

DRAFT CORRIDOR STUDY KINGSFIELD ROAD EXTENSION

FROM HIGHWAY 97, WEST TO BEULAH ROAD

**IDENTIFICATION NUMBER PD 10-11.061
HMM PROJECT NO. 296696
ESCAMBIA COUNTY**

**PREPARED FOR:
ESCAMBIA COUNTY FLORIDA**

**PREPARED BY:
HATCH MOTT MACDONALD**

July 2012



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REPORT OBJECTIVE

The purpose of this report is to provide information on the proposed extension of Kingsfield Road from Highway 97 to Beulah Road, a distance of approximately 2.8 miles. This project is part of Escambia County's Mid-West Sector Plan and construction will be funded by a Municipal Service Benefit Unit (MSBU) program. The recommendations presented in this report will include design criteria, typical roadway and bridge sections, preferred roadway alignment, preliminary right-of-way requirements, and a preliminary cost estimate. Appendix A shows the proposed study area.

The first step in preparing this report was to develop design criteria that are consistent with the proposed use of the roadway. Next, constraints were determined that will impact the horizontal and vertical alignment of the proposed roadway. These constraints and design criteria were then used to prepare and select the preferred alignment. Development of this alignment continued to a point where a preliminary cost estimate and determination of preliminary right-of-way needs could be prepared.

To prepare this report, the following sources of information were utilized:

- Florida Greenbook, May 2007 edition
- USDA Web Soil Survey
- Aerial photographs, topography and GIS database information provided by Escambia County

Quantity and cost projections presented in this report are based on information obtained from aerial photographs and topography, which have contour intervals of two feet, and on assumptions that we believe to be reasonable and consistent with standard engineering practices. These projections should not be construed as representations of fact.

PROJECT LOCATION AND DESCRIPTION

The proposed extension of Kingsfield Road (CR 186) will connect Highway 97 to Beulah Road at a distance of approximately 2.8 miles. Approximately the first .5 miles of the project will consist of improving the existing road which currently consists of two 10' travel lanes. The remaining approximately 2.3 miles of the project will be a new alignment through mostly unimproved timberland. The proposed roadway will generally traverse east and west beginning at the intersection of Highway 97 and Kingsfield Road, and ending at Beulah Road.

The proposed roadway will be comprised of two typical sections:

1. For approximately the first .5 miles, the roadway section will be a two lane urban typical section with 12 foot travel lanes as well as curb and gutter. This typical section will require 66' of right-of-way and will also include a five foot sidewalk.
2. From the urban typical section, the roadway will transition into a two lane rural section with 12' travel lanes and 5' paved shoulders. This typical section will require 130' of right-of-way and will also include roadside swales. (Typical Sections are shown in Appendix B)

At the beginning of the project from Highway 97 through the remainder of the existing section, the roadway is lined with residential properties. On Beulah Road near the proposed end of the project there are several developed properties, including a gulf power gas to energy blower flare station and a cell tower on the east side of the road. The Perdido landfill is located on the west

side of Beulah Road.

The remainder of the corridor is bordered on either side by undeveloped timber land, with large areas of plantation pine interrupted by natural wetland areas that are characterized as bottomland hardwoods and wet pine savannah. The proposed right-of-way and adjacent properties consist of generally hilly terrain, with topography ranging from approximately elevation 30 to elevation 150.

Several wetlands associated with an unnamed tributary of Perdido River cross the proposed roadway alignment. Two of the crossings are small enough to be traversed with culverts, while there is one crossing which will require approximately a 100' long bridge. The bridge will be located approximately two miles west of the beginning of the proposed roadway. At the various drainage crossings, the soils type is predominantly Dorovan muck and Fluvaquents, a wetland indicator. As part of this study, Wetland Sciences has conducted a field delineation of the wetlands. The proposed impacts to the wetlands are included in the alternates summary matrix shown in Appendix F.

Structures and utilities present within the corridor include several underground utilities located along the existing section of Kingsfield Road. There are also power poles and overhead power lines present in this section. Three high pressure natural gas pipelines which run northwest and southeast are located in an easement approximately 1.5 miles west of Highway 97. At the end of the job there is a cell tower and a Gulf Power gas to energy blower flare station which will be avoided in the proposed designs. However, it does appear that some of the utilities and

structures will need to be re-located, such as some of the power poles in the urban section. The proposed corridor is also adjacent to many residential buildings, including two barns (one owned by the Smith's and one by the York's). Both the Smith's and the York's have requested that the proposed roadway avoid their barns and their request will be factored into the final decision.

DESIGN CONSIDERATION

In order to determine which alignment through the corridor should be used for this roadway, a set of constraints were developed. These constraints were determined by reviewing the physical features within the corridor and assessing their impact on possible alignments. Impacts on the cost of construction and maintenance as well as potential safety problems were also addressed. Specific areas that were reviewed include site topography, the location of existing structures / utilities, alignment with Beulah Road, sight and stopping distances, hydraulics / hydrology of the area, wetland impacts, and right-of way / property owners.

Existing Utilities / Structures

There are several utilities and structures that are located within or adjacent to the proposed right-of-way. Structures that are adjacent to the proposed right-of-way include many residents, the Smith's and the York's barns, a cell tower, and a Gulf Power gas to energy blower flare station. None of the residents, the cell phone tower, or the Gulf Power station will be impacted by the proposed roadway alignments. However, after analyzing the project at least one if not both of the barns will need to be cleared to allow for the roadway extension.

The major utilities that must be avoided are the three high pressure natural gas pipelines. There are 12", 16", and 24" lines located in an easement running northwest and southeast approximately 1.5 miles west of Highway 97. Due to the extremely high cost required to relocate a utility of this type, it will be advantageous to route the alignment to avoid conflicts with these lines. While there are other utilities crossing the proposed roadway, it is believed that

only minor adjustment work will be necessary to either avoid these utilities being under the pavement, or to provide adequate protection to any utilities that will remain under the proposed pavement.

Owners of utilities in the vicinity of the corridor include:

- Gulf Power
- Gulf South Pipeline CO LP
- Okaloosa Gas District
- AT&T

Alignment with Existing Highway 97 and Beulah Road

The first approximately .5 miles of the proposed roadway will utilize the existing alignment. Therefore no modifications are recommended for the intersection of Kingsfield Road and Highway 97. Due to the tight horizontal curve on Beulah Road, sight distance was a major determining factor on the location of the proposed Kingsfield Road and Beulah Road intersection. Kingsfield Road will intersect with Beulah Road between the cell tower and the Gulf Power Gas to Energy Blower Flare Station. The Perdido Land Fill driveway will be modified to line up with this proposed intersection.

Sight Distance and Design Speed

Sight distance and design speed are important parameters in designing a highway that operates

safely and efficiently. There are several types of sight distance requirements that must be addressed during the design phase, which include stopping, passing, and turning sight distance. The sight distance requirements are directed by a 50 mph design speed.

Kingsfield Road has two intersections that are included in the proposed roadway corridor: Highway 97 and Beulah Road. The vertical alignment of Highway 97 is relatively flat and there are no horizontal curves in the vicinity of this intersection. Therefore, for our proposed roadway, the sight distances are greater than required at this intersection. The vertical alignment of Beulah Road is also relatively flat; however, Beulah Road is in a sharp horizontal curve at the proposed intersection. Therefore sight distance was a major factor in the design of this intersection.

The vertical alignment for the extension of Kingsfield Road will vary greatly due to the rolling terrain. Therefore sight distance was a major factor in the design of the profiles.

Hydraulics and Hydrology

The proposed roadway traverses three separate draws associated with one main unnamed tributary to the Perdido River. Along the preferred alignment there are two culvert crossings and a bridge crossing of the wetlands associated with the unnamed tributary. Neither the unnamed tributary nor the associated wetlands are part of a regulated floodway as defined by the FEMA Flood Insurance Rate Maps for this area.

A drainage basin map can be found in the drainage design documentation report. Also in the

report are the calculations, which show the 50 and 100 year peak flow for each of the culvert crossings. The SCS TR-55 method was utilized to calculate all peak flow rates.

Roadside ditches that run parallel to the alignment will be designed with proper capacity and erosion control measures. For slopes less than 4.5%, the ditch will be lined with sod. For slopes greater than 4.5%, the ditch will be concrete lined for erosion control. Rip-rap and filter fabric will also be installed at discharge points to minimize erosion on the site and the siltation of downstream tributaries.

Wetlands Impact

The major area of environmental concerns caused by this roadway will be the potential impacts to the wetlands that are associated with the unnamed tributary of the Perdido River. Since it is not economically practical to span the width of all wetlands with a bridge, the best design would be to minimize the amount of wetlands impacted. To accomplish this, the roadway should cross the wetlands at the narrowest points possible. The wetland impacts for the five alignments are found in the alternates comparison matrix shown in Appendix F. An environmental evaluation of the project can be found in this report beginning on page 15.

Right-of-Way and Property Owners

Final right-of-way will be determined based on the final design using field surveying. There are approximately 28 property owners along this corridor. A matrix of all property owners and the

required right-of-way to be acquired from each based on a 66' right-of-way for the urban section and a preliminary 80' right-of-way for the rural section is shown in Appendix G. After the preferred alignment was selected and the initial design phase began, it was determined that for the rural section a 130' right-of-way was required to tie the proposed earthwork into the existing rolling topography. The final right-of-way takes required for the preferred alignment are shown in Appendix H.

**DESIGN CRITERIA
FOR KINGSFIELD ROAD
(FROM HIGHWAY 97 TO BEULAH ROAD)**

General:

The following design criteria and geometric standards were derived from the requirements of the FDOT 2012 Plans Preparation Manual and the Policy on Geometric Design of Highways and Streets published by AASHTO in 2011.

<u>Design Speed:</u>	<u>Rural</u>	<u>Urban</u>
	50 mph	50 mph
<u>Horizontal Alignments:</u>	<u>Rural</u>	<u>Urban</u>
Minimum Length of Curve	750'	750'
Maximum Superelevation Rate	0.10	0.05
Minimum Radius w/o Superelevation	11,459'	11,459'
Max. Deflections w/o Horizontal Curve	0° 45' 00"	1° 00' 00"
<u>Vertical Alignments:</u>	<u>Rural</u>	<u>Urban</u>
Maximum Grade	7%	7%
Minimum Length of Grade	250' Between VPI's	250' Between VPI's
Max. Change in Grade w/o Vert. Curve	0.60%	0.70%
<u>Typical Section:</u>	<u>Rural</u>	<u>Urban</u>
Lane Width	12'	12'
Shoulder Width	5'	None
Cross Slopes	2%	2%
Horizontal Clearance	24'	4' From Face of Curb
Border Width	40'	12'
Right-of-way Requirements	130'	66'

LANEAGE AND SIGNALIZATION

Since, at the time this report was prepared, no accurate projections for traffic volumes for the proposed roadway exist, the recommendations for laneage and signalization have been based primarily on observation of existing traffic patterns and projecting future volume increases.

Additional detailed studies will need to be undertaken in the future to accurately determine the need for additional lanes and signals above what is proposed in this report. Any modifications to Highway 97 or Beulah Road will be coordinated and permitted through Escambia County.

Because future traffic volumes are not expected to be extremely high, we are recommending a two lane section be utilized for the entire length of the project.

Typical roadway sections are shown in Appendix B.

BRIDGE DESIGN CRITERIA / HYDRAULIC ANALYSIS

After a hydrologic analysis of the unnamed tributary of Perdido River, it was determined that the high flowrate would be impractical to convey with a culvert. Therefore, a bridge will be required for the main crossing. The proposed typical bridge section is shown in Appendix C. A complete hydraulic analysis of the bridge has not been completed as part of this preliminary design.

ALIGNMENT RECOMMENDATION

The selection of the alignment for the Kingsfield Road extension was determined by compiling the design constraints and routing the alignment to minimize costs and environmental impacts, while providing a safe and functional roadway. The preliminary design was then performed in accordance with the design criteria. There are two typical sections utilized, as described earlier in this report, and found in Appendix B.

There were five alignments that were studied. They are labeled Alpha, Charlie, Echo, Golf, and Lima and are shown in Appendix D. The first approximately .5 miles of the job was set by the location of the existing Kingsfield Road alignment. The ending location was set by sight distance criteria because of the sharp horizontal curve of Beulah Road previously mentioned in this report. The vertical alignment was established for each alignment. Wetlands impacts, and cost estimates were then generated for each alignment. An alternates comparison matrix summarizes these items, and can be found in Appendix F.

Six factors led us to our preferred alignment: (1) optimum location to cross the tributary; (2) best use of the sometimes steep topography; (3) minimizing wetland impact; (4) most efficient use of property already owned by Escambia County; (5) horizontal clearance to the cell tower and the Gulf Power gas to energy station; and (6) minimizing impact to residential property. After studying each alignment a preferred alignment was created, which is shown in Appendix E. A detailed cost estimate for each alignment can be found in Appendix I and the final right-of-way impacts for the preferred alignment can be found in Appendix H.

ENVIRONMENTAL EVALUATION

Project Description

The proposed project involves the extension of Kingsfield Road, beginning at Highway 97 and ending at Beulah Road in Escambia County, Florida. This two-lane county road will be approximately 2.8 miles long. This section discusses land use and the natural environment in the study area.

Land Use

Land use in the project can be characterized primarily as silviculture with large areas of plantation pine interrupted by natural areas that are characterized as bottomland hardwoods, and wet pine savannah.

Hydrology

Surface hydrology on this project consists of palustrine, broad leaved deciduous, semi, and permanently inundated wetlands associated with un-named first order perennial and ephemeral tributaries of Perdido River. The perennial tributary exists in its natural profile, and dimensions. The channel averages 5 feet in width, and about eighteen inches in depth. All wetlands associated with this project are considered semi-inundated and jurisdictional under the U.S. Army Corps of Engineers (Corps), and Florida Department of Environmental Protection.

Biotic Communities

Although much of the proposed alignment corridor from Kingsfield Road westward is predominantly impacted by industrial silviculture operations/conversion, there are sections of the

corridor that maintain intact as natural communities, mainly the interior drainage ways, that avoided pine conversion.

The upland/wetland habitats associated with the Kingsfield extension project are examples of converted mesic, and xeric mixed hardwood, pine savanna, and clear cut and converted bottomland hardwood swamp forest, along with sections of intact interior bottomland swamp forest that were inaccessible to the logging/replanting operations. The Kingsfield extension corridor also maintains perennial and ephemeral streams which drain through the project area into Perdido River.

Historically, this site was a mosaic of predominately mesic and xeric mixed hardwood located within the upland ridges, grading into hydric pine and mixed hard wood wetlands. During the 1960s and 1970s, much of the proposed project corridor was planted in slash pine for silviculture. A large percentage of the site was recently clear cut, and appears to not have been replanted. Some of the types of communities found on the site vary based on slight differences in topography. The understory/ground cover varies from open herbaceous to very dense thickets of mesic or hydric shrubs. Due to fire suppression, shrub percent cover is much higher than would naturally occur in the historical natural communities. There has been no infrastructure constructed within the corridor examined, other than logging roads and to support silviculture, and pipeline maintenance. Chinese tallow (*Sapium sebiferum*) and privit (*Ligustrum* sp.) has been noted.

These wetland and upland plant communities range from continually inundated to seasonally

saturated to almost xeric in terms of water requirements and influences. The topography existing within the corridor creates transition areas between distinct upland and wetland areas where plant diversity is a reflection of both ecologic communities. Bottomland hardwood dominant overstory constituents include black gum, cypress, red maple, bay magnolia, and slash pine. Understory generally is dominated by red and black titi, stagger bush, saw palmetto, bitter galberry, coastal pepperbush, pitcherplants and bamboo vine.

Protected Species

The U.S. Fish and Wildlife Service's, Panama City Ecological Services Field Office in Panama City, Florida maintains a species listing of protected species that could potentially reside in the area of the proposed project. According to the USFWS, Threatened or Endangered (T & E) species with the possibility of being found in the vicinity of the subject property are as follows:

State/Federal Classification

De-Listed- Bald Eagle (*Haliaeetus leucocephalus*)

SSC/T- Red-cockaded Woodpecker (*Picoides borealis*)

T/NL- Florida Black Bear (*Ursus americanus floridanus*)

T/T- Eastern Indigo Snake (*Drymarchon corais couperi*)

SSC/NL- Florida Pine snake (*Pituophis melanoleucus mugitus*)

SSC/NL- Alligator Snapping Turtle (*Macrochelys temminckii*)

SSC/NL- Gopher Tortoise (*Gopherus polyphemus*)

SSC- NL- Gopher Frog (*Rana capito*)

E/E - Flatwoods salamander (*Ambystoma cigulatum*)

Other species are included for Escambia County but require completely different habitats than found in association with this project. Examples are the Gulf sturgeon, sea turtles, freshwater mussels, and shore birds such as the piping plover which also maintains critical habitat along the Gulf Coast Beaches. The alligator snapping turtle, and listed mussels, flatwoods salamander, and gopher frog, are found exclusively in larger river systems, and intact, maintained pine flatwood habitats.

The only species that could remotely be found within or adjacent to the subject parcel, are species that can tolerate some degree of disturbance and or silviculture managed environments.

RESULTS

Wetland Sciences performed a field investigation of the subject property on April 23-28, 2012. The purpose of the survey was to determine the potential presence of jurisdictional wetlands and the potential for the presence of listed species or suitable habitat. The subject property was traversed by foot. The subject investigation included a 1,000 foot offset from the centerline of the alternative alignments.

Listed Species Habitat Requirements:

Florida pine Snake (*Pituophis melanoleucus mugitus*)

The black pine snake prefers xeric fire maintained longleaf pine habitats with open canopy and reduced mid story and dense herbaceous understory conditions.

Findings: No specimens of the species, or suitable habitat was noted within the subject corridor.

Gopher Tortoise (*Gopherus polyphemus*)

Gopher tortoises prefer well drained sandy soils with open canopy with dense coverage of forage plants consisting of grasses and forbs. They can also be found in open managed pine plantations if they meet the necessary forage, and nesting criteria. Many pine plantation occupied habitat are abandoned by gophers as canopy closes, and forage opportunities decline.

Findings: Three active burrows were noted on the subject area investigation. These were found adjacent to a pipeline right of way, which due to the maintenance regimen provide somewhat optimal gopher foraging opportunities.

Red-cockaded Woodpecker

This species requires fairly large stands of old growth longleaf, and slash pine flatwood habitats. The species requires abundant foraging habitat, consisting of mature pines, with an open canopy, low densities of immature pines, little or no hardwood midstory, and a ground cover of native grasses and forbs.

Findings: The existing silviculture operations have harvested the old growth timber that the species requires. Some large slash exist within the bottomland but not enough to support the nesting, roosting, and foraging requirements for the species. Therefore, no species were encountered or expected to be found within the subject corridor.

Existing Jurisdictional Wetlands

The wetland jurisdictional boundaries as identified by Wetland Sciences, Inc. and depicted within the proposed alignments accurately represent the limits of wetlands with respect to regulatory jurisdiction. Wetlands identified within the project limits will fall under the

regulatory jurisdiction of the State of Florida under Chapter 62-340 of the Florida Administrative Code and the Federal government US Army Corps of Engineers (Corps) under 33 CFR Parts 320-330. The Florida Department of Environmental Protection and/or the Northwest Florida Water Management District will have regulatory purview for those impacts to wetlands regulated by the State of Florida. It is likely DEP will review the project due to the amount of wetland impacts. The Department of the Army Corps of Engineers will have regulatory purview for those impacts to wetlands regulated by the federal government. An operating agreement between the Corps and DEP executed on November 30, 1998 serves to coordinate the permitting, compliance, and enforcement activities that are regulated under Part IV of Chapter 373, F.S., and that require a federal dredge and fill permit under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Based on the location and extent of wetlands located within the project area authorization from both the DEP and Corps will be required. The operating agreement allows the Corps and DEP to use a joint application to facilitate submittal of applications that require a permit under Part IV of Chapter 373, Florida Statutes, and a federal permit pursuant to Section 404 of the Clean Water Act (33 U.S.C. §1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403).

The proposed Kingsfield Road extension has evaluated six alternative corridors in an attempt to examine and evaluate impacts to jurisdictional wetlands, and occupied habitat of listed species. The preferred alternative alignment reduced and minimized impacts to jurisdictional wetlands, surface waters, and listed species to the greatest practical extent.

Social Significance

In general, the social significance of these wetlands is dependent upon the function or value considered. However, the primary value of this wetland system is considered floodwater conveyance and detention, as well as wildlife habitat.

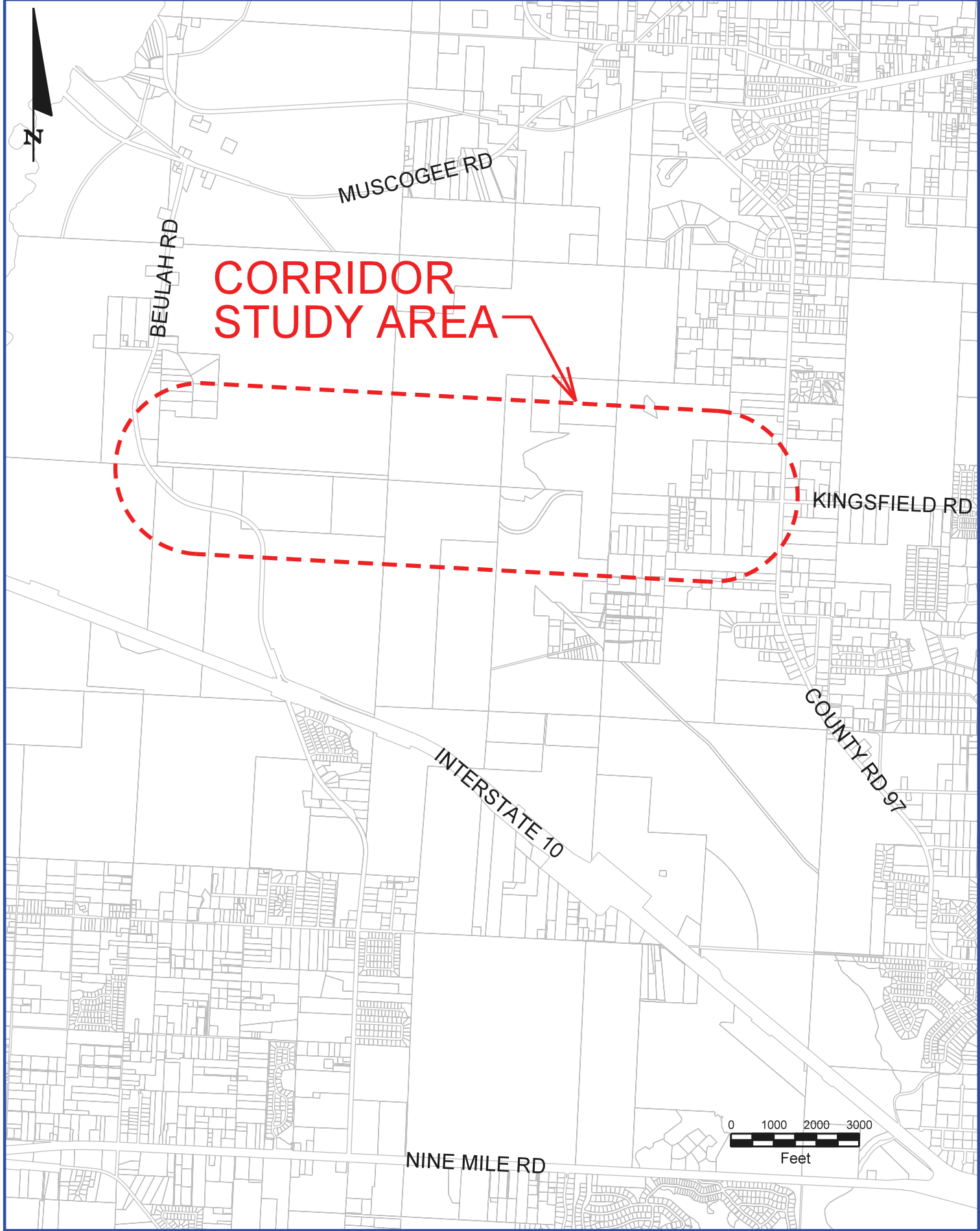
Avoidance and Minimization Recommendations

The avoidance of wetlands should be achieved to the maximum extent possible. Temporary impacts to wetlands during construction can be minimized by Best Management Practices.


Bridging should be used where possible.

APPENDIX A

VICINITY MAP



**CORRIDOR
STUDY AREA**



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Engineer of Record: David D. Skipper, P.E. #58972

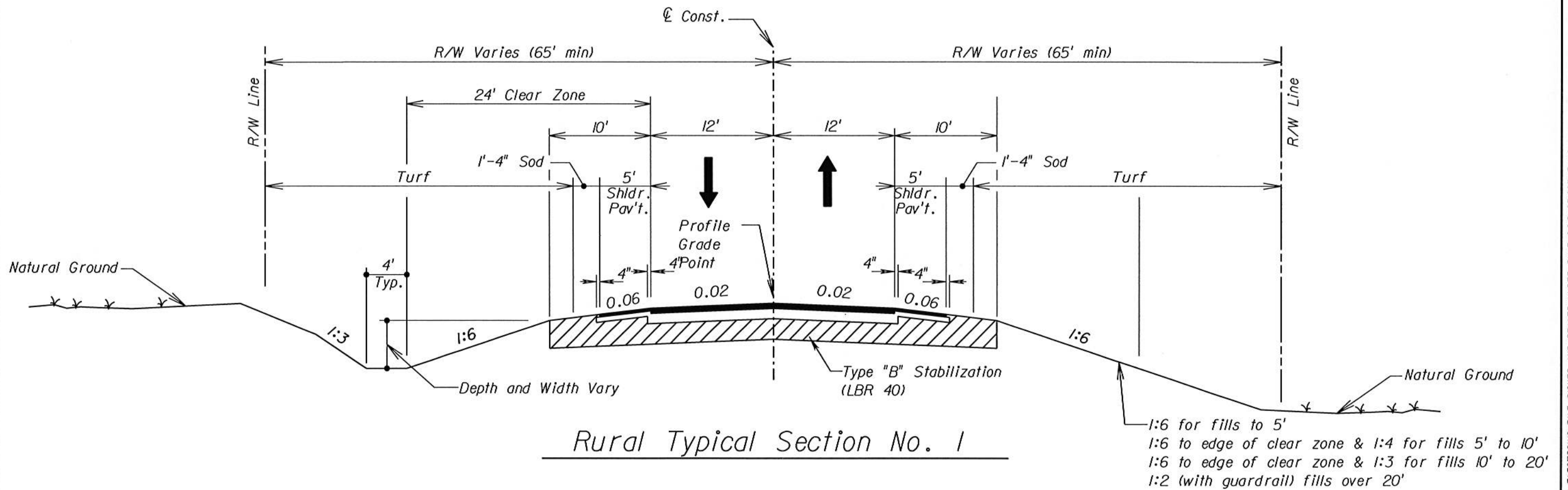
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJ. ID
	ESCAMBIA	

**KINGSFIELD RD EXTENSION
HWY 97 TO BEULAH RD
GENERAL PLAN**

APPENDIX
"A"

APPENDIX B

TYPICAL ROADWAY SECTIONS



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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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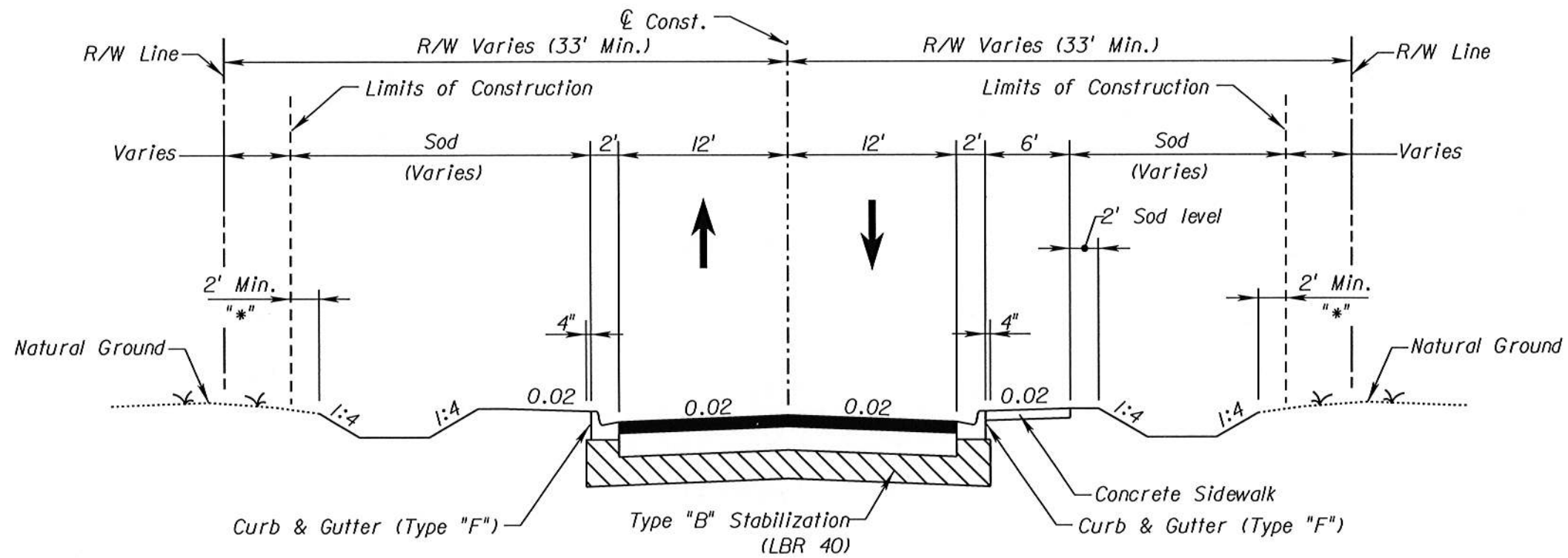


Board of County Commissioners
 Escambia County, Florida

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	ESCAMBIA	

TYPICAL SECTIONS

SHEET NO.



Urban Typical Section No. 2

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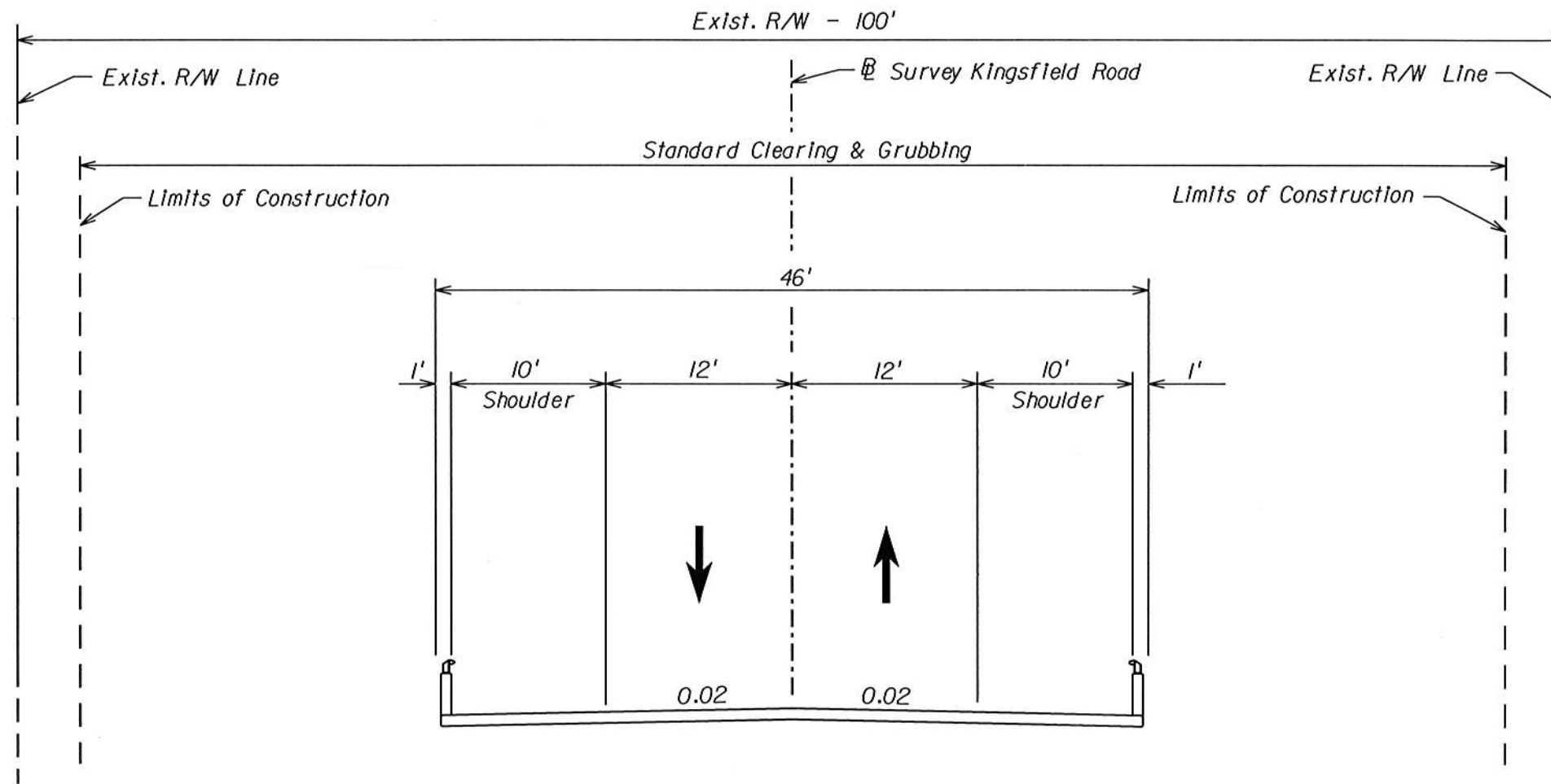
Board of County Commissioners		
Escambia County, Florida		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	ESCAMBIA	

TYPICAL SECTIONS

SHEET NO.

APPENDIX C

TYPICAL BRIDGE SECTION



Typical Bridge Section

REVISIONS			
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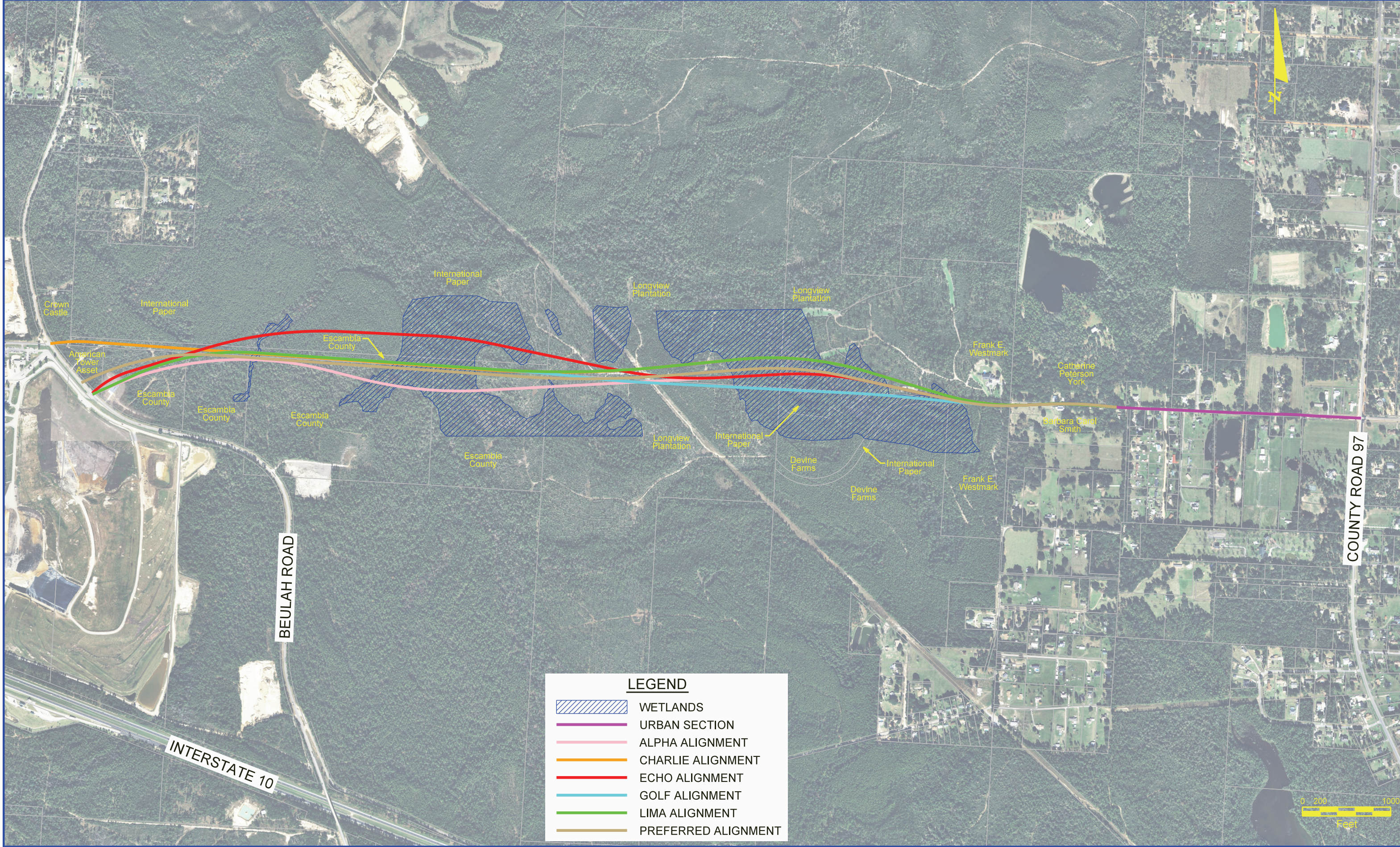
TYPICAL SECTIONS

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APPENDIX D

POTENTIAL ALIGNMENTS



LEGEND

- WETLANDS
- URBAN SECTION
- ALPHA ALIGNMENT
- CHARLIE ALIGNMENT
- ECHO ALIGNMENT
- GOLF ALIGNMENT
- LIMA ALIGNMENT
- PREFERRED ALIGNMENT

		REVISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION



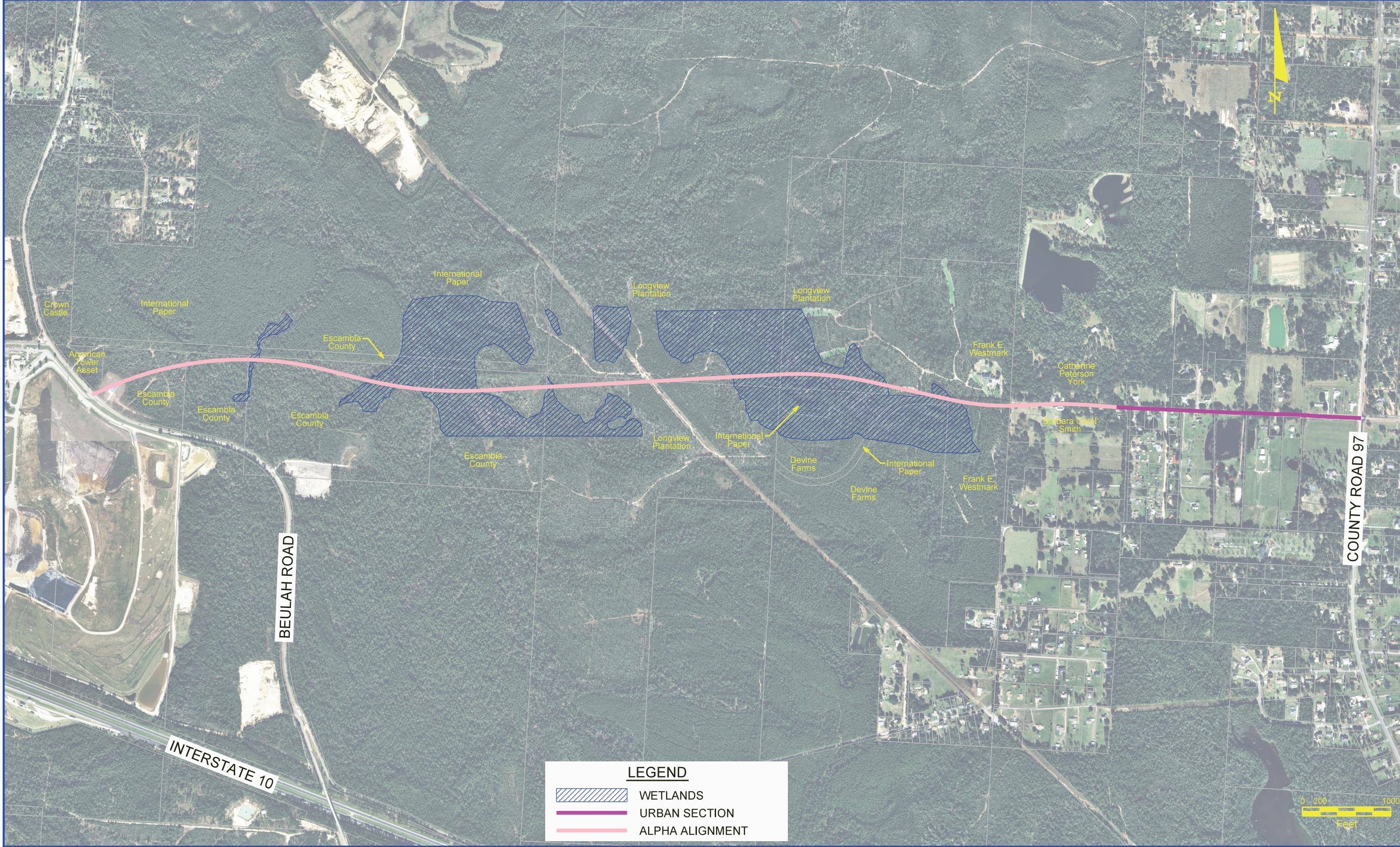
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KINGSFIELD ROAD EXTENSION
 FROM HIGHWAY 97, WEST TO BEULAH ROAD
ALL ALIGNMENTS

APPENDIX
"D"



LEGEND

- WETLANDS
- URBAN SECTION
- ALPHA ALIGNMENT

		REVISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION



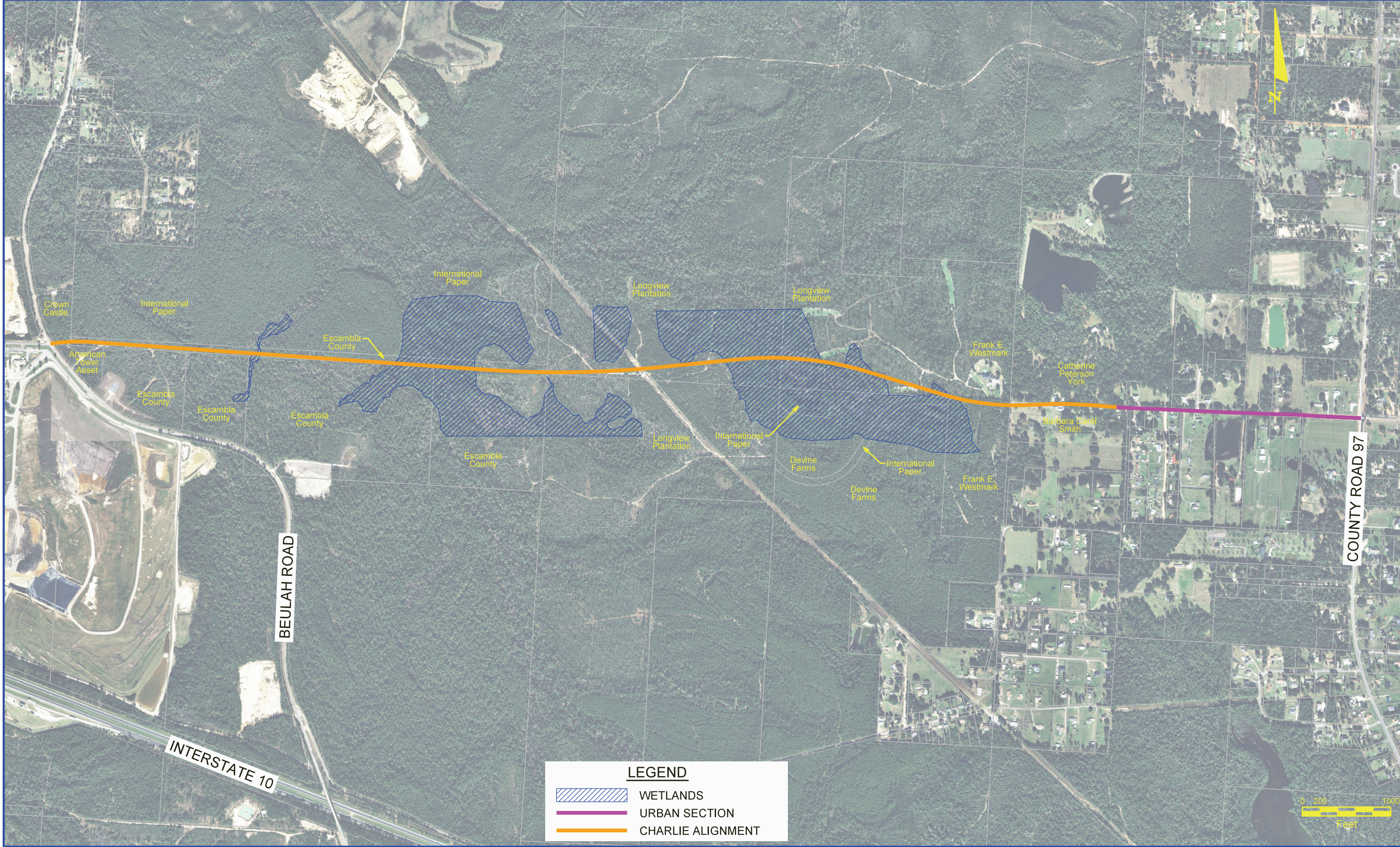
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**KINGSFIELD ROAD EXTENSION
FROM HIGHWAY 97, WEST TO BEULAH ROAD
ALPHA ALIGNMENT**

APPENDIX
"D"



LEGEND

- WETLANDS
- URBAN SECTION
- CHARLIE ALIGNMENT

		REVISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION



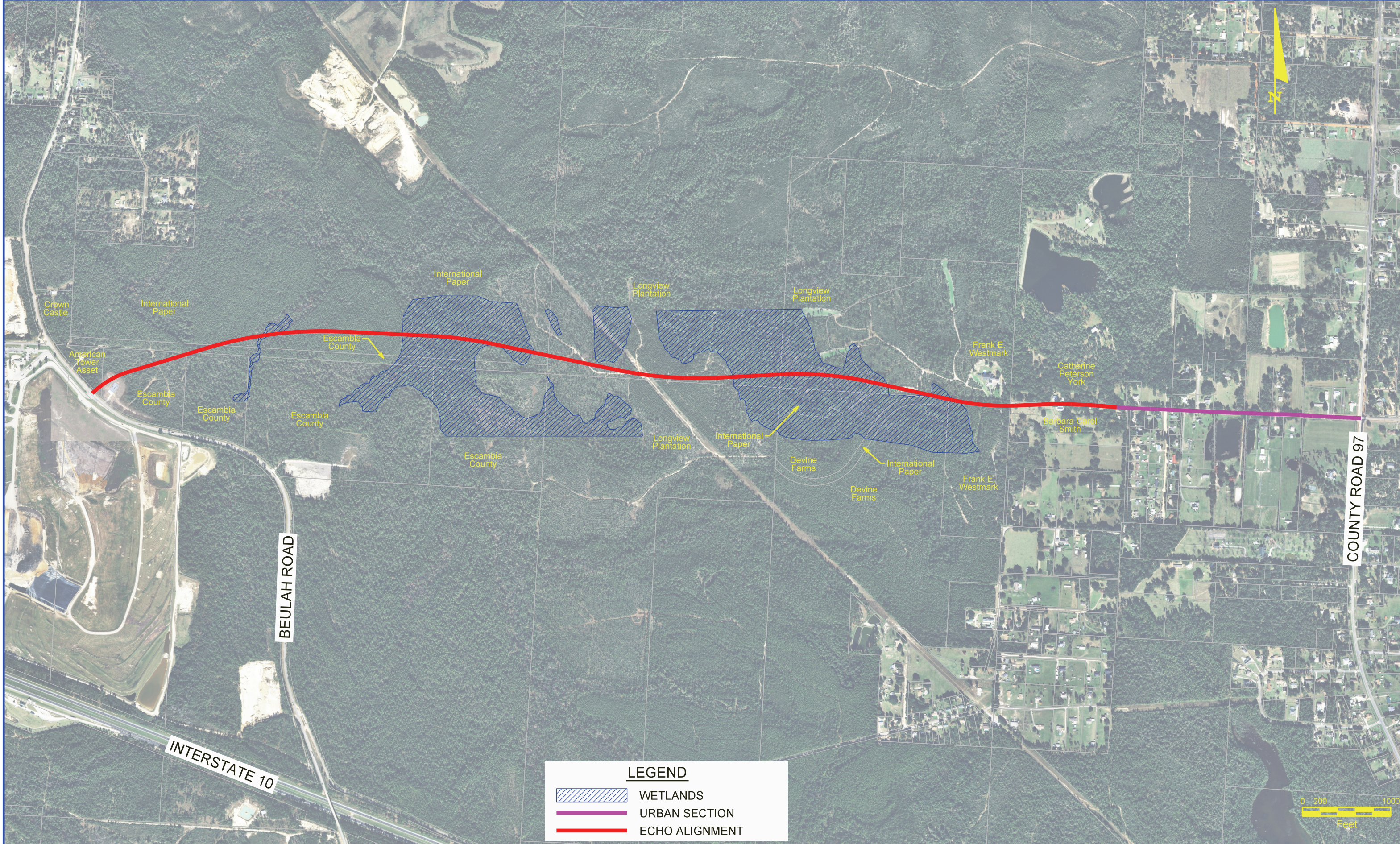
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KINGSFIELD ROAD EXTENSION
 FROM HIGHWAY 97, WEST TO BEULAH ROAD
CHARLIE ALIGNMENT


APPENDIX
"D"



LEGEND

-  WETLANDS
-  URBAN SECTION
-  ECHO ALIGNMENT

		REVISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION



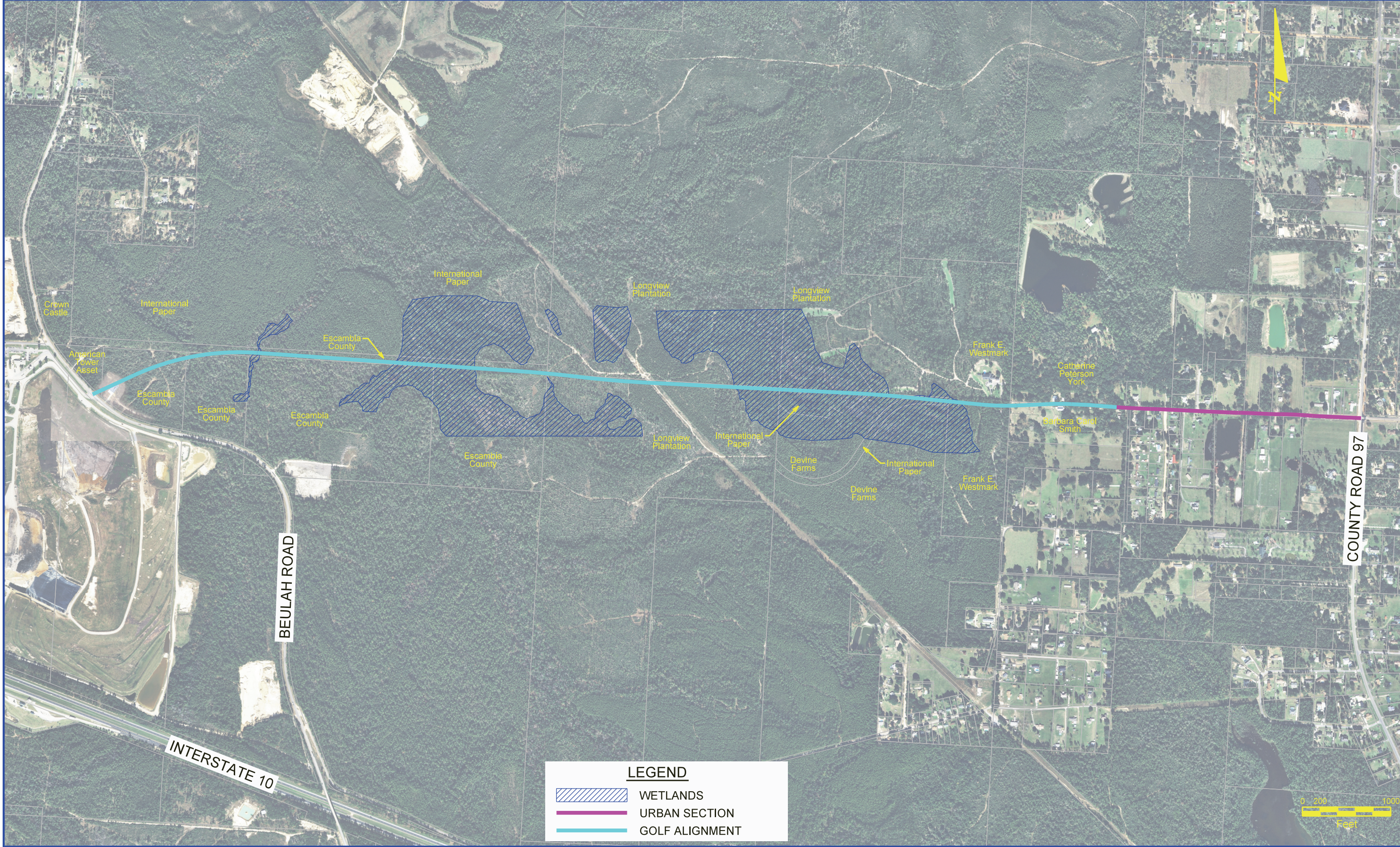
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 Engineer of Record: David D. Skipper, P.E. #58972

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	ESCAMBIA	

KINGSFIELD ROAD EXTENSION
 FROM HIGHWAY 97, WEST TO BEULAH ROAD
ECHO ALIGNMENT

APPENDIX
"D"



LEGEND

- WETLANDS
- URBAN SECTION
- GOLF ALIGNMENT

		REVISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION



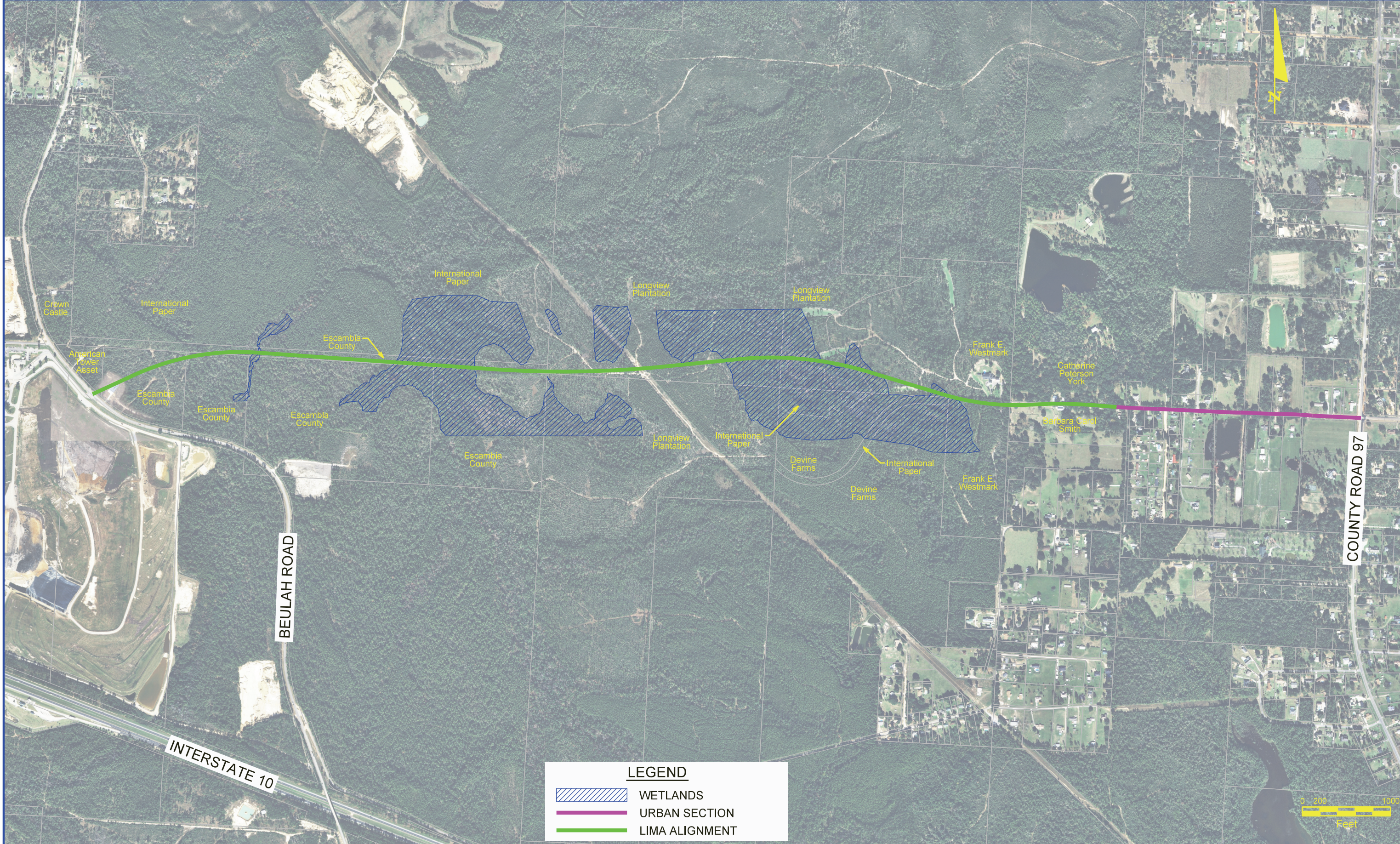
**Hatch Mott
MacDonald**

Post Office Box 2518 Pensacola, Florida 32513
 (850) 484-6011 - Certificate of Authorization #00000155
 Engineer of Record: David D. Skipper, P.E. #58972

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	ESCAMBIA	

**KINGSFIELD ROAD EXTENSION
FROM HIGHWAY 97, WEST TO BEULAH ROAD
GOLF ALIGNMENT**


APPENDIX "D"



LEGEND

-  WETLANDS
-  URBAN SECTION
-  LIMA ALIGNMENT

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



**Hatch Mott
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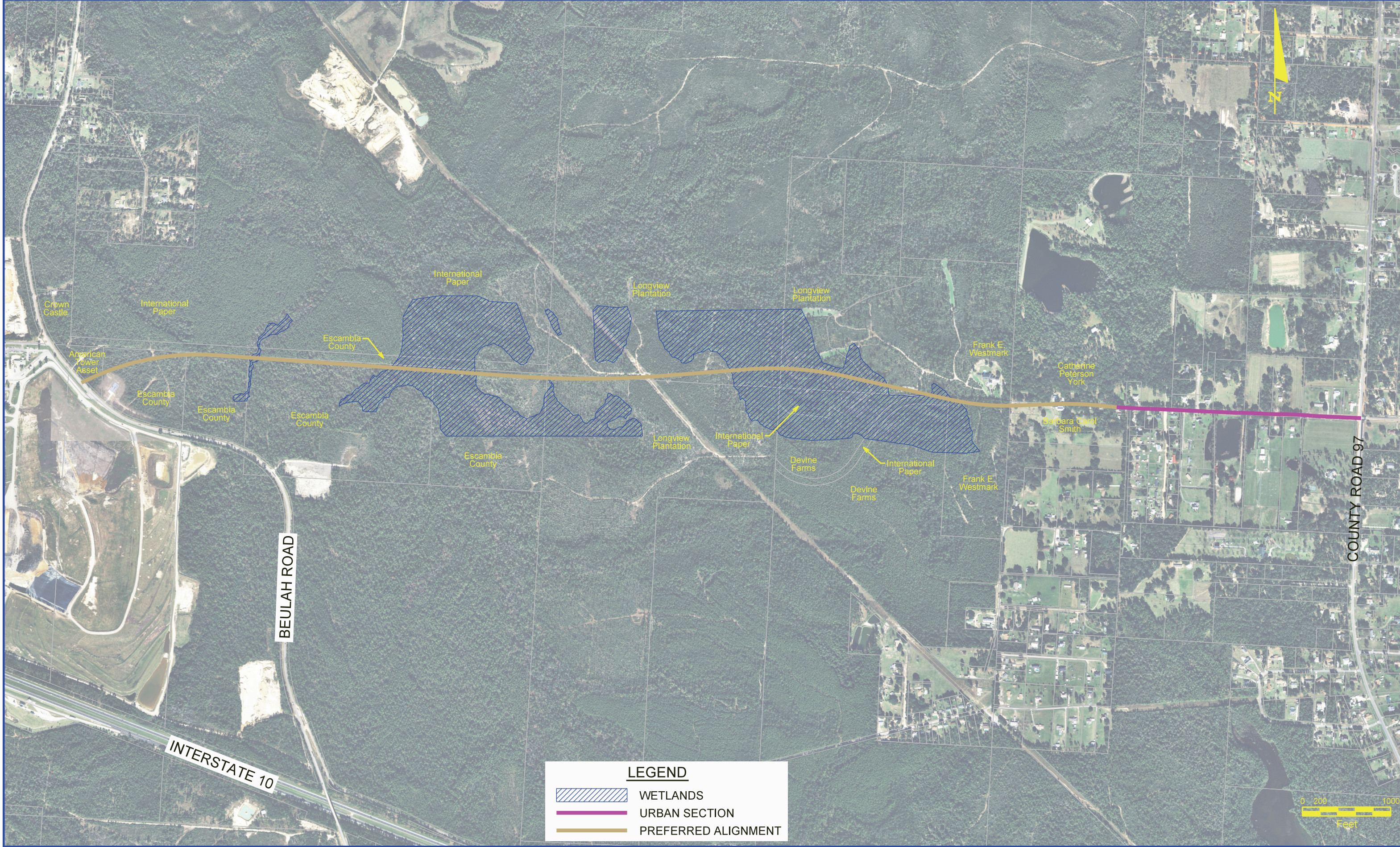
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	ESCAMBIA	

**KINGSFIELD ROAD EXTENSION
FROM HIGHWAY 97, WEST TO BEULAH ROAD
LIMA ALIGNMENT**

APPENDIX
"D"

APPENDIX E

PREFERRED ALIGNMENT



LEGEND

- WETLANDS
- URBAN SECTION
- PREFERRED ALIGNMENT

		REVISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION



**Hatch Mott
MacDonald**

Post Office Box 2518 Pensacola, Florida 32513
 (850) 484-6011 - Certificate of Authorization #00000155
 Engineer of Record: David D. Skipper, P.E. #58972

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	ESCAMBIA	

**KINGSFIELD ROAD EXTENSION
FROM HIGHWAY 97, WEST TO BEULAH ROAD
PREFERRED ALIGNMENT**

APPENDIX
"E"

APPENDIX F

ALTERNATES COMPARISON MATRIX

Alternates Comparison Matrix

Alternate	Wetlands Impacts (acres)	Cultural Resource Sites	Potential Contamination Sites	Wildlife Habitat Loss	Endangered Species Impacts	Length of Roadway (miles)	Length of Bridges (feet)	Cost Estimate (in millions of dollars)		
								Construction	Wetland Mitigation*	Total
Alpha	8.18	UK	0	35.14	0	2.69	100	6.54	0.33	6.87
Charlie	7.53	UK	0	35.67	1	2.77	100	6.59	0.30	6.89
Echo	10.15	UK	0	35.27	0	2.70	100	6.70	0.41	7.11
Golf	8.16	UK	0	33.67	0	2.69	100	6.42	0.33	6.75
Lima	7.84	UK	0	42.15	1	2.68	100	6.74	0.31	7.05
Preferred	8.04	UK	0	35.34	1	2.70	100	6.52	0.32	6.84

* mitigation costs estimated by following formula:
 wetlandimpacts x mitigation ratio (10:1) x mitigation cost per acre (\$4,000)

APPENDIX G
RIGHT-OF-WAY
COMPARISON MATRIX

Summary of Right of Way Take Requirements
Kingsfield Road
Urban Section (66' ROW)

Required right of way takes are the same for the urban section for each alignment

	Property Appraiser Reference Number	Owner	Impacted Area	
			SF	AC
1	22-1N-31-4303-000-002	HENRICKSON PAUL E	0	0.000
2	22-1N-31-4303-002-002	FREEMAN LEWIS T & FREEMAN MARCIA D	449 & 92	0.010 & 0.002
3	22-1N-31-4303-003-002	FREEMAN LEWIS T & FREEMAN MARCIA D	1,258	0.029
4	22-1N-31-4303-001-002	CROSBY BRADDOCK LEE & CROSBY LINDA A	4,477	0.103
5	30-1N-31-1201-000-000	NIELSEN JAMES L & JODY L	945	0.022
6	30-1N-31-1203-000-002	CLAYPOOLE JACK O SR & CLAYPOOLE JOYCE LEE & CLAYPOOLE SHERRI A	1,809	0.042
7	22-1N-31-4303-000-003	WESTMORELAND FLOYD R & LINDA A	12,917	0.297
8	30-1N-31-1203-000-000	WESTMORELAND FLOYD R & LINDA A	1,857	0.043
9	22-1N-31-4303-004-003	JLNLJ KINGSFIELD LLC	4,801	0.110
10	30-1N-31-1203-000-001	RAZZY SHOWBARNES LLC	3,822	0.088
11	22-1N-31-4303-003-003	JLNLJ KINGSFIELD LLC	5,551	0.127
12	30-1N-31-2110-000-001	GLASS DAVIS H & FRANCOISE J	6,099	0.140
13	22-1N-31-3401-000-007	WHITNEY TIMOTHY R &	10,472	0.240
14	30-1N-31-2110-000-000	PERKINS GAYNOR A & PERKINS HELEN E	6,472	0.149
15	22-1N-31-3401-000-006	TOOLE KENNETH Z & TOOLE KATHLEEN P	5,811	0.133
16	22-1N-31-3401-000-001	WHITED RANDALL D & LAURA A	7,695	0.177
17	30-1N-31-2101-000-000	W E H LANDS INC	333 & 1,055	0.008 & 0.024
18	30-1N-31-2101-000-031	FAIRCLOTH ANTHONY D & GAIL E	2,449	0.056
19	22-1N-31-3101-000-000	YORK CATHERINE PETERSON	9,673 & 3,889	0.222 & 0.089
20	30-1N-31-2101-000-015	WEAVER JACK G JR	1,780	0.041
21	30-1N-31-2101-000-014	SUTTON BETTY	1,916	0.044
22	30-1N-31-2101-000-012	HIGGINBOTHAM KENNETH R & HIGGINBOTHAM SCARLET I	3,460	0.079
23	22-1N-31-3401-000-005	ADAMS JAMES S & JUDITH W	4,233	0.097
24	30-1N-31-2203-000-000	SMITH BARBARA CAROL	6,941	0.159

Summary of Right of Way Take Requirements
Kingsfield Road
Rural Section

	Property Appraiser Reference Number	Owner	Alignment Alpha Impacted Area		Alignment Charlie Impacted Area		Alignment Echo Impacted Area		Alignment Golf Impacted Area		Alignment Lima Impacted Area		Preferred Alignment Impacted Area	
			SF	AC	SF	AC	SF	AC	SF	AC	SF	AC	SF	AC
25	22-1N-31-3101-000-000	YORK CATHERINE PETERSON	35,280	0.810	35,349	0.812	35,280	0.810	35,280	0.810	35,349	0.812	35,788	0.822
26	30-1N-31-2203-000-000	SMITH BARBARA CAROL	57,972	1.331	57,871	1.329	57,972	1.331	57,972	1.331	57,871	1.329	56,115	1.288
27	21-1N-31-4301-000-000	WESTMARK FRANK E & WESTMARK ELIZABETH J	123,327	2.831	141,672	3.252	123,349	2.832	56,004 & 12,860	1.286 & 0.295	141,672	3.252	123,374	2.832
28	31-1N-31-1102-000-000	INTERNATIONAL PAPER COMPANY	9,976	0.229	1,281	0.029	9,977	0.229	33,454 & 56,532	0.768 & 1.298	1,281	0.029	9,979	0.229
29	31-1N-31-1101-000-004	DEVINE FARMS LLC	0	0.000	0	0.000	108	0.002	25,997	0.597	0	0.000	108	0.002
30	31-1N-31-1101-000-000	LONGVIEW PLANTATION I LLC	104,951	2.409	4,564	0.105	0	0.000	166,882	3.831	2,722	0.062	64,837	1.488
31	21-1N-31-4301-001-001	LONGVIEW PLANTATION I LLC	77,378	1.776	69,615	1.598	77,378	1.776	24,636	0.566	69,614	1.598	77,591	1.781
32	21-1N-31-1101-000-001	LONGVIEW PLANTATION I LLC	107,428	2.466	208,309	4.782	212,705	4.883	44,523	1.022	210,110	4.823	147,572	3.388
33	20-1N-31-1101-000-000	INTERNATIONAL PAPER COMPANY	0	0.000	0	0.000	303,272	6.962	0	0.000	0	0.000	0	0.000
34	20-1N-31-3300-000-000	ESCAMBIA COUNTY	321	0.007	346,942	7.965	23,581	0.541	247,450	5.681	251,241	5.768	38,565	0.885
35	32-1N-31-1101-000-000	ESCAMBIA COUNTY	103,183	2.369	42,840	0.983	0	0.000	35,295	0.810	31,497	0.723	102,948	2.363
36	32-1N-31-1201-000-000	ESCAMBIA COUNTY	169,663	3.895	40,352	0.926	0	0.000	19,961	0.458	19,961	0.458	146,129	3.355
37	32-1N-31-2100-000-000	ESCAMBIA COUNTY	56,639	1.300	3,189	0.073	5,536	0.127	25,434	0.584	25,434	0.584	40,360	0.927
38	32-1N-31-2202-000-000	ESCAMBIA COUNTY	80,365	1.845	38	0.001	81,557	1.872	82,428	1.892	82,428	1.892	77,941	1.789
39	25-1N-32-1000-001-001	AMERICAN TOWER ASSET SUB LLC	4,603	0.106	1,572	0.036	7,995	0.184	4,879	0.112	4,879	0.112	16,819	0.386
40	24-1N-32-4101-000-001	CROWN CASTLE GT CO LLC	0	0.000	12,443	0.286	0	0.000	0	0.000	0	0.000	0	0.000

APPENDIX H

PREFERRED ALIGNMENT

RIGHT-OF-WAY TAKES

Summary of Right of Way Take Requirements
Kingsfield Road
Urban Section (66' ROW)
Preferred Alignment

	Property Appraiser Reference Number	Owner	Impacted Area	
			SF	AC
1	22-1N-31-4303-000-002	HENRICKSON PAUL E	0	0.000
2	22-1N-31-4303-002-002	FREEMAN LEWIS T & FREEMAN MARCIA D	449 & 92	0.010 & 0.002
3	22-1N-31-4303-003-002	FREEMAN LEWIS T & FREEMAN MARCIA D	1,258	0.029
4	22-1N-31-4303-001-002	CROSBY BRADDOCK LEE & CROSBY LINDA A	4,477	0.103
5	30-1N-31-1201-000-000	NIELSEN JAMES L & JODY L	945	0.022
6	30-1N-31-1203-000-002	CLAYPOOLE JACK O SR & CLAYPOOLE JOYCE LEE & CLAYPOOLE SHERRI A	1,809	0.042
7	22-1N-31-4303-000-003	WESTMORELAND FLOYD R & LINDA A	12,917	0.297
8	30-1N-31-1203-000-000	WESTMORELAND FLOYD R & LINDA A	1,857	0.043
9	22-1N-31-4303-004-003	JLNLJ KINGSFIELD LLC	4,801	0.110
10	30-1N-31-1203-000-001	RAZZY SHOWBARNES LLC	3,822	0.088
11	22-1N-31-4303-003-003	JLNLJ KINGSFIELD LLC	5,551	0.127
12	30-1N-31-2110-000-001	GLASS DAVIS H & FRANCOISE J	6,099	0.140
13	22-1N-31-3401-000-007	WHITNEY TIMOTHY R &	10,472	0.240
14	30-1N-31-2110-000-000	PERKINS GAYNOR A & PERKINS HELEN E	6,472	0.149
15	22-1N-31-3401-000-006	TOOLE KENNETH Z & TOOLE KATHLEEN P	5,811	0.133
16	22-1N-31-3401-000-001	WHITED RANDALL D & LAURA A	7,695	0.177
17	30-1N-31-2101-000-000	W E H LANDS INC	333 & 1,055	0.008 & 0.024
18	30-1N-31-2101-000-031	FAIRCLOTH ANTHONY D & GAIL E	2,449	0.056
19	22-1N-31-3101-000-000	YORK CATHERINE PETERSON	9,673 & 3,889	0.222 & 0.089
20	30-1N-31-2101-000-015	WEAVER JACK G JR	1,780	0.041
21	30-1N-31-2101-000-014	SUTTON BETTY	1,916	0.044
22	30-1N-31-2101-000-012	HIGGINBOTHAM KENNETH R & HIGGINBOTHAM SCARLET I	3,460	0.079
23	22-1N-31-3401-000-005	ADAMS JAMES S & JUDITH W	4,233	0.097
24	30-1N-31-2203-000-000	SMITH BARBARA CAROL	6,941	0.159

Summary of Right of Way Take Requirements
Kingsfield Road
Rural Section (130' ROW)
Preferred Alignment

	Property Appraiser Reference Number	Owner	Impacted Area	
			SF	AC
25	22-1N-31-3101-000-000	YORK CATHERINE PETERSON	64,179	1.473
26	30-1N-31-2203-000-000	SMITH BARBARA CAROL	85,163	1.955
27	21-1N-31-4301-000-000	WESTMARK FRANK E & WESTMARK ELIZABETH J	195,753	4.494
28	31-1N-31-1102-000-000	INTERNATIONAL PAPER COMPANY	19,762	0.454
29	31-1N-31-1101-000-004	DEVINE FARMS LLC	1,360	0.031
30	31-1N-31-1101-000-000	LONGVIEW PLANTATION I LLC	98,482	2.261
31	21-1N-31-4301-001-001	LONGVIEW PLANTATION I LLC	126,085	2.895
32	21-1N-31-1101-000-001	LONGVIEW PLANTATION I LLC	246,683	5.663
33	20-1N-31-1101-000-000	INTERNATIONAL PAPER COMPANY	0	0.000
34	20-1N-31-3300-000-000	ESCAMBIA COUNTY	136,645	3.137
35	32-1N-31-1101-000-000	ESCAMBIA COUNTY	143,753	3.300
36	32-1N-31-1201-000-000	ESCAMBIA COUNTY	198,766	4.563
37	32-1N-31-2100-000-000	ESCAMBIA COUNTY	57,911	1.329
38	32-1N-31-2202-000-000	ESCAMBIA COUNTY	122,584	2.814
39	25-1N-32-1000-001-001	AMERICAN TOWER ASSET SUB LLC	27,317	0.627
40	24-1N-32-4101-000-001	CROWN CASTLE GT CO LLC	0	0.000

APPENDIX I

COST ESTIMATES

KINGSFIELD ROAD
Opinion of Probable Construction Costs
June 20, 2012



HMM Project No. 296696
Basis: Preliminary Alignment Alpha

Item No.	Description	Quantity	Unit	Unit Price	Amount
Roadway					
	Maintenance of Traffic	1	LS	\$ 50,000.00	\$ 50,000.00
	Mobilization @ 5.0% of Total Cost	1	LS	\$ 270,672.27	\$ 270,672.27
	Clearing and Grubbing	31.48	AC.	\$ 9,064.86	\$ 285,361.79
	6" White Stripe	5.38	NM	\$ 851.42	\$ 4,580.64
	6" Yellow Stripe	5.38	NM	\$ 839.91	\$ 4,518.72
	Type B Stabilization	66055	SY	\$ 3.14	\$ 207,412.70
	10" Limerock Base	51639	SY	\$ 13.37	\$ 690,413.43
	3" Type SP-12.5 Asphalt	8520.49	TN	\$ 91.28	\$ 777,750.33
	Regular Excavation	57148	CY	\$ 3.08	\$ 176,015.84
	Embankment	86740	CY	\$ 4.17	\$ 361,705.80
	Sod	130133	SY	\$ 1.66	\$ 216,020.78
	4" Sidewalk	1502	SY	\$ 26.99	\$ 40,538.98
Ponds					
	Clearing and Grubbing	12.980	AC	\$ 9,064.86	\$ 117,661.88
	Regular Excavation	48497	CY	\$ 3.08	\$ 149,370.76
	Sod	62824	SY	\$ 1.66	\$ 104,287.84
	Fencing	6974	LF	\$ 9.14	\$ 63,742.36
	Gates	5	EA	\$ 1,237.29	\$ 6,186.45
	FDOT Ditch Bottom Inlet Type D Mod	5	EA	\$ 3,455.76	\$ 17,278.80
	Rip-rap armoring at pond outfalls	10	TN	\$ 78.75	\$ 787.50
	18" RCP for outfall systems	1530	LF	\$ 39.54	\$ 60,496.20
	18" MES for outfall systems	5	EA	\$ 639.43	\$ 3,197.15
	FDOT 4' Dia. Type P Manhole for outfall systems	7	EA	\$ 2,335.52	\$ 16,348.64
BRIDGE					
	100'Lx43'-1"W Flat Slab Bridge	4,308	SF	\$ 111.10	\$ 478,618.80
STORMWATER COLLECTION/TRANSMISSION SYSTEM					
	Concrete Swales	25,198	SY	\$ 42.05	\$ 1,059,575.90
	18" RCP	1,150	LF	\$ 39.54	\$ 45,471.00
	18" Gutter Drain	675	LF	\$ 57.96	\$ 39,123.00
	24" RCP	2,714	LF	\$ 47.09	\$ 127,802.26
	30" RCP	898	LF	\$ 60.90	\$ 54,688.20
	24" MES	1	EA	\$ 864.28	\$ 864.28
	30" MES	5	EA	\$ 1,529.62	\$ 7,648.10
	18" U-Endwall w/ baffles	27	EA	\$ 1,572.73	\$ 42,463.71
	FDOT Ditch Bottom Inlet Type B	1	EA	\$ 2,523.25	\$ 2,523.25
	FDOT Ditch Bottom Inlet Type C	1	EA	\$ 1,842.57	\$ 1,842.57
	FDOT Type 3 Inlet	16	EA	\$ 3,439.85	\$ 55,037.60
	FDOT Type S Inlet	27	EA	\$ 2,734.43	\$ 73,829.61
	FDOT 4' Dia. Type P Manhole	3	EA	\$ 2,335.52	\$ 7,006.56
	Rip-rap armoring	40	TN	\$ 78.75	\$ 3,150.00
CROSS-DRAINS					
	24" RCP	190	LF	\$ 48.37	\$ 9,190.30
	48" RCP	288	LF	\$ 99.00	\$ 28,512.00
	FDOT Vertical Concrete Endwall-Double 24" Pipes	6	CY	\$ 680.44	\$ 3,960.16
	FDOT Vertical Concrete Endwall-Triple 48" Pipes	25	CY	\$ 680.44	\$ 17,201.52
	Rip-rap armoring at outfalls	16	TN	\$ 78.75	\$ 1,260.00
				Subtotal Costs:	\$ 5,684,117.68
				15% Contingency:	\$ 852,617.65
				Total Estimated Costs:	\$ 6,536,735.34

KINGSFIELD ROAD
Opinion of Probable Construction Costs
June 20, 2012



**Hatch Mott
MacDonald**

HMM Project No. 296696

Basis: Preliminary Alignment Charlie

Item No.	Description	Quantity	Unit	Unit Price	Amount
Roadway					
	Maintenance of Traffic	1	LS	\$ 50,000.00	\$ 50,000.00
	Mobilization @ 5.0 of Total Cost	1	LS	\$ 273,040.17	\$ 273,040.17
	Clearing and Grubbing	32.0143	AC.	\$ 9,064.86	\$ 290,205.15
	6" White Stripe	5.54	NM	\$ 851.42	\$ 4,716.87
	6" Yellow Stripe	5.54	NM	\$ 839.91	\$ 4,653.10
	Type B Stabilization	66511	SY	\$ 3.14	\$ 208,844.54
	10" Limerock Base	51992	SY	\$ 13.37	\$ 695,133.04
	3" Type SP-12.5 Asphalt	8578.61	TN	\$ 91.28	\$ 783,055.52
	Regular Excavation	22669	CY	\$ 3.08	\$ 69,820.52
	Embankment	117965	CY	\$ 4.17	\$ 491,914.05
	Sod	134214	SY	\$ 1.66	\$ 222,795.24
	4" Sidewalk	1502	SY	\$ 26.99	\$ 40,538.98
Ponds					
	Clearing and Grubbing	12.980	AC	\$ 9,064.86	\$ 117,661.88
	Regular Excavation	48497	CY	\$ 3.08	\$ 149,370.76
	Sod	62824	SY	\$ 1.66	\$ 104,287.84
	Fencing	6974	LF	\$ 9.14	\$ 63,742.36
	Gates	5	EA	\$ 1,237.29	\$ 6,186.45
	FDOT Ditch Bottom Inlet Type D Mod	5	EA	\$ 3,455.76	\$ 17,278.80
	Rip-rap armoring at pond outfalls	10	TN	\$ 78.75	\$ 787.50
	18" RCP for outfall systems	1530	LF	\$ 39.54	\$ 60,496.20
	18" MES for outfall systems	5	EA	\$ 639.43	\$ 3,197.15
	FDOT 4' Dia. Type P Manhole for outfall systems	7	EA	\$ 2,335.52	\$ 16,348.64
BRIDGE					
	100'Lx43'-1"W Flat Slab Bridge	4,308	SF	\$ 111.10	\$ 478,618.80
STORMWATER COLLECTION/TRANSMISSION SYSTEM					
	Concrete Swales	25,198	SY	\$ 42.05	\$ 1,059,575.90
	18" RCP	1,150	LF	\$ 39.54	\$ 45,471.00
	18" Gutter Drain	675	LF	\$ 57.96	\$ 39,123.00
	24" RCP	2,714	LF	\$ 47.09	\$ 127,802.26
	30" RCP	898	LF	\$ 60.90	\$ 54,688.20
	24" MES	1	EA	\$ 864.28	\$ 864.28
	30" MES	5	EA	\$ 1,529.62	\$ 7,648.10
	18" U-Endwall w/ baffles	27	EA	\$ 1,572.73	\$ 42,463.71
	FDOT Ditch Bottom Inlet Type B	1	EA	\$ 2,523.25	\$ 2,523.25
	FDOT Ditch Bottom Inlet Type C	1	EA	\$ 1,842.57	\$ 1,842.57
	FDOT Type 3 Inlet	16	EA	\$ 3,439.85	\$ 55,037.60
	FDOT Type S Inlet	27	EA	\$ 2,734.43	\$ 73,829.61
	FDOT 4' Dia. Type P Manhole	3	EA	\$ 2,335.52	\$ 7,006.56
	Rip-rap armoring	40	TN	\$ 78.75	\$ 3,150.00
CROSS-DRAINS					
	24" RCP	190	LF	\$ 48.37	\$ 9,190.30
	48" RCP	288	LF	\$ 99.00	\$ 28,512.00
	FDOT Vertical Concrete Endwall-Double 24" Pipes	6	CY	\$ 680.44	\$ 3,960.16
	FDOT Vertical Concrete Endwall-Triple 48" Pipes	25	CY	\$ 680.44	\$ 17,201.52
	Rip-rap armoring at outfalls	16	TN	\$ 78.75	\$ 1,260.00
				Subtotal Costs:	\$ 5,733,843.58
				15% Contingency:	\$ 860,076.54
				Total Estimated Costs:	\$ 6,593,920.12

KINGSFIELD ROAD
Opinion of Probable Construction Costs
June 20, 2012



HMM Project No. 296696
Basis: Preliminary Alignment Echo

Item No.	Description	Quantity	Unit	Unit Price	Amount
Roadway					
	Maintenance of Traffic	1	LS	\$ 50,000.00	\$ 50,000.00
	Mobilization @ 5.0 of Total Cost	1	LS	\$ 277,537.37	\$ 277,537.37
	Clearing and Grubbing	31.6154	AC.	\$ 9,064.86	\$ 286,589.17
	6" White Stripe	5.41	NM	\$ 851.42	\$ 4,606.18
	6" Yellow Stripe	5.41	NM	\$ 839.91	\$ 4,543.91
	Type B Stabilization	66511	SY	\$ 3.14	\$ 208,844.54
	10" Limerock Base	51992	SY	\$ 13.37	\$ 695,133.04
	3" Type SP-12.5 Asphalt	8579	TN	\$ 91.28	\$ 783,054.61
	Regular Excavation	33176	CY	\$ 3.08	\$ 102,182.08
	Embankment	134029	CY	\$ 4.17	\$ 558,900.93
	Sod	130860	SY	\$ 1.66	\$ 217,227.60
	4" Sidewalk	1502	SY	\$ 26.99	\$ 40,538.98
Ponds					
	Clearing and Grubbing	12.980	AC	\$ 9,064.86	\$ 117,661.88
	Regular Excavation	48497	CY	\$ 3.08	\$ 149,370.76
	Sod	62824	SY	\$ 1.66	\$ 104,287.84
	Fencing	6974	LF	\$ 9.14	\$ 63,742.36
	Gates	5	EA	\$ 1,237.29	\$ 6,186.45
	FDOT Ditch Bottom Inlet Type D Mod	5	EA	\$ 3,455.76	\$ 17,278.80
	Rip-rap armoring at pond outfalls	10	TN	\$ 78.75	\$ 787.50
	18" RCP for outfall systems	1530	LF	\$ 39.54	\$ 60,496.20
	18" MES for outfall systems	5	EA	\$ 639.43	\$ 3,197.15
	FDOT 4' Dia. Type P Manhole for outfall systems	7	EA	\$ 2,335.52	\$ 16,348.64
BRIDGE					
	100'Lx43'-1"W Flat Slab Bridge	4,308	SF	\$ 111.10	\$ 478,618.80
STORMWATER COLLECTION/TRANSMISSION SYSTEM					
	Concrete Swales	25,198	SY	\$ 42.05	\$ 1,059,575.90
	18" RCP	1,150	LF	\$ 39.54	\$ 45,471.00
	18" Gutter Drain	675	LF	\$ 57.96	\$ 39,123.00
	24" RCP	2,714	LF	\$ 47.09	\$ 127,802.26
	30" RCP	898	LF	\$ 60.90	\$ 54,688.20
	24" MES	1	EA	\$ 864.28	\$ 864.28
	30" MES	5	EA	\$ 1,529.62	\$ 7,648.10
	18" U-Endwall w/ baffles	27	EA	\$ 1,572.73	\$ 42,463.71
	FDOT Ditch Bottom Inlet Type B	1	EA	\$ 2,523.25	\$ 2,523.25
	FDOT Ditch Bottom Inlet Type C	1	EA	\$ 1,842.57	\$ 1,842.57
	FDOT Type 3 Inlet	16	EA	\$ 3,439.85	\$ 55,037.60
	FDOT Type S Inlet	27	EA	\$ 2,734.43	\$ 73,829.61
	FDOT 4' Dia. Type P Manhole	3	EA	\$ 2,335.52	\$ 7,006.56
	Rip-rap armoring	40	TN	\$ 78.75	\$ 3,150.00
CROSS-DRAINS					
	24" RCP	190	LF	\$ 48.37	\$ 9,190.30
	48" RCP	288	LF	\$ 99.00	\$ 28,512.00
	FDOT Vertical Concrete Endwall-Double 24" Pipes	6	CY	\$ 680.44	\$ 3,960.16
	FDOT Vertical Concrete Endwall-Triple 48" Pipes	25	CY	\$ 680.44	\$ 17,201.52
	Rip-rap armoring at outfalls	16	TN	\$ 78.75	\$ 1,260.00
				Subtotal Costs:	\$ 5,828,284.83
				15% Contingency:	\$ 874,242.72
				Total Estimated Costs:	\$ 6,702,527.55

KINGSFIELD ROAD
Opinion of Probable Construction Costs
June 20, 2012



HMM Project No. 296696

Basis: Preliminary Alignment Golf

Item No.	Description	Quantity	Unit	Unit Price	Amount
Roadway					
	Maintenance of Traffic	1	LS	\$ 50,000.00	\$ 50,000.00
	Mobilization @ 5.0 of Total Cost	1	LS	\$ 265,922.98	\$ 265,922.98
	6" White Stripe	5.37	NM	\$ 851.42	\$ 4,572.13
	6" Yellow Stripe	5.37	NM	\$ 839.91	\$ 4,510.32
	Clearing and Grubbing	30.0138	AC.	\$ 9,064.86	\$ 272,070.90
	Type B Stabilization	66002	SY	\$ 3.14	\$ 207,246.28
	10" Limerock Base	51598	SY	\$ 13.37	\$ 689,865.26
	3" Type SP-12.5 Asphalt	8513.60	TN	\$ 91.28	\$ 777,121.41
	Regular Excavation	33366	CY	\$ 3.08	\$ 102,767.28
	Embankment	85151	CY	\$ 4.17	\$ 355,079.67
	Sod	129856	SY	\$ 1.66	\$ 215,560.96
	4" Sidewalk	1502	SY	\$ 26.99	\$ 40,538.98
Ponds					
	Clearing and Grubbing	12.980	AC	\$ 9,064.86	\$ 117,661.88
	Regular Excavation	48497	CY	\$ 3.08	\$ 149,370.76
	Sod	62824	SY	\$ 1.66	\$ 104,287.84
	Fencing	6974	LF	\$ 9.14	\$ 63,742.36
	Gates	5	EA	\$ 1,237.29	\$ 6,186.45
	FDOT Ditch Bottom Inlet Type D Mod	5	EA	\$ 3,455.76	\$ 17,278.80
	Rip-rap armoring at pond outfalls	10	TN	\$ 78.75	\$ 787.50
	18" RCP for outfall systems	1530	LF	\$ 39.54	\$ 60,496.20
	18" MES for outfall systems	5	EA	\$ 639.43	\$ 3,197.15
	FDOT 4' Dia. Type P Manhole for outfall systems	7	EA	\$ 2,335.52	\$ 16,348.64
BRIDGE					
	100'Lx43'-1"W Flat Slab Bridge	4,308	SF	\$ 111.10	\$ 478,618.80
STORMWATER COLLECTION/TRANSMISSION SYSTEM					
	Concrete Swales	25,198	SY	\$ 42.05	\$ 1,059,575.90
	18" RCP	1,150	LF	\$ 39.54	\$ 45,471.00
	18" Gutter Drain	675	LF	\$ 57.96	\$ 39,123.00
	24" RCP	2,714	LF	\$ 47.09	\$ 127,802.26
	30" RCP	898	LF	\$ 60.90	\$ 54,688.20
	24" MES	1	EA	\$ 864.28	\$ 864.28
	30" MES	5	EA	\$ 1,529.62	\$ 7,648.10
	18" U-Endwall w/ baffles	27	EA	\$ 1,572.73	\$ 42,463.71
	FDOT Ditch Bottom Inlet Type B	1	EA	\$ 2,523.25	\$ 2,523.25
	FDOT Ditch Bottom Inlet Type C	1	EA	\$ 1,842.57	\$ 1,842.57
	FDOT Type 3 Inlet	16	EA	\$ 3,439.85	\$ 55,037.60
	FDOT Type S Inlet	27	EA	\$ 2,734.43	\$ 73,829.61
	FDOT 4' Dia. Type P Manhole	3	EA	\$ 2,335.52	\$ 7,006.56
	Rip-rap armoring	40	TN	\$ 78.75	\$ 3,150.00
CROSS-DRAINS					
	24" RCP	190	LF	\$ 48.37	\$ 9,190.30
	48" RCP	288	LF	\$ 99.00	\$ 28,512.00
	FDOT Vertical Concrete Endwall-Double 24" Pipes	6	CY	\$ 680.44	\$ 3,960.16
	FDOT Vertical Concrete Endwall-Triple 48" Pipes	25	CY	\$ 680.44	\$ 17,201.52
	Rip-rap armoring at outfalls	16	TN	\$ 78.75	\$ 1,260.00
				Subtotal Costs:	\$ 5,584,382.56
				15% Contingency:	\$ 837,657.38
				Total Estimated Costs:	\$ 6,422,039.95

KINGSFIELD ROAD
Opinion of Probable Construction Costs
June 20, 2012



HMM Project No. 296696
Basis: Preliminary Alignment Lima

Item No.	Description	Quantity	Unit	Unit Price	Amount
Roadway					
	Maintenance of Traffic	1	LS	\$ 50,000.00	\$ 50,000.00
	Mobilization @ 5.0 of Total Cost	1	LS	\$ 278,928.85	\$ 278,928.85
	6" White Stripe	5.39	NM	\$ 851.42	\$ 4,589.15
	6" Yellow Stripe	5.39	NM	\$ 839.91	\$ 4,527.11
	Clearing and Grubbing	38.492	AC	\$ 9,064.86	\$ 348,924.59
	Type B Stabilization	66279	SY	\$ 3.14	\$ 208,116.06
	10" Limerock Base	51812	SY	\$ 13.37	\$ 692,726.44
	3" Type SP-12.5 Asphalt	8549.00	TN	\$ 91.28	\$ 780,352.72
	Regular Excavation	31834	CY	\$ 3.08	\$ 98,048.72
	Embankment	128336	CY	\$ 4.17	\$ 535,161.12
	Sod	130401	SY	\$ 1.66	\$ 216,465.66
	4" Sidewalk	1502	SY	\$ 26.99	\$ 40,538.98
Ponds					
	Clearing and Grubbing	12.980	AC	\$ 9,064.86	\$ 117,661.88
	Regular Excavation	48497	CY	\$ 3.08	\$ 149,370.76
	Sod	62824	SY	\$ 1.66	\$ 104,287.84
	Fencing	6974	LF	\$ 9.14	\$ 63,742.36
	Gates	5	EA	\$ 1,237.29	\$ 6,186.45
	FDOT Ditch Bottom Inlet Type D Mod	5	EA	\$ 3,455.76	\$ 17,278.80
	Rip-rap armoring at pond outfalls	10	TN	\$ 78.75	\$ 787.50
	18" RCP for outfall systems	1530	LF	\$ 39.54	\$ 60,496.20
	18" MES for outfall systems	5	EA	\$ 639.43	\$ 3,197.15
	FDOT 4' Dia. Type P Manhole for outfall systems	7	EA	\$ 2,335.52	\$ 16,348.64
BRIDGE					
	100'Lx43'-1"W Flat Slab Bridge	4,308	SF	\$ 111.10	\$ 478,618.80
STORMWATER COLLECTION/TRANSMISSION SYSTEM					
	Concrete Swales	25,198	SY	\$ 42.05	\$ 1,059,575.90
	18" RCP	1,150	LF	\$ 39.54	\$ 45,471.00
	18" Gutter Drain	675	LF	\$ 57.96	\$ 39,123.00
	24" RCP	2,714	LF	\$ 47.09	\$ 127,802.26
	30" RCP	898	LF	\$ 60.90	\$ 54,688.20
	24" MES	1	EA	\$ 864.28	\$ 864.28
	30" MES	5	EA	\$ 1,529.62	\$ 7,648.10
	18" U-Endwall w/ baffles	27	EA	\$ 1,572.73	\$ 42,463.71
	FDOT Ditch Bottom Inlet Type B	1	EA	\$ 2,523.25	\$ 2,523.25
	FDOT Ditch Bottom Inlet Type C	1	EA	\$ 1,842.57	\$ 1,842.57
	FDOT Type 3 Inlet	16	EA	\$ 3,439.85	\$ 55,037.60
	FDOT Type S Inlet	27	EA	\$ 2,734.43	\$ 73,829.61
	FDOT 4' Dia. Type P Manhole	3	EA	\$ 2,335.52	\$ 7,006.56
	Rip-rap armoring	40	TN	\$ 78.75	\$ 3,150.00
CROSS-DRAINS					
	24" RCP	190	LF	\$ 48.37	\$ 9,190.30
	48" RCP	288	LF	\$ 99.00	\$ 28,512.00
	FDOT Vertical Concrete Endwall-Double 24" Pipes	6	CY	\$ 680.44	\$ 3,960.16
	FDOT Vertical Concrete Endwall-Triple 48" Pipes	25	CY	\$ 680.44	\$ 17,201.52
	Rip-rap armoring at outfalls	16	TN	\$ 78.75	\$ 1,260.00
				Subtotal Costs:	\$ 5,857,505.81
				15% Contingency:	\$ 878,625.87
				Total Estimated Costs:	\$ 6,736,131.69

KINGSFIELD ROAD
Opinion of Probable Construction Costs
June 20, 2012



HMM Project No. 296696

Basis: Preferred Alignment

Item No.	Description	Quantity	Unit	Unit Price	Amount
Roadway					
	Maintenance of Traffic	1	LS	\$ 50,000.00	\$ 50,000.00
	Mobilization @ 5.0 of Total Cost	1	LS	\$ 269,869.63	\$ 269,869.63
	Clearing and Grubbing	31.6154	AC.	\$ 9,064.86	\$ 286,589.17
	6" White Stripe	5.41	NM	\$ 851.42	\$ 4,606.18
	6" Yellow Stripe	5.41	NM	\$ 839.91	\$ 4,543.91
	Type B Stabilization	66511	SY	\$ 3.14	\$ 208,844.54
	10" Limerock Base	51992	SY	\$ 13.37	\$ 695,133.04
	3" Type SP-12.5 Asphalt	8579	TN	\$ 91.28	\$ 783,054.61
	Regular Excavation	86968	CY	\$ 3.08	\$ 267,861.44
	Embankment	57522	CY	\$ 4.17	\$ 239,866.74
	Sod	130860	SY	\$ 1.66	\$ 217,227.60
	4" Sidewalk	1502	SY	\$ 26.99	\$ 40,538.98
Ponds					
	Clearing and Grubbing	12.980	AC	\$ 9,064.86	\$ 117,661.88
	Regular Excavation	48497	CY	\$ 3.08	\$ 149,370.76
	Sod	62824	SY	\$ 1.66	\$ 104,287.84
	Fencing	6974	LF	\$ 9.14	\$ 63,742.36
	Gates	5	EA	\$ 1,237.29	\$ 6,186.45
	FDOT Ditch Bottom Inlet Type D Mod	5	EA	\$ 3,455.76	\$ 17,278.80
	Rip-rap armoring at pond outfalls	10	TN	\$ 78.75	\$ 787.50
	18" RCP for outfall systems	1530	LF	\$ 39.54	\$ 60,496.20
	18" MES for outfall systems	5	EA	\$ 639.43	\$ 3,197.15
	FDOT 4' Dia. Type P Manhole for outfall systems	7	EA	\$ 2,335.52	\$ 16,348.64
BRIDGE					
	100'Lx43'-1"W Flat Slab Bridge	4,308	SF	\$ 111.10	\$ 478,618.80
STORMWATER COLLECTION/TRANSMISSION SYSTEM					
	Concrete Swales	25,198	SY	\$ 42.05	\$ 1,059,575.90
	18" RCP	1,150	LF	\$ 39.54	\$ 45,471.00
	18" Gutter Drain	675	LF	\$ 57.96	\$ 39,123.00
	24" RCP	2,714	LF	\$ 47.09	\$ 127,802.26
	30" RCP	898	LF	\$ 60.90	\$ 54,688.20
	24" MES	1	EA	\$ 864.28	\$ 864.28
	30" MES	5	EA	\$ 1,529.62	\$ 7,648.10
	18" U-Endwall w/ baffles	27	EA	\$ 1,572.73	\$ 42,463.71
	FDOT Ditch Bottom Inlet Type B	1	EA	\$ 2,523.25	\$ 2,523.25
	FDOT Ditch Bottom Inlet Type C	1	EA	\$ 1,842.57	\$ 1,842.57
	FDOT Type 3 Inlet	16	EA	\$ 3,439.85	\$ 55,037.60
	FDOT Type S Inlet	27	EA	\$ 2,734.43	\$ 73,829.61
	FDOT 4' Dia. Type P Manhole	3	EA	\$ 2,335.52	\$ 7,006.56
	Rip-rap armoring	40	TN	\$ 78.75	\$ 3,150.00
CROSS-DRAINS					
	24" RCP	190	LF	\$ 48.37	\$ 9,190.30
	48" RCP	288	LF	\$ 99.00	\$ 28,512.00
	FDOT Vertical Concrete Endwall-Double 24" Pipes	6	CY	\$ 680.44	\$ 3,960.16
	FDOT Vertical Concrete Endwall-Triple 48" Pipes	25	CY	\$ 680.44	\$ 17,201.52
	Rip-rap armoring at outfalls	16	TN	\$ 78.75	\$ 1,260.00
				Subtotal Costs:	\$ 5,667,262.26
				15% Contingency:	\$ 850,089.34
				Total Estimated Costs:	\$ 6,517,351.59