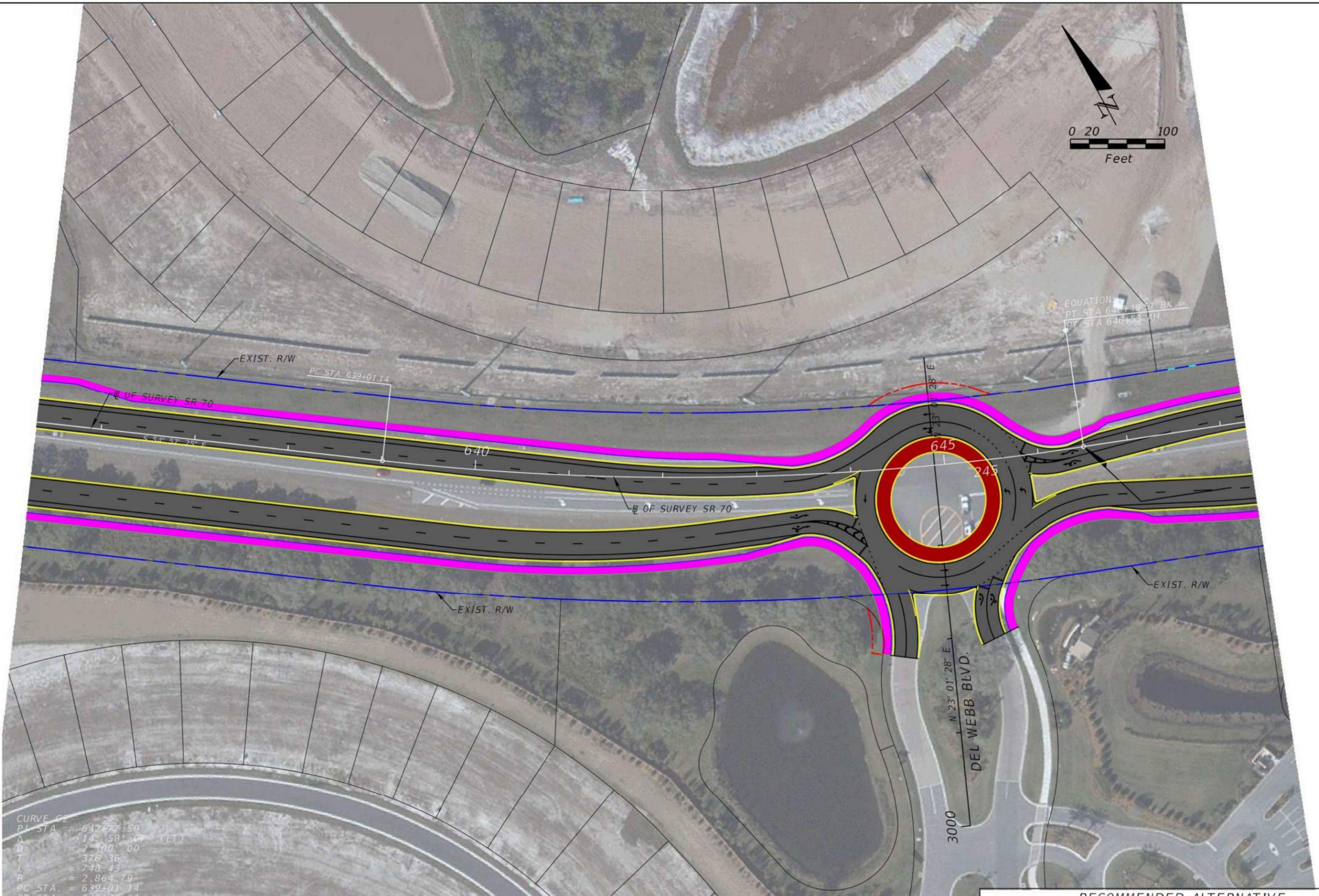
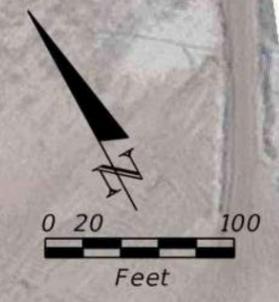
Kisinger Campo & Associates Corp.  
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 Florida Certificate of Authorization No. 02317  
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 P.E. No.: 74754

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

CONCEPT PLAN (9)  
 STA. 221+00 TO STA. 235+00

SHEET NO.  
 10

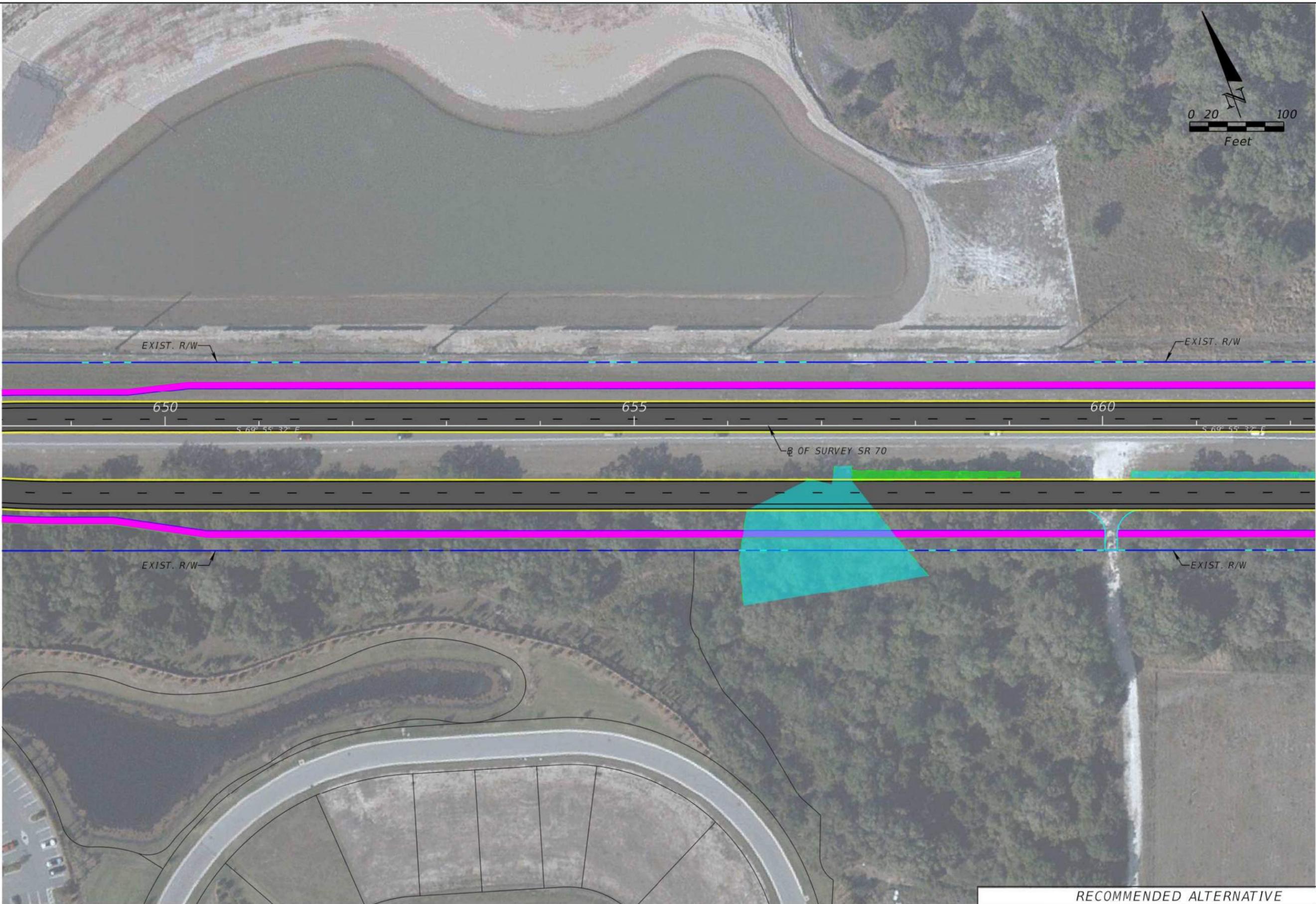
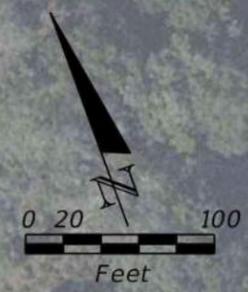


LEGEND			
	EXISTING R/W LINE		PROPOSED ROADWAY
	PROPOSED R/W LINE		TRAFFIC SEPARATOR
	PROPERTY LINE		ROUNDBOUT APRON
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK
			PROPOSED BRIDGE
	MILLING & RESURFACING		WETLANDS
	PUBLIC LANDS		SURFACE WATERS

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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

<b>RECOMMENDED ALTERNATIVE</b>	
<b>CONCEPT PLAN (10)</b>	
<b>STA. 235+00 TO STA. 248+00</b>	
SHEET NO.	11



LEGEND

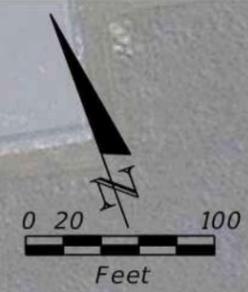
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	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDBOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

CONCEPT PLAN (11) STA. 248+00 TO STA. 262+00		SHEET NO. 12
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LEGEND

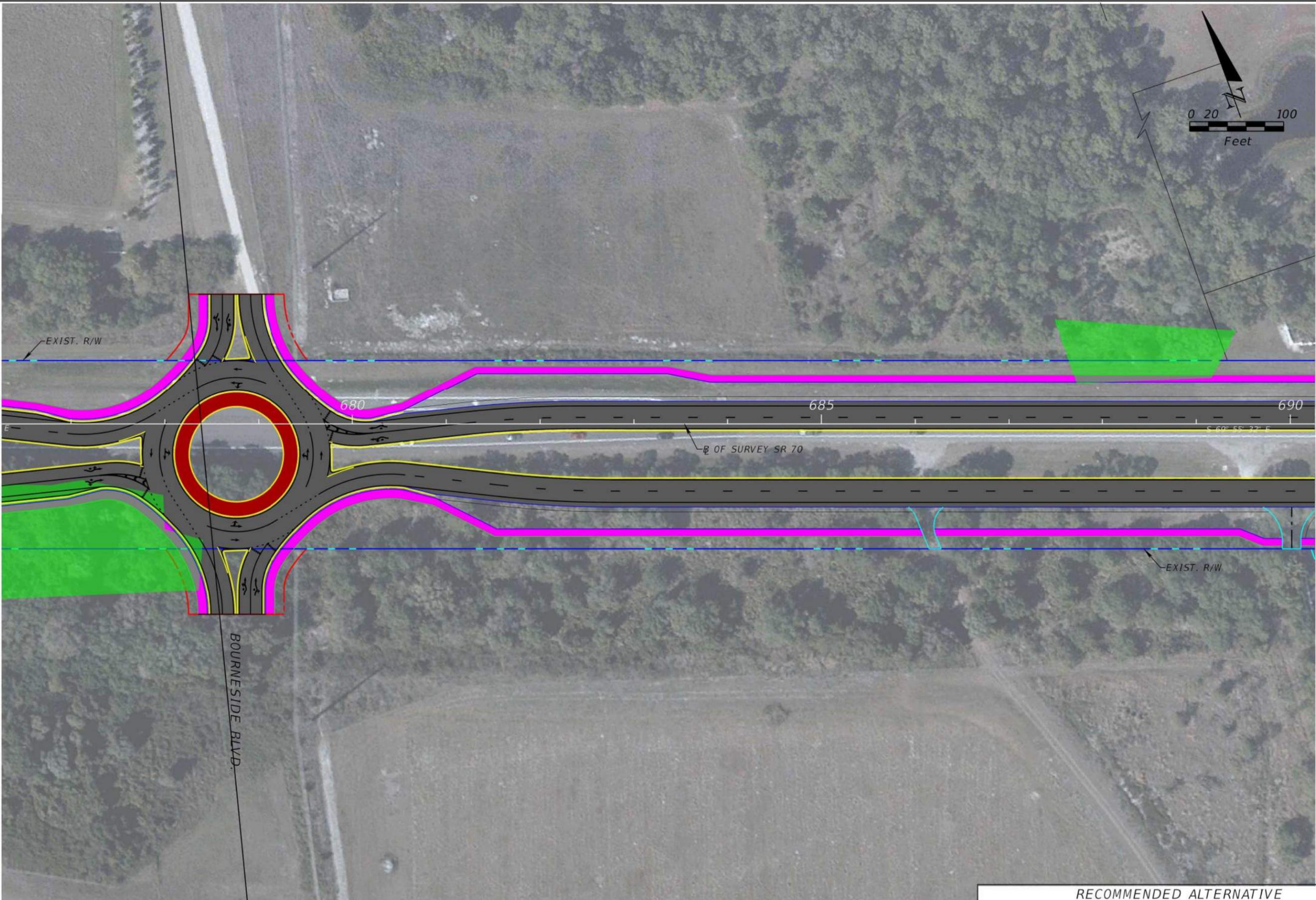
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	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDBOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

<b>CONCEPT PLAN (12)</b> <b>STA. 262+00 TO STA. 276+00</b>		SHEET NO. <b>13</b>
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LEGEND

	EXISTING R/W LINE		PROPOSED ROADWAY		MILLING & RESURFACING
	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDBOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

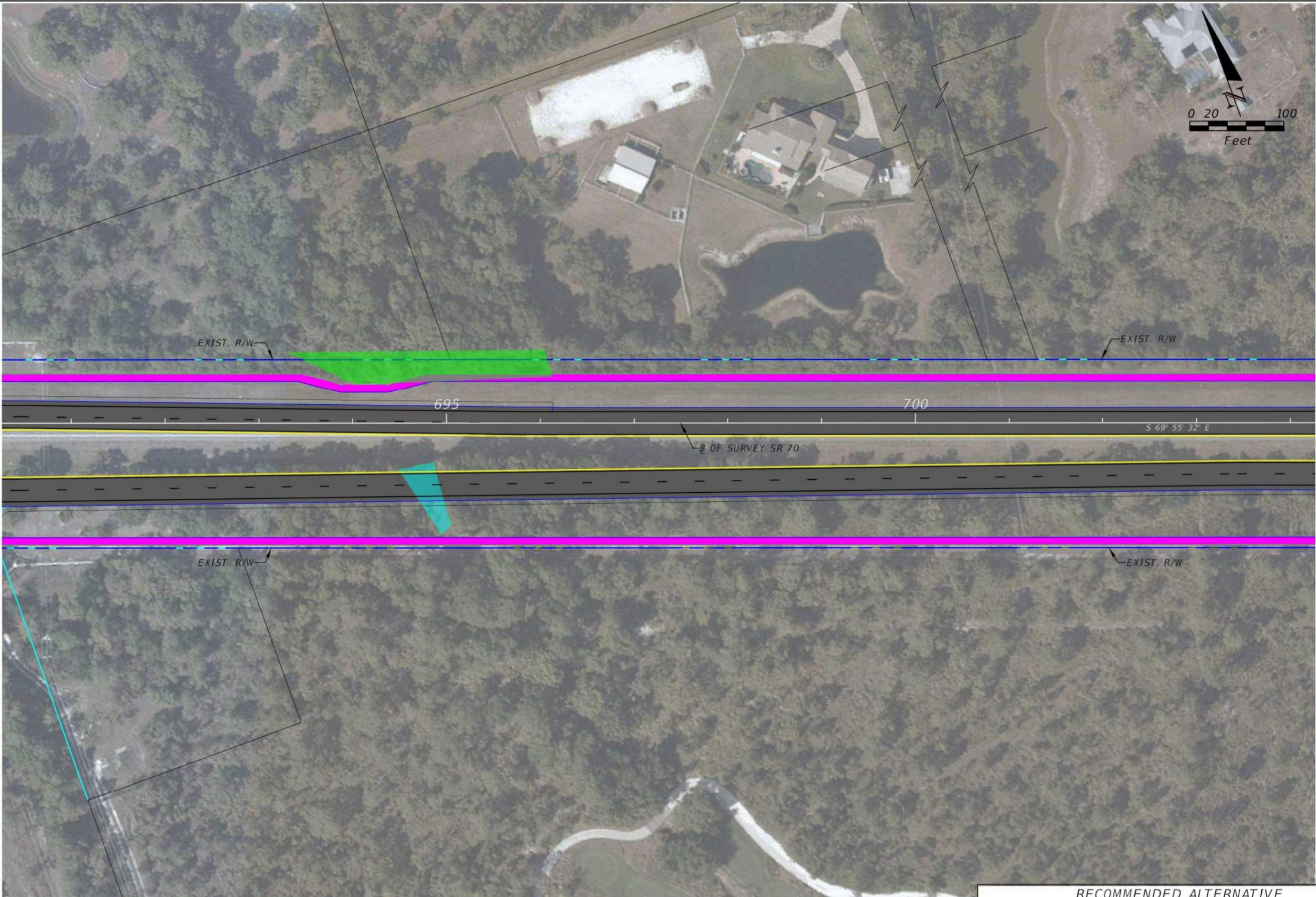
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 Florida Certificate of Authorization No. 02317  
 Engineer of Record: Deborah Hernandez-Cedeno, P.E.  
 P.E. No.: 74754

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

CONCEPT PLAN (13)  
 STA. 276+00 TO STA. 290+00

SHEET NO.  
 14



LEGEND

	EXISTING R/W LINE		PROPOSED ROADWAY		MILLING & RESURFACING
	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDOABOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

**CONCEPT PLAN (14)**  
**STA. 290+00 TO STA. 304+00**

SHEET NO.  
**15**



LEGEND

	EXISTING R/W LINE		PROPOSED ROADWAY		MILLING & RESURFACING
	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDABOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

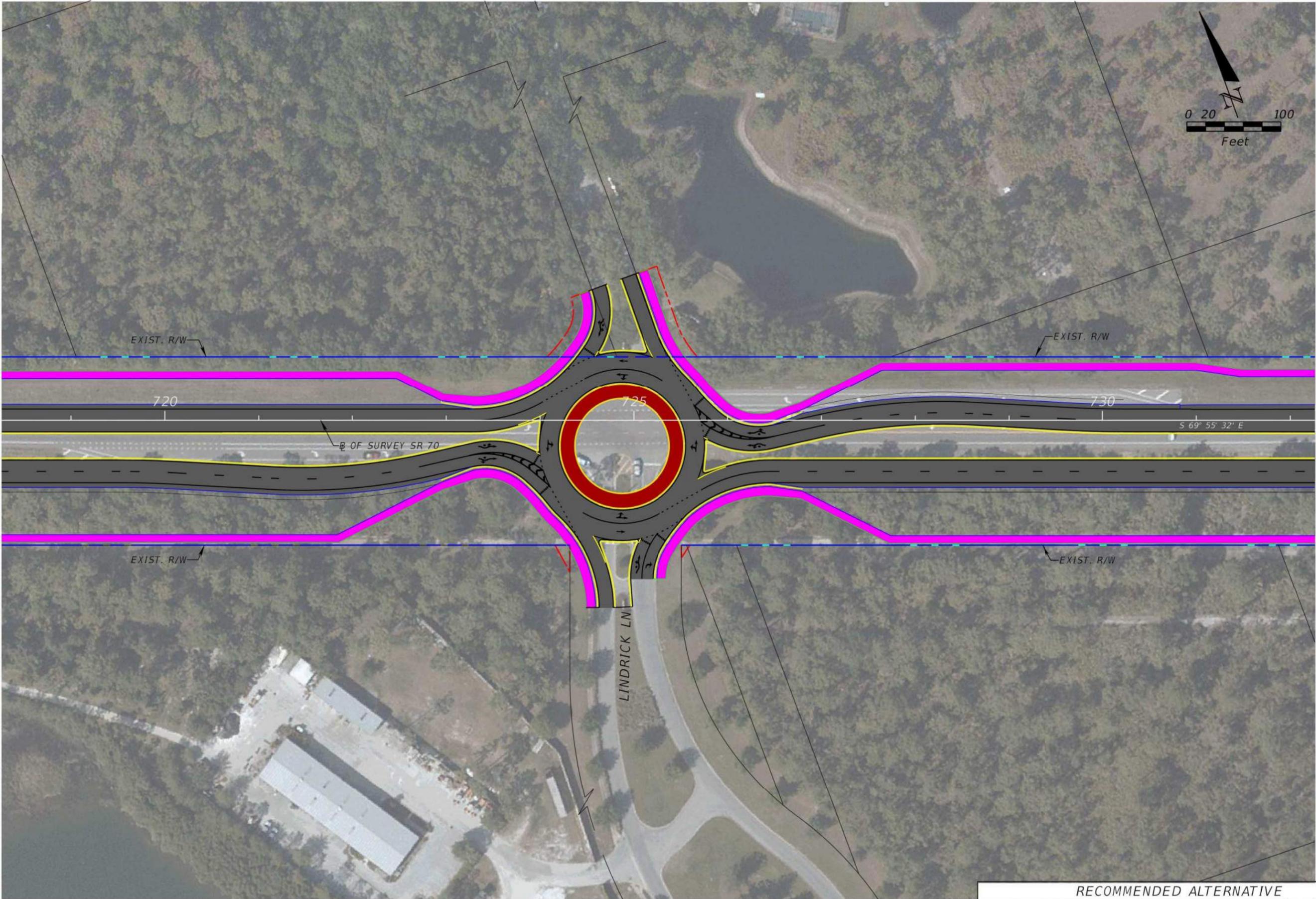
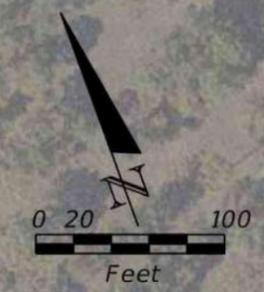
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

**CONCEPT PLAN (15)**  
**STA. 304+00 TO STA. 318+00**

SHEET NO.  
**16**



LEGEND

	EXISTING R/W LINE		PROPOSED ROADWAY		MILLING & RESURFACING
	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDABOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

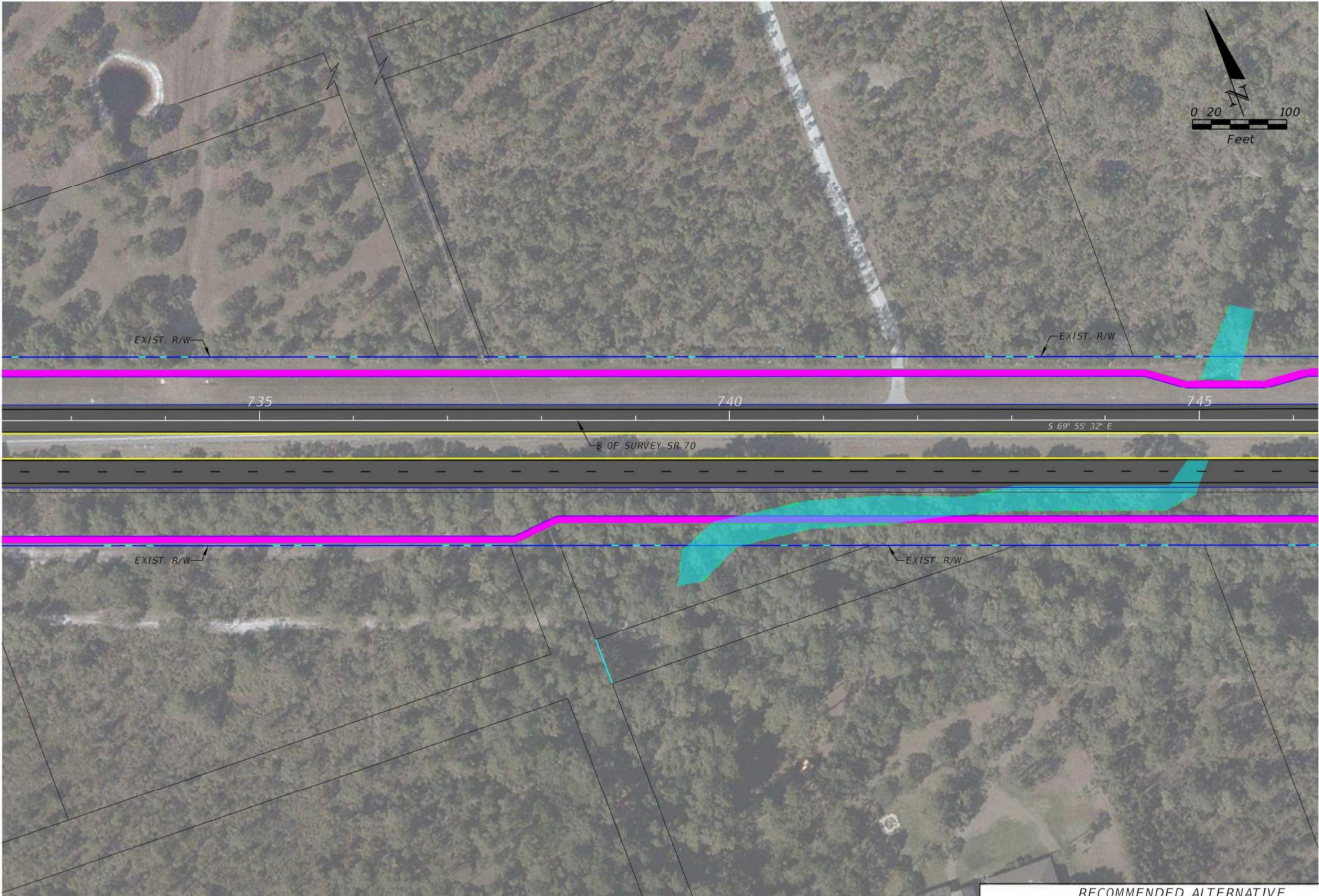
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 P.E. No.: 74754

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

**CONCEPT PLAN (16)**  
**STA. 318+00 TO STA. 332+00**

SHEET NO.  
17



LEGEND

- |                              |                   |                       |
|------------------------------|-------------------|-----------------------|
| EXISTING R/W LINE            | PROPOSED ROADWAY  | MILLING & RESURFACING |
| PROPOSED R/W LINE            | TRAFFIC SEPARATOR | WETLANDS              |
| PROPERTY LINE                | ROUNDABOUT APRON  | PUBLIC LANDS          |
| POTENTIAL CONTAMINATION SITE | PROPOSED SIDEWALK | SURFACE WATERS        |
|                              | PROPOSED BRIDGE   |                       |

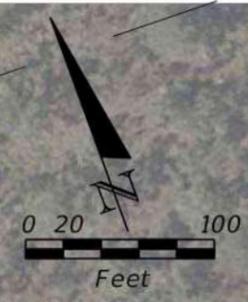
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 P.E. No.: 74754

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

**CONCEPT PLAN (17)**  
**STA. 332+00 TO STA. 346+00**

SHEET NO.  
**18**



LEGEND

	EXISTING R/W LINE		PROPOSED ROADWAY		MILLING & RESURFACING
	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDBOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

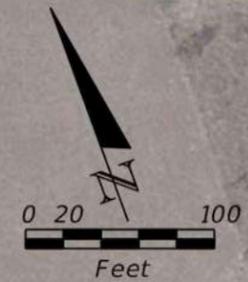
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

**CONCEPT PLAN (18)**  
**STA. 346+00 TO STA. 360+00**

SHEET NO.  
**19**



STA. 760+13.70  
± 0' 1' 34" (RT)

EXIST. R/W

EXIST. R/W

⊕ OF SURVEY SR 70

765

770

S 69° 53' 58" E

⊕ OF SURVEY SR 70

S 69° 53' 58" E

EXIST. R/W

EXIST. R/W

LEGEND

EXISTING R/W LINE	PROPOSED ROADWAY	MILLING & RESURFACING
PROPOSED R/W LINE	TRAFFIC SEPARATOR	WETLANDS
PROPERTY LINE	ROUNDABOUT APRON	PUBLIC LANDS
POTENTIAL CONTAMINATION SITE	PROPOSED SIDEWALK	SURFACE WATERS
	PROPOSED BRIDGE	

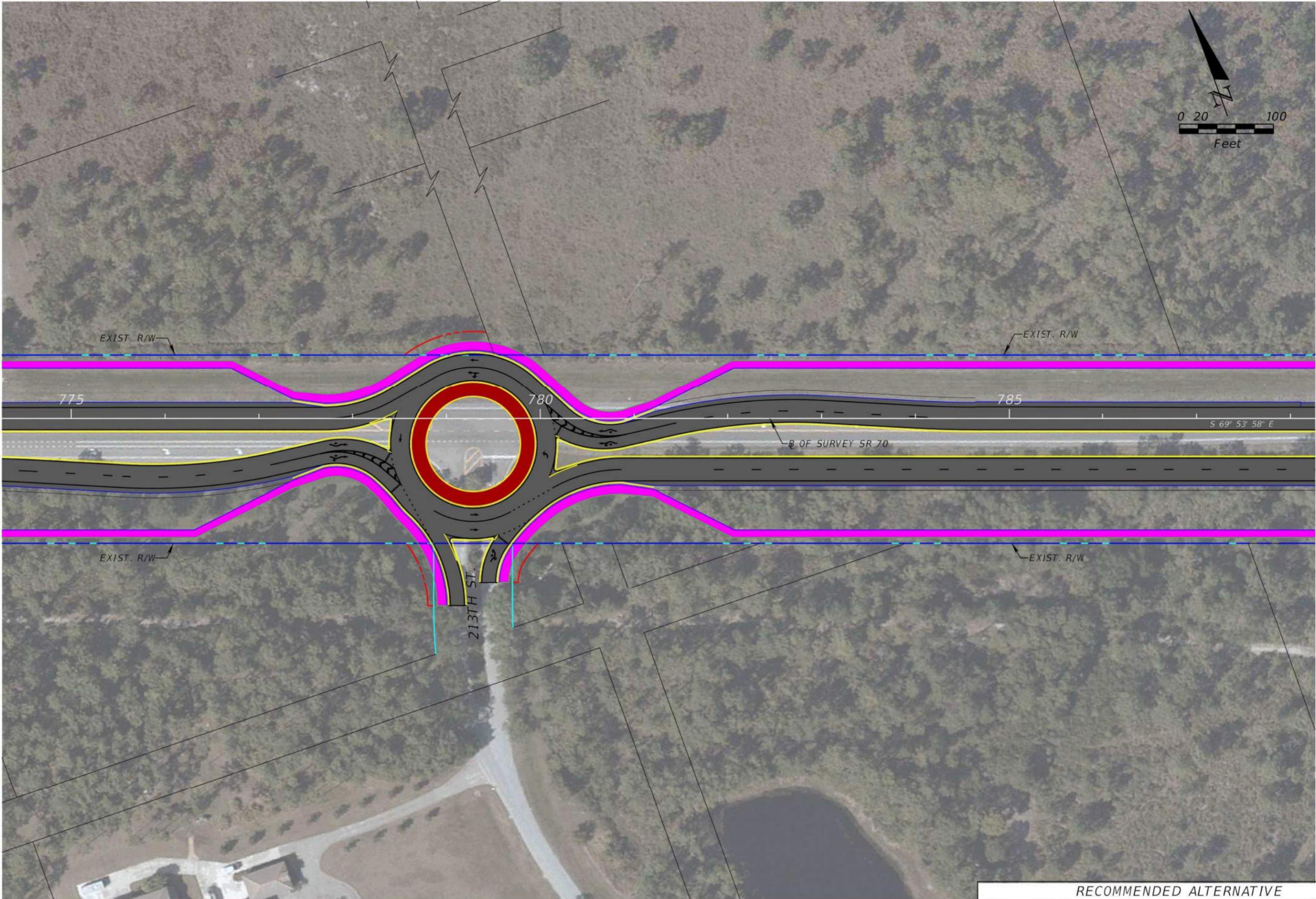
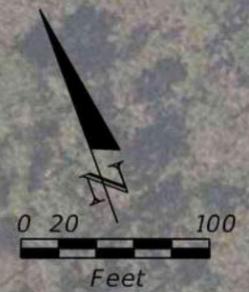
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

CONCEPT PLAN (19)  
STA. 360+00 TO STA. 374+00

SHEET NO.  
20



LEGEND

	EXISTING R/W LINE		PROPOSED ROADWAY		MILLING & RESURFACING
	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDBOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

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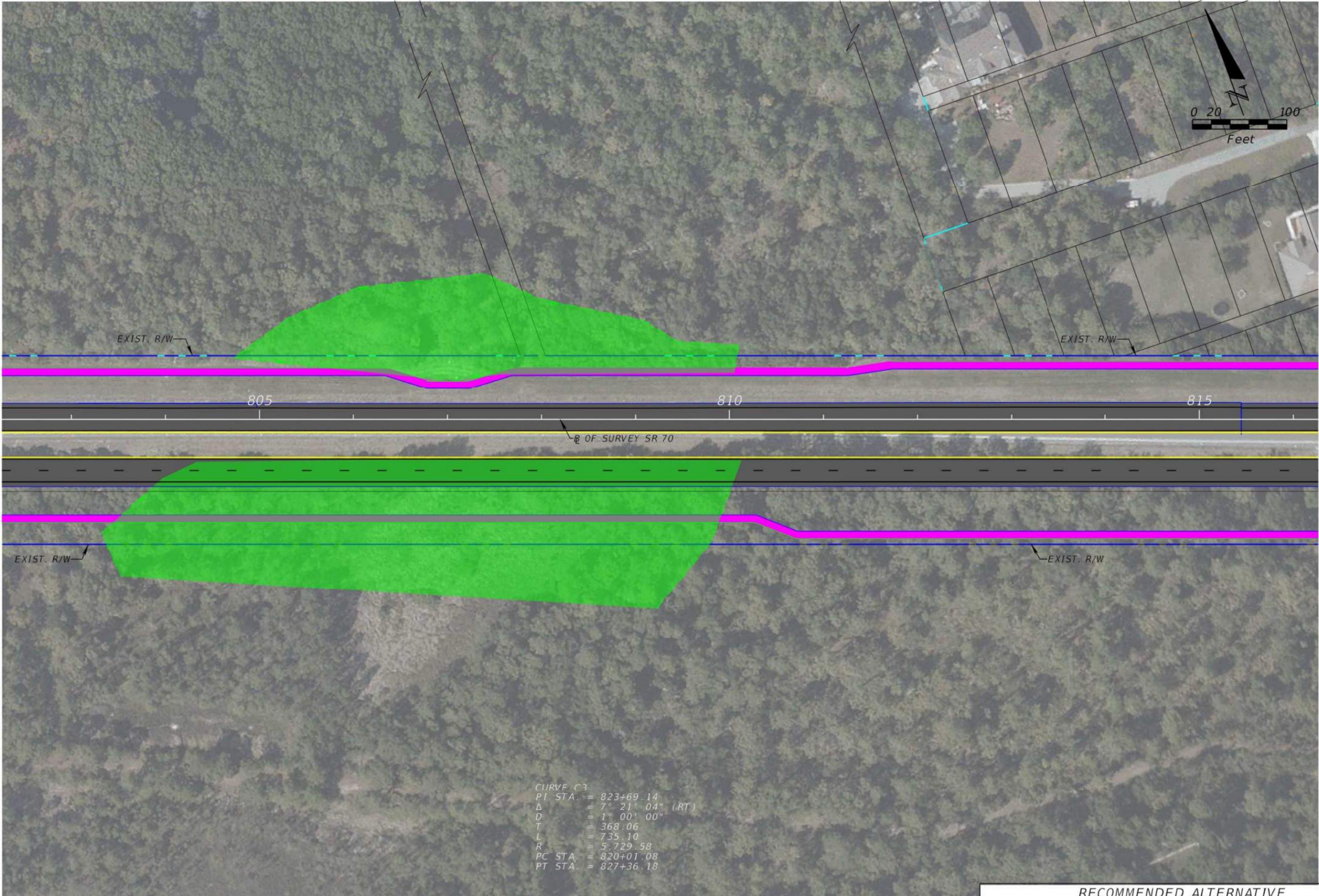
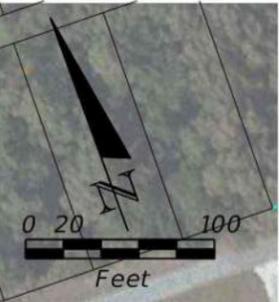
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

**CONCEPT PLAN (20)**  
**STA. 374+00 TO STA. 388+00**

SHEET NO.  
**21**





CURVE C3  
 PI STA. = 823+69.14  
 $\Delta$  = 7° 21' 04" (RT)  
 D = 1° 00' 00"  
 T = 368.06  
 L = 735.10  
 R = 5,729.58  
 PC STA. = 820+01.08  
 PT STA. = 827+36.18

LEGEND

	EXISTING R/W LINE		PROPOSED ROADWAY		MILLING & RESURFACING
	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDBOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

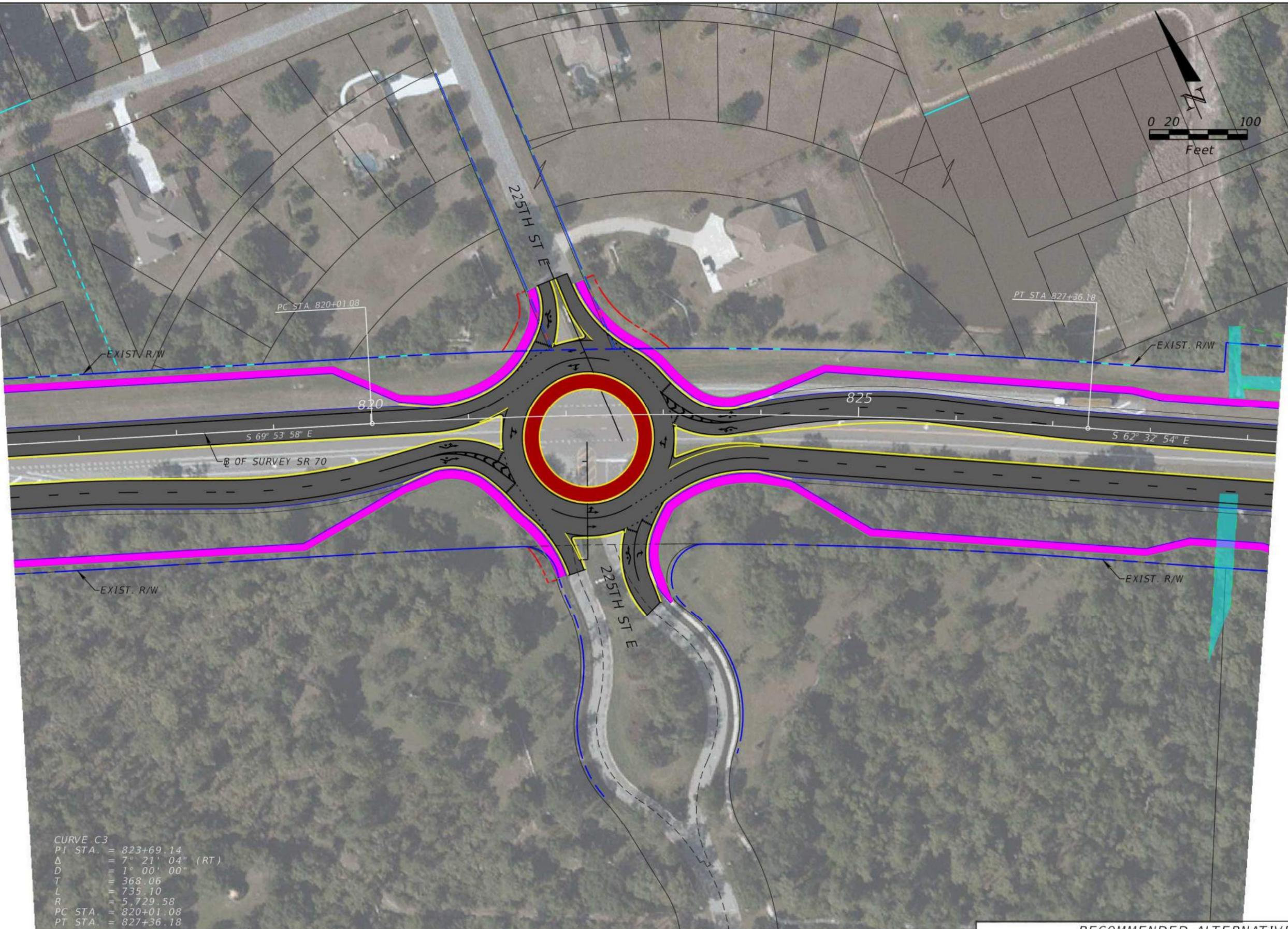
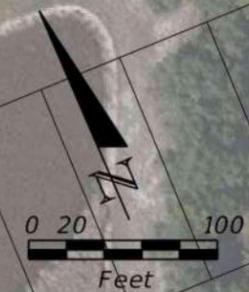
Kisinger Campo & Associates Corp.  
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

CONCEPT PLAN (22)  
 STA. 402+00 TO STA. 416+00

SHEET NO.  
 23



CURVE C3  
 P.I. STA. = 823+69.14  
 $\Delta$  = 7° 21' 04" (RT)  
 D = 1° 00' 00"  
 T = 368.06  
 L = 735.10  
 R = 5,729.58  
 PC STA. = 820+01.08  
 PT STA. = 827+36.18

LEGEND

EXISTING R/W LINE	PROPOSED ROADWAY	MILLING & RESURFACING
PROPOSED R/W LINE	TRAFFIC SEPARATOR	WETLANDS
PROPERTY LINE	ROUNDABOUT APRON	PUBLIC LANDS
POTENTIAL CONTAMINATION SITE	PROPOSED SIDEWALK	SURFACE WATERS
	PROPOSED BRIDGE	

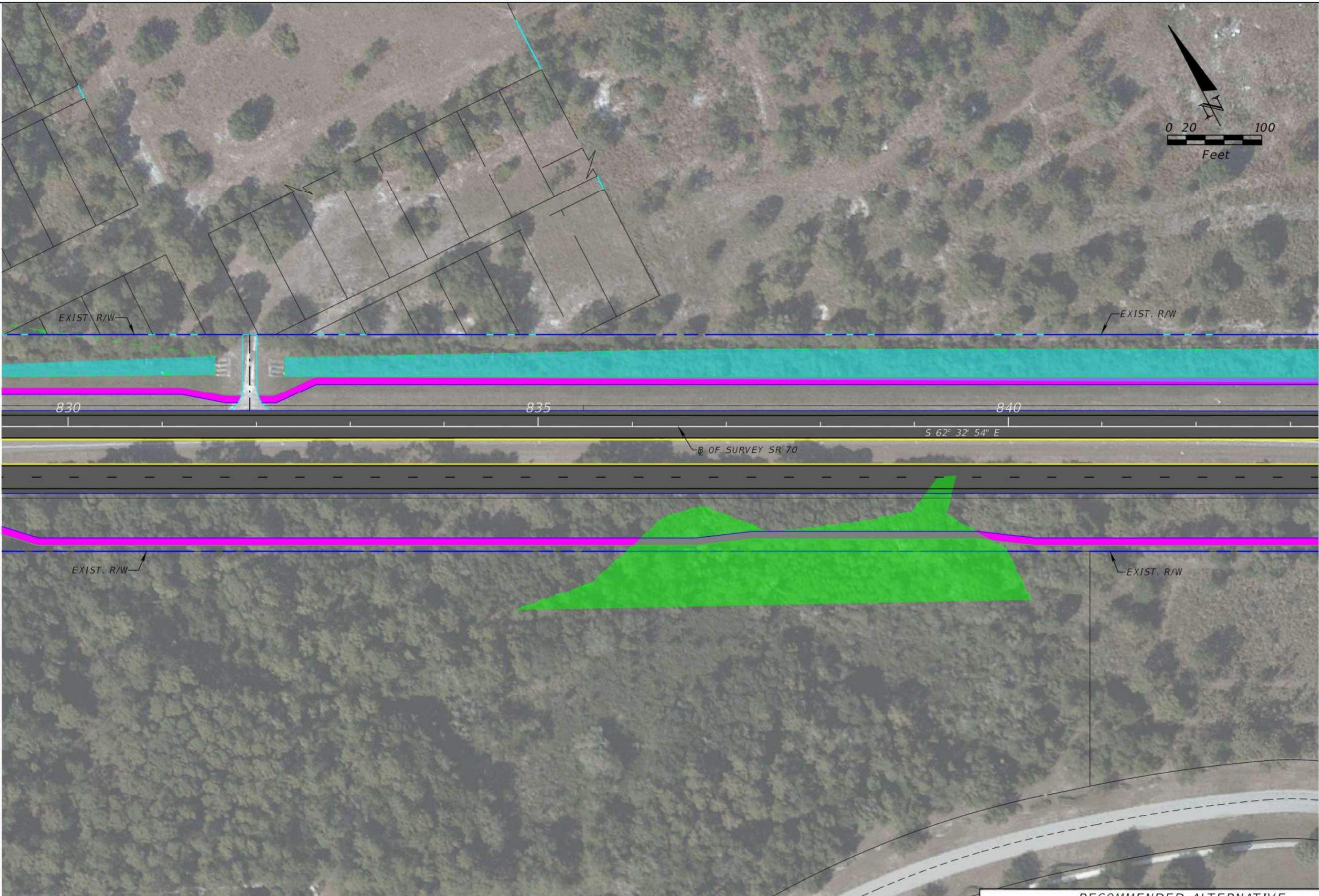
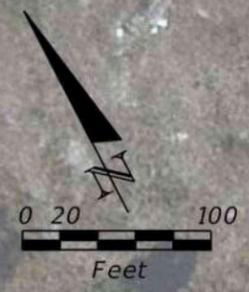
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

CONCEPT PLAN (23)  
 STA. 416+00 TO STA. 429+00

SHEET NO.  
 24



EXIST. R/W

EXIST. R/W

830

835

840

S 62° 32' 54" E

OF SURVEY SR 70

EXIST. R/W

EXIST. R/W

LEGEND

	EXISTING R/W LINE		PROPOSED ROADWAY		MILLING & RESURFACING
	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDBOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

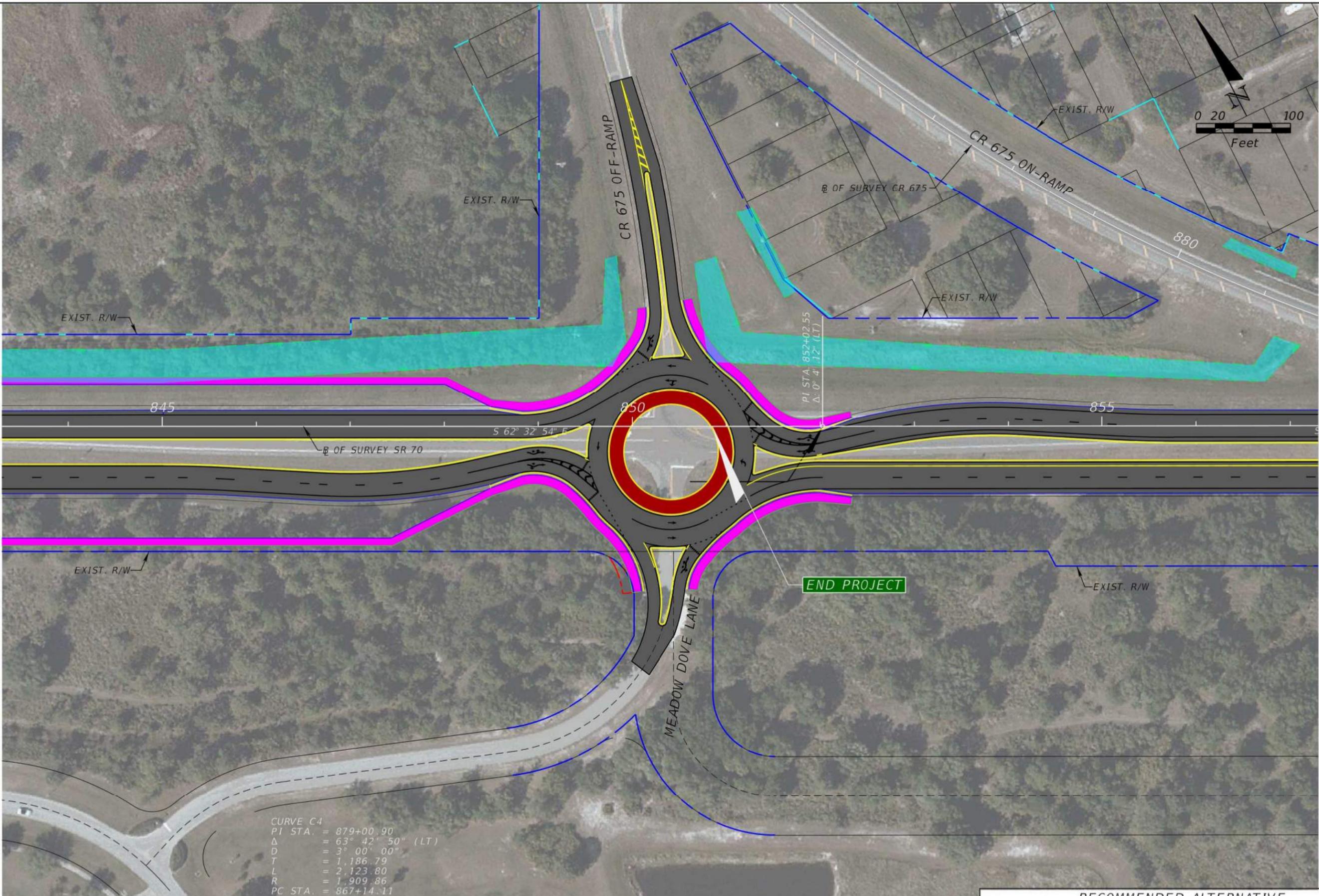
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2- 22-01

RECOMMENDED ALTERNATIVE

CONCEPT PLAN (24)  
 STA. 429+00 TO STA. 443+00

SHEET NO.  
 25

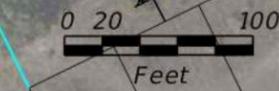


EXIST. R/W

EXIST. R/W

EXIST. R/W

CR 675 ON-RAMP



CR 675 OFF-RAMP

Ø OF SURVEY CR 675

EXIST. R/W

880

845

Ø OF SURVEY SR 70

S 62° 32' 54" E

850

PI STA. 852+02.55  
Δ: 0° 4' 12" (LT)

855

EXIST. R/W

END PROJECT

EXIST. R/W

MEADOW DOVE LANE

CURVE C4  
 PI STA. = 879+00.90  
 Δ = 63° 42' 50" (LT)  
 D = 3° 00' 00"  
 T = 1,186.79  
 L = 2,123.80  
 R = 1,909.86  
 PC STA. = 867+14.11  
 PT STA. = 888+37.91

LEGEND

	EXISTING R/W LINE		PROPOSED ROADWAY		MILLING & RESURFACING
	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDBOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
	PROPOSED BRIDGE				

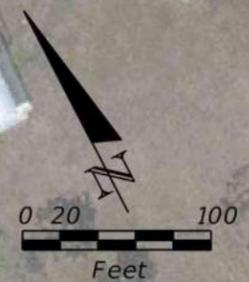
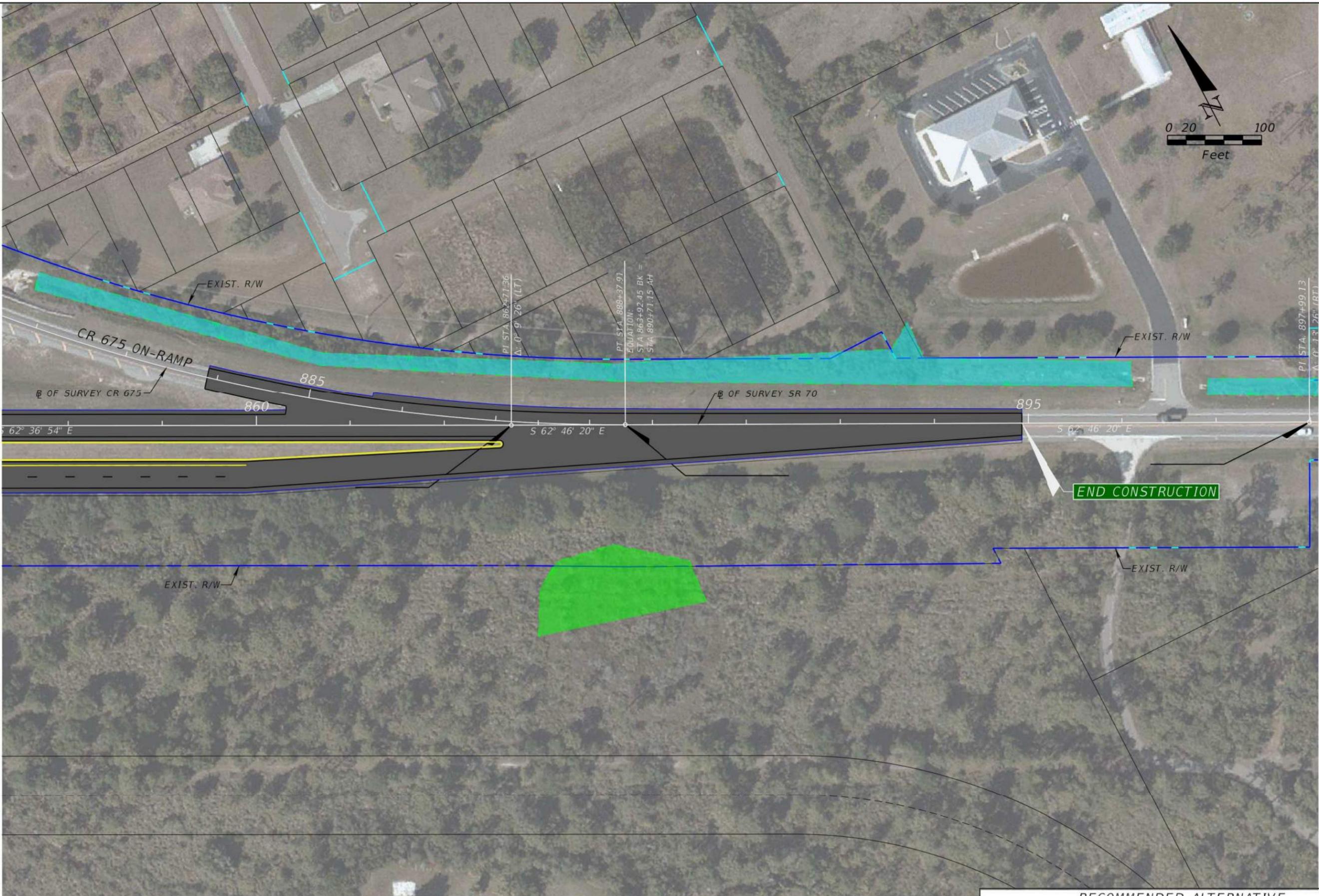
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

CONCEPT PLAN (25)  
 STA. 443+00 TO STA. 457+00

SHEET NO.  
 26



LEGEND

EXISTING R/W LINE	PROPOSED ROADWAY	MILLING & RESURFACING
PROPOSED R/W LINE	TRAFFIC SEPARATOR	WETLANDS
PROPERTY LINE	ROUNDABOUT APRON	PUBLIC LANDS
POTENTIAL CONTAMINATION SITE	PROPOSED SIDEWALK	SURFACE WATERS
	PROPOSED BRIDGE	

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 Tampa, Florida 33602  
 Florida Certificate of Authorization No. 02317  
 Engineer of Record: Deborah Hernandez-Cedeno, P.E.  
 P.E. No.: 74754

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

**CONCEPT PLAN (26)**  
**STA. 457+00 TO STA. 471+00**

SHEET NO.  
27



LEGEND

	EXISTING R/W LINE		PROPOSED ROADWAY		MILLING & RESURFACING
	PROPOSED R/W LINE		TRAFFIC SEPARATOR		WETLANDS
	PROPERTY LINE		ROUNDBOUT APRON		PUBLIC LANDS
	POTENTIAL CONTAMINATION SITE		PROPOSED SIDEWALK		SURFACE WATERS
			PROPOSED BRIDGE		

Kisinger Campo & Associates Corp.  
 201 E. Franklin Street, Suite 400  
 Tampa, Florida 33602  
 Florida Certificate of Authorization No. 02317  
 Engineer of Record: Deborah Hernandez-Cedeno, P.E.  
 P.E. No.: 74754

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 70	MANATEE	414506-2-22-01

RECOMMENDED ALTERNATIVE

CONCEPT PLAN (27) STA. 471+00 TO STA. 482+66		SHEET NO. 28
-------------------------------------------------	--	-----------------

**APPENDIX D**  
**TYPICAL SECTION PACKAGE**

STATE OF FLORIDA  
DEPARTMENT OF TRANSPORTATION

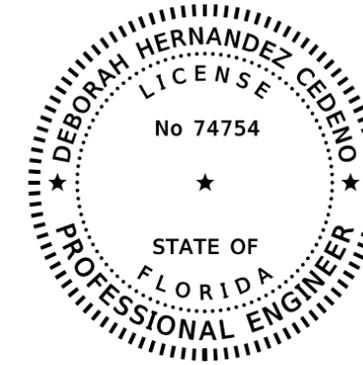
APPROVED BY:

THIS DOCUMENT HAS BEEN DIGITALLY  
SIGNED AND SEALED BY

TYPICAL SECTION PACKAGE

FINANCIAL PROJECT ID 414506-2-32-01  
MANATEE COUNTY (13160)  
STATE ROAD NO. 70 (ONECO MYAKKA CITY ROAD)

WIDENING OF SR 70 FROM A TWO-LANE RURAL  
ROADWAY TO A SIX-LANE SUBURBAN ROADWAY  
M.P. 9.476 TO M.P. 15.567

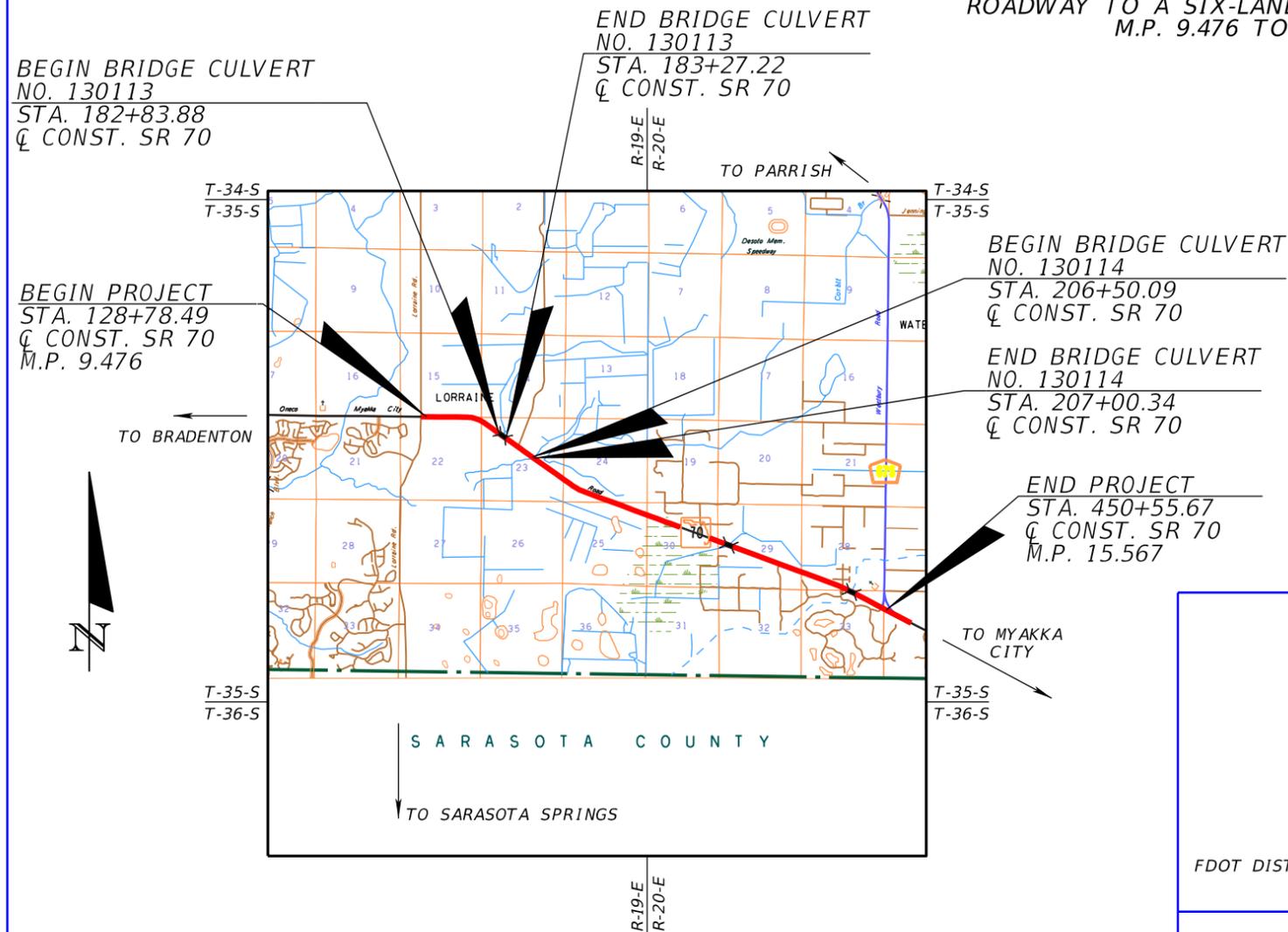


ON THE DAY ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE  
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THE SIGNATURE MUST BE VERIFIED  
ON THE ELECTRONIC COPIES.

Kisinger Campo & Associates Corp.  
201 N. Franklin Street, Suite 400  
Tampa, Florida 33602  
Florida Certificate of Authorization No. 02317  
Engineer of Record: Deborah Hernandez Cedeno, P.E.  
P.E. No.: 74754

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE  
FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.



TYPICAL SECTION PACKAGE

SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET
2	TYPICAL SECTION NO. 1
3	TYPICAL SECTION NO. 2
4	TYPICAL SECTION NO. 3
5	TYPICAL SECTION NO. 4
6	TYPICAL SECTION NO. 5
7	TYPICAL SECTION NO. 6
8	TYPICAL SECTION NO. 7
9	TYPICAL SECTION NO. 8
10	TYPICAL SECTION NO. 9
11	TYPICAL SECTION NO. 10
12	TYPICAL SECTION NO. 11
13	TYPICAL SECTION NO. 12
14	TYPICAL SECTION NO. 13
15	TYPICAL SECTION NO. 14
16	TYPICAL SECTION NO. 15
17	TYPICAL SECTION NO. 16

TYPICAL SECTION CONCURRENCE

FDOT DISTRICT DESIGN ENGINEER      FDOT DISTRICT STRUCTURES DESIGN ENGINEER      FHWA TRANSPORTATION ENGINEER      PD&E ENGINEER

DESIGN SPEED AND POSTED  
SPEED CONCURRENCE:

CONTEXT CLASSIFICATION  
CONCURRENCE:

FDOT DISTRICT TRAFFIC OPERATIONS ENGINEER      FDOT DISTRICT DESIGN ENGINEER      FDOT DISTRICT INTERMODAL SYSTEMS DEVELOPMENT MANAGER

SHEET NO.

1

**PROJECT CONTROLS**

**CONTEXT CLASSIFICATION**

- ( ) C1 : NATURAL
- ( ) C2 : RURAL
- ( ) C2T : RURAL TOWN
- (X) C3R : SUBURBAN RES.
- ( ) N/A : L.A. FACILITY
- ( ) C3C : SUBURBAN COMM.
- ( ) C4 : URBAN GENERAL
- ( ) C5 : URBAN CENTER
- ( ) C6 : URBAN CORE

**FUNCTIONAL CLASSIFICATION**

- ( ) INTERSTATE
- (X) PRINCIPAL ARTERIAL
- ( ) MINOR ARTERIAL
- ( ) MAJOR COLLECTOR
- ( ) MINOR COLLECTOR
- ( ) LOCAL

**HIGHWAY SYSTEM**

- (X) NATIONAL HIGHWAY SYSTEM
- (X) STRATEGIC INTERMODAL SYSTEM
- (X) STATE HIGHWAY SYSTEM
- ( ) OFF-STATE HIGHWAY SYSTEM

**ACCESS CLASSIFICATION**

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- (X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- ( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

**CRITERIA**

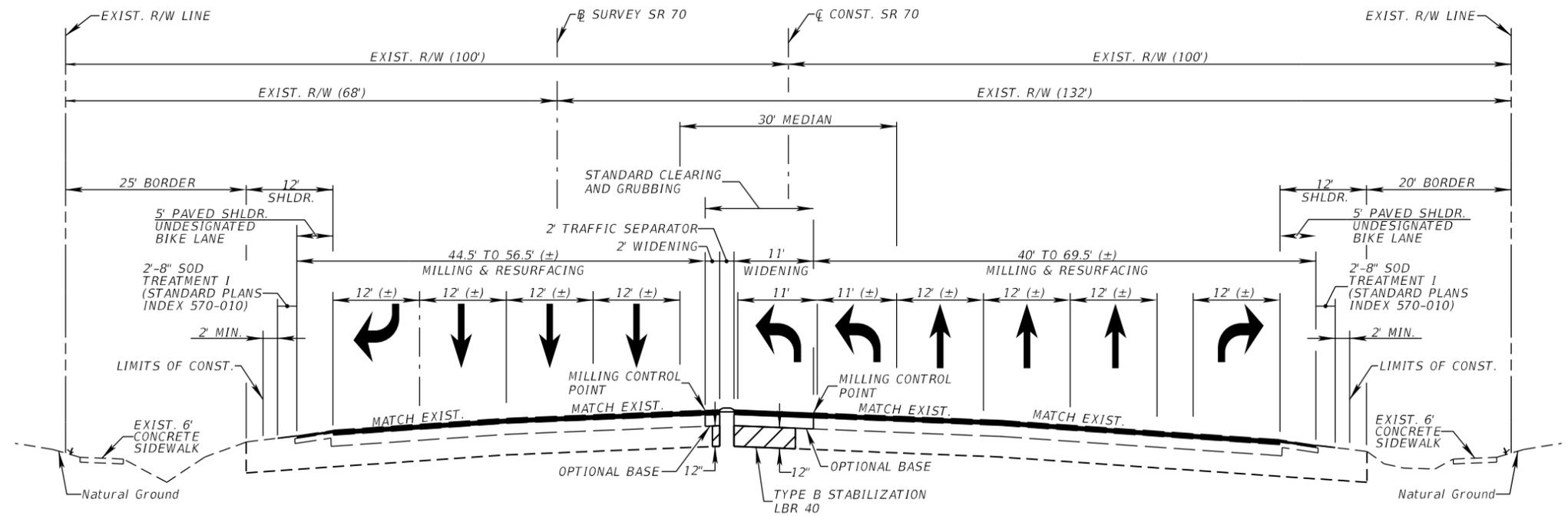
- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

**POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:**

DESIGN VARIATIONS

- 1. TRAFFIC SEPARATOR

**TYPICAL SECTION No. 1**



**TYPICAL SECTION SR 70 (1)**

N.T.S.

STA. 119+39.00 TO STA. 128+23  
 Q OF CONST. SR 70

**TRAFFIC DATA**

CURRENT YEAR = 2018 AADT = 15,000  
 ESTIMATED OPENING YEAR = 2025 AADT = 33,000  
 ESTIMATED DESIGN YEAR = 2045 AADT = 57,000  
 K = 9.5% D = 60.5% T = 14.2% (24 HOUR)  
 DESIGN HOUR T = 7.1%  
 DESIGN SPEED = 45 MPH

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	2

**PROJECT CONTROLS**

**CONTEXT CLASSIFICATION**

- ( ) C1 : NATURAL                      ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL                        ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN                ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES.            ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

**FUNCTIONAL CLASSIFICATION**

- ( ) INTERSTATE                        ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.                ( ) MINOR COLLECTOR
- (X) PRINCIPAL ARTERIAL            ( ) LOCAL
- ( ) MINOR ARTERIAL

**HIGHWAY SYSTEM**

- (X) NATIONAL HIGHWAY SYSTEM
- (X) STRATEGIC INTERMODAL SYSTEM
- (X) STATE HIGHWAY SYSTEM
- ( ) OFF-STATE HIGHWAY SYSTEM

**ACCESS CLASSIFICATION**

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- (X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- ( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

**CRITERIA**

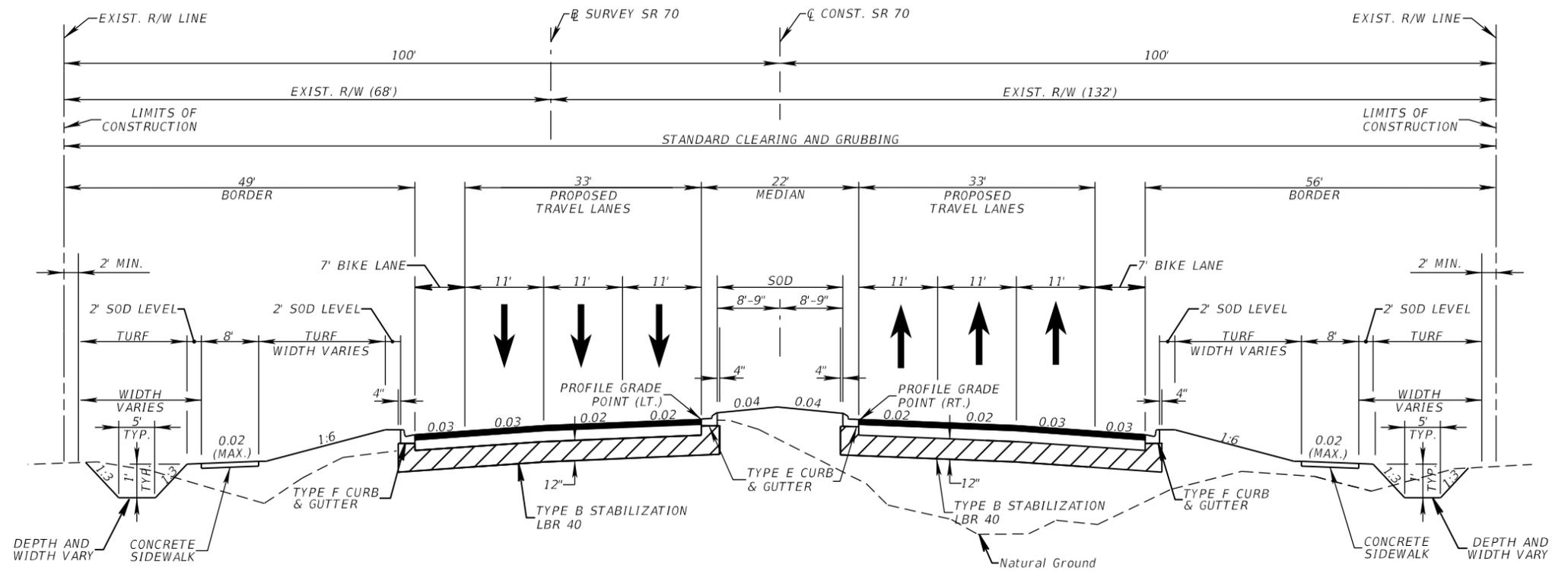
- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

**POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:**

DESIGN VARIATIONS

- 1. BASE CLEARANCE

**TYPICAL SECTION No. 2**



**TYPICAL SECTION SR 70 (2)**

N.T.S.

**STA. 128+23.00 TO STA. 175+00.00**  
**Q OF CONST. SR 70**

**TRAFFIC DATA**

CURRENT YEAR = 2018 AADT = 15,000  
 ESTIMATED OPENING YEAR = 2025 AADT = 26,000  
 ESTIMATED DESIGN YEAR = 2045 AADT = 49,000  
 K = 9.5% D = 60.5% T = 14.2% (24 HOUR)  
 DESIGN HOUR T = 7.1%  
 DESIGN SPEED = 45 MPH

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	3

**PROJECT CONTROLS**

**CONTEXT CLASSIFICATION**

- ( ) C1 : NATURAL                      ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL                        ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN                ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES.            ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

**FUNCTIONAL CLASSIFICATION**

- ( ) INTERSTATE                        ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.                ( ) MINOR COLLECTOR
- (X) PRINCIPAL ARTERIAL              ( ) LOCAL
- ( ) MINOR ARTERIAL

**HIGHWAY SYSTEM**

- (X) NATIONAL HIGHWAY SYSTEM
- (X) STRATEGIC INTERMODAL SYSTEM
- (X) STATE HIGHWAY SYSTEM
- ( ) OFF-STATE HIGHWAY SYSTEM

**ACCESS CLASSIFICATION**

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- (X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- ( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

**CRITERIA**

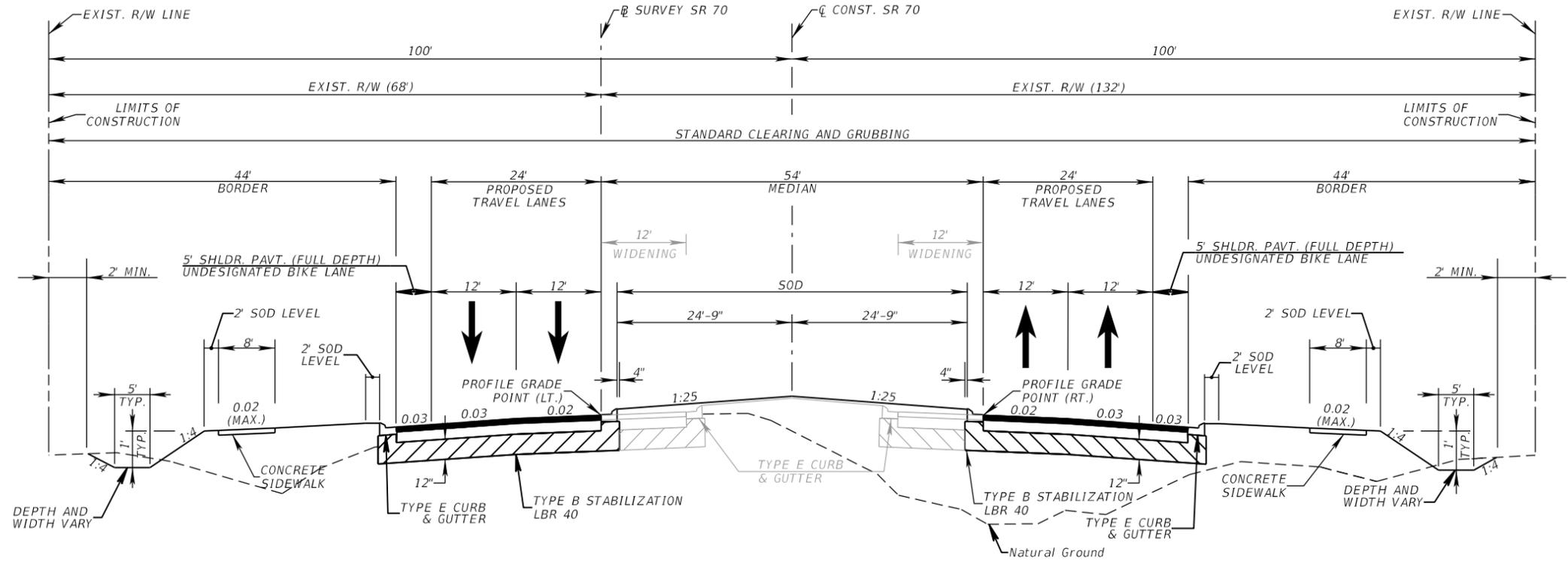
- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

**POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:**

DESIGN VARIATIONS

1. BASE CLEARANCE
2. MEDIAN SHOULDER WIDTH

**TYPICAL SECTION No. 3**



**TYPICAL SECTION SR 70 (3)**

N.T.S.

STA. 175+00.00 TO STA. 274+51.00  
 Q OF CONST. SR 70

**TRAFFIC DATA**

CURRENT YEAR = 2018 AADT = 15,000  
 ESTIMATED OPENING YEAR = 2025 AADT = 20,000  
 ESTIMATED DESIGN YEAR = 2045 AADT = 34,000  
 K = 9.5% D = 60.5% T = 14.2% (24 HOUR)  
 DESIGN HOUR T = 7.1%  
 DESIGN SPEED = 50 MPH

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	4

**PROJECT CONTROLS**

**CONTEXT CLASSIFICATION**

- ( ) C1 : NATURAL                      ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL                        ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN                ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES.            ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

**FUNCTIONAL CLASSIFICATION**

- ( ) INTERSTATE                        ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.                ( ) MINOR COLLECTOR
- (X) PRINCIPAL ARTERIAL            ( ) LOCAL
- ( ) MINOR ARTERIAL

**HIGHWAY SYSTEM**

- (X) NATIONAL HIGHWAY SYSTEM
- (X) STRATEGIC INTERMODAL SYSTEM
- (X) STATE HIGHWAY SYSTEM
- ( ) OFF-STATE HIGHWAY SYSTEM

**ACCESS CLASSIFICATION**

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- (X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- ( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

**CRITERIA**

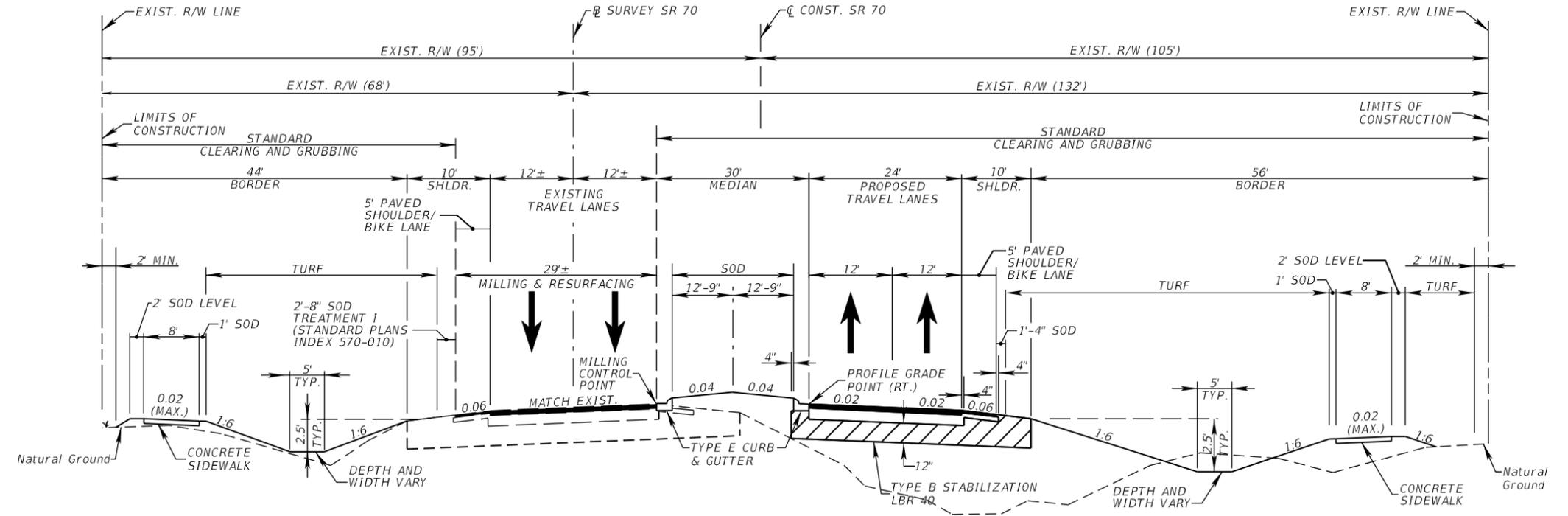
- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

**POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:**

DESIGN VARIATIONS

1. BASE CLEARANCE
2. MEDIAN SHOULDER WIDTH

**TYPICAL SECTION No. 4**



**TYPICAL SECTION SR 70 (4)**

**N.T.S.**

**TRAFFIC DATA**

CURRENT YEAR = 2018 AADT = 10,000  
 ESTIMATED OPENING YEAR = 2025 AADT = 15,000  
 ESTIMATED DESIGN YEAR = 2045 AADT = 19,000  
 K = 12.8% D = 55.9% T = 6.5 % (24 HOUR)  
 DESIGN HOUR T = 3.25%  
 DESIGN SPEED = 50 MPH

**STA. 281+48.45 TO STA. 323+03.00**  
**STA. 329+96.00 TO STA. 377+44.00**  
**STA. 384+38.00 TO STA. 415+18.48**  
**STA. 435+18.45 TO STA. 448+18.00**  
**STA. 455+69.00 TO STA. 467+84.77**  
**Q OF CONST. SR 70**

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	5

**PROJECT CONTROLS**

**CONTEXT CLASSIFICATION**

- ( ) C1 : NATURAL            ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL            ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN    ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES. ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

**FUNCTIONAL CLASSIFICATION**

- ( ) INTERSTATE            ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.    ( ) MINOR COLLECTOR
- (X) PRINCIPAL ARTERIAL ( ) LOCAL
- ( ) MINOR ARTERIAL

**HIGHWAY SYSTEM**

- (X) NATIONAL HIGHWAY SYSTEM
- (X) STRATEGIC INTERMODAL SYSTEM
- (X) STATE HIGHWAY SYSTEM
- ( ) OFF-STATE HIGHWAY SYSTEM

**ACCESS CLASSIFICATION**

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- (X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- ( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

**CRITERIA**

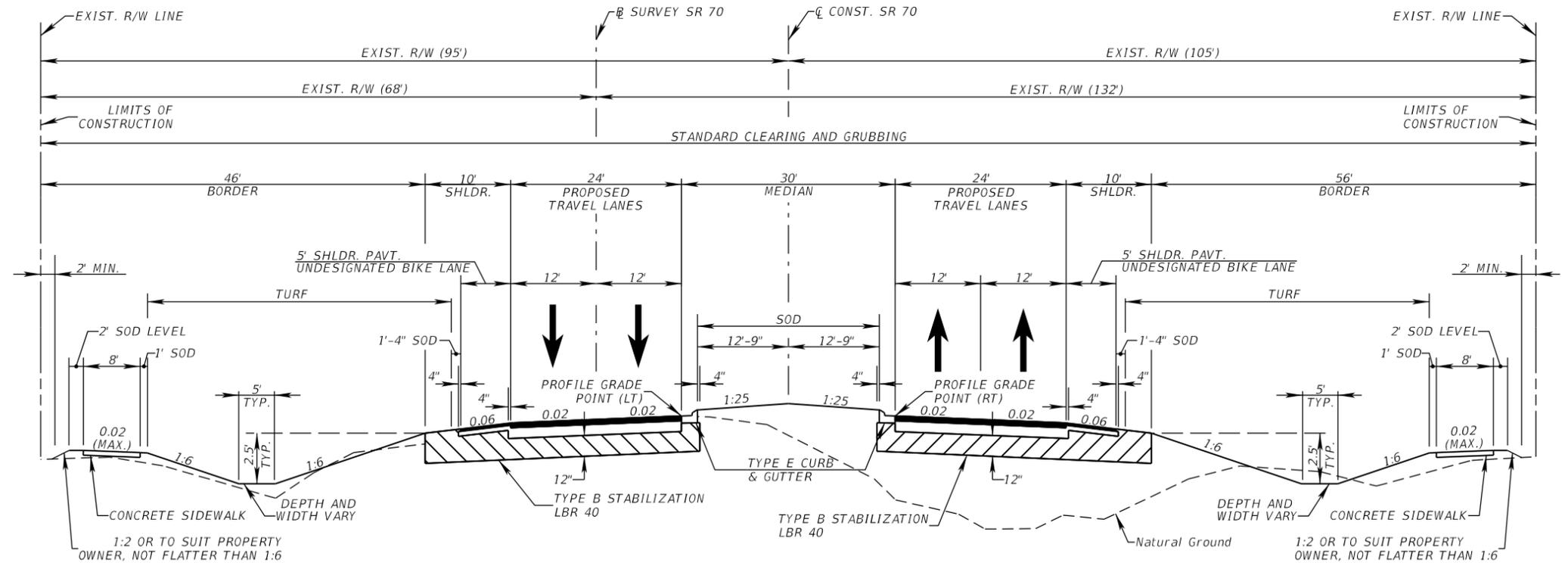
- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

**POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:**

DESIGN VARIATIONS

1. BASE CLEARANCE
2. MEDIAN SHOULDER WIDTH

**TYPICAL SECTION No. 5**



**TYPICAL SECTION SR 70 (5)**

**N.T.S.**

**TRAFFIC DATA**

CURRENT YEAR = 2018 AADT = 10,000  
 ESTIMATED OPENING YEAR = 2025 AADT = 12,000  
 ESTIMATED DESIGN YEAR = 2045 AADT = 16,000  
 K = 12.8% D = 55.9% T = 6.5 % (24 HOUR)  
 DESIGN HOUR T = 3.25%  
 DESIGN SPEED = 50 MPH

**STA. 415+18.48 TO STA. 420+02.00**  
**STA. 427+14.00 TO STA. 435+18.45**  
**CL OF CONST. SR 70**

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	6

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

**PROJECT CONTROLS**

**CONTEXT CLASSIFICATION**

- ( ) C1 : NATURAL                      ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL                        ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN                ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES.            ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

**FUNCTIONAL CLASSIFICATION**

- ( ) INTERSTATE                        ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.                ( ) MINOR COLLECTOR
- (X) PRINCIPAL ARTERIAL            ( ) LOCAL
- ( ) MINOR ARTERIAL

**HIGHWAY SYSTEM**

- (X) NATIONAL HIGHWAY SYSTEM
- (X) STRATEGIC INTERMODAL SYSTEM
- (X) STATE HIGHWAY SYSTEM
- ( ) OFF-STATE HIGHWAY SYSTEM

**ACCESS CLASSIFICATION**

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- (X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- ( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

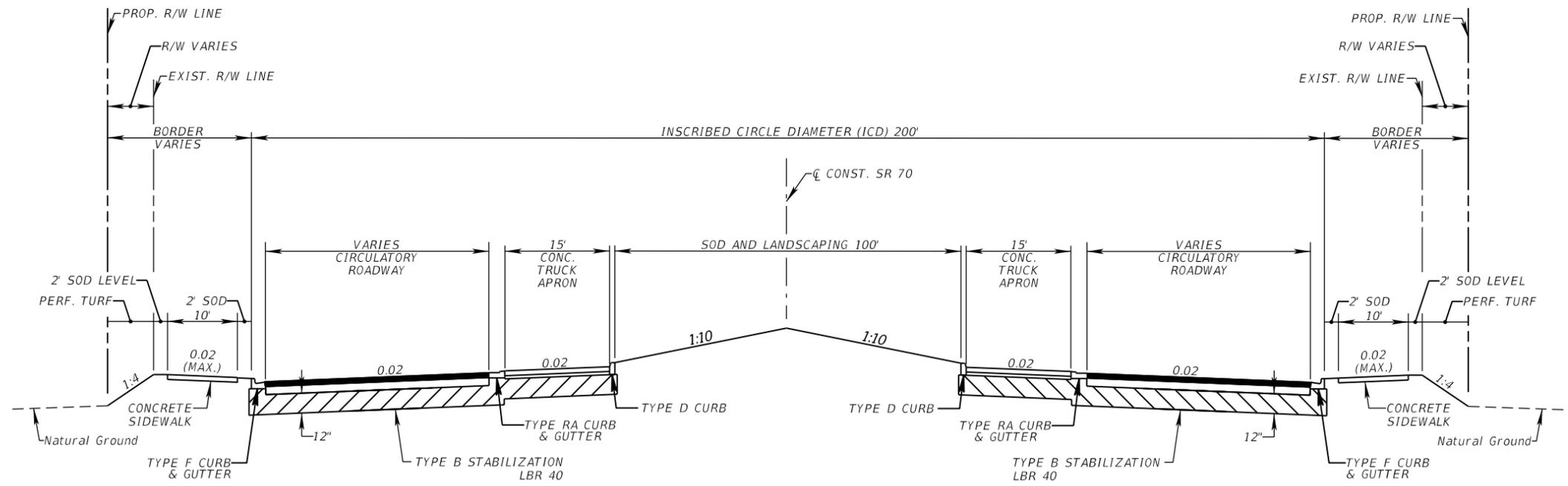
**CRITERIA**

- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

**POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:**

N/A

**TYPICAL SECTION No. 6**



**TYPICAL SECTION SR 70 (6)  
N.T.S.**

**TRAFFIC DATA**

CURRENT YEAR = 2019 AADT = N/A  
 ESTIMATED OPENING YEAR = 2025 AADT = N/A  
 ESTIMATED DESIGN YEAR = 2045 AADT = N/A  
 K = 9.5% D = N/A T = N/A (24 HOUR)  
 DESIGN HOUR T = N/A  
 DESIGN SPEED = 25 MPH

- STA. 198+75.12 = UIHLEIN RD.
- STA. 244+64.97 = DEL WEBB BLVD.
- STA. 278+50.05 = BOURNESIDE BLVD.
- STA. 324+61.26 = 197TH ST./LINDRICK LN.
- STA. 379+02.45 = 213TH ST.
- STA. 421+93.77 = 225TH ST./PANTHER RIDGE TRAIL
- STA. 450+11.66 = 79TH AVE. E/MEADOW DOVE LN.
- Q OF CONST. SR 70

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	7

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

**PROJECT CONTROLS**

**CONTEXT CLASSIFICATION**

- ( ) C1 : NATURAL                      ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL                        ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN                ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES.            ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

**FUNCTIONAL CLASSIFICATION**

- ( ) INTERSTATE                        ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.                ( ) MINOR COLLECTOR
- ( ) PRINCIPAL ARTERIAL              (X) LOCAL
- ( ) MINOR ARTERIAL

**HIGHWAY SYSTEM**

- ( ) NATIONAL HIGHWAY SYSTEM
- ( ) STRATEGIC INTERMODAL SYSTEM
- ( ) STATE HIGHWAY SYSTEM
- (X) OFF-STATE HIGHWAY SYSTEM

**ACCESS CLASSIFICATION**

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- ( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- (X) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

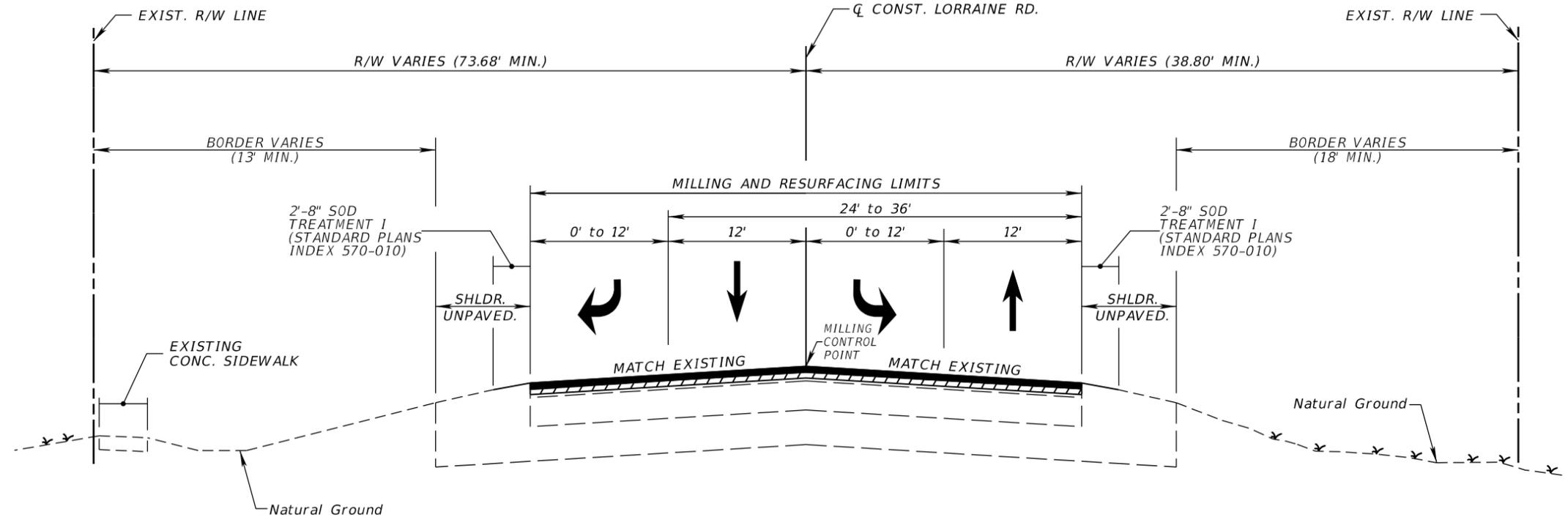
**CRITERIA**

- ( ) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- (X) RRR (ARTERIALS & COLLECTORS)

**POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:**

N/A

**TYPICAL SECTION No. 7**



**LORRAINE ROAD  
STA. 1005+02.79 TO STA. 1007+49.93**

**NOT TO SCALE**

**TRAFFIC DATA**

CURRENT YEAR = 2016  
 AADT = 6,600 (N. OF SR 70), 10,000 (S. OF SR 70)  
 ESTIMATED OPENING YEAR = 2025  
 AADT = 9,200 (N. OF SR 70), 15,000 (S. OF SR 70)  
 ESTIMATED DESIGN YEAR = 2045  
 AADT = 15,000 (N. OF SR 70), 25,000 (S. OF SR 70)  
 K = 9.5% D = 74.9% T = N/A (24 HOUR)  
 DESIGN HOUR T = N/A  
 DESIGN SPEED = 55 MPH (ASSUMED)  
 POSTED SPEED = 50 MPH

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	8

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

**PROJECT CONTROLS**

**CONTEXT CLASSIFICATION**

- ( ) C1 : NATURAL            ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL            ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN    ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES. ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

**FUNCTIONAL CLASSIFICATION**

- ( ) INTERSTATE            ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.    ( ) MINOR COLLECTOR
- ( ) PRINCIPAL ARTERIAL (X) LOCAL
- ( ) MINOR ARTERIAL

**HIGHWAY SYSTEM**

- ( ) NATIONAL HIGHWAY SYSTEM
- ( ) STRATEGIC INTERMODAL SYSTEM
- ( ) STATE HIGHWAY SYSTEM
- (X) OFF-STATE HIGHWAY SYSTEM

**ACCESS CLASSIFICATION**

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- ( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- (X) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

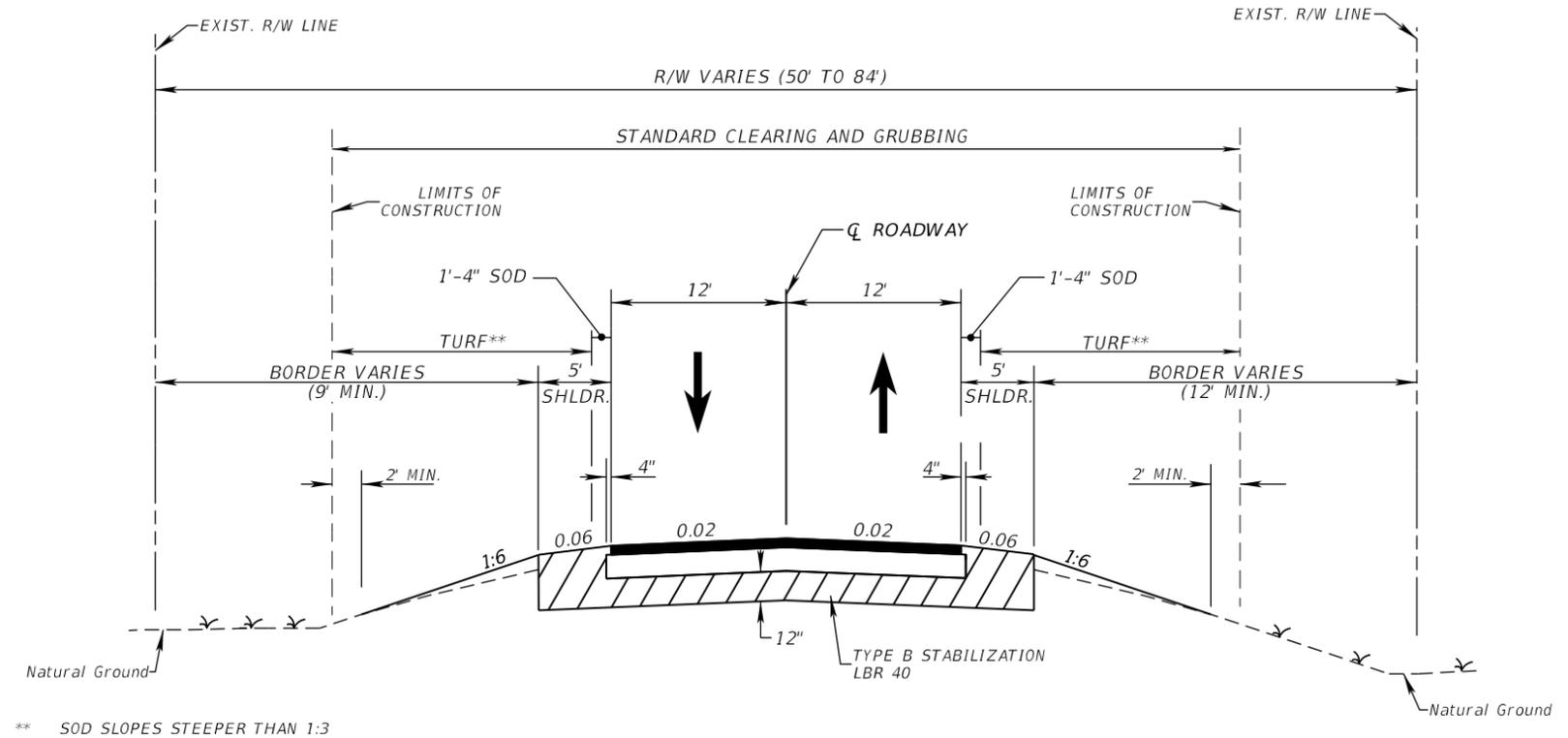
**CRITERIA**

- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

**POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:**

N/A

**TYPICAL SECTION No. 8**



\*\* SOD SLOPES STEEPER THAN 1:3

**ARBOR GREEN TRAIL AND MEADOW DOVE LANE  
MINOR ROAD/NO ALIGNMENT PROVIDED**

**NOT TO SCALE**

**TRAFFIC DATA**

CURRENT YEAR = 2019 AADT = N/A  
 ESTIMATED OPENING YEAR = 2025 AADT = N/A  
 ESTIMATED DESIGN YEAR = 2045 AADT = N/A  
 K = N/A D = N/A T = N/A (24 HOUR)  
 DESIGN HOUR T = N/A  
 DESIGN SPEED = 40 MPH (ASSUMED)  
 POSTED SPEED = 30 MPH

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	9

**PROJECT CONTROLS**

**CONTEXT CLASSIFICATION**

- ( ) C1 : NATURAL            ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL            ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN    ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES. ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

**FUNCTIONAL CLASSIFICATION**

- ( ) INTERSTATE            ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.    ( ) MINOR COLLECTOR
- ( ) PRINCIPAL ARTERIAL (X) LOCAL
- ( ) MINOR ARTERIAL

**HIGHWAY SYSTEM**

- ( ) NATIONAL HIGHWAY SYSTEM
- ( ) STRATEGIC INTERMODAL SYSTEM
- ( ) STATE HIGHWAY SYSTEM
- (X) OFF-STATE HIGHWAY SYSTEM

**ACCESS CLASSIFICATION**

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- ( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- (X) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

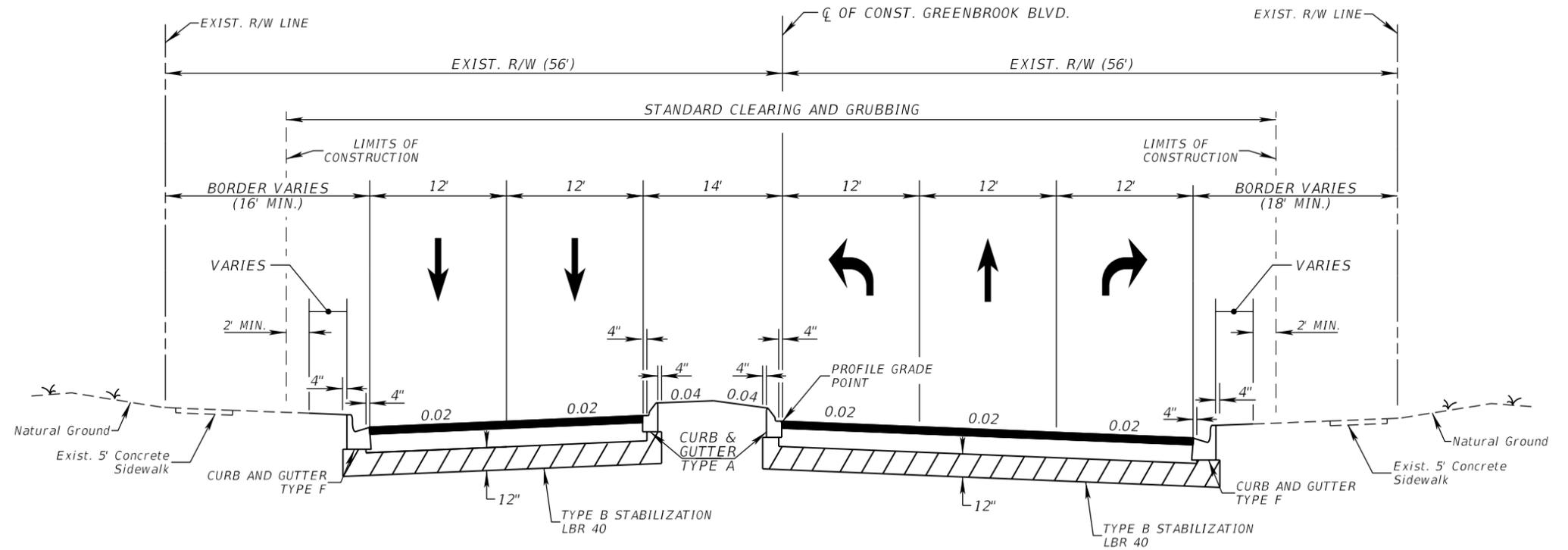
**CRITERIA**

- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

**POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:**

N/A

**TYPICAL SECTION No. 9**



**GREENBROOK BLVD  
STA. 2005+27.92 TO STA. 2003+50**

**NOT TO SCALE**

**TRAFFIC DATA**

CURRENT YEAR = 2016 AADT = 2,600  
 ESTIMATED OPENING YEAR = 2025 AADT = 7,000  
 ESTIMATED DESIGN YEAR = 2045 AADT = 16,000  
 K = 9.5% D = 52.3% T = N/A (24 HOUR)  
 DESIGN HOUR T = N/A  
 DESIGN SPEED = 40 MPH (ASSUMED)  
 POSTED SPEED = 30 MPH

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	10

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

**PROJECT CONTROLS**

**CONTEXT CLASSIFICATION**

- ( ) C1 : NATURAL            ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL             ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN    ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES. ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

**FUNCTIONAL CLASSIFICATION**

- ( ) INTERSTATE            ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.    ( ) MINOR COLLECTOR
- ( ) PRINCIPAL ARTERIAL (X) LOCAL
- ( ) MINOR ARTERIAL

**HIGHWAY SYSTEM**

- ( ) NATIONAL HIGHWAY SYSTEM
- ( ) STRATEGIC INTERMODAL SYSTEM
- ( ) STATE HIGHWAY SYSTEM
- (X) OFF-STATE HIGHWAY SYSTEM

**ACCESS CLASSIFICATION**

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- ( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- (X) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

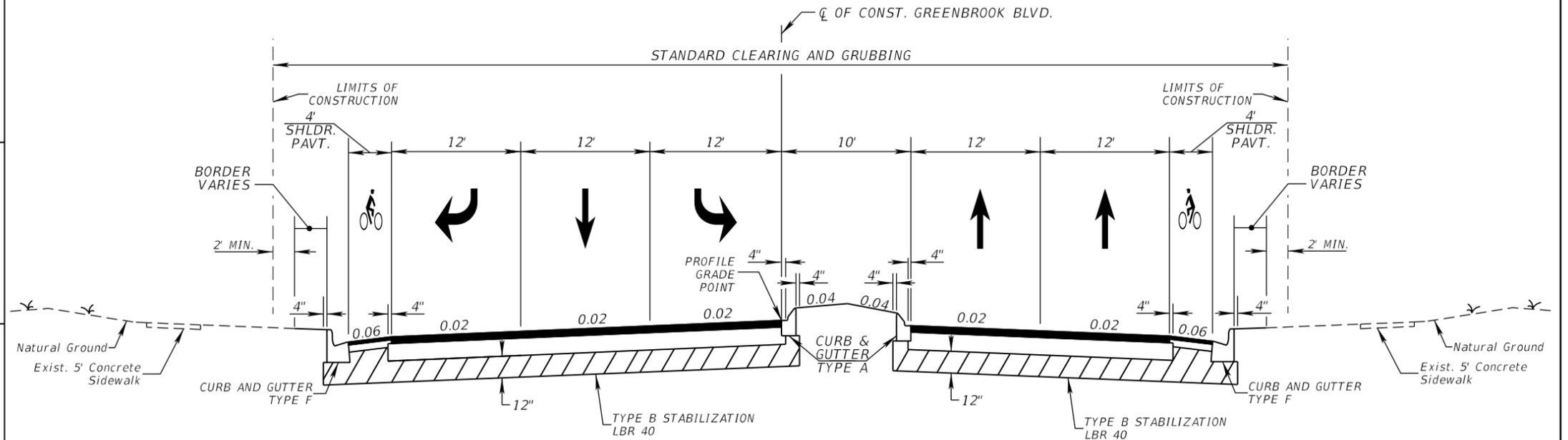
**CRITERIA**

- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

**POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:**

N/A

**TYPICAL SECTION No. 10**



**POST BLVD  
STA. 2006+58.66 TO STA. 2007+79.81**

**NOT TO SCALE**

**TRAFFIC DATA**

CURRENT YEAR = 2016 AADT = 1,500  
 ESTIMATED OPENING YEAR = 2025 AADT = 5,400  
 ESTIMATED DESIGN YEAR = 2045 AADT = 14,000  
 K = 9.5% D = 57.5% T = N/A (24 HOUR)  
 DESIGN HOUR T = N/A  
 DESIGN SPEED = 40 MPH (ASSUMED)  
 POSTED SPEED = 30 MPH

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	11

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

**PROJECT CONTROLS**

CONTEXT CLASSIFICATION

- ( ) C1 : NATURAL                      ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL                        ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN              ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES.        ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

FUNCTIONAL CLASSIFICATION

- ( ) INTERSTATE                      ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.              ( ) MINOR COLLECTOR
- ( ) PRINCIPAL ARTERIAL        (X) LOCAL
- ( ) MINOR ARTERIAL

HIGHWAY SYSTEM

- ( ) NATIONAL HIGHWAY SYSTEM
- ( ) STRATEGIC INTERMODAL SYSTEM
- ( ) STATE HIGHWAY SYSTEM
- (X) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- ( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- (X) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

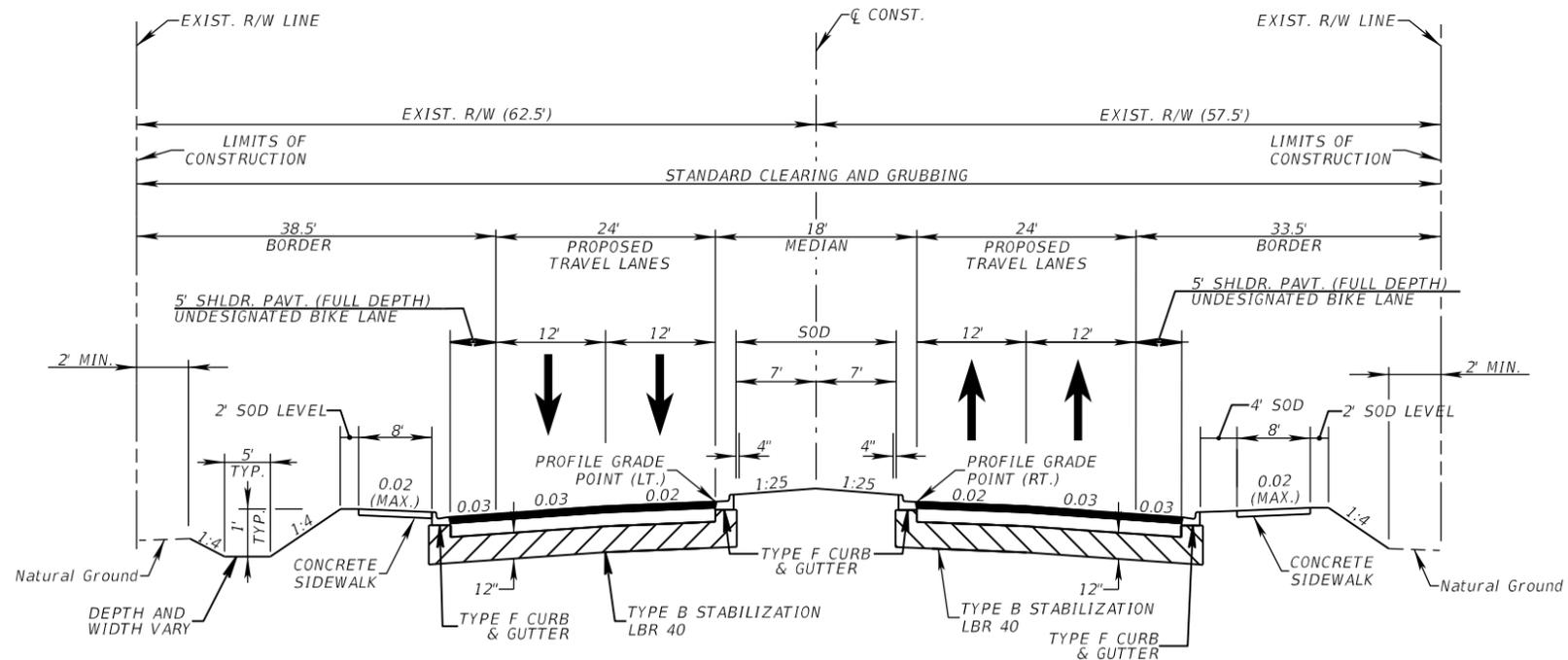
CRITERIA

- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

N/A

**TYPICAL SECTION No. 11**



**UIHLEIN ROAD**  
**MINOR ROAD/NO ALIGNMENT PROVIDED**  
**NOT TO SCALE**

TRAFFIC DATA

CURRENT YEAR = 2019 AADT = N/A  
 ESTIMATED OPENING YEAR = 2025 AADT = 4,300  
 ESTIMATED DESIGN YEAR = 2045 AADT = 14,000  
 K = 9.5% D = N/A T = N/A (24 HOUR)  
 DESIGN HOUR T = N/A  
 DESIGN SPEED = 40 MPH (ASSUMED)  
 POSTED SPEED = 35 MPH

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	12

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

**PROJECT CONTROLS**

**CONTEXT CLASSIFICATION**

- ( ) C1 : NATURAL                      ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL                        ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN                ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES.            ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

**FUNCTIONAL CLASSIFICATION**

- ( ) INTERSTATE                        ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.                ( ) MINOR COLLECTOR
- ( ) PRINCIPAL ARTERIAL              (X) LOCAL
- ( ) MINOR ARTERIAL

**HIGHWAY SYSTEM**

- ( ) NATIONAL HIGHWAY SYSTEM
- ( ) STRATEGIC INTERMODAL SYSTEM
- ( ) STATE HIGHWAY SYSTEM
- (X) OFF-STATE HIGHWAY SYSTEM

**ACCESS CLASSIFICATION**

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- ( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- (X) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

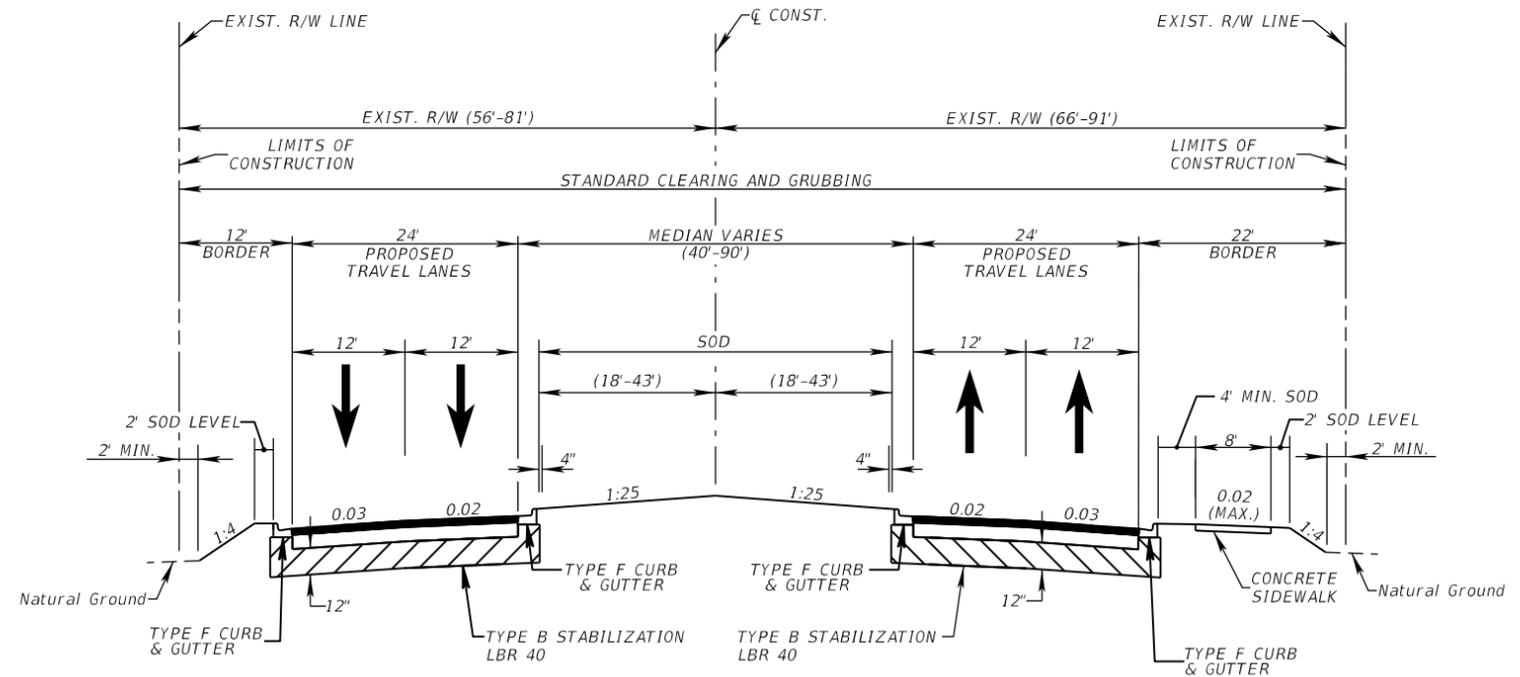
**CRITERIA**

- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

**POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:**

N/A

**TYPICAL SECTION No. 12**



**DEL WEBB BLVD.  
STA. 3002+52.65 TO STA. 3002+99.65**

**NOT TO SCALE**

**TRAFFIC DATA**

CURRENT YEAR = 2019 AADT = N/A  
 ESTIMATED OPENING YEAR = 2025 AADT = 2,400  
 ESTIMATED DESIGN YEAR = 2045 AADT = 3,000  
 K = 9.5% D = N/A T = N/A (24 HOUR)  
 DESIGN HOUR T = N/A  
 DESIGN SPEED = 20 MPH (ASSUMED)  
 POSTED SPEED = 25 MPH

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	13

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

**PROJECT CONTROLS**

**CONTEXT CLASSIFICATION**

- ( ) C1 : NATURAL                      ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL                        ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN                ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES.            ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

**FUNCTIONAL CLASSIFICATION**

- ( ) INTERSTATE                        ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.                ( ) MINOR COLLECTOR
- ( ) PRINCIPAL ARTERIAL              (X) LOCAL
- ( ) MINOR ARTERIAL

**HIGHWAY SYSTEM**

- ( ) NATIONAL HIGHWAY SYSTEM
- ( ) STRATEGIC INTERMODAL SYSTEM
- ( ) STATE HIGHWAY SYSTEM
- (X) OFF-STATE HIGHWAY SYSTEM

**ACCESS CLASSIFICATION**

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- ( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- (X) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

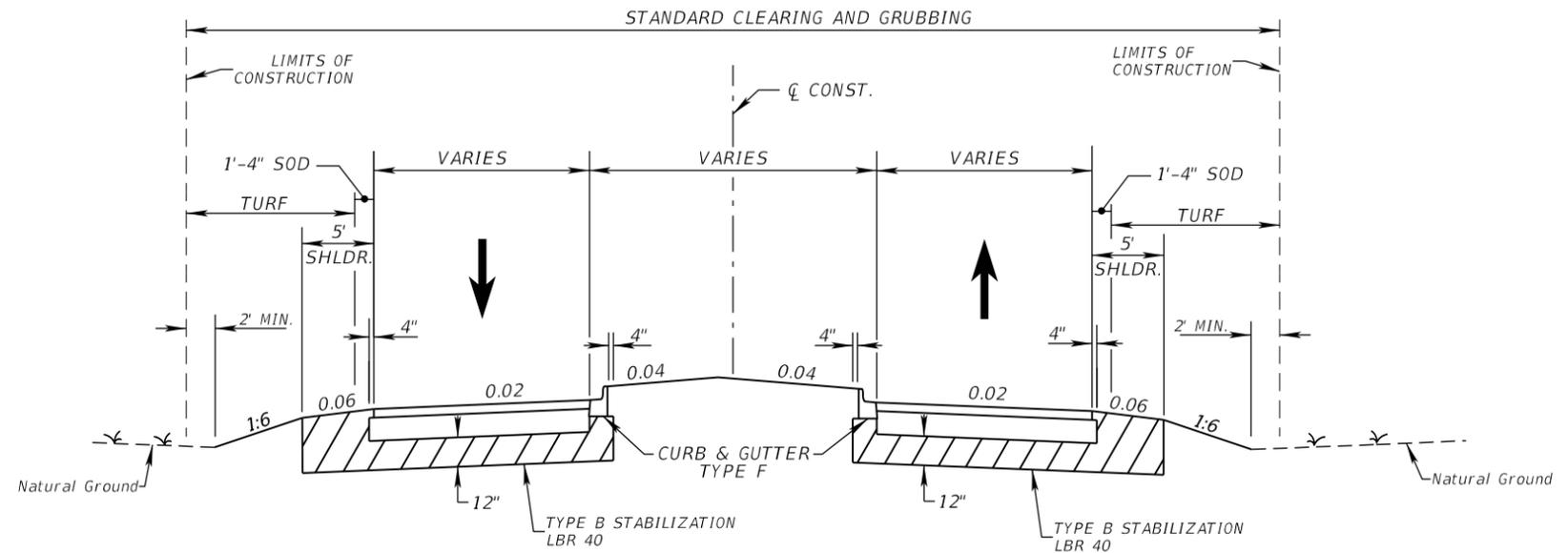
**CRITERIA**

- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

**POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:**

N/A

**TYPICAL SECTION No. 13**



**197TH ST., 213TH ST., AND 225TH ST. E (EB)  
MINOR ROADS/NO ALIGNMENT PROVIDED**

**NOT TO SCALE**

**TRAFFIC DATA**

CURRENT YEAR = 2019 AADT = N/A  
 ESTIMATED OPENING YEAR = 2025 AADT = N/A  
 ESTIMATED DESIGN YEAR = 2045 AADT = N/A  
 K = 9.5% D = N/A T = N/A (24 HOUR)  
 DESIGN HOUR T = N/A  
 DESIGN SPEED = 40 MPH (ASSUMED)  
 POSTED SPEED = 25 to 30 MPH

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	14

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

**PROJECT CONTROLS**

CONTEXT CLASSIFICATION

- ( ) C1 : NATURAL                      ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL                        ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN                ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES.            ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

FUNCTIONAL CLASSIFICATION

- ( ) INTERSTATE                        ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.                ( ) MINOR COLLECTOR
- ( ) PRINCIPAL ARTERIAL            (X) LOCAL
- ( ) MINOR ARTERIAL

HIGHWAY SYSTEM

- ( ) NATIONAL HIGHWAY SYSTEM
- ( ) STRATEGIC INTERMODAL SYSTEM
- ( ) STATE HIGHWAY SYSTEM
- (X) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- ( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- (X) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

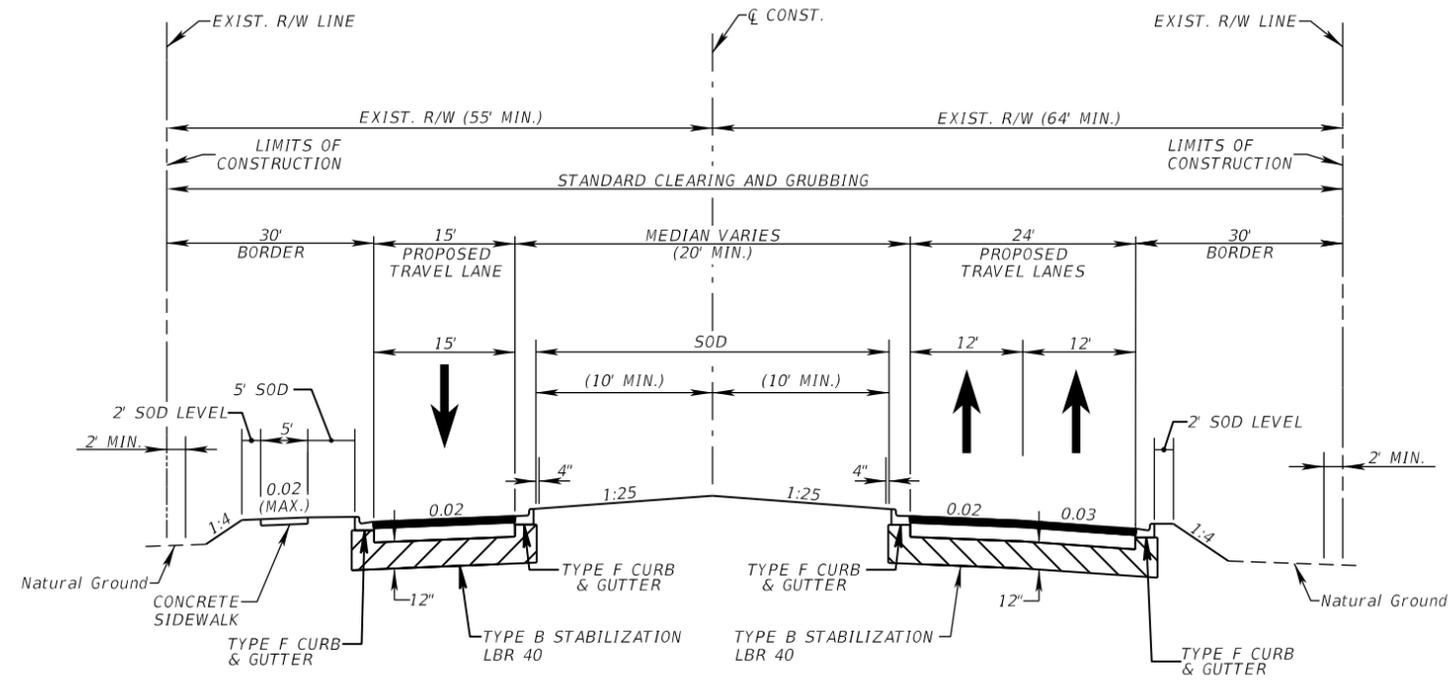
CRITERIA

- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

N/A

**TYPICAL SECTION No. 14**



**LINDRICK LN.  
MINOR ROADS/NO ALIGNMENT PROVIDED**

**NOT TO SCALE**

TRAFFIC DATA

CURRENT YEAR = 2019 AADT = N/A  
 ESTIMATED OPENING YEAR = 2025 AADT = N/A  
 ESTIMATED DESIGN YEAR = 2045 AADT = N/A  
 K = 9.5% D = N/A T = N/A (24 HOUR)  
 DESIGN HOUR T = N/A  
 DESIGN SPEED = 40 MPH (ASSUMED)  
 POSTED SPEED = 25 to 30 MPH

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	15

**PROJECT CONTROLS**

CONTEXT CLASSIFICATION

- ( ) C1 : NATURAL            ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL            ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN    ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES. ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

FUNCTIONAL CLASSIFICATION

- ( ) INTERSTATE            ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.    ( ) MINOR COLLECTOR
- ( ) PRINCIPAL ARTERIAL (X) LOCAL
- ( ) MINOR ARTERIAL

HIGHWAY SYSTEM

- ( ) NATIONAL HIGHWAY SYSTEM
- ( ) STRATEGIC INTERMODAL SYSTEM
- ( ) STATE HIGHWAY SYSTEM
- (X) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- ( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- (X) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

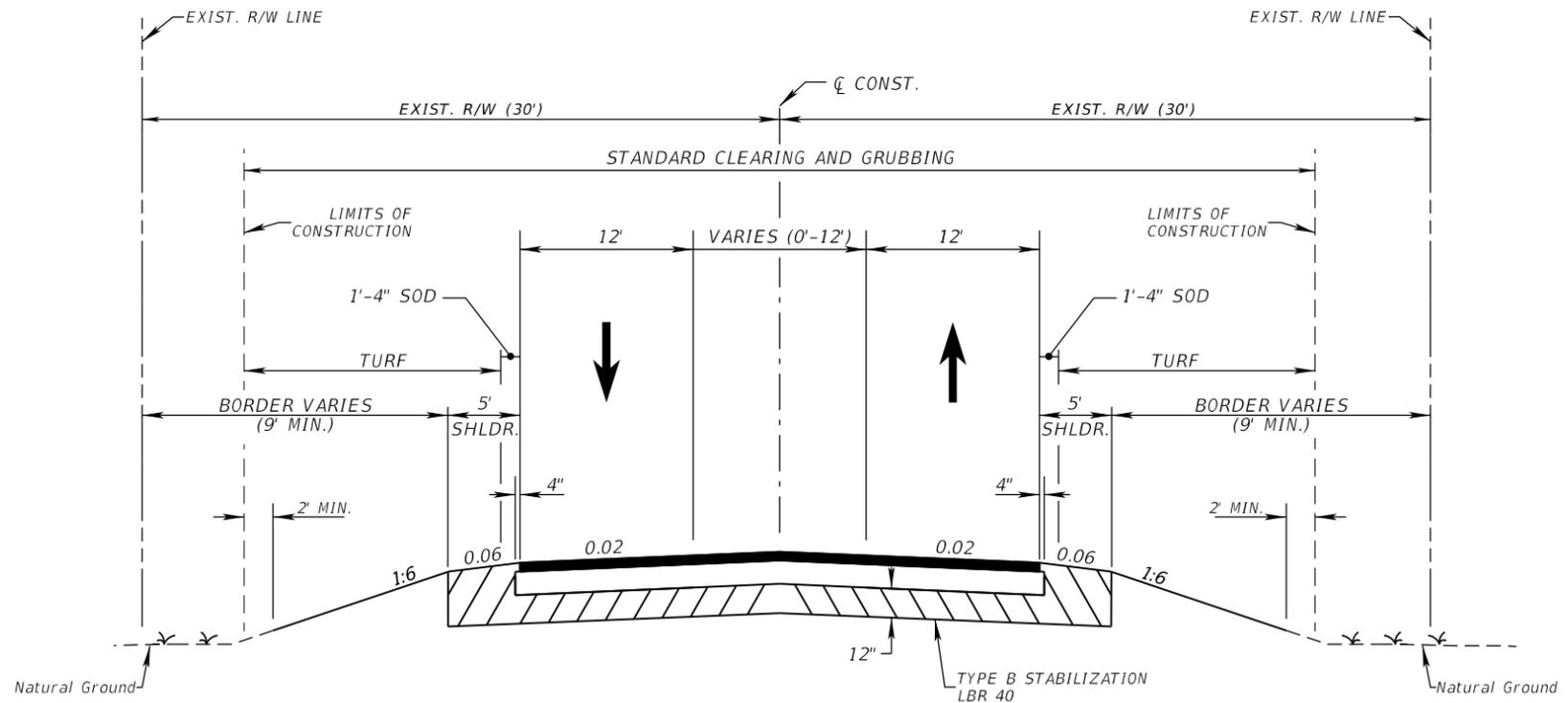
CRITERIA

- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

N/A

**TYPICAL SECTION No. 15**



**225TH E (WB)  
MINOR ROAD/NO ALIGNMENT PROVIDED**

**NOT TO SCALE**

TRAFFIC DATA

CURRENT YEAR = 2019 AADT = N/A  
 ESTIMATED OPENING YEAR = 2025 AADT = N/A  
 ESTIMATED DESIGN YEAR = 2045 AADT = N/A  
 K = 9.5% D = N/A T = N/A (24 HOUR)  
 DESIGN HOUR T = N/A  
 DESIGN SPEED = 40 MPH (ASSUMED)  
 POSTED SPEED = 25 to 30 MPH

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	16

**PROJECT CONTROLS**

**CONTEXT CLASSIFICATION**

- ( ) C1 : NATURAL            ( ) C3C : SUBURBAN COMM.
- ( ) C2 : RURAL            ( ) C4 : URBAN GENERAL
- ( ) C2T : RURAL TOWN    ( ) C5 : URBAN CENTER
- (X) C3R : SUBURBAN RES. ( ) C6 : URBAN CORE
- ( ) N/A : L.A. FACILITY

**FUNCTIONAL CLASSIFICATION**

- ( ) INTERSTATE            ( ) MAJOR COLLECTOR
- ( ) FREEWAY/EXPWY.    ( ) MINOR COLLECTOR
- ( ) PRINCIPAL ARTERIAL (X) LOCAL
- ( ) MINOR ARTERIAL

**HIGHWAY SYSTEM**

- ( ) NATIONAL HIGHWAY SYSTEM
- ( ) STRATEGIC INTERMODAL SYSTEM
- ( ) STATE HIGHWAY SYSTEM
- (X) OFF-STATE HIGHWAY SYSTEM

**ACCESS CLASSIFICATION**

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- ( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- (X) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

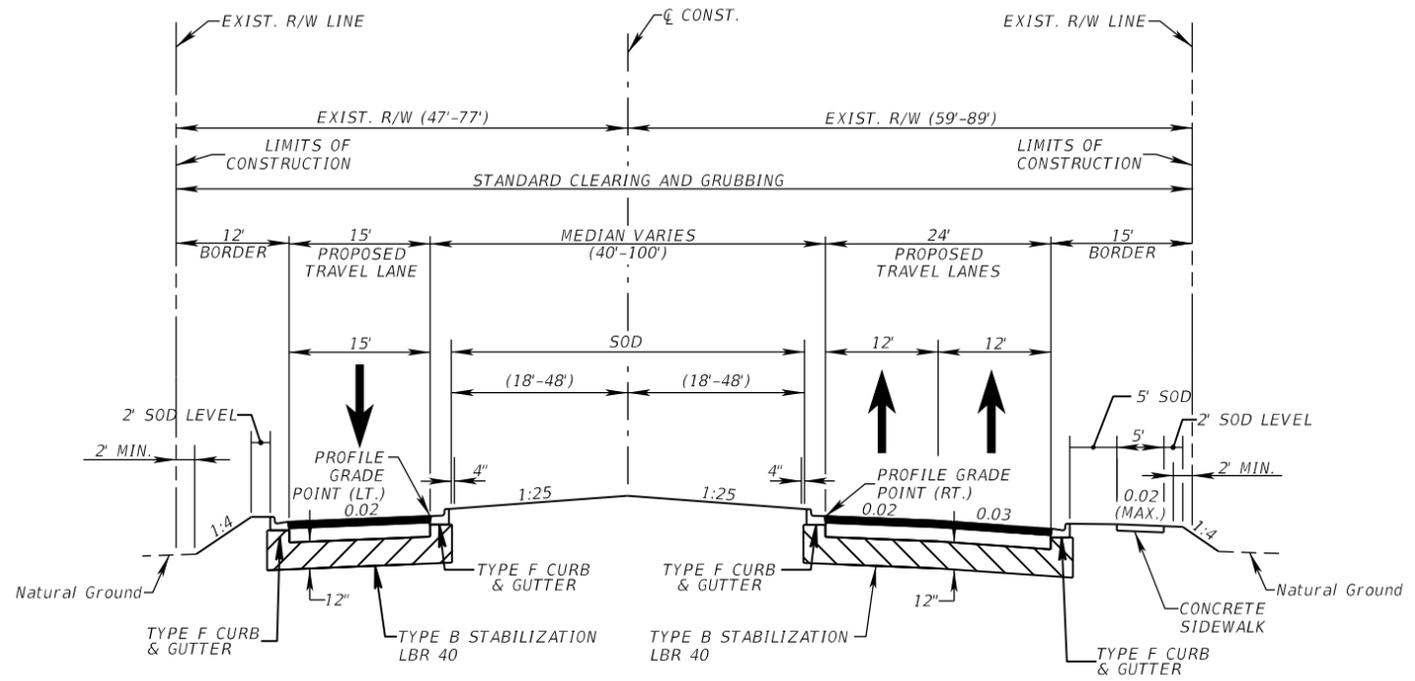
**CRITERIA**

- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

**POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:**

N/A

**TYPICAL SECTION No. 16**



**PANTHER RIDGE TRAIL  
MINOR ROADS/NO ALIGNMENT PROVIDED**

**NOT TO SCALE**

**TRAFFIC DATA**

CURRENT YEAR = 2019 AADT = N/A  
 ESTIMATED OPENING YEAR = 2025 AADT = N/A  
 ESTIMATED DESIGN YEAR = 2045 AADT = N/A  
 K = 9.5% D = N/A T = N/A (24 HOUR)  
 DESIGN HOUR T = N/A  
 DESIGN SPEED = 40 MPH (ASSUMED)  
 POSTED SPEED = 25 to 30 MPH

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

FINANCIAL PROJECT ID	SHEET NO.
414506-2-32-01	17

**APPENDIX E**  
**AGENCY COORDINATION**



*Florida Department of Transportation*

RON DESANTIS  
GOVERNOR

801 North Broadway Avenue  
Bartow, FL 33830

KEVIN J. THIBAUT, P.E.  
SECRETARY

April 30, 2019

Dr. Timothy Parsons, Director  
Florida Division of Historical Resources  
Department of State, R.A. Gray Building  
500 South Bronough Street  
Tallahassee, FL 32399-0250

Attn: Transportation Compliance Review Program

**RE: Cultural Resource Assessment Survey  
Project Development and Environment Study (PD&E)  
SR 70 from Lorraine Road to CR 765/Waterbury Road  
Manatee County, Florida  
FPID No.: 414506-2-22-01; ETDM: 14263**

2019 MAY -1 A 11:09  
FLORIDA DEPARTMENT OF  
TRANSPORTATION  
BUREAU OF  
HISTORIC PRESERVATION

Dear Dr. Parsons:

A Cultural Resource Assessment Survey (CRAS) was performed within the area of potential effect (APE) for the SR 70 project in Manatee County, Florida. This study was performed to evaluate the proposed widening of 6.1 miles of State Road (SR) 70 from Lorraine Road (MP 9.478) to County Road (CR) 675/Waterbury Road (MP 15.567), including one regional pond site, three Floodplain Compensation (FPC) sites, and seven roundabouts. Within the limits of this study, the Florida Department of Transportation (FDOT) is evaluating one project build alternative and three project segments: Segment A extends from Lorraine Road to east of Greenbrook Boulevard, Segment B extends from east of Greenbrook Boulevard to Bourneside Boulevard, and Segment C extends from Bourneside Boulevard to the eastern project limit at CR 675. The proposed action is to increase the capacity of the existing two-lane undivided roadway by widening it to a four or six-lane divided roadway

The archaeological APE was defined as the footprint of the proposed improvements within the existing and proposed right-of-way (ROW) for the SR 70 corridor and the area contained within the one regional pond and three FPC sites; and the historic/architectural APE was defined as the archaeological APE and adjacent parcels.

This CRAS was conducted in accordance with the requirements set forth in the National Historic Preservation Act of 1966 (as amended), which are implemented by the procedures contained in 36 CFR, Part 800, as well as the provisions contained in the revised Chapter 267, *Florida Statutes*. The investigations were carried out in accordance with Part 2, Chapter 8 (Archaeological and Historical Resources) of the FDOT's PD&E Manual, FDOT's Cultural Resources Manual, and the standards contained in the Florida Division of Historical Resources (FDHR) Cultural Resource Management Standards and Operations Manual (FDHR 2003). In addition, this survey meets the specifications set forth in Chapter 1A-46, Florida Administrative Code.

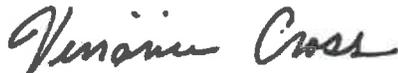
Dr. Timothy Parsons, Director  
SR 70, Manatee County  
FPID No.: 414506-2-22-01  
April 30, 2019  
Page 2 of 3

Background research revealed that no archaeological sites were previously recorded within or adjacent to the APE and the background research also suggested the project had a low potential for aboriginal site occurrence. No historic period archaeological sites were expected. In addition, the APE is highly disturbed with ditches, fill, utilities, and pavement; thus, the likelihood of finding intact cultural resources was considered low.

Historical background research indicated that portions of three previously recorded historic linear resources (50 years of age or older) are within the project APE: 8MA01814, a segment of an abandoned rail bed once associated with the East & West Coast Railway, 8MA01815 (the Lakewood Ranch Canal #2), and 8MA01816 (the Lakewood Ranch Canal #3). Portions of 8MA01814 have been determined eligible for listing in the NRHP by the State Historic Preservation Officer (SHPO); however, the portions of railbed adjacent and within the APE was determined not eligible for listing in the National Register of Historic Places (NRHP) by the SHPO. In addition, 8MA01815 and 8MA01816 were also determined not eligible for listing in the NRHP by the SHPO. Background research did reveal that portions of SR 70 have been recorded in Manatee County and determined not eligible for listing in the NRHP; but the segment of SR 70 within the APE has not been recorded. Thus, 8MA01906 was updated to reflect the segment of SR 70 within the APE. This portion of SR 70 also does not appear to be eligible for listing in the NRHP.

Based on the results of the background research and field survey, there are no significant historic or prehistoric archaeological sites or historic resources within the APE. Thus, it appears that the proposed undertaking will have no effect on any NRHP listed, determined eligible, or potentially eligible resources within the APE.

The CRAS Report is provided for your review and comment. If you have any questions, please do not hesitate to call me at 863.519.2805 or [vivianne.cross@dot.state.fl.us](mailto:vivianne.cross@dot.state.fl.us).



Vivianne Cross  
Environmental Project Manager

Enclosures: One original copy of the CRAS (April 2019); One FMSF Form, One Completed Survey Log

CC: Mark Easley, KCA  
Marion Almy, ACI

The Florida State Historic Preservation Officer (SHPO) finds ~~the~~ attached Cultural Resources Assessment Survey Report complete and sufficient and  concurs/  does not concur with the recommendations and findings provided in this cover letter for SHPO/FDHR Project File Number ~~2019-3278AN~~. Or, the SHPO finds the attached document contains  insufficient information.

2016-3278 C

SHPO Comments:

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Dr. Timothy Parsons, Director  
State Historic Preservation Officer  
Florida Division of Historical Resources

5/29/2019  
Date

For