ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. # 0002871
STP00-0002-00(871)
Pierce & Ware Counties
GDOT District 5 - Jesup
New Construction: Waycross East Bypass
From US 84 in Pierce to US 1/US 23
Ware

OFFICE Design Policy & Support

DATE 3/30/2016

FROM for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT **APPROVED CONCEPT REPORT**

Attached is the approved Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Hiral Patel, Director of Engineering
Joe Carpenter, Director of P3/Program Delivery
Genetha Rice-Singleton, Assistant Director of P3/Program Delivery
Albert Shelby, State Program Delivery Engineer
Darryl VanMeter, State Innovative Delivery Engineer
Bobby Hilliard, Program Control Administrator
Cindy VanDyke, State Transportation Planning Administrator
Eric Duff, State Environmental Administrator
Bill DuVall, State Bridge Engineer
Andrew Heath, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Lisa Myers, State Project Review Engineer
Charles "Chuck" Hasty, State Materials Engineer
Lee Upkins, State Utilities Engineer
Paul Tanner, State Transportation Data Administrator
Attn: Systems & Classification Branch
Richard Cobb, Statewide Location Bureau Chief
Brad Saxon, District Engineer
Troy Pittman, District Preconstruction Engineer
Dallory Rozier, District Utilities Engineer
Cassius Edwards, Project Manager
BOARD MEMBER - 1st Congressional District

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
PROJECT CONCEPT REPORT

Project Type: New Location
P.I. Number: 0002871
GDOT District: 5
County: Pierce/Ware
Federal Route Number: None
State Route Number: None
Project Number: STP00-0002-00(871)

Originally, a new location two and four lane highway beginning at SR 4/US 1/US 23 and ending at SR 38/US 84 east of Waycross, with a bridge over the Satilla River and grade separated crossings of SR 520/US 82/CSX Railroad and SR 38/US 84/CSX Railroad was proposed for this project. However, based on substantial opposition to the project that was voiced during the August 18, 2015 public information open house (PIOH) and the subsequent comment period, the No-Build alternative has been selected.

Submitted for approval:

Alan King for Taylor Stukes — HDR | ICA
Consultant ~~Designer & Firm~~ *or* GDOT Concept/Design Phase Office Head & Office — DATE 12/2/15

Albert Shelby BWB
Office Head – *Program Delivery* — DATE 12/11/15

GDOT Project Manager — DATE 12/2/15

Recommendation for approval:

Program Control Administrator — DATE

* ERIC DUFF
State Environmental Administrator — DATE 2/19/2016

* LISA MYERS
Project Review Engineer — DATE 2/18/2016

* LEE UPKINS
State Utilities Engineer — DATE 2/18/2016

* BRAD SAXON
District Engineer — DATE 2/17/2016

* BILL DuVALL
State Bridge Design Engineer — DATE 2/16/2016

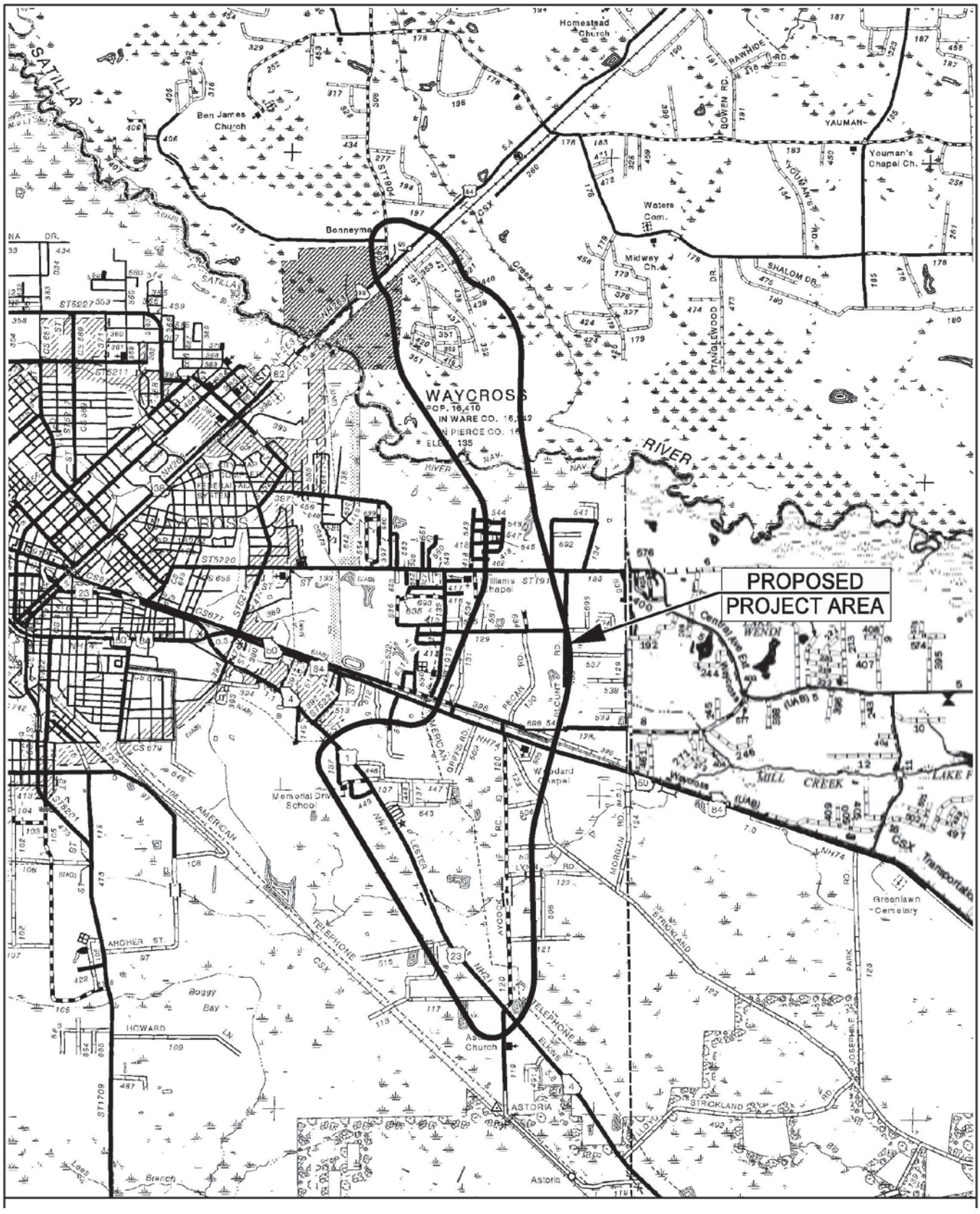
State Transportation Financial Management Administrator — DATE

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

* CYNTHIA L. VANDIKE
State Transportation Planning Administrator — DATE 2/18/2016

* RECOMMENDATION ON FILE - OFBW

PROJECT LOCATION



PLANNING & BACKGROUND DATA

Project Justification Statement:

The project is a proposed new location facility connecting US 84 and US 1 on the east side of Waycross. The project was added to the GDOT work program based on recommendations from the City of Waycross/Ware County Multi-Modal Transportation Study developed in 2001. GDOT secured funding for the design and right-of-way acquisition for the proposed project. This project is documented in the 2012-2015 State Transportation Improvement Program (STIP). The ROW phase for this project is programmed in the STIP period and the Construction is in Long Range. US 1 and US 82 are Urban Principal Arterials and are hurricane evacuation routes. US 84 is an Urban Principal Arterial and is part of the State Bicycle Route known as the "Southern Crossing".

The project corridor begins on US 1, a four lane divided highway that also serves as a main commercial corridor for Waycross at the intersection with Aycock Road. It extends west along US 1 and then north along City Boulevard/Morningside Drive, a two and four lane urban minor arterial, to US 84. The project corridor follows US 84 east and ends at the intersection with Oak Ridge Circle. The City Boulevard/ Morningside Drive corridor is the only existing north-south route connecting US 1 to US 84, and it requires drivers to make several dog-leg turns while driving from one end to the other. This lack of alternate north-south routes in eastern Waycross causes congestion through town and on local streets. Logical termini for the project will be officially determined as part of the NEPA process.

The existing roadway corridors have a truck percentage of 17% (16% Single Units, 1% Combinations). The following traffic volumes and arterial Levels of Service (LOS) based on 2008 counts:

	ADT (2008)	LOS
US 84	23,400	B
US 82	16,300	A
US 1	24,500	B
Morningside Dr/ City Blvd	13,550	C

The Design Year (2037) traffic projections for the no build are listed below with the arterial LOS:

	No Build	
	ADT (2037)	LOS
US 84	43,990	D
US 82	29,420	C
US 1	46,050	C
City Boulevard/ Morningside Drive	25,470	D

Based on the traffic statistics above, improvements are needed to reduce congestion on US 84 and US 82 and along US 1 and the City Boulevard/Morningside Drive corridor. With regard to performance measures defined in the Statewide Strategic Transportation Plan, this project is needed to improve unacceptable future levels of service.

Crash rates along US 1 vary between 55-90% above the statewide average, with injury rates being 170-350% above the statewide average. Crash rates along US 84 vary between -12% and +70% from the statewide average, with injury rates being 45-260% above the statewide average. Crash rates along US 82 vary from -5% to +28% from the statewide average with injury rates being 120-285% above the statewide average. Crash rates on the City Boulevard/Morningside Drive corridor are 140% above the statewide average and injury rates vary from 250-270% above the statewide average.

Commercial development is currently expanding along the US 1 corridor, southeast of Waycross. This trend, along with residential developments, is expected to continue which will impact local travel patterns and facilities. In addition, development trends indicate an increase in residential development along the US 84 corridor, northeast of Waycross. The proposed project is needed to accommodate future travel demand and support growth in the area.

The purpose of the project is to improve the performance of US 84, US 82, US 1 and City Boulevard/Morningside Drive through the City of Waycross and to reduce the frequency and severity of crashes along these facilities. In addition the project is needed to accommodate the planned economic growth patterns of the area, accommodate truck traffic, and provide improved north-south connectivity through Waycross.

Description of the proposed project: The Waycross East Bypass is an approximately 5.4 mile new location facility beginning at SR 4/US 1/US 23 approximately 3.6 miles east of downtown Waycross in Ware County and ending at SR 38/US 84 approximately 3.3 miles east of downtown Waycross in Pierce County. The proposed facility will be four lanes wide between SR 4/US 1/US 23 and SR 520/US 82 and two lanes wide between SR 520/US 82 and SR 38/US 84. SR 4/US 1/US 23 and SR 38/US 84 are four lane divided highways which provide the capacity for the anticipated traffic drops. The project will provide a connection between the primarily residential development northeast of Waycross with the heavy commercial corridors of US 1 and US 82 southeast of the city, while reducing the amount of cut through traffic on local streets.

Federal Oversight: ☐ Full Oversight ☒ Exempt ☐ State Funded ☐ Other

MPO: None MPO Project ID: N/A

Regional Commission: Southern Georgia RC RC Project ID: None

Congressional District(s): 1

Projected Traffic: ADT

Current Year (2012): N/A Open Year (2017): N/A Design Year (2037): N/A
Traffic Projections Performed by: Florence & Hutcheson

Functional Classification (Mainline): New Location

Is this a 3R (Resurfacing, Restoration, & Rehabilitation) Project? ☒ No ☐ Yes

Is this project on a designated Bike Route, Pedestrian Plan, or Transit Network?
☐ Bike Route (*US 84 is a designated Bike Route*) ☐ Pedestrian Plan ☐ Transit Network

CONTEXT SENSITIVE SOLUTIONS

Issues of Concern: To date no issues have been identified that require context sensitive solutions.

Context Sensitive Solutions: None

DESIGN AND STRUCTURAL DATA

Mainline Design Features: Waycross Bypass from SR 4/US 1/US 23 to SR 520/US 82

Feature	Existing	Standard*	Proposed – No- Build
Typical Section			
- **Number of Lanes**	**N/A**	**4**	**N/A**
- **Lane Width(s)**	**N/A**	**12’**	**N/A**
- **Median Width & Type**	**N/A**	**32-44’ depressed**	**N/A**
- **Outside Shoulder or Border Area Width**	**N/A**	**10’ rural, 6.5’ paved, 3.5’ grass**	**N/A**
- **Outside Shoulder Slope**	**N/A**	**6%**	**N/A**
- **Inside Shoulder Width**	**N/A**	**6’ rural, 2’ paved, 4’ grass**	**N/A**
- **Sidewalks**	**N/A**	**None**	**N/A**
- **Auxiliary Lanes**	**N/A**	**None**	**N/A**
- **Bike Lanes**	**N/A**	**None**	**N/A**
Posted Speed	**N/A**		**N/A**
Design Speed	**N/A**	**55 mph**	**N/A**
Min Horizontal Curve Radius	**N/A**	**1060 ft**	**N/A**
Superelevation Rate	**N/A**	**6%**	**N/A**
Grade	**N/A**	**5%**	**N/A**
Access Control	**N/A**	**Full**	**N/A**

Right-of-Way Width	**N/A**	**200 ft**	**N/A**
Maximum Grade – Crossroad	**N/A**	**6%**	**N/A**
Design Vehicle	**N/A**	**WB-62**	**N/A**

*According to current GDOT design policy if applicable

Mainline Design Features: Waycross Bypass from SR 520/US 82 to SR 38/US 84

Feature	Existing	Standard*	Proposed
Typical Section			
- **Number of Lanes**	**N/A**	**2**	**N/A**
- **Lane Width(s)**	**N/A**	**12'**	**N/A**
- **Median Width & Type**	**N/A**	**None**	**N/A**
- **Outside Shoulder or Border Area Width**	**N/A**	**10' rural, 4' paved, 6' grassed**	**N/A**
- **Outside Shoulder Slope**	**N/A**	**6%**	**N/A**
- **Inside Shoulder Width**	**N/A**	**None**	**N/A**
- **Sidewalks**	**N/A**	**None**	**N/A**
- **Auxiliary Lanes**	**N/A**	**None**	**N/A**
- **Bike Lanes**	**N/A**	**None**	**N/A**
Posted Speed	**N/A**		**N/A**
Design Speed	**N/A**	**55 mph**	**N/A**
Min Horizontal Curve Radius	**N/A**	**1060 ft (643/485)**	**N/A**
Superelevation Rate	**N/A**	**6%**	**N/A**
Grade	**N/A**	**5%**	**N/A**
Access Control	**N/A**	**Full**	**N/A**
Right-of-Way Width	**N/A**	**120 ft**	**N/A**
Maximum Grade – Crossroad	**N/A**	**6%**	**N/A**
Design Vehicle	**N/A**	**WB-62**	**N/A**

*According to current GDOT design policy if applicable
** Speed design reduces to 45 and 40 mph to allow for tie-in to US 84 without much more significant impacts to nearby properties.

Major Structures: None

Major Interchanges/Intersections: None

Utility Involvements: Telephone: AT&T, Alma Telephone Company (ATC); Water & Sewer: City of Waycross, Satilla Regional Water Authority; Cable TV – ATC, Mediastream; Power: Georgia Power Company – Distribution, Georgia Power Company – Transmission, Georgia Transmission Corporation, Okefenoke REMC, Satilla REMC; Gas: Atlanta Gas Light

Public Interest Determination Policy and Procedure recommended (Utilities)? ☐ No ☒ Yes
The concept team determined there was a low risk assessment associated with the project and recommended Risk Acceptance.

SUE Required: ☒ No ☐ Yes

Railroad Involvement: None The project crosses two separate CSX railroads, one parallel and on the north side of SR 520/US 82, the other parallel and on the south side of SR 38/US 84. Both crossings will be grade separated. Utility coordination will be required during preliminary and final plans.

Complete Streets - Bicycle, Pedestrian, and/or Transit Warrants:

Warrants met: ☒ None ☐ Bicycle ☐ Pedestrian ☐ Transit

Right-of-Way: *Refer to Chapter 3 of GDOT's Design Policy Manual for guidance.*

Required Right-of-Way anticipated: ☒ No ☐ Yes ☐ Undetermined

Easements anticipated: ☒ None ☐ Temporary ☐ Permanent ☐ Utility ☐ Other

Anticipated number of impacted parcels:	0
Displacements anticipated: Total:	0
Businesses:	0
Residences:	0
Other:	0

Location and Design approval: ☒ Not Required ☐ Required

Off-site Detours Anticipated: ☒ No ☐ Undetermined ☐ Yes

Transportation Management Plan [TMP] Required: ☒ No ☐ Yes

If Yes: Project classified as: ☐ Non-Significant ☐ Significant

TMP Components Anticipated: ☐ TTC ☐ TO ☐ PI

Design Exceptions to FHWA/AASHTO controlling criteria anticipated:

FHWA/AASHTO Controlling Criteria	No	Undeter-mined	Yes	Appvl Date (if applicable)
1. Design Speed	☒	☐	☐	
2. Lane Width	☒	☐	☐	
3. Shoulder Width	☒	☐	☐	
4. Bridge Width	☒	☐	☐	
5. Horizontal Alignment	☒	☐	☐	
6. Superelevation	☒	☐	☐	
7. Vertical Alignment	☒	☐	☐	
8. Grade	☒	☐	☐	
9. Stopping Sight Distance	☒	☐	☐	
10. Cross Slope	☒	☐	☐	
11. Vertical Clearance	☒	☐	☐	
12. Lateral Offset to Obstruction	☒	☐	☐	
13. Bridge Structural Capacity	☒	☐	☐	

Design Variances to GDOT Standard Criteria anticipated:

GDOT Standard Criteria	Reviewing Office	No	Undeter--mined	Yes	Appvl Date (if applicable)
1. Access Control	DP&S	☒	☐	☐	
2. Median Usage & Width	DP&S	☒	☐	☐	
3. Intersection Skew Angle	DP&S	☒	☐	☐	
4. Lateral Offset to Obstruction	DP&S	☒	☐	☐	
5. Intersection Sight Distance	DP&S	☒	☐	☐	
6. Bike, Pedestrian & Transit Accommodations	DP&S	☒	☐	☐	
7. GDOT Drainage Manual	DP&S	☒	☐	☐	
8. Georgia Standard Drawings	DP&S	☒	☐	☐	
9. GDOT Bridge & Structural Manual	Bridge Design	☒	☐	☐	
10. Roundabout Illumination	DP&S	☒	☐	☐	
11. Rumble Strips	DP&S	☒	☐	☐	
12. Safety Edge	DP&S	☒	☐	☐	

VE Study anticipated: ☒ No ☐ Yes ☐ Completed – Date:

ENVIRONMENTAL DATA

Anticipated Environmental Document:

GEPA: ☐ **NEPA:** ☐ CE ☒ EA/FONSI ☐ EIS

Project Air Quality:

Is the project located in a PM 2.5 Non-attainment area?	☒ No	☐ Yes
Is the project located in an Ozone Non-attainment area?	☒ No	☐ Yes
Is a Carbon Monoxide hotspot analysis required?	☒ No	☐ Yes

MS4 Compliance – Is the project located in an MS4 area? ☒ No ☐ Yes

Environmental Permits/Variances/Commitments/Coordination anticipated:

Permit/ Variance/ Commitment/ Coordination Anticipated	No	Yes	Remarks
1. U.S. Coast Guard Permit	☒	☐	
2. Forest Service/Corps Land	☒	☐	
3. CWA Section 404 Permit	☒	☐	
4. Tennessee Valley Authority Permit	☒	☐	
5. Buffer Variance	☒	☐	
6. Coastal Zone Management Coordination	☒	☐	
7. NPDES	☒	☐	

8. FEMA	☒	☐	
9. Cemetery Permit	☒	☐	
10. Other Permits	☒	☐	
11. Other Commitments	☒	☐	
12. Other Coordination - FAA	☒	☐	Project is located within 5 miles of Ware County Airport

Is a PAR required? ☐ No ☒ Yes ☐ Completed – Date: 3/13/2013
PAR Meeting is scheduled for 3/13/13

NEPA/GEPA: The project was anticipated to require an EA/FONSI, which is currently being prepared. Potential 4f properties have been identified along the project corridor and are being avoided.

Ecology: Ecology Survey completed and submitted for review on 4/27/2012. T&E Species studies Was due to be conducted during seasonally appropriate periods once alignment has been selected.

History: Potentially eligible resources were identified and are shown on concept layouts. All potentially eligible properties have been avoided. SHPO concurrence was required.

Archeology: No cemeteries were identified along the proposed alignment. An Archeological Survey was to be conducted once the alignment was approved. SHPO concurrence was required.

Air & Noise: Air and Noise studies are required for this project. Mitigation measures will be determined once the studies are complete, but are not anticipated at this time.

Public Involvement: A Public Information Open House was held on September 1, 2011 with over 300 attendees. There were 97 comments received, which are included as an appendix. Of those comments 11 supported the project, 57 were against, 1 was conditional and 14 were Uncommitted (some responses did not mark this field). Of the comments that supported a particular alternative 9 supported Alternative A, 6 supported Alt B, 5 supported Alt C and 1 supported Alt D (some comments expressed support for multiple alignments).

A second Public Information Open House was held on August 18, 2015. Public opposition was overwhelming. Over 1,100 comments were filed with GDOT, and opposing opinions represented about 80% of all comments.

Major stakeholders: Traveling Public, CSX Railroad, City of Waycross, Ware County, Pierce County

CONSTRUCTION

Issues potentially affecting constructability/construction schedule: The structure over the Satilla River is very long and will require a significant amount of time to construct. The wetlands in this area may require that specialized construction techniques, such as top down construction, be implemented. The two other bridges cross over railroads which will require additional coordination during construction.

Early Completion Incentives recommended for consideration: ☒ No ☐ Yes

PROJECT RESPONSIBILITIES

Project Activities:

Project Activity	Party Responsible for Performing Task(s)
Concept Development	Florence & Hutcheson
Design	Florence & Hutcheson
Right-of-Way Acquisition	Georgia DOT
Utility Relocation	Utility Owners
Letting to Contract	Georgia DOT
Construction Supervision	Georgia DOT
Providing Material Pits	Contractor
Providing Detours	Florence & Hutcheson
Environmental Studies, Documents, and Permits	Florence & Hutcheson
Environmental Mitigation	Georgia DOT
Construction Inspection & Materials Testing	Georgia DOT

Lighting required: ☒ No ☐ Yes

Initial Concept Meeting: November 9, 2010 – GDOT District 5, Jesup Office, See Attached Minutes

Concept Meeting: August 28, 2012 – GDOT District 5, Jesup District Office, See Attached Minutes

Other projects in the area:
CSSTP-0007-00(664) Widening of CR 392 from SR 4/US1 to SR 520/US 82

Other coordination to date: None

Project Cost Estimate and Funding Responsibilities:

	Breakdown of PE	ROW	Reimbursable Utility	CST*	Environmental Mitigation	Total Cost
By Whom	GDOT	GDOT	GDOT	F&H	F&H	
$ Amount	5,239,301	0	0	0	0	5,239,301
Date of Estimate	2/5/2003	9/8/2015	9/8/2015	9/8/2015	9/8/2015	

*CST Cost includes: Construction, Engineering and Inspection, and Liquid AC Cost Adjustment.

ALTERNATIVES DISCUSSION

Alternative Selection

No-Build Alternative: No improvements to the existing street network			
Estimated Property Impacts:	**0**	**Estimated Total Cost:**	**0**
Estimated ROW Cost:	**0**	**Estimated CST Time:**	**0**
Rationale: Although this alternative failed to meet the objectives of the need and purpose, due to the substantial public opposition to the project and the high number of stream, wetland and displacements that would result from alternatives A, C, and D (which were recommended for elimination), this alternative is now the Preferred Alternative.			

Alternative A: This alternative begins midway between Conners Road and RC Davis Road on US 1 and travels northerly and crosses over US 82 just west of Aycock Road. From US 82 it travels northerly across Driggers Road and Central Avenue then across the Satilla River. It then travels westerly between the water treatment plant and the Oak Ridge community. The roadway spans US 84 and loops around and connects back to US 84 while adding new connector roads to Golf Course Road and Ware Street.			
Estimated Property Impacts:	**1 Res/1 Com**	**Estimated Total Cost:**	**$69,457,515**
Estimated ROW Cost:	**$8,703,000**	**Estimated CST Time:**	**2-3 years**
Rationale: This alignment was eliminated because of the significantly higher amount of wetlands impacts compared to the preferred alternative.			

Alternative B: This alternative begins at the Memorial Drive/Morris Road intersection and travels east-northeast and crosses US 82 near HO Griffis Road. It crosses Driggers Road and Central Avenue parallel to Gobbler Lane and goes across the Satilla River, then travels westerly between the water treatment plant and the Oak Ridge community. The roadway spans US 84 and loops around and connects back to US 84 while adding new connector roads to Golf Course Road and Ware Street.			
Estimated Property Impacts:	**3 Res/2 Com**	**Estimated Total Cost:**	**$69,567,283**
Estimated ROW Cost:	**$9,263,000**	**Estimated CST Time:**	**2-3 years**
Rationale: This alternative was originally selected as the preferred because it has the lowest amount of wetland impacts, and the second lowest number of displacements. The overall construction cost is less than 0.5% higher than the lowest cost alternate. However, based on substantial opposition to the project that was voiced during the August 18, 2015 public information open house (PIOH) and the subsequent comment period, this alternative has been eliminated.			

Alternative C: This alternative begins midway between Conners Road and RC Davis Road on US 1 and travels northeast across Aycock Road and crosses over US 82 near White Hall Church Road. From US 82 it travels northerly across Driggers Road and Central Avenue then across the Satilla River. It then travels westerly between the water treatment plant and the Oak Ridge community. The roadway spans US 84 and loops around and connects back to US 84 while adding new connector roads to Golf Course Road and Ware Street.			
Estimated Property Impacts:	**4 Res/2 Com**	**Estimated Total Cost:**	**$70,319,406**
Estimated ROW Cost:	**$10,025,000**	**Estimated CST Time:**	**2-3 years**

Rationale: This alignment was eliminated because it had the highest number of wetland impacts, the second highest number of stream impacts and the second highest number of displacements.

Alternative D: This alternative begins at the Conners Road/US 1 intersection and travels northerly to Aycock Road. It follows Aycock Road to just south of Dawson Road where it transitions northeasterly across Strickland Road and crosses over US 82 near White Hall Church Road. From US 82 it travels northerly across Driggers Road and Central Avenue then across the Satilla River. It then travels westerly between the water treatment plant and the Oak Ridge community. The roadway spans US 84 and loops around and connects back to US 84 while adding new connector roads to Golf Course Road and Ware Street.

Estimated Property Impacts:	**7 Res/2 Com**	**Estimated Total Cost:**	**$73,154,752**
Estimated ROW Cost:	**$10,949,000**	**Estimated CST Time:**	**2-3 years**

Rationale: This alignment was eliminated because it had the second highest number of wetland impacts, the highest number of stream impacts and displacement and the highest construction cost and R/W costs.

Comments: None

Attachments:

1. Cost Estimates
2. Traffic diagrams
3. Minutes of Concept meetings
    a. Initial Concept Team Meeting Minutes
    b. Concept Team Meeting Minutes
4. Minutes of any meetings that shows support or objection to the concept
    a. PIOH Documents
5. PAR
6. Concept Layout – All Alternatives

APPROVALS

Concur: _____
Director of Engineering

Approve: Margaret B. Pickle _____ 3.23.16
Chief Engineer Date

Waycross Bypass from SR 4/US 1/US 23 to SR 520/US 82

The following cost estimates are for the preferred alternate if it would have been the chosen alternate for the project.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. No. **OOO2871** **OFFICE** Program Delivery

PROJECT DESCRIPTION

Waycross East Bypass From US 84 Pierce To US 1 / US 23 Ware

DATE September 29, 2015

From: Albert V. Shelby, State Program Delivery Engineer

To: Lisa L. Myers, State Project Review Engineer

Subject: REVISIONS TO PROGRAMMED COSTS

PROJECT MANAGER Cassius O. Edwards

MGMT LET DATE 9/15/2018

MGMT ROW DATE 11/15/2016

PROGRAMMED COSTS (TPro W/OUT INFLATION)			**LAST ESTIMATE UPDATE**	
CONSTRUCTION	**$**	58,410,246.83	DATE	10/1/2014
RIGHT OF WAY	**$**	9,263,000.00	DATE	5/1/2013
UTILITIES	**$**	N/A	DATE	N/A

REVISED COST ESTIMATES

CONSTRUCTION*	**$**	59,256,851.19
RIGHT OF WAY	**$**	9,805,000.00
UTILITIES	**$**	N/A

*Cost Contains **15** % Contingency

REASONS FOR COST INCREASE AND CONTINGENCY JUSTIFICATION:

Cost increase due to asphalt being added to the cost estimate.

CONTINGENCY SUMMARY

A.	**CONSTRUCTION COST ESTIMATE:**	$ 48,692,097.19	Base Estimate From CES		
B.	**ENGINEERING AND INSPECTION (E & I):**	$ 2,434,604.86	Base Estimate (A) x	5	%
C.	**CONTINGENCY:**	$ 7,669,005.31	Base Estimate (A) + E & I (B) x	15	%
			See % Table in "Risk Based Cost Estimation" Memo		
D.	**TOTAL LIQUID AC ADJUSTMENT:**	$ 461,143.83	Total From Liquid AC Spreadsheet		
E.	**CONSTRUCTION TOTAL:**	$ **59,256,851.19**	(A + B + C + D = E)		

REIMBURSABLE UTILTY COSTS

UTILITY OWNER	REIMBURSABLE COST
TOTAL	$ -

ATTACHMENTS:

Detailed Cost Estimate Printout From TRAQS
Liquid AC Adjustment Spreadsheet

PROJ. NO.	N/A	CALL NO.	9/29/2009
P.I. NO.	0002871		
DATE	9/29/2015		

INDEX (TYPE)	DATE	INDEX
REG. UNLEADED	Aug-15	$ 2.289
DIESEL		$ 2.569
LIQUID AC		$ 450.00

Link to Fuel and AC Index:
http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

LIQUID AC ADJUSTMENTS

PA=[((APM-APL)/APL)]xTMTxAPL

Asphalt

Price Adjustment (PA)			**461143.827**	**$**	**461,143.83**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$ 720.00		
Monthly Asphalt Cement Price month project let (APL)			$ 450.00		
Total Monthly Tonnage of asphalt cement (TMT)			1707.9401		

ASPHALT	Tons	%AC	AC ton
Leveling		5.0%	0
12.5 OGFC		5.0%	0
12.5 mm	34158.802	5.0%	1707.9401
9.5 mm SP		5.0%	0
25 mm SP		5.0%	0
19 mm SP		5.0%	0
	34158.802		**1707.9401**

BITUMINOUS TACK COAT

Price Adjustment (PA)			**$** -	**$**	-
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$ 720.00		
Monthly Asphalt Cement Price month project let (APL)			$ 450.00		
Total Monthly Tonnage of asphalt cement (TMT)			0		

Bitum Tack Gals	gals/ton	tons
	232.8234	0

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)			**0**	**$**	-
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$ 720.00		
Monthly Asphalt Cement Price month project let (APL)			$ 450.00		
Total Monthly Tonnage of asphalt cement (TMT)			0		

Bitum Tack	SY	Gals/SY	Gals	gals/ton	tons
Single Surf. Trmt.		0.20	0	232.8234	0
Double Surf.Trmt.		0.44	0	232.8234	0
Triple Surf. Trmt		0.71	0	232.8234	0
					0

TOTAL LIQUID AC ADJUSTMENT	**$**	**461,143.83**

Processed Date: 9/29/15

DETAILED COST ESTIMATE

Georgia Department of Transportation

Job: 0002871

JOB NUMBER *0002871* **FED/STATE PROJECT NUMBER** *STP-0002-00(871)*

SPEC YEAR: *01*

DESCRIPTION: *WAYCROSS EAST BYPASS (WARE/PIERCE CO)*

ITEMS FOR JOB 0002871

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0070	202-1000	100.000	AC	$6,000.00000	CLEARING AND GRUBBING	$600,000.00
0045	641-1100	15000.000	LF	$19.11038	GUARDRAIL, TP T	$286,655.70
0050	641-1200	3000.000	LF	$16.20560	GUARDRAIL, TP W	$48,616.80
0055	641-5001	10.000	EA	$833.76706	GUARDRAIL ANCHORAGE, TP 1	$8,337.67
0060	641-5012	10.000	EA	$1,970.64440	GUARDRAIL ANCHORAGE, TP 12	$19,706.44
					SUBTOTAL FOR :	**$963,316.61**

COST GROUP FOR JOB 0002871

LINE NUMBER	UNIT	CALCULATION RULE	QUANTITY	PRICE	COST GROUP ID	DESCRIPTION	AMOUNT
00000003	SF	NORM	16320.000	$95.00	STRO	STRUCTURES, OTHER (LS)	$1,550,400.00
00000005	SF	NORM	15300.000	$140.00	STRO	STRUCTURES, OTHER (LS)	$2,142,000.00
00000006	SF	NORM	15300.000	$140.00	STRO	STRUCTURES, OTHER (LS)	$2,142,000.00
00000007	SF	NORM	5800.000	$60.00	STRO	STRUCTURES, OTHER (LS)	$348,000.00
00000008	SF	NORM	7200.000	$60.00	STRO	STRUCTURES, OTHER (LS)	$432,000.00
00000009	SF	NORM	1.000	$407,398.00	STRO	STRUCTURES, OTHER (LS)	$407,398.00
00000010	TN	NORM	34158.802	$70.00	ASPH	ASPHALT (TN)	$2,391,116.14
00000012	TN	NORM	18218.028	$15.00	BASE	BASE/AGGREGATE (TN)	$273,270.42
00000015	LS	NORM	1.000	$53,000.00	GENR	GENERAL/FIELD OFFICE/ETC (LS)	$53,000.00
00000017	SY	NORM	528000.000	$5.18	EROC	EROSION CONTROL (SY)	$2,735,779.20
00000019	LS	NORM	3.000	$76,446.42	SGNL	TRAFFIC SIGNALS (LS)	$229,339.27
00000020	LM	NORM	18.150	$1,342.27	SRTS	STATE ROUTE TRAFFIC STRIPE	$24,362.22
00000022	LF	NORM	9504.000	$27.32	DRNGLF	DRAINAGE (LF)	$259,615.45
00000023	LS	PCTO	477287.806	$3.63	TRFTPCTO	TRAFFIC CONTROL-TEMPORARY (PCT OF JOB)	$1,732,554.74
00000024	EA	PCTO	477287.806	$2.00	SIGNPCTO	SIGNS (PERCENT OF JOB)	$954,575.61
00000025	LS	PCTO	477287.806	$5.00	MISCPCTO	MISCELLANEOUS (PERCENT OF JOB)	$2,386,439.03
00000026	LS	PCTO	477287.806	$10.00	ERTHPCTO	EARTHWORK (PERCENT OF JOB)	$4,772,878.06
00000027	SF	NORM	221850.000	$95.00	STRO	STRUCTURES, OTHER (SF)	$21,075,750.00
00000028	SY	PCTO	477287.806	$8.00	EROCPCTO	EROSION CONTROL (PERCENT OF JOB)	$3,818,302.45
						SUBTOTAL:	**$47,728,780.59**

TOTALS FOR JOB 0002871

ITEMS COST:	**$963,316.61**
COST GROUP COST:	**$47,728,780.59**
ESTIMATED COST:	**$48,692,097.19**
CONTINGENCY PERCENT:	**0.00**
ENGINEERING AND INSPECTION:	**0.05**
ESTIMATED COST WITH CONTINGENCY AND E&I:	**$51,126,702.05**

File Location: Div of Preconstruction > CES

GEORGIA DEPARTMENT OF TRANSPORTATION
PRELIMINARY ROW COST ESTIMATE SUMMARY

Date: 9/29/2015
Revised:

Project: Waycross East Bypass
County: Pierce/Ware
PI: 0002871 Alt B preferred

Description: Waycross East Bypass Alt B
Project Termini: Waycross East Bypass Alt B

Existing ROW: Varies
Parcels: 36
Required ROW: Varies

Land and Improvements		$8,727,000.00
Proximity Damage	*$410,000.00*	
Consequential Damage	*$150,000.00*	
Cost to Cures	*$200,000.00*	
Trade Fixtures	*$150,000.00*	
Improvements	*$1,355,000.00*	
Valuation Services		$169,375.00
Legal Services		$249,300.00
Relocation		$197,000.00
Demolition		$157,500.00
Administrative		$304,500.00
TOTAL ESTIMATED COSTS		$9,804,675.00
TOTAL ESTIMATED COSTS (ROUNDED)		***$9,805,000.00***

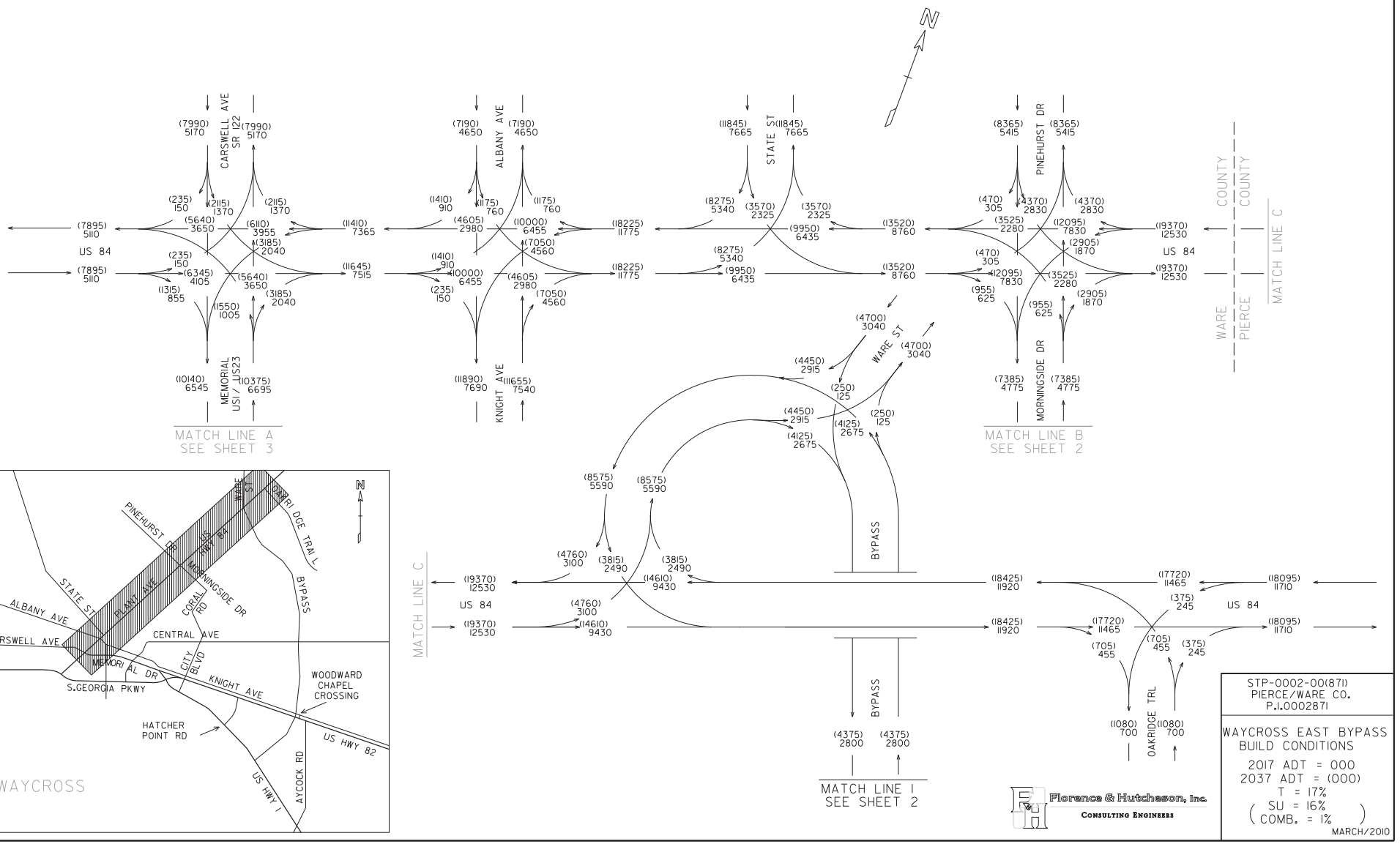
Preparation Credits	Hours	Signature

Prepared By: LaShone Alexander CG#: 286999 09/29/2015 (DATE)
Approved By: LaShone Alexander CG#: 286999 09/29/2015 (DATE)

NOTE: No Market Appreciation is included in this Preliminary Cost Estimate

Traffic Diagrams

Waycross Bypass from SR 4/US 1/US 23 to SR 520/US 82



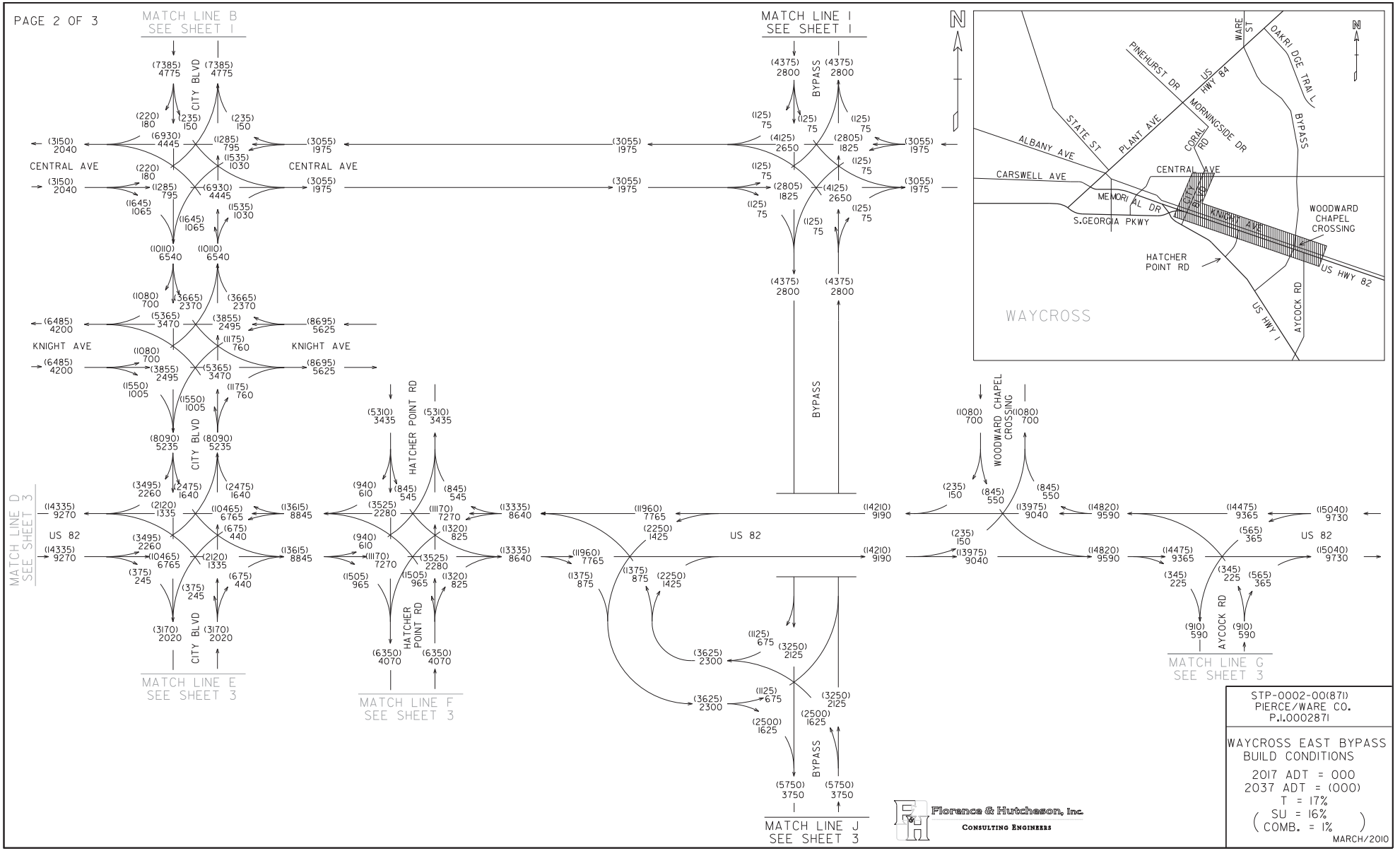
Florence & Hutcheson, Inc.
CONSULTING ENGINEERS

STP-0002-00(871)
PIERCE/WARE CO.
P.I.0002871

WAYCROSS EAST BYPASS
BUILD CONDITIONS

2017 ADT = 000
2037 ADT = (000)
T = 17%
(SU = 16%
COMB. = 1%)

MARCH/2010



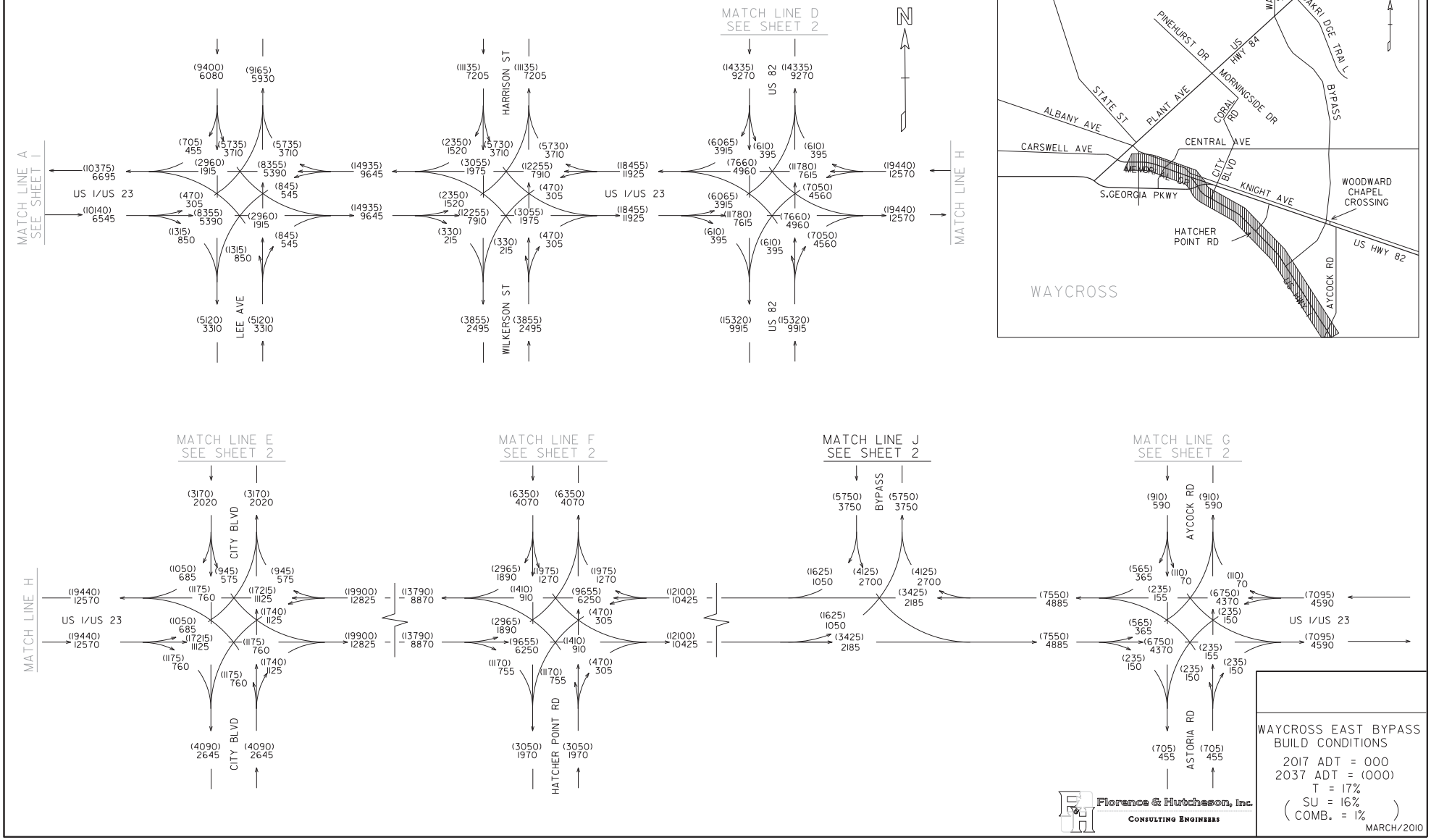
Florence & Hutcheson, Inc.
CONSULTING ENGINEERS

STP-0002-00(871)
PIERCE/WARE CO.
P.I.0002871

WAYCROSS EAST BYPASS
BUILD CONDITIONS

2017 ADT = 000
2037 ADT = (000)
T = 17%
(SU = 16%
COMB. = 1%)

MARCH/2010



WAYCROSS EAST BYPASS
BUILD CONDITIONS

2017 ADT = 000
2037 ADT = (000)
T = 17%
(SU = 16%)
COMB. = 1%

Florence & Hutcheson, Inc.
CONSULTING ENGINEERS

MARCH/2010

Concept Meeting Minutes

Waycross Bypass from SR 4/US 1/US 23 to SR 520/US 82

INITIAL CONCEPT MEETING MINUTES
STP-0000-00(313)
P.I. No. 0000313

MEETING DATE: **November 9, 2010 @ 9:30 am**

MEETING LOCATION: **GDOT Jesup District Office, Jesup, Georgia**

RE: **STP-0002-00(817) Waycross East Bypass – Pierce and Ware Counties**

TO: **Distribution List**

Introduction: Matt Bennett (GDOT) opened the meeting with introductions and brief review of project status, schedule, and history. Baseline schedule shows 2016 ROW and 2017 construction, with a $2.3 million earmark'. Each attendee was provided a copy of the agenda and was provided and electronic copy of the need and purpose prior to the meeting.

Concept: Ben Clopper (F&H) discussed in detail the project as presented in the meeting agenda. The following provides a brief summary:

- Need&Purpose: Defined the purpose, which is to provide operational improvements to the eastside of Waycross. Local roadways are currently being utilized that are not designed to support current and project traffic volumes
- Planning: Project does not represent a true bypass in the current form as traffic does not fully 'bypass' the downtown area. A complete bypass to the south has been previously identified/programmed, but has since been dropped.
- Safety concerns: High accident rates have been documented along the transportation network due to the increased volumes and conflicts along the local roadways.
- Traffic: Naveed Jaffar (F&H) provided a summary of the traffic analysis. Traffic analysis conducted along the network documents that most of the roadway corridors will continue to operate at acceptable levels; however, many of the intersections are currently operating at failing LOS. Analysis also documents a 4 lane section is needed near the proposed project termini at US 84 and US 1, with a 2 lane section in the middle.
- Accident Rate: Re-iterated the high accident rates within the project area, with emphasis on the Morningside Drive/City Blvd. corridor.

- Traffic Engineering Study: The project would require two signals in the opening year with 2 additional signals required at the design year. In addition, traffic circles will be evaluated at appropriate locations during project development.
- Proposed design criteria, including speed design: 55 mph; 4% grade; 2 and 4 lane sections; concern at tie in at US 84.
- Maintenance: no major issues identified; GDOT did mention the high percentage of 'chip trucks' the use the area.
- Access: Access control was a major discussion issue, particularly in regards to how it affects ROW costs. As of now, the project is being developed as a limited access roadway. The greatest potential for development, thus permitted access, appears to be between US 82 and US 1. GDOT mentioned the possibility of indentifying strategic access locations based on current property lines. The issue will require continue coordination with the local stakeholders. In addition, Matt briefly discussed the background regarding the 2 or 4 lane section.
- Public Concerns/Agency Coordination: The Need and Purpose and logical termini reports have been extensively coordinated with FHWA and GDOT OES. Project development is expected to proceed with a potential PIOH in 3-4 months, followed later by a PHOH. Matt also mentioned the 'Waycross Public Advisory Committee', which has a specific 'bypass steering committee', and his participation with these groups.
- Benefit to Cost Analysis: Will be conducted at the appropriate stage of project development. A cost savings is expected to be realized with the reduction of 4 lanes to 2 lanes.
- Mapping: Updated aerials have been recently provided. Survey mapping will be conducted once a more defined corridor has been identified. Field topo survey will be conducted upon the further refinement of the alignment location.
- Railroads: Project corridor includes two railroads which will have grade separated crossings.
- Environmental Concerns: Preliminary investigations have identified potential wetland areas and historical sites. In addition, a potential EJ community has been identified near US 84. The project will require an aquatic survey, air studies, noise studies, further cultural resources investigations, wetland (including streams and open waters) field survey, and other appropriate evaluations in development of the EA. GDOT mentioned that the Satilla River may have a 'riverkeeper' which will likely be involved. They also mentioned that the Laura S. Walker Park and a State Forest is located in the vicinity of the project area.
- Other modes of Transportation: The roadway will have rural shoulders and not sidewalk, bike path, or multi use path is proposed at this time.

- GDOT and Local Projects: There are several local projects, US 84 improvements, Hatcher Point improvements, which are not expected to impact the proposed project.
- Existing ROW: None to date. Anticipate the 4 lane sections to have 200 feet of ROW with the 2 lane section having 100-120 feet.

Discussion: Following the above discussion, the tie in at US 84 was briefly discussed. Ben described the concern and design constraints. The issues were acknowledged and will require further analysis and coordination in the development of the preferred design.

Attendees
Matt Bennett – Georgia DOT
Ben Clopper – Florence & Hutcheson
Barrett Stone – F&H
Naveed Jaffar – F&H
Cory Know – GDOT
Steve Price – GDOT
Brad Saxon – GDOT, Preconstruction
Malcolm Coleman – GDOT, R/W
Robert McCall – GDOT, Traffic Ops

CONCEPT TEAM MEETING MINUTES
STP-0002-00(871)
P.I. No. 0002871

MEETING DATE:	**August 28, 2012 @ 10:00 am**
MEETING LOCATION:	**Assembly Room, GDOT Jesup District Office, Jesup, Georgia**
RE:	**STP-0002-00(817) Waycross East Bypass – Pierce and Ware Counties**
TO:	**Distribution List, See Attached**

Introduction:

Matt Bennett (GDOT PM) opened the meeting with introductions and turned the meeting over to Ben Clopper (F&H) to discuss the Concept

Project Identification:

Ben Clopper (F&H) gave an overview of the project using the display showing the four analyzed Build Alternatives. Alternate "B" is the preferred alternative based on the significantly reduce amount of ecological impacts.

Project Schedule:

The project is currently behind schedule. The R/W is funded for 2016 and the construction is in Long Range. The Management R/W Let Date is December 2014 and the Management Construction Let is December 2016. After Concept Approval the schedule will be reviewed to determine how much can be recovered and what adjustments will be necessary.

Project Issues:

1. Project Justification:
   The project justification is included in the Draft Concept and focuses on the inability of the current system to handle projected traffic in the design year, as evidenced by the unsuitable LOS, and the above average accident rates in the project corridor.
2. Logical Termini:
   The Logical Termini Report has been approved by OES and FHWA. This new location project terminates at four lane state routes.
3. Planning Concept/Conforming plan's project description:
   The project conforms to the project description

4. Project Background:
   The project originated in the 2001 City of Waycross/Ware County Multi-Modal Transportation Study
5. Location of environmental resources
   a. Wetlands, open waters, streams and buffers:
      The Ecology Study is pending approval. Wetlands, waters and streams are shown on the concept
   b. Park Lands:
      No parks have been found
   c. Historic Properties, potential archaeological sites:
      Potential Historic properties are shown on the concept. Archaeological studies will be conducted later during the environmental phase.
   d. Cemeteries:
      No cemeteries have been found
   e. Location of potential Hazardous Waste Sites:
      None are known
   f. Underground storage tank sites:
      Several gas stations exist in the project corridor. The UST study has not been completed
   g. Threatened and Endangered Species:
      Some habitats were identified during the Ecology Study, but no species found. Further studies will be done during the environmental phase.
6. Public Involvement:
   A PIOH was held on September 1, 2011. There was very high attendance. Generally negative feedback
7. Alternatives considered and rejected to date sufficient for inclusion into the environmental document:
   The No-Build as well as Alternatives A, B, C & D were examined as part of the PAR. Alt B was selected because of the substantially lower ecological impacts, with a cost and displacements that were comparable to the other build alternatives. The No-Build did not satisfy the need and purpose. During the traffic study both two and four lane alternatives were considered and a two lane section was deemed sufficient from US 82 to US 84.
8. Design criteria proposed
   The design criteria is shown pages 5 & 6 of the concept report. The design speed is 55 mph. The four lane section includes a 32 depressed median with 10 foot rural shoulders. The two lane section also has two lane rural shoulders. All design features meet the Design Policy Manual.
9. Horizontal and vertical alignments criteria
   The horizontal and vertical alignments are designed based on AASHTO requirements for the 55mph design speed.
10. Typical Sections

The typical sections are included as Attachment 3 of the Concept Report and match the proposed design criteria. Typical sections are included for the two and four lane sections of the mainline.

11. VE Study results or recommendations
    The VE Study has not been held, but it will be scheduled as soon as possible. The bridge layouts must be complete prior to the VE Study.
12. IMR or IJR requirements
    N/A
13. Access Control
    The R/W for this project will have Full Access Control
14. Intersection Control additions or modifications that require permitting
    The Signal Warrant Study is included as Attachment 7b. Signals will be required at the following locations:
    a. Opening Year – US 82 @ 82 Connector, Bypass @ US 84
    b. Future – Bypass @ US 1, Bypass @ 82 Connector, Bypass @ Ware – to be determined based on future traffic need.

    The Roundabout Analysis –is included in Attachment 7a (TE Report), no roundabouts are recommended on this projects either due to increased ecological or railroad impacts or because of geometric considerations at the proposed intersection locations.
15. Practical Alternatives Review (PAR)
    The PAR has been reviewed with minor comments. The PAR will be resubmitted in the next two weeks. The preferred alternative was heavily influenced by the PAR process
16. Type of environmental document anticipated
    EA with FONSI
17. Environmental permits/studies required
    404 Permit
    SHPO Coordination for History
    Archeology
    Air & Noise
    Floodplain impacts
18. Project Framework Agreeement
    No PFA is necessary as this is a GDOT project
    Lighting is included in the design scope, however no locations have been identified where it is necessary. If lighting is added a Lighting Agreement will be necessary with the local government before any lighting plans can be designed. Any roundabouts would require lighting.
19. Right-of-Way requirements/estimate including easements
    a. Potential number of parcels
       36
    b. Number of relocates
       2 Commercial, 3 Residential
    c. Estimated right-of-way cost
       $9,263,000
    d. Who will be responsible for purchasing right-of-way

GDOT

20. Preliminary bridge assessments and structural needs including retaining and noise walls
    Bridges are required over the Satilla River and the two CSX railroads. The bridge over the Satilla is 4300 feet long and is estimated to cost about $20 million.
    MSE walls are recommended at the RR bridges to reduce lengths and impacts
    Noise walls will be evaluated later as part of the noise study
21. Accident history
    This is included as Attachment 4 – US 1 corridor is much higher than statewide averages for accident rates, US 82 is generally at or above, US 84 is above/below. All corridors are high for injury rates.
22. Potential soil conditions along the project
    Not examined closely yet, a soil survey will be completed during preliminary plans and BFIs and WFIs during final plans. The soils in the floodplain are an obvious concern and will be a major consideration it the bridge design
23. Construction limits
    None determined yet
24. Maintenance of traffic
    This is a new location, so staging is not expected to be an issue other than bridges
25. Maintenance problems existing along the project
    No areas along the existing roads have been identified
26. Preliminary capacity analysis for the “Build Alternative” and “No-Build Alternative”
    This is included as Attachment 6, the capacity analysis is one of main justifications for the project, the existing local network cannot handle projected traffic in the design year.
27. Potential improvements recommended for intersections along project
    N/A
28. Constructability of proposed project
    Constructability Review to be held later
29. Workzone safety and mobility requirements
    No special requirements identified
30. Preliminary construction cost estimates
    Included as Attachment 2a
    Construction - $50,136,498
    Utility - $3,435.428
    R/W – 9,263,000
31. Project assignments
    Included on page 9 of Concept Report. This is a Turn Key project, the F&H team is responsible for the design and permitting.
32. Project schedule
    This topic was previously covered at the beginning of the meeting
33. ITS Concept of Operations
    N/A
34. Maintenance issues with the ITS system
    N/A
35. Name, size and location of utilities along the project (including utility cost estimate)

The utility cost estimate is included as Attachment 2d.
Significant ($300k+) impacts are possible to
AT&T – Along existing roads and cabinets at Ware St, which should be possible to avoid
City of Waycross Sewer – lift station that should be avoidable
GA Power – along existing roads
GA Power Transmission – along existing roads
AGL – along existing roads
Major impacts ($1M+) –
Georgia Transmission Company – major facilities between US 84 and Satilla River. Once survey is complete the alignment can be tweaked to miss these structures.
Other facilities include Okefenoke REMC

36. Public Interest Determination findings
    Completed on 8/27/12, determination is Risk Acceptance
37. SUE status
    SUE is included as part of design scope, Qual D is already complete
38. Proximity and probable impacts to railroad and railroad right-of-way
    Two CSX Crossings, estimated $400,000 of reimbursable costs per estimate from CSX
    US 82 – 2 trains/day, 40 mph, future track to either side
    US 84 – 8 trains/day, 60 mph, future track to east side, bridge span R/W
39. Proximity to airports
    N/A

Attendees
See attached Sign in Sheet

CONCEPT TEAM MEETING

Waycross East Bypass Project
Project # - STP00-0002-00(871)
P.I. # - 0002871
Pierce/Ware Co.

8/28/2012

Name	Company	Contact Number	Email
[illegible]	GDOT	912-271-7404	MABERNETT@DOT.GA.GOV
BRAD SAXON	GDOT - D5 Pre-Const.	912-427-5715	bsaxon@dot.ga.gov
Robert McCall	GDOT - D5 TO	912-427-5703	rmccall@dot.ga.gov
Stephen Thomas	GDOT - Utilities	912-427-5779	Sthomas@" "
Jill Nagel	GDOT Communications	912 424-6643	jnagel@dot.ga.gov
John Kopotic	GDOT Eng. Services	912-262-2397	jkopotic@dot.ga.gov
MITCH BOWEN	CHAIRMAN Pierce Co	912-281-5189	Mbowen@piercecountyga.org.
Cory Knox	GDOT - CONST	912-427-1941	cknox@dot.ga.gov
Jack G. Walker	GDOT - Waycross	912-285-6009	jacwalker@dot.ga.gov.
H. Bryan Wingate	GDOT - R/W D-5	912-427-1983	bwingate@dot.ga.gov
Henry S McLaughlin	Satilla Water & Sewer	912-218-1861	henry@srwsa.com
KARL G. LEDFORD	GEORGIA TRANSMISSION	770-270-7990	KARL.LEDFORD@GATRANS.COM
Eric Hutto	Satilla REMC	912-286-0568	ehutto@satillaemc.com
Mark White	Okefenoke REMC	912-286-5597	mark.white@oremc.com
Larry Griffin	" "	912-286-3649	larry.griffin@oremc.com
Ben Clopper	Florence + Hutcheson	770-428-0157	bclopper@flohut.com
Rustavius Ford	"	"	rford@flohut.com
Tyson Graves	"	912-900-1615	tgraves@flohut.com
Wayne Hall	"	803.254.5800	whall@flohut.com
GEORGE SHENK	GDOT UTILITIES (AMEC)	912 427 5779	gshenk@dot.GA.GOV

CONCEPT TEAM MEETING

Waycross East Bypass Project **8/28/2012**

Project # - STP00-0002-00(871)

P.I. # - 0002871

Pierce/Ware Co.

Name	Company	Contact Number	Email
John Royal	GDOT	912-427-5859	jroyal@dot.ga.gov
Richard Love	City of Waycross	912-287-2945	rlove@waycrossga.com
Paul Alimia	GDOT-OES	404 631 1353	palimia@dot.ga.gov
Ben Rabun	GDOT-Bridge		brabun@dot.ga.gov
Angel Swagner	GDOT-Des. Pol. + Support	404 631 1545	aswagner@dot.ga.gov

Meeting Minutes (PIOH)

Waycross Bypass from SR 4/US 1/US 23 to SR 520/US 82

Vance C. Smith, Jr., Commissioner

GEORGIA DEPARTMENT OF TRANSPORTATION

One Georgia Center, 600 West Peachtree Street, NW
Atlanta, Georgia 30308
Telephone: (404) 631-1000

September 1, 2011

Thank you for attending the public information open house for STP-0002-00(871), P.I. No. 0002871, the proposed East Waycross Bypass. In this handout package you will find a project description, location map and comment card.

As you enter the room, you will notice displays of the proposed project. Georgia Department of Transportation (GDOT) representatives, who can be identified by the nametags they are wearing, are available to discuss the project and answer your questions. Please take this opportunity to discuss the project with a DOT representative. There will be no formal presentation.

A court reporter will be available for those persons who would like to make a verbal statement about the project. You may also complete a comment card and deposit it into the box provided here or send in written comments about the project until September 16, 2011. Written comments should be sent to Mr. Glenn Bowman, P.E., State Environmental Administrator, Georgia Department of Transportation, 600 West Peachtree Street NW, 16th Floor, Atlanta, Georgia 30308. Comments can also be made via the web at ***www.dot.ga.gov***. Click on **Public Outreach** from the **Information Center** dropdown menu at the top right side of the page. All comments will be made a part of the project record. We hope you will take advantage of one of these opportunities to let the Department know your view of the proposal.

The displays and plans will be available for review for ten days after the public information open house at the Georgia Department of Transportation Waycross Area Office located at 104 N Nichols St, Waycross, GA 31502. A copy of all comments received will be available for public review at this same location and at the Georgia Department of Transportation, Office of Environmental Services, 600 West Peachtree Street NW, 16th Floor, Atlanta, Georgia 30308, as soon as compilation is completed.

Again, thank you for attending this public information open house and for giving us your comments. If you should have any questions or need additional information, feel free to contact the project manager Matt Bennett at 912-427-5737 or Paul Alimia at 404-631-1353 of the Office of Environmental Services.

Sincerely,

Bobby Hilliard

Bobby K. Hilliard, P.E.
State Program Delivery Engineer

BCH/bcc

Attachments

Project No.: STP-0002-00(871)
Pierce/Ware Counties
PI No.: 0002871
Waycross East Bypass

Project Description

This project is located in Pierce and Ware Counties, beginning along US 1/US 23/SR 4 approximately 3.8 miles from downtown Waycross and ending along US 84/SR 38 approximately 3.5 miles from downtown Waycross. The project consists of new location construction of the Waycross East Bypass for a total distance of approximately 5.5 miles. The roadway is proposed to be a four lane section with 32 foot depressed median from US 1 to US 82 and a two lane section from US 82 to US 84. Both sections will include 10' rural shoulders. The project includes bridges over the Satilla River as well as the CSX railroad tracks at US 82 and US 84.

The Right-of-Way for the project is proposed to be 200' wide for the four lane section between US 1 and US 82 and 120' wide in the two lane section between US 82 and US 84.

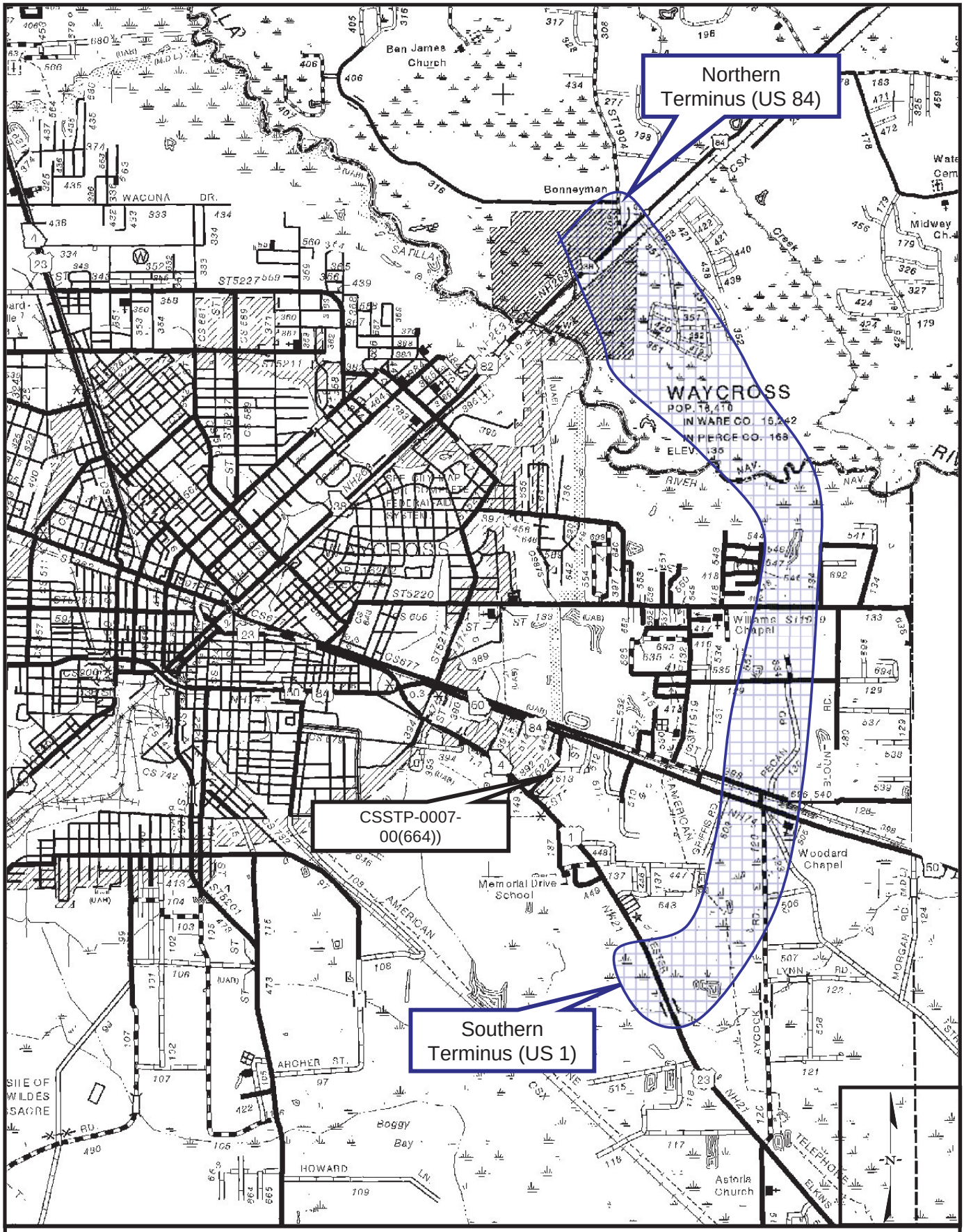


FIGURE 1 - Waycross East Bypass, Project Area

GDOT Project STP-0002-00(871), Pierce/Ware Counties
P.I. No. 0002871

NOT TO SCALE

Keith Golden, P.E., Commissioner

GEORGIA DEPARTMENT OF TRANSPORTATION

One Georgia Center, 600 West Peachtree Street, NW
Atlanta, Georgia 30308
Telephone: (404) 631-1000

October 25, 2011

«AddressBlock»
«AddressBlock»
«AddressBlock»

Re: Project STP00-0002-00(871), Pierce and Ware Counties, P.I. No. 0002871, Waycross East Bypass from SR 4/US 1/US 23 to SR 38/US 84 – Responses to Open House Comments

«GreetingLine»

Thank you for your comments concerning the proposed project referenced above. We appreciate your participation and all of the input that was received as a result of the Public Information Open House (PIOH) held September 1, 2011. Every written comment received and verbal comment given to the court reporter at the PIOH will be made part of the official record of the project.

Approximately 300 people attended the PIOH. Of the 83 respondents who formally commented, 11 were in support of the project, 57 were opposed, 14 were uncommitted, and 1 expressed conditional support.

The attendees of the PIOH and those persons sending in comments afterwards raised the following questions and concerns. The Georgia Department of Transportation (GDOT) has prepared this one response letter that addresses all comments received so that everyone can be aware of the concerns raised and the responses given. Please find the comments summarized below (*in italics*) followed by our response.

- *This project is not needed.*

The primary purpose of the Waycross East Bypass is to reduce congestion, improve safety and promote economic development in the greater Waycross region. The area network specifically includes the roadway corridors and intersections associated with US 82, US 84, US 1, along with various local connecting routes such as City Boulevard and Morningside Drive.

The project would improve the operational efficiency of the area transportation network specifically for local commuter traffic and provide alternate routes and trip choices to further relieve traffic congestion and enhance mobility along the study area. The project would reduce traffic along already burdened facilities, improving the efficiency of these facilities. Local roadways that have historically served residential areas are experiencing higher traffic volumes from local commuters. These roadways are not designed to safely accommodate the higher volumes/speeds of traffic, and therefore have accident rates approximately 147% higher than the statewide average for similar roadways.

- *This project will take away businesses from Waycross.*

Again, the project is expected to accommodate and promote economic development in the greater Waycross region. Commercial development is currently expanding along the US 1 corridor, southeast of Waycross. This

trend, along with residential developments, is expected to continue which will impact local travel patterns and facilities. In addition, development trends indicate an increase in residential development along the US 84 corridor, northeast of Waycross.

- *The bypass needs to be located farther away from the city.*

The Bypass is being proposed to reduce traffic congestion in the greater Waycross area. Moving the Bypass farther from town would not adequately address this need because local traffic would not be drawn to it.

- *Traffic should be routed to State Route 121 instead of building a bypass.*

The Bypass is being proposed to reduce traffic congestion in the greater Waycross area. Moving the Bypass farther from town would not adequately address this need because local traffic would not be drawn to it.

- *Aycock Road should be widened between US 1 and US 82 instead of constructing the Bypass*

Widening of Aycock Road for the Bypass would create additional displacement of existing residences. In addition, the Bypass is planned to be Full Access Control, meaning there would not be driveway access to the Bypass from the many properties that currently have frontage along Aycock Road, creating further complications for the remaining residents.

- *Move the intersection on US 82 east to align with Blount Road*

This idea will be examined to determine the feasibility and cost.

- *Given the current economic climate this project cannot be afforded. The money should be redirected to other priorities such as education and saving jobs.*

Roadway construction in Georgia is funded primarily through the Federal Highway Trust Fund and state gasoline taxes. Projects are planned and programmed based on anticipated collections from these sources. These funds are solely dedicated to transportation projects and cannot be used for non-transportation purposes.

- *Construction of this project would negatively impact the environment, including the Satilla River, wetlands and animal habitats.*

Federal regulations require that federally-funded transportation projects complete rigorous investigations to evaluate the potential impacts to the environment resulting from the proposed project. The results of the investigations are documented in technical reports that require concurrences from numerous state and federal regulatory agencies. These agencies make recommendations on how to best avoid and/or minimize impacts to the environment. These recommendations are then considered in the development of the project, and incorporated, where practicable, while still ensuring sound engineering design, safety, and constructability. Unavoidable impacts would be permitted through the appropriate jurisdictional agency, and compensatory mitigation will be required to offset the impacts resulting from the project.

- *Construction of this project would negatively impact existing residential neighborhoods.*

Unfortunately, the displacement of residents or the necessity to acquire additional rights-of-way from adjacent properties is inherent in the development of transportation projects. GDOT seeks to minimize the amount of additional rights-of-way needed by utilizing a design that meets engineering and safety standards but also fits in with the local communities. The proposed bypass would utilize a two-lane roadway between US 82 and US 84 to minimize the roadway footprint and reduce the amount of rights-of-way required.

- *The proposed bypass is not appropriate for the rural nature of the area.*

The addition of the Waycross Bypass will change the viewscape of adjacent properties but should not significantly change the rural nature of the area. The Bypass would be designed as a four-lane divided roadway with a 32-foot depressed median between US 1 and US 82. This area is experiencing significant growth and the four-lane section is being designed to accommodate that growth. Between US 82 and US 84 the Bypass would be designed as a two-lane roadway with no median and 10-foot outside shoulders. This roadway typical is similar to existing roadways in the area. There would be limited access to the Bypass so existing streets would not be significantly impacted from additional traffic. Any new development could be limited through city or county zoning to maintain the rural nature of the area.

- *Noise from the bypass would negatively affect the rural nature of the community*

Federal regulations require that a noise analysis be completed on all federally-funded transportation projects to help protect public health and welfare. The analysis consists of determining existing and future noise levels, and evaluating which houses or businesses are impacted by existing noise or may be impacted by future noise levels. Various noise abatement measures are then evaluated for houses or businesses that would be impacted by future noise levels.

- *Construction of this project would negatively impact existing property values.*

During the Right of Way Acquisition process property values are determined by the appraisers before negotiations begin. Any appreciation (specific benefit) or depreciation (damage) to the property created by the proposed project would be considered by the appraiser during the valuation phase.

- *US 84 needs to be widened between Waycross and Homerville and this should be prioritized instead of the Bypass.*

The widening of US 84 is part of the Governor's Road Improvement Program (GRIP) that was developed in 1989 to provide regional connectivity in rural areas, promote economic development, provide an effective and efficient transportation network, and safer travel in rural areas. Numerous sections of US 84 have already been completed outside of Ware County. The section of US 84 between Waycross and Homerville is divided into three phases and is presently in the preliminary engineering or right-of-way acquisition/final plans stage. Construction on two of the three phases is scheduled for 2015.

Again, thank you for your comments concerning this project. Should you have any further questions, comments, or concerns, please call the project manager, Matt Bennett, at (912) 427-5737 or the environmental analyst, Paul Alimia, at (404) 631-1353.

Sincerely,

Glenn Bowman, P.E.
State Environmental Administrator

GB/bcc

cc: Matt Bennett, GDOT Project Manager

PAR

Waycross Bypass from SR 4/US 1/US 23 to SR 520/US 82

Georgia Department of Transportation

Practical Alternatives Report

Waycross East Bypass from US 84/SR 38 to US 1/US 23/SR 4

Georgia Department of Transportation
Project No. STP00-0002-00(871), Ware/Pierce County, GA
P.I. No. 0002871

Prepared By:
Florence & Hutcheson, Inc

For:
Georgia Department of Transportation

December 20, 2012

General Project Description:

The East Waycross Bypass, Project No. STP00-0002-00(871), would provide a new location roadway from US 1/US 23/SR 4 to US 84/SR 38 for a total distance of approximately 5.2 miles (Figures 1, 1a). The proposed roadway would be located between 2.5 to 4 miles from downtown Waycross, and would serve as a bypass facility for local traffic. The project would include bridges over the Satilla River as well as CSX railroad tracks at US 82/SR 50 and US 84/SR 38. The proposed roadway would include a four-lane divided roadway with rural shoulders between and US 1/US 23/SR 4 and US 82/SR 50, and a two-lane undivided roadway with rural shoulders between US 82/SR 50 and US 84/SR 38. The required right-of-way would be 200 feet for the four-lane section and 120 feet for the two-lane section. The design speed is 55 mph

Purpose:

The purpose of the Waycross East Bypass is to improve the operational efficiency and safety along the area transportation network and accommodate and promote economic development along the greater Waycross region. The area network specifically includes the roadway corridors and intersections associated with US 1, US 82, and US 84 along with various local connecting routes such as City Boulevard and Morningside Drive.

Need:

The proposed project has been developed based on a variety of transportation needs within the immediate vicinity of the City of Waycross. The proposed project is needed to improve the operational efficiency of the area transportation network, specifically for local commuter traffic. In addition, alternate routes and trip choices are needed to further relieve traffic congestion and enhance mobility along the study area. The proposed project will effectively remove/reassign traffic from already burdened facilities, improving the efficiency of these facilities.

The project is needed to accommodate the planned economic development around Waycross, and improve existing community cohesion. Commercial development is currently expanding along the US 1 corridor, southeast of Waycross. This trend, along with residential developments, is expected to continue which will impact local travel patterns and facilities. In addition, development trends indicate an increase in residential development along the US 84 corridor, northeast of Waycross.

The increase in traffic along the Morningside Drive/City Boulevard corridor has disrupted the safety, mobility, and cohesion of various residential communities located mainly between US 84 and US 82. Homeowner access is becoming increasingly problematic, as traffic volumes along this corridor are creating unsafe conditions for residences trying to access the roadway. Residential streets tend to have lower speed limits with slower traffic which causes conflicts with faster drivers who are seeking a short cut to other parts of town. The proposed project would reduce traffic along the existing facilities which would increase the capacity of the transportation network. This should result in a decrease in commuter traffic within the residential areas which would improve the safety, mobility, and cohesion by reducing potential access conflicts.

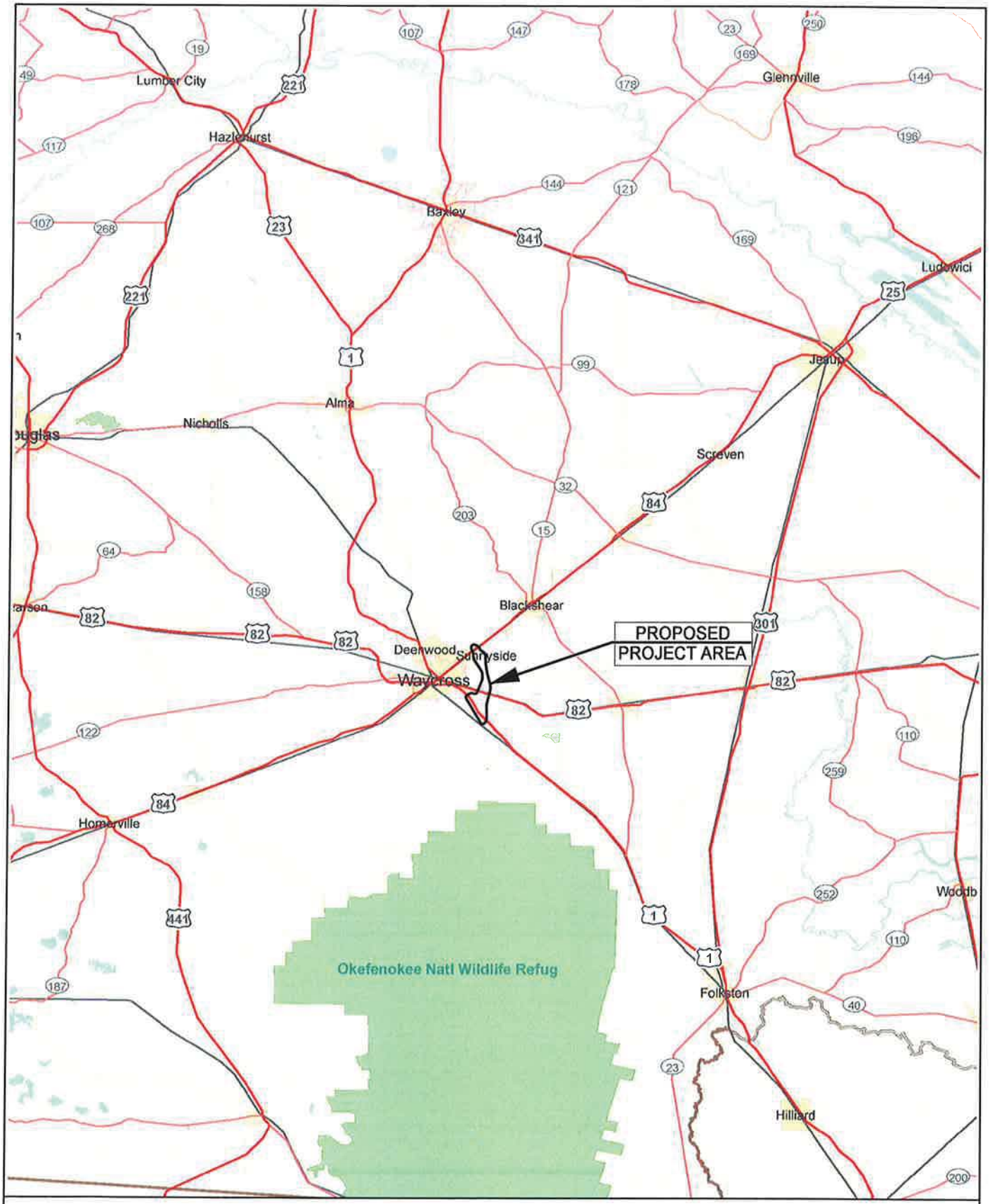


FIGURE 1 - Waycross East Bypass, Vicinity Map

GDOT Project STP-0002-00(871), Pierce/Ware Counties
P.I. No. 0002871

10/26/2012
L:\07119\Environmental\Practical Alts Report\Figure 01 (Area-Map).dgn

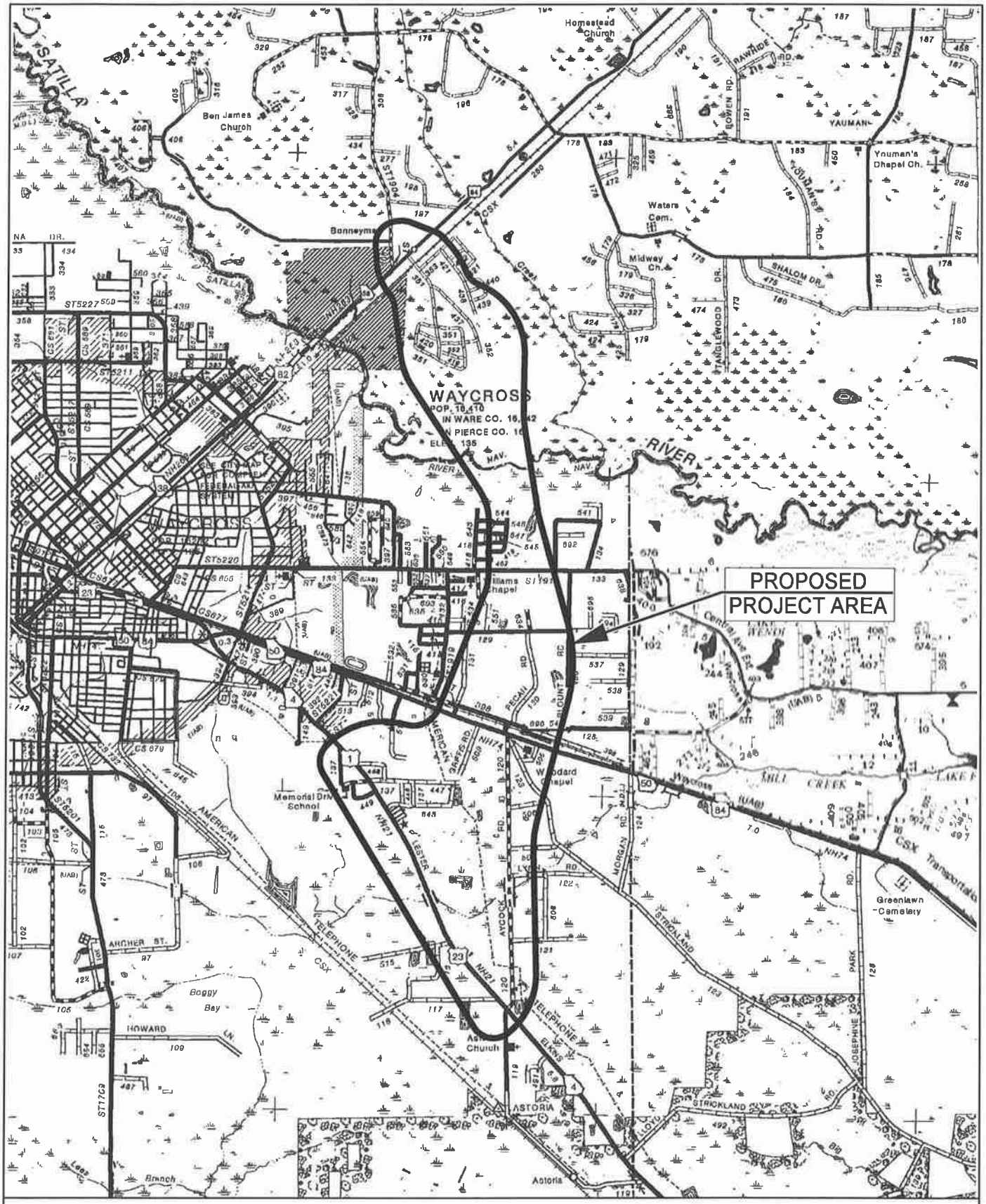


FIGURE 1a - Waycross East Bypass, Location Map

GDOT Project STP-0002-00(871), Pierce/Ware Counties
P.I. No. 0002871

10/26/2012
L:\07119\Environmental\Practical Alts Report\Figure 01c (Loc-Map).dgn

Operational Deficiencies:

A multi-modal transportation study for the City of Waycross and Ware County was previously conducted and completed for the Georgia Department of Transportation (GDOT) in 2001. The purpose of this study was to evaluate existing transportation systems, identify existing and future deficiencies, and to recommend existing and future improvements. Included with the study was a detailed analysis of the highway/street systems along Waycross. This analysis included detailed traffic studies and modeling of area facilities in order to determine existing conditions, predict future deficiencies, and recommend improvements to the existing systems[1].

Results of the Multi-Modal Transportation Study indicate that approximately 90% of all roads in Waycross/Ware County were operating at a LOS C or better in the year 2000. However, analysis of the future systems (2025) determined that approximately 29% of all the roads traveled in Waycross/Ware County will be operating at a LOS D or worse. In addition, the vehicle miles traveled, vehicle hours traveled, and vehicle hours of delay are expected to increase from year 2000 levels. As a result, the multi-modal study identified and evaluated several alternatives to address the predicted roadway deficiencies. The alternatives were evaluated primarily on the travel demand model and public involvement, and resulted in various recommended roadway/intersection improvements. Included in the recommended improvements was the construction of an 'east bypass', which would extend from US 1, northward to US 84. As a result of this study, the Georgia Department of Transportation (GDOT) secured funding for the design and right-of-way acquisition for the proposed Bypass. This project is documented in the 2008-2011 State Transportation Improvement Program (STIP) as Project No. STP00-0002-00(871).

Safety

Historic crash data for the years 2006-2008 were analyzed for the study intersections and roadway segments[2]. Approximately 416 crashes occurred on US 1 between US 84 and Aycock Road; 318 crashes occurred on US 84 between US 1/SR122 (Carswell Road) and Oak Ridge Trail; 116 crashes occurred on US 82 between US 1 and Aycock Road; and 253 occurred on Morningside Drive/Coral Road/City Boulevard between US 1 and US 84. To evaluate the frequency of crashes occurring in the study area, crash rates along these corridors were calculated using formulas published in the ITE Traffic Engineering Handbook that are typically used for GDOT projects. These rates were then compared to the statewide average for similar facilities. In addition, traffic accident data was reviewed to identify the type and possible cause of the crashes. The data indicate that angle and rear-end collisions were the most common crash types. Literature shows that these accident types are generally a reflection of traffic congestion and unsafe turning conditions which increase vehicular conflicts.

The crash rates on the project exceeded the statewide average for an Urban Principal Arterial for all three years studied, except along the US 84 corridor in 2007 and 2008 and the US 82 corridor in 2007. Crash rates along US 1 in the project area were an average of 69 percent greater over the three year period, with injury rates an average of 267 percent greater. Crash rates along US 84 in the project area were an average of 16 percent greater over the three year period, with injury rates an average of 123 percent greater, including 1 fatality. Crash rates along US 82 in the project area were an average of 12 percent greater over the three year period, with injury rates an average of 196 percent greater. Crash rates

[1] Waycross/Ware County Multi-Modal Transportation Study 2001
[2] Traffic Study for Waycross East Bypass from US 84 to US 1/US 23 - Florence & Hutcheson (April 2010)

along the Morningside Drive corridor in the project area were an average of 145 percent greater from 2007 to 2008 then the statewide average for an Urban Minor Arterial, with injury rates an average of 262 percent greater (2006 data was excluded in this analysis due to the discrepancy in the statewide averages, and OES concerns with the accuracy of this data). Therefore crashes are occurring along the studied corridors at greater rates, and with greater severity than the statewide averages for similar facilities.

Roadway Traffic

A traffic analysis was conducted to evaluate the existing and future traffic operating conditions associated with the proposed Waycross East Bypass and the surrounding roadway network[3]. The existing year conditions (2008), opening year conditions (2017), and design year traffic conditions (2037) were evaluated for the proposed Bypass and surrounding facilities. The traffic analysis identified multiple facilities that are, or will be operating at capacity, in the near future. The LOS and average daily traffic estimates for the roadway segments and intersections in the study area, which includes the US 1, US 82, and US 84 roadway corridors from the proposed Bypass to the downtown area of Waycross, are included in the traffic summary that will be appended to the EA. This data documents that the primary US roadway corridors are projected to be operating at acceptable LOS; however, numerous intersections along these roadway corridors along with the local roadway corridors are projected to be operating at a LOS D or worse in the design year (2037). As such, these findings support the need for operational improvements along various transportation facilities within the area network. The following is a summary of the deficient facilities based on 2037 no-build traffic projections:

- US 84 (east of Morningside Drive) = LOS D
- Morningside Drive (south of US 84) = LOS D
- City Boulevard (south of Central Avenue) = LOS D
- US 84 at Carswell Avenue = LOS F
- US 84 at Knight Avenue = LOS F
- US 84 at State Street = LOS F
- US 84 at Morningside Drive = LOS F
- US 84 at Ware Street = LOS F
- US 1 at Lee Avenue = LOS F
- US 1 at Wilkerson Street = LOS F
- US 1 at US 82 = LOS F
- US 1 at City Boulevard = LOS D
- US 1 at Hatcher Point Road = LOS E
- US 82 at City Boulevard = LOS F
- US 82 at Hatcher Point Road = LOS F
- US 82 at Woodward Chapel Xing = LOS F
- City Boulevard at Knight Avenue = LOS F

Community Cohesion

Waycross has been experiencing an 'out-migration' in population as more residents appear to be living in the unincorporated areas, but commuting to work within the town limits of Waycross. This trend has impacted the infrastructure and travel patterns in Waycross, resulting in the disruption to existing communities and residential areas. The traffic analysis and evaluation of existing travel patterns within the proposed project area identified a high

[3] Traffic Study for Waycross East Bypass from US 84 to US 1/US 23 - Florence & Hutcheson (April 2010)

volume of traffic utilizing the Morningside Drive/City Boulevard roadway corridor. This is an existing two lane roadway that transects a residential community, and intersects with the US 84, US 82 and US 1 roadway corridors. These intersections, primarily US 82 and US 1, are developed with mixed commercial developments that serve as a major destination for local commuters, patrons, and employees. As such, this roadway corridor experiences high volumes of commuter traffic (>10,000 ADT), and is expected to be operating at an LOS E by 2037. The high volumes of traffic along this corridor also results in a high accident rate, which is approximately 145% greater than the statewide accident average along similar facilities.

The increase in traffic along the Morningside Drive/City Boulevard corridor has disrupted the safety, mobility, and cohesion of various residential communities located mainly between US 84 and US 82. Homeowner access is becoming increasingly problematic, as traffic volumes along this corridor are creating unsafe conditions for residences trying to access the roadway. Residential streets tend to have lower speed limits with slower traffic which causes conflicts with faster drivers who are seeking a short cut to other parts of town. Given the existing and projected traffic volumes along this roadway, and the fact that this road is a major cut through for commuters between US 1, US 82, and US 84, this trend would continue. In addition, the existing two lane facility cannot safely accommodate the existing or projected traffic volumes, which results in the increase of traffic accidents and personal loss and injury. The proposed project is expected to reduce traffic volumes along this corridor by as much as 26% by 2037. The proposed project would reduce traffic along the existing facilities which would increase the capacity of the transportation network. This should result in a decrease in commuter traffic within the residential areas which would improve the safety, mobility, and cohesion by reducing potential access conflicts.

Economic Development

The evaluation of local travel patterns, City statistics, and previous public involvement efforts associated with Waycross planning have identified a need for the proposed project to support existing community cohesion and support economic development along the region. The City and County comprehensive plans document that the City of Waycross/Ware County is the major transportation hub (highways, rail, and air) in Southeast Georgia, and therefore supports various commercial industries and employment potential[4]. The Comprehensive plans also document a recent decline in the population of Waycross, while the City experienced economic growth and employment during this same period. This is further supported by US Census data, in which the population of Waycross declined from 16,410 in 1990 to 15,712 in 2000, while employment increased from approximately 5,600 to 6,000, respectively. These trends indicate that a growing number of residents/employees are living in the surrounding unincorporated areas, and commuting to work in Waycross. As such, daytime population has been increasing due to the increased workforce, further impacting the residents, community services and infrastructure of Waycross. This trend has impacted the infrastructure and travel patterns in Waycross, resulting in the disruption to existing communities and residential areas. Specifically, traffic analysis conducted along Waycross identified a high volume of traffic utilizing the Morningside Drive Corridor. In addition, the majority of this traffic is comprised of 'through traffic' that is accessing the developed corridor of US 1 and US 82. The increase in commuter/through traffic along this corridor is impacting homeowner access, safety, and community cohesion.

[4] City of Waycross Comprehensive Plan – Partial Update (June 2008); Ware County, Georgia – Partial Update to the Comprehensive Plan (June 2008).

The various City and County comprehensive plans also document the growing trend of commercial development and zoning along the US 1 corridor, southeast of Waycross. Much of this area is zoned for commercial development, along with a large gated residential community. These developments include various "big box" retailers, auto sales, and general commercial. In addition, there is documented planned residential growth along US 84, northeast of Waycross. As such, existing roadways, especially the Morningside Corridor, will continue to be burdened and adversely impacted by high traffic volumes, faster travel speeds, and increased vehicular conflicts as commuters travel to and from these areas. These conditions will impact the transfer of goods, employment commuting, and access associated with the planned development along US 1. It is also documented that the area is actively pursuing economic development through the Okefenokee Area Development Authority, Waycross-Ware County Chamber of Commerce, and the Downtown Development Authority.

Alternatives Considered

The no-build alternative, which consists of making no improvements to the local transportation network, was considered a baseline for comparison. The no-build would not provide for operational efficiency and safety along the area transportation network nor accommodate and promote economic development in the greater Waycross region. For these reasons, the no-build alternative is not considered acceptable.

Various location and design alternatives were considered in the process of developing a proposed "build" alternative. Transportation System Management (TSM) alternatives were also considered; including, signalization, selected intersection improvements, and access management. The TSM alternatives did not accommodate the projected traffic volumes and the needed safety improvements; therefore, they did not meet the purpose and need of the project and are no longer under consideration.

All of the build alternatives have similar roadway geometry north of Central Avenue. They cross the Satilla River on a slightly different skew but generally follow the same corridor to US 84 (Figure 2). The same typical section is being proposed for all alternatives. The roadway typical between US 1 and US 82 is a rural section with four 12-foot travel lanes (two in each direction) and a 32-foot depressed median with 10-foot outside shoulders. The roadway typical between US 82 and US 84 is a rural section with two 12-foot travel lanes (one in each direction), no median, and 10-foot outside shoulders. Minimum right-of-way widths for the two-lane section would be 120 feet and the four-lane section would be 200 feet. Proposed speed limits would be 55 mph between US 1 and US 82, and 65 mph between US 82 and US 84.

The build alternatives considered for this project are described below. These build alternatives were evaluated to identify their abilities to meet the project's purpose and need and compare their impacts. A summary of impacts of each of the build alternatives is shown in Table 1, and the alternatives are illustrated in Figures 2A-D.

Alternative A

This alternative begins midway between Conners Road and RC Davis Road on US 1 and travels northerly and crosses over US 82 just west of Aycock Road. From US 82 it travels northerly across Driggers Road and Central Avenue then across the Satilla River. It then travels westerly between the water treatment plant and the Oak Ridge community. The roadway spans US 84 and loops around and connects back to US 84 while adding new connector roads to Golf Course Road and Ware Street. This alternative is 5.4 miles in

length. Other connector roads will be added along the proposed roadway, as necessary, to maintain access to existing facilities. The intersections at Driggers Road and Central Avenue will be improved through the addition of dedicated turn lanes (Figure 2A).

Alternative B

This alternative begins at the Memorial Drive/Morris Road intersection and travels east-northeast and crosses US 82 near HO Griffis Road. It then crosses Driggers Road and Central Avenue parallel to Gobbler Lane and then across the Satilla River. It then travels westerly between the water treatment plant and the Oak Ridge community. The roadway spans US 84 and loops around and connects back to US 84 while adding new connector roads to Golf Course Road and Ware Street. This alternative is 5.2 miles in length. Other connector roads will be added along the proposed roadway, as necessary, to maintain access to existing facilities. The intersections at Driggers Road and Central Avenue will be improved through the addition of dedicated turn lanes (Figure 2B).

Alternative C

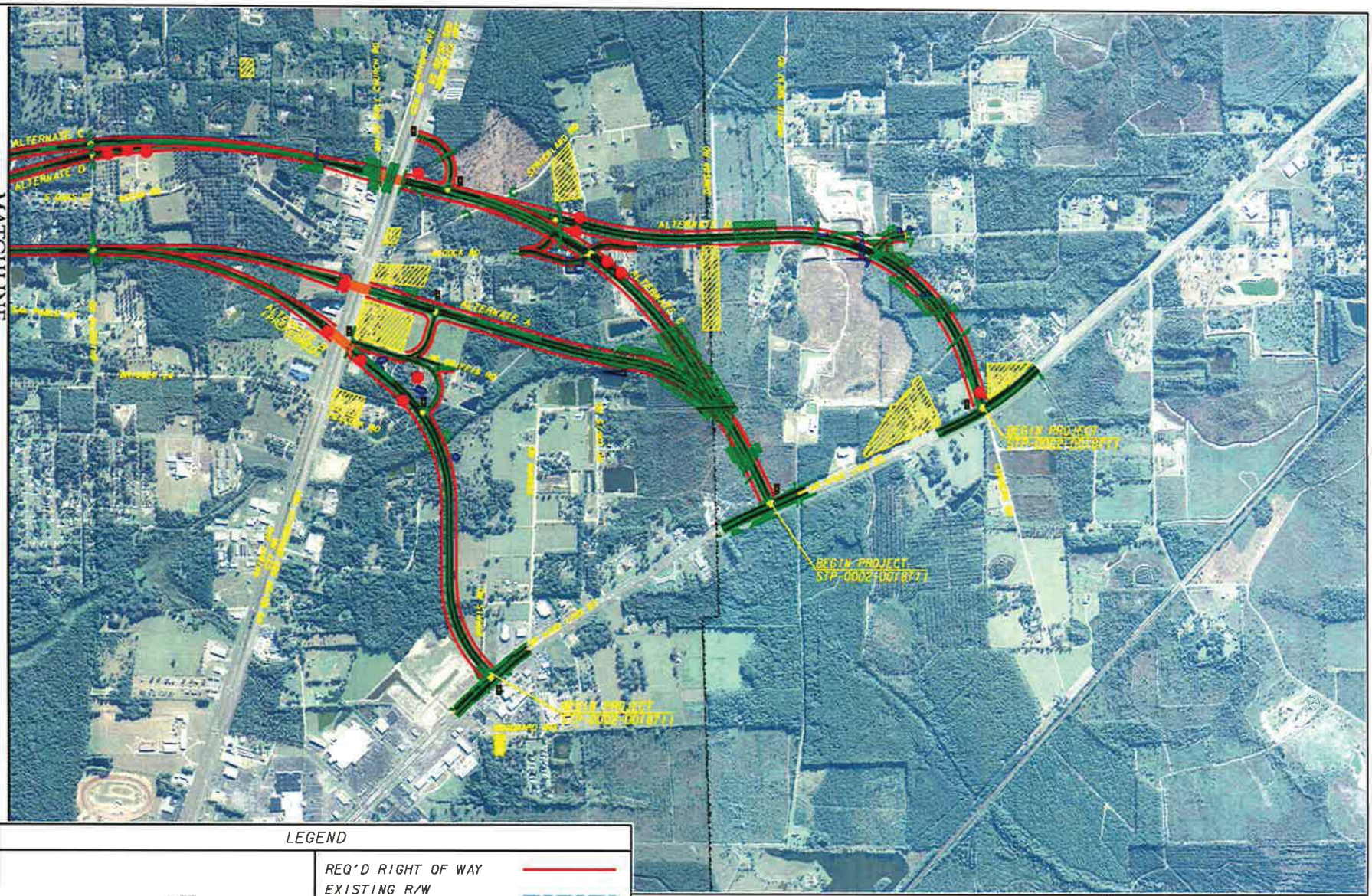
This alternative begins midway between Conners Road and RC Davis Road on US 1 and travels northeast across Aycock Road and crosses over US 82 near White Hall Church Road. From US 82 it travels northerly across Driggers Road and Central Avenue then across the Satilla River. It then travels westerly between the water treatment plant and the Oak Ridge community. The roadway spans US 84 and loops around and connects back to US 84 while adding new connector roads to Golf Course Road and Ware Street. This alternative is 5.6 miles in length. Other connector roads will be added along the proposed roadway, as necessary, to maintain access to existing facilities. The intersections at Driggers Road and Central Avenue will be improved through the addition of dedicated turn lanes (Figure 2C).

Alternative D

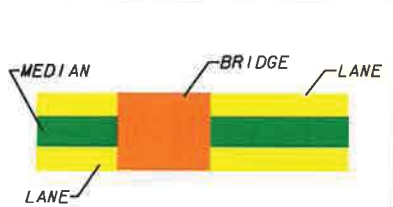
This alternative begins at the Conners Road/US 1 intersection and travels northerly to Aycock Road. It follows Aycock Road to just south of Dawson Road where it transitions northeasterly across Strickland Road and crosses over US 82 near White Hall Church Road. From US 82 it travels northerly across Driggers Road and Central Avenue then across the Satilla River. It then travels westerly between the water treatment plant and the Oak Ridge community. The roadway spans US 84 and loops around and connects back to US 84 while adding new connector roads to Golf Course Road and Ware Street. This alternative is 6.0 miles in length. Other connector roads will be added along the proposed roadway, as necessary, to maintain access to existing facilities. The intersections at Driggers Road and Central Avenue will be improved through the addition of dedicated turn lanes (Figure 2D).

Ecological Impacts from Alternatives

There are eight distinct vegetative/land use communities in the proposed project area: Maintained Right-of-Way/Residential/Commercial, Mixed Pine-Hardwood, Open Field, Xeric Oak, Silvaculture, Fallow Field/Early Successional, Agriculture, and Pine Forest. Field surveys also identified six invasive plant species scattered throughout the project corridor: Chinese privet (*Ligustrum sinense*), Chinese tallow (*Triadica sebifera*), Japanese climbing fern (*Lygodium japonicum*), English ivy (*Hedera helix*), mimosa (*Albizia julibrissin*), and Japanese honeysuckle (*Lonicera japonica*).



LEGEND



- REQ'D RIGHT OF WAY
- EXISTING R/W PROPERTY LINE
- RIVER/POND/LAKE
- FLOOD PLAIN
- WETLANDS
- POTENTIAL HISTORICAL/ CULTURAL SITE
- DISPLACEMENT

WAYCROSS EAST BYPASS
ALTERNATES A, B, C, & D

NEW LOCATION FROM SR 4/US 1/US 23 TO SR 38/US 84

PROJECT NO: STP-0002-00(871)

P.I NO: 0002871

COUNTY: PIERCE/WARE

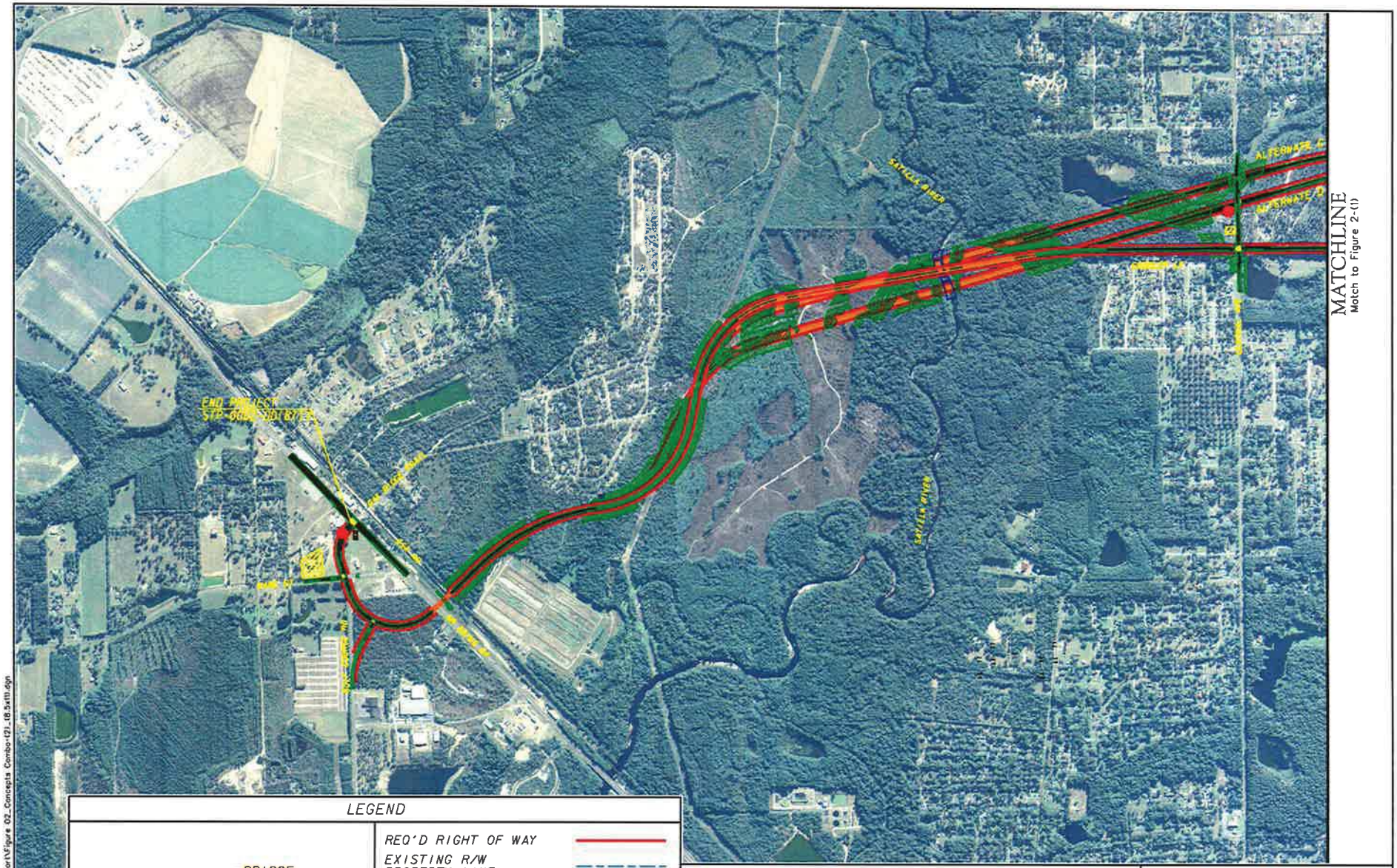
FIGURE 2-(1)

Georgia Department of Transportation

Florence & Hutcheson
CONSULTING ENGINEERS

L:\02719\Environmental\Practical Alts Report\Figure 02_Concepts Combo-(1)_(8.5x11).dgn

JWM 10/26/2012



LEGEND

MEDIAN
BRIDGE
LANE
LANE

REQ'D RIGHT OF WAY
EXISTING R/W PROPERTY LINE
RIVER/POND/LAKE
FLOOD PLAIN
WETLANDS
POTENTIAL HISTORICAL/ CULTURAL SITE
DISPLACEMENT

SCALE 0 1000 2000 FEET

WAYCROSS EAST BYPASS ALTERNATES A, B, C, & D

NEW LOCATION FROM SR 4/US 1/US 23 TO SR 38/US 84

PROJECT NO: STP-0002-00(871)

P.I NO: 0002871

COUNTY: PIERCE/WARE

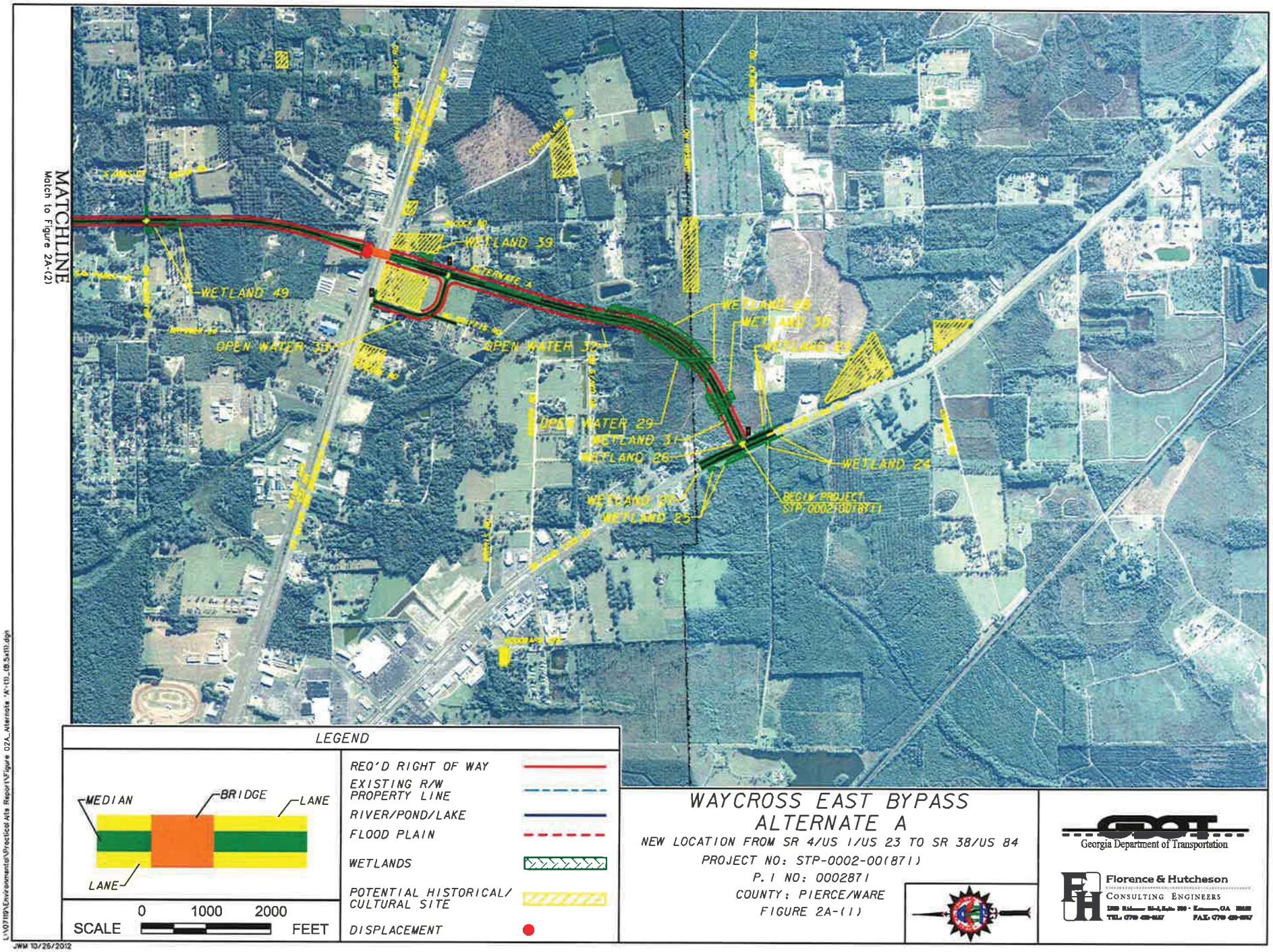
FIGURE 2-(2)

GDOT
Georgia Department of Transportation

Florence & Hutcheson
CONSULTING ENGINEERS

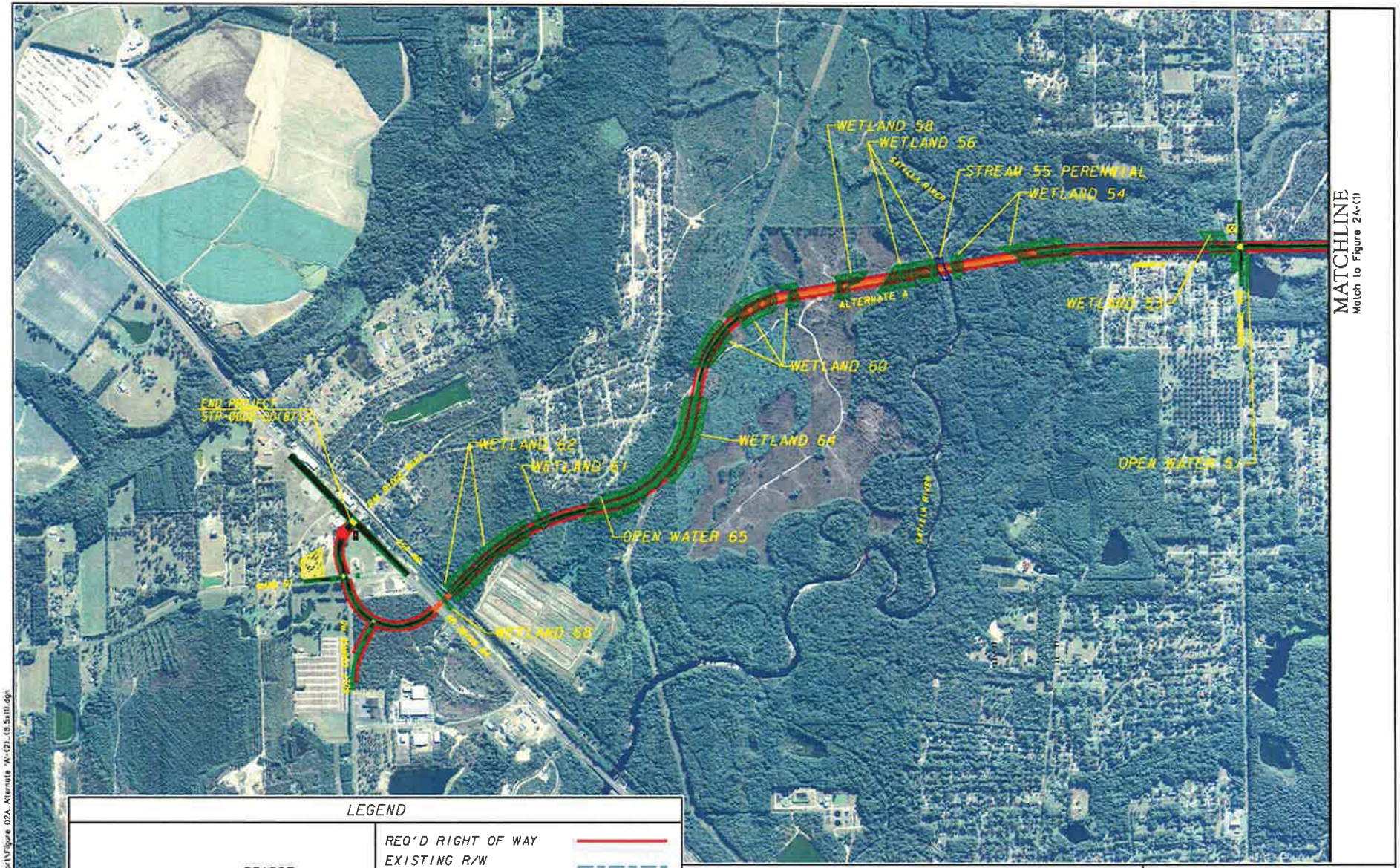
L:\07119\Environmental\Procelical Alts Report\Figure 02_Concepts Combo-(2)_(8.5x11).dgn

JWM 10/26/2012

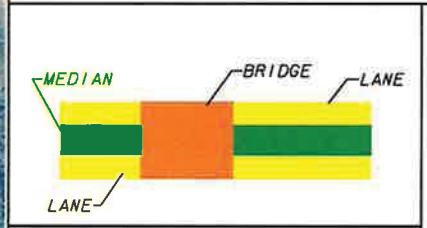


L:\V0719\Environmental\Practical Alts Report\Figure 02A_Alternate "A"-(1)_(8.5x11).dgn

JWM 10/26/2012



LEGEND



- REQ'D RIGHT OF WAY
- EXISTING R/W PROPERTY LINE
- RIVER/POND/LAKE
- FLOOD PLAIN
- WETLANDS
- POTENTIAL HISTORICAL/ CULTURAL SITE
- DISPLACEMENT

WAYCROSS EAST BYPASS ALTERNATE A

NEW LOCATION FROM SR 4/US 1/US 23 TO SR 38/US 84

PROJECT NO: STP-0002-00(871)

P.I NO: 0002871

COUNTY: PIERCE/WARE

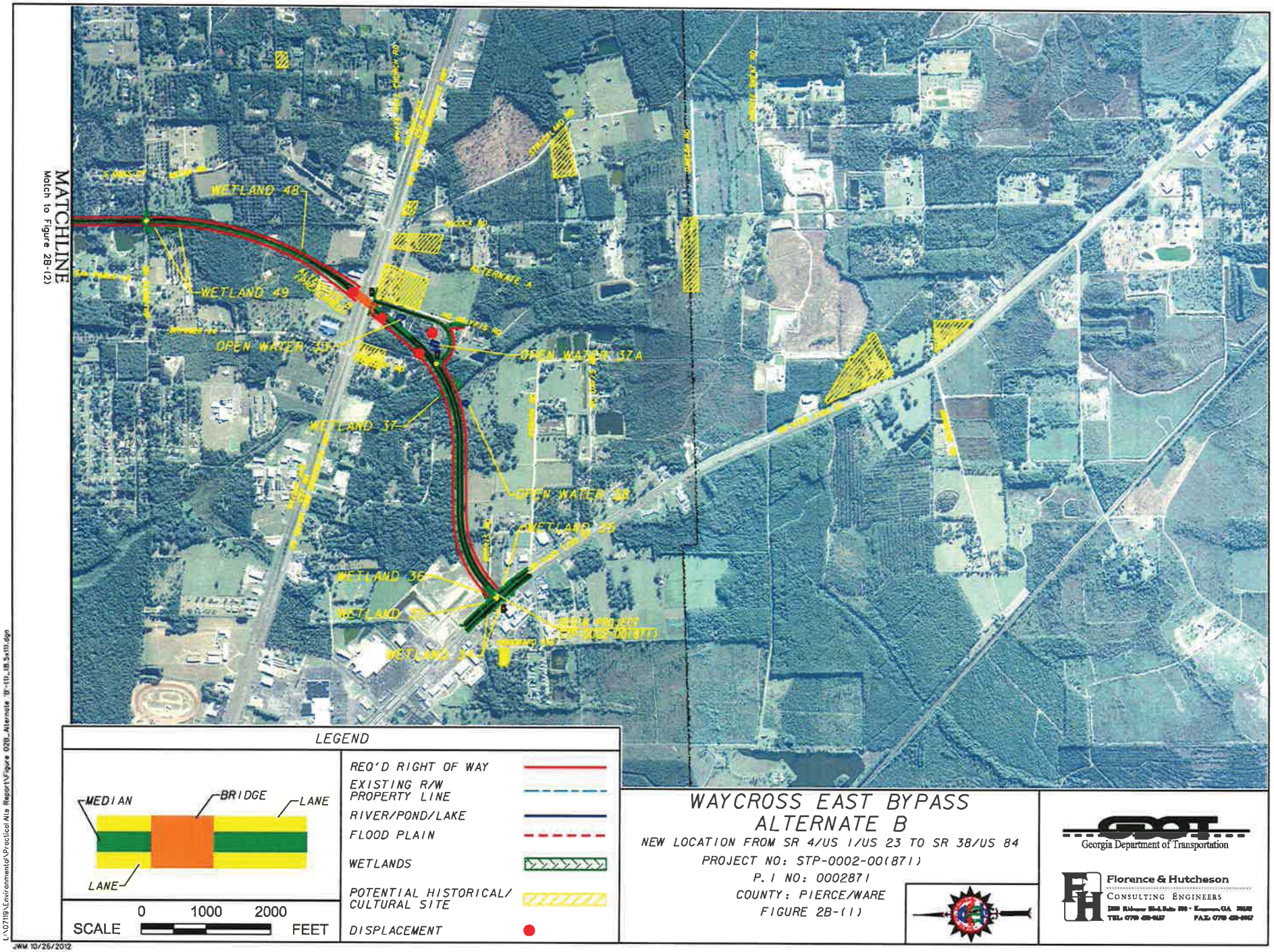
FIGURE 2A-(2)

Georgia Department of Transportation

Florence & Hutcheson
CONSULTING ENGINEERS

L:\07119\Environmental\Proctical Alts Report\Figure 02A_Alternate "A"-(2)_(8.5x11).dgn

JWM 10/25/2012



WAYCROSS EAST BYPASS
ALTERNATE B

NEW LOCATION FROM SR 4/US 1/US 23 TO SR 38/US 84

PROJECT NO: STP-0002-00(871)

P.I NO: 0002871

COUNTY: PIERCE/WARE

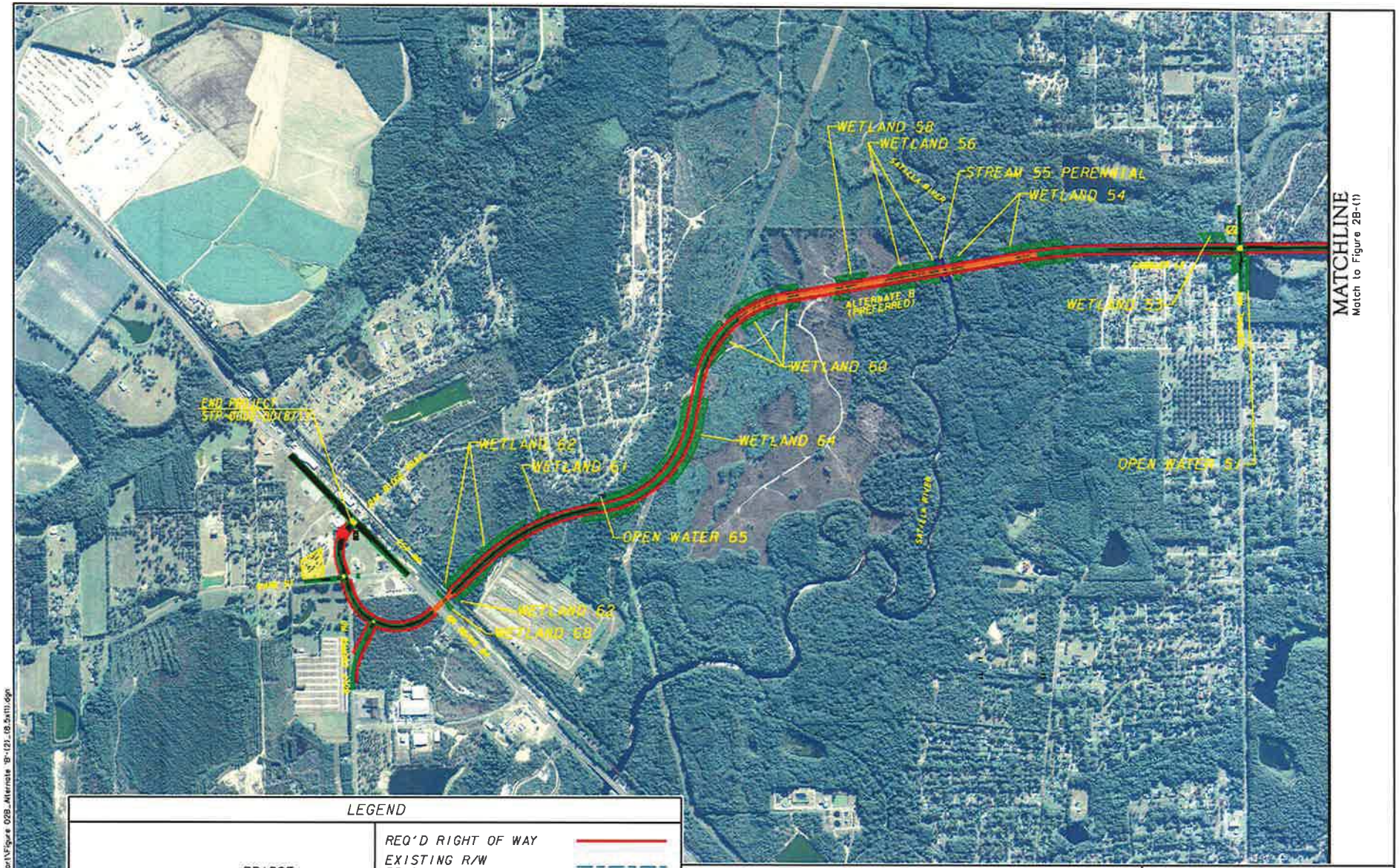
FIGURE 2B-(1)

Georgia Department of Transportation

Florence & Hutcheson
CONSULTING ENGINEERS

L:\07119\Environmental\Practical Alts Report\Figure 02B_Alternate "B"-1(1)_LB_5x11.dgn

JWM 10/26/2012



WAYCROSS EAST BYPASS
ALTERNATE B

NEW LOCATION FROM SR 4/US 1/US 23 TO SR 38/US 84

PROJECT NO: STP-0002-00(871)

P.I NO: 0002871

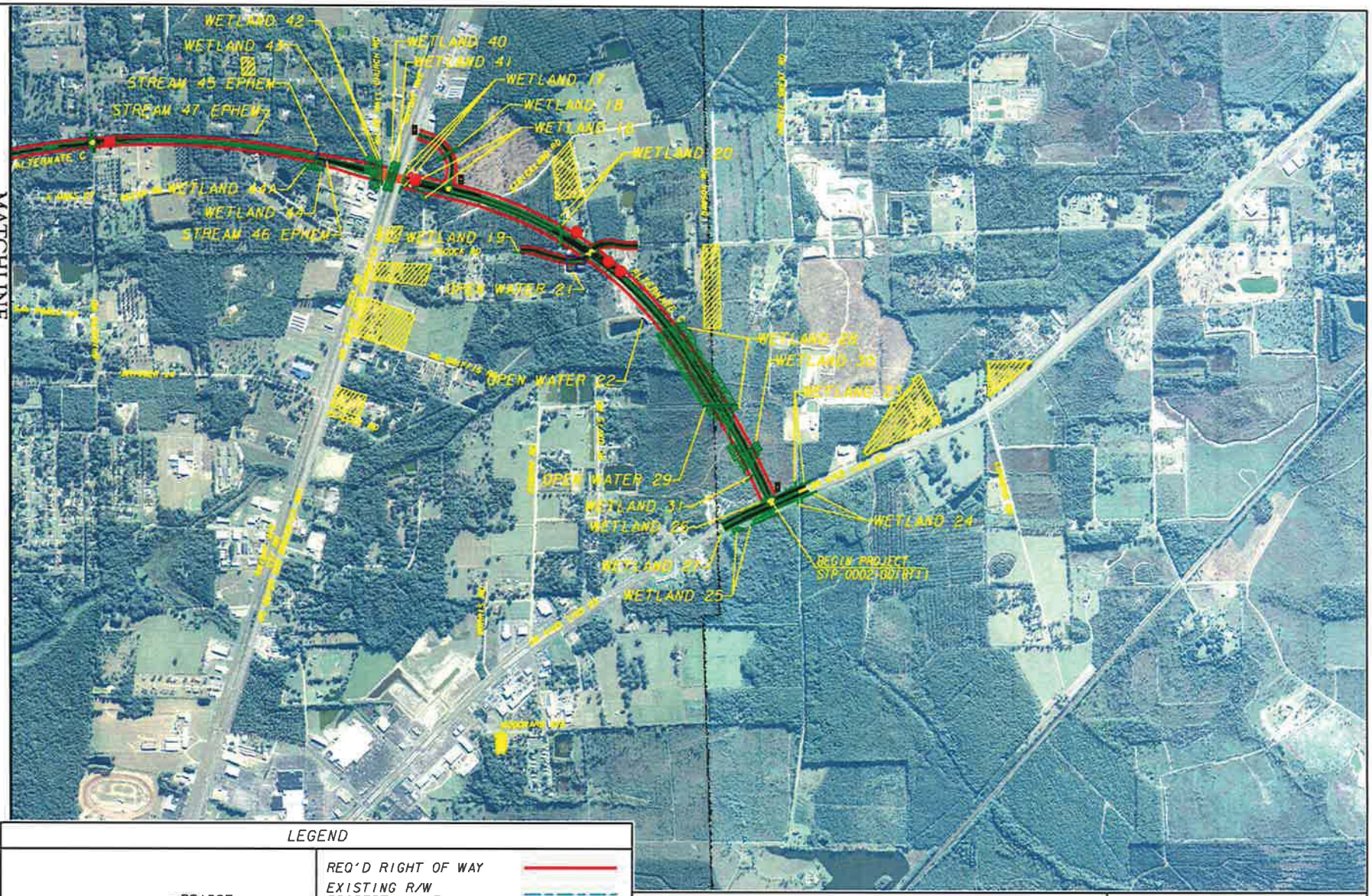
COUNTY: PIERCE/WARE

FIGURE 2B-(2)

Georgia Department of Transportation

Florence & Hutcheson
Consulting Engineers

JWM 10/26/2012



MATCHLINE
Match to Figure 2C-12)

LEGEND

MEDIAN BRIDGE LANE LANE

0 1000 2000
SCALE FEET

REQ'D RIGHT OF WAY
EXISTING R/W PROPERTY LINE
RIVER/POND/LAKE
FLOOD PLAIN
WETLANDS
POTENTIAL HISTORICAL/ CULTURAL SITE
DISPLACEMENT

WAYCROSS EAST BYPASS ALTERNATE C

NEW LOCATION FROM SR 4/US 1/US 23 TO SR 38/US 84

PROJECT NO: STP-0002-00(871)

P.I NO: 0002871

COUNTY: PIERCE/WARE

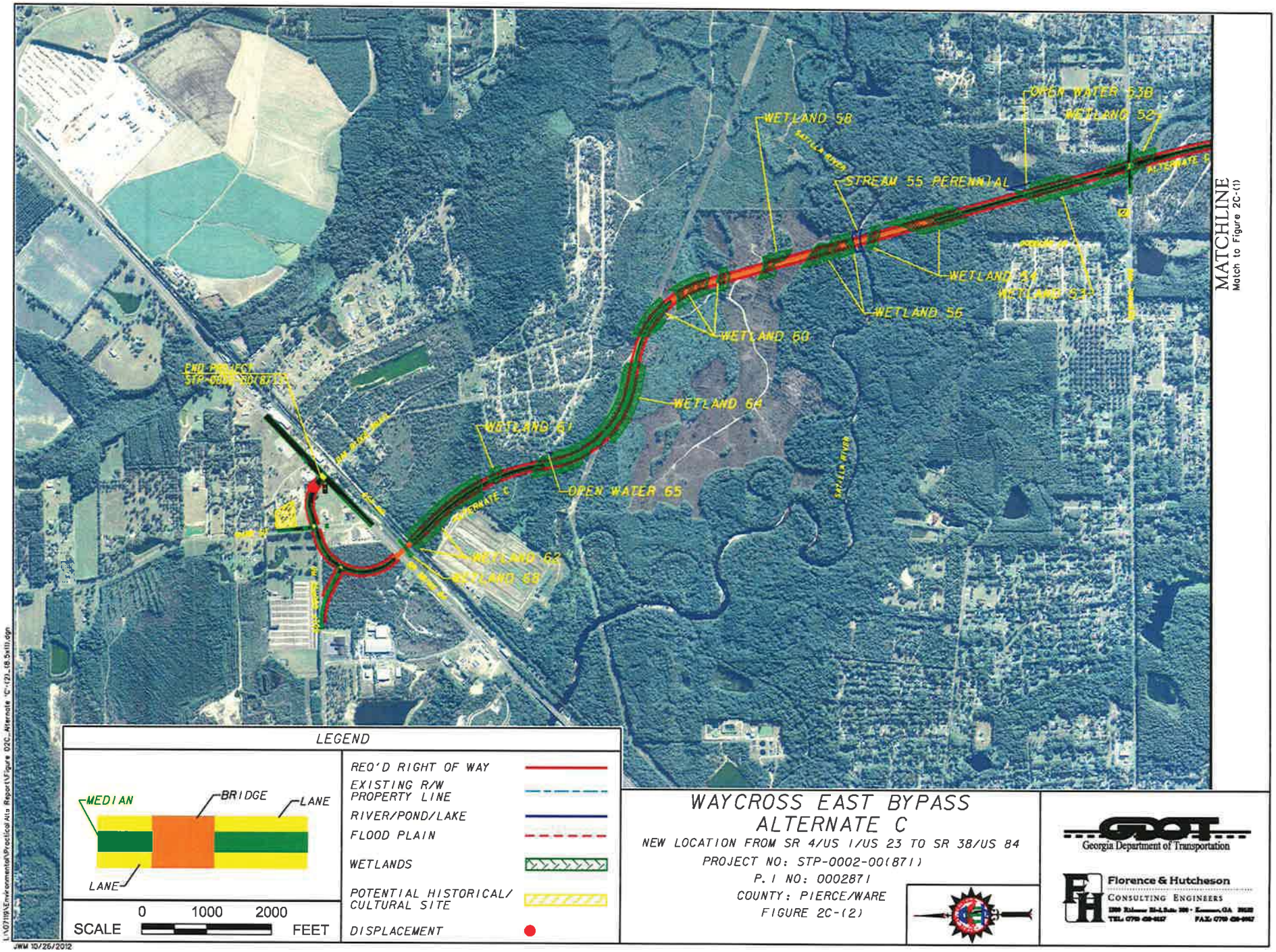
FIGURE 2C-(1)

Georgia Department of Transportation

Florence & Hutcheson
CONSULTING ENGINEERS

L:\107119\Environmental\Practical Alts Report\Figure 02C_Alternate "C"-10_18.5x11.dgn

JWM 10/26/2012



WAYCROSS EAST BYPASS
ALTERNATE C

NEW LOCATION FROM SR 4/US 1/US 23 TO SR 38/US 84

PROJECT NO: STP-0002-00(871)

P.I NO: 0002871

COUNTY: PIERCE/WARE

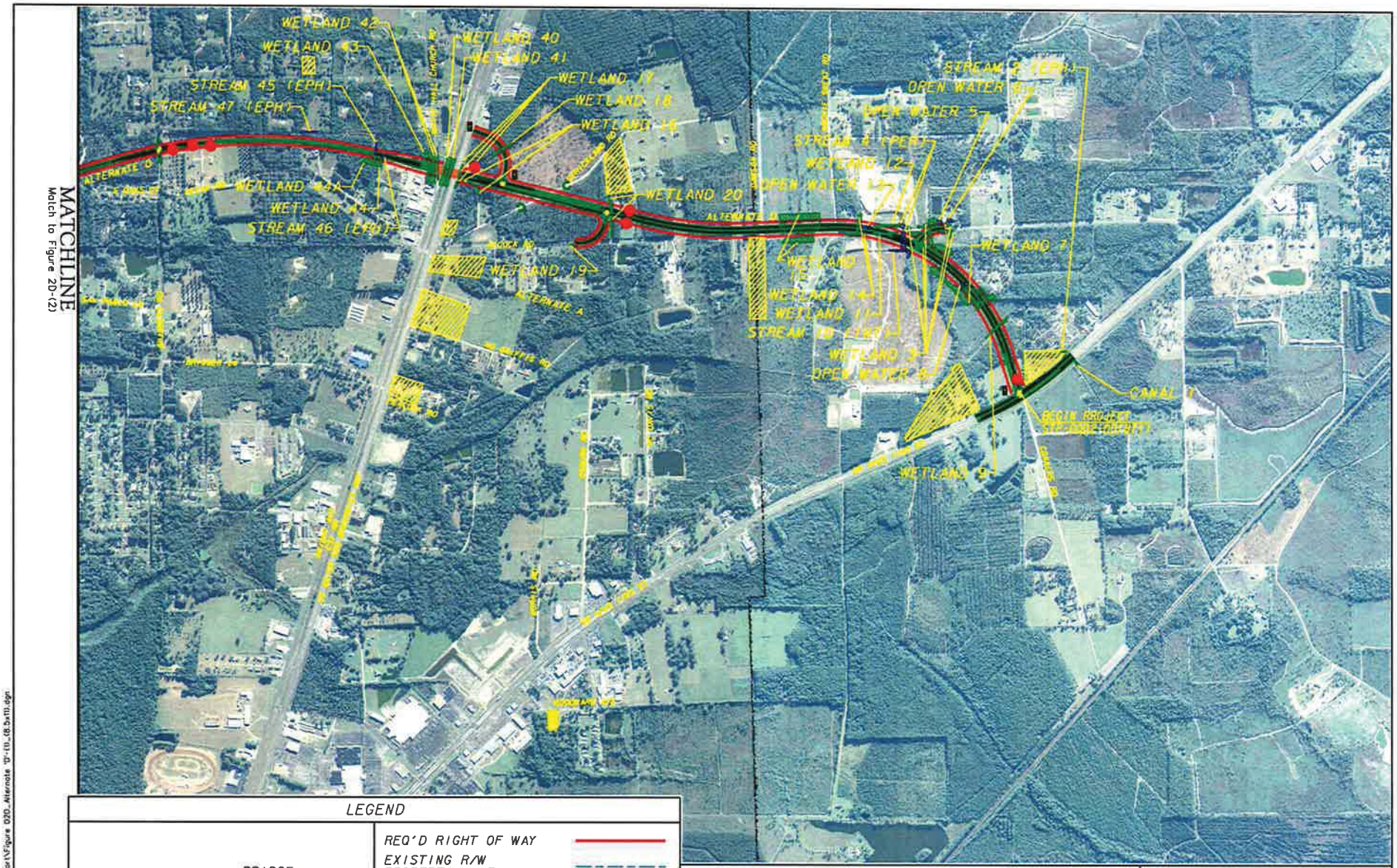
FIGURE 2C-(2)

Georgia Department of Transportation

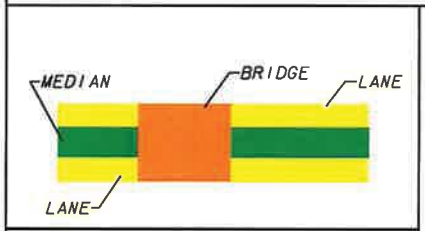
Florence & Hutcheson
CONSULTING ENGINEERS

L:\07119\Environmental\Practical Alts Report\Figure 02C_Alternate 'C'-(2)_18.5x11).dgn

JWM 10/26/2012



LEGEND



- REQ'D RIGHT OF WAY
- EXISTING R/W PROPERTY LINE
- RIVER/POND/LAKE
- FLOOD PLAIN
- WETLANDS
- POTENTIAL HISTORICAL/ CULTURAL SITE
- DISPLACEMENT

WAYCROSS EAST BYPASS
ALTERNATE D

NEW LOCATION FROM SR 4/US 1/US 23 TO SR 38/US 84

PROJECT NO: STP-0002-00(871)

P. I NO: 0002871

COUNTY: PIERCE/WARE

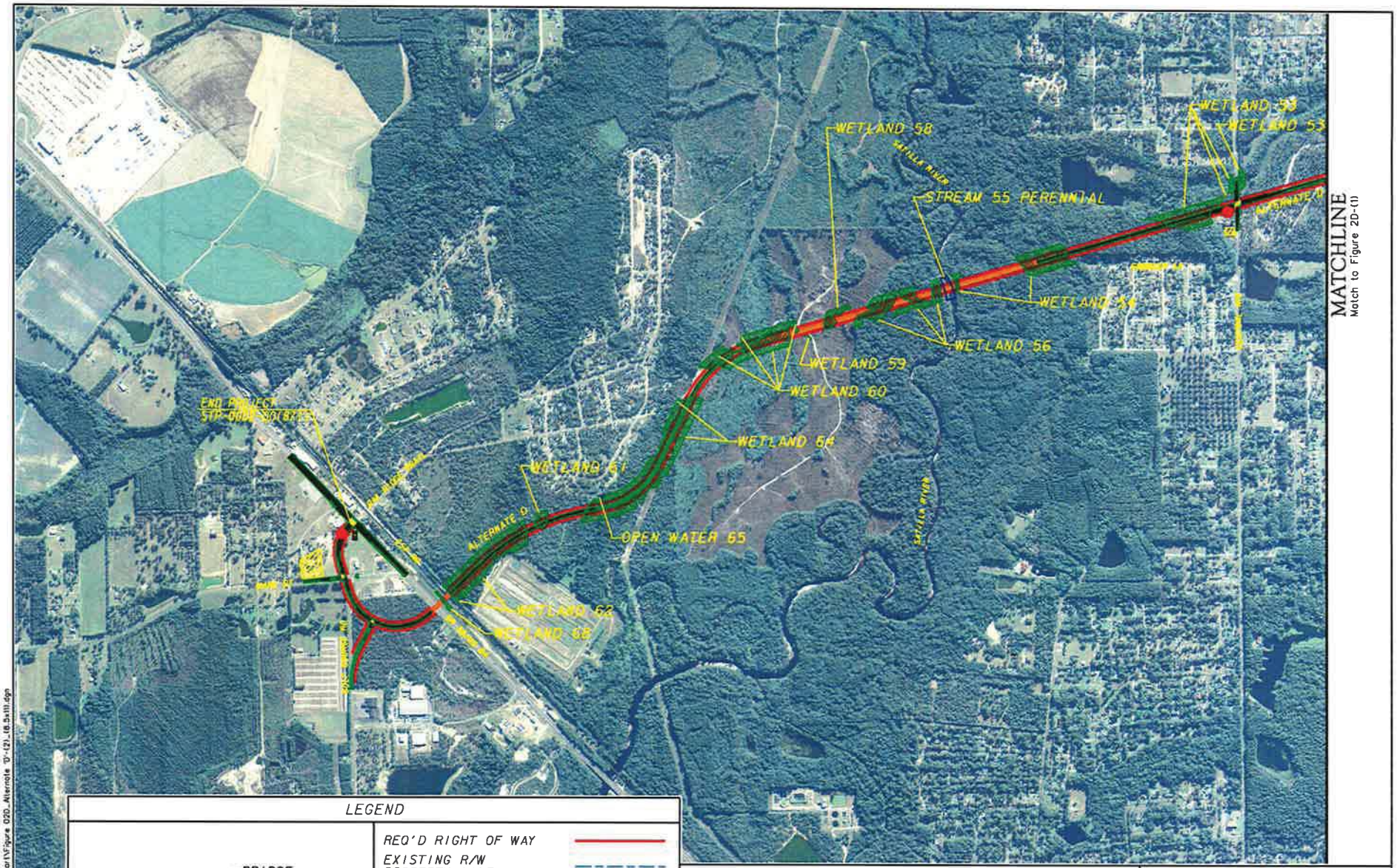
FIGURE 2D-(1)

Georgia Department of Transportation

Florence & Hutcheson
CONSULTING ENGINEERS
TEL: 678 [illegible] FAX: 678 [illegible]

L:\107119\Environmental\Practical Alts Report\Figure 02D_Alternate "D"-(1)_(8.5x11).dgn

JWM 10/25/2012



WAYCROSS EAST BYPASS
ALTERNATE D

NEW LOCATION FROM SR 4/US 1/US 23 TO SR 38/US 84

PROJECT NO: STP-0002-00(871)

P.I NO: 0002871

COUNTY: PIERCE/WARE

FIGURE 2D-(2)

Georgia Department of Transportation

Florence & Hutcheson
CONSULTING ENGINEERS

JWM 10/25/2012

The project area was surveyed for habitat that may potentially support federally and/or state protected species. According to the United States Fish and Wildlife Service (USFWS) and Georgia Department of Natural Resources (DNR) there were five federally protected species and two federal candidate that are known to occur in either Ware or Pierce counties. The federally protected species consist of the red-cockaded woodpecker (*Picoides borealis*), wood stork (*Mycteria Americana*), Eastern indigo snake (*Drymarchon corais couperi*), the frosted flatwoods salamander (*Ambystoma cingulatum*) and hairy rattleweed (*Baptisia arachnifera*). The federal candidate species include the gopher tortoise (*Gopherus polyphemus*) (also state listed as threatened) and the striped newt (*Notophthalmus perstriatus*) (also state listed as threatened). Two federally endangered sturgeon species were also included in the survey (even though not documented within the counties) due to a historical presence of shortnose sturgeon (*Acipenser brevirostrum*) spawning habitat in the Satilla River and the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) due to the project's proposed crossing of the Satilla, a major Atlantic drainage river. Suitable habitat was found to be present for red-cockaded woodpecker, eastern indigo snake, hairy rattleweed, and gopher tortoise. Suitable habitat was not found to be present for the wood stork, frosted flatwoods salamander, shortnose sturgeon, or Atlantic sturgeon. Since this report is for a conceptual design that consists of four alignments, no biological determination for the federally listed species will be established until a final alignment is selected and finalized.

Foraging habitat for the bald eagle *(Haliaeetus leucocephalus)* is present on the Satilla River around the current US 1/SR 4 bridge crossing; however, the nearest known nest is approximately 30 miles to the southeast in Camden County. No bald eagles were observed during the ecological surveys. There is also no critical habitat or essential fish habitat currently designated within Ware or Pierce Counties. No bat roosting sites (within/under existing culverts or bridges) were found within any of the conceptual alignments.

According to the Georgia Department of Natural Resources (GDNR) Natural Heritage Program (NHP), the state protected species that occur within 3 miles of the proposed project include the spotted turtle (*Clemmys guttata*), the gopher tortoise (also a federal candidate species), and the big-fruited buckthorn (*Sideroxylon macrocarpum*). During field surveys the state listed hooded pitcherplant (*Sarracenia minor*) was also confirmed within and on the periphery of a number of wetland resources in Ware County even though not listed as occurring within three miles of the Project. No biological determinations for the state listed species will be established until a final alignment is selected and finalized. Suitable habitat was found to be present for the spotted turtle, gopher tortoise, big-fruited buckthorn, and the hooded pitcher plant.

The project area was also surveyed for the presence of Waters of the United States (U.S.). A total of 66 resources were identified during the field surveys. Of these, two are perennial streams, one is an intermittent stream, four are ephemeral channels, one is a canal, 14 are open water systems (ponds), and 44 are classified as wetlands. The amount of each resource (in feet and acres) within the right of way (ROW) for each of the four concepts can be found below in the Resource Survey Overview.

Avoidance and Minimization Measures

All alternatives will require bridges over the Satilla River and the two CSX railroads. To minimize impacts to the Satilla River floodplain, the bridge over the Satilla will be approximately 4300 feet long and will span the majority of the floodway. Due to the significant costs associated with bridging, earthen embankment sections will be used in certain areas within the Satilla River floodplain. The RR bridges will provide the necessary vertical clearance over the RR lines, and MSE walls are proposed at the RR bridges to

reduce lengths and impacts to area resources. These measures provide a practicable approach to minimizing environmental impacts and maintaining the economic viability of the project. Other measures may be proposed once a preferred is selected and the specific data collection and surveys are completed.

Table 1 – Alternative Summary Matrix	Impacts by Alternative			
Impact Category	Alternative A	Alternative B (Preferred)	Alternative C	Alternative D
Residential relocations	1	3	4	7
Commercial relocations	1	2	2	2
Farmland (acres)[1]	36.6	41.4	32.2	41.4
Wetlands (acres)[1]	33.6	21.5	32.7	24.9
Streams (linear feet)	128	128	323	537
Noise Receivers Impacted				
Cultural Resources				
■Architectural	1	0	0	2
■Archaeological				
Section 4(f) Resource (parks, wildlife refuges, etc.)	0	0	0	0
Hazardous Material Sites				
Permits	IP	IP	IP	IP
Length of Alternative	5.4	5.2	5.6	6.0
Right Of Way (acres)	96.5	93.4	100.9	109.9
Costs (rounded)[3]				
■Bridge	$26.0 M	$27.0 M	$27.0 M	$28.0 M
■Roadway	$22.7 M	$21.3 M	$21.2 M	$22.0 M
■Rights of Way	$8.7 M	$9.3 M	$10.0 M	$10.9 M
■Mitigation[4]	$346,080	$258,600	$430,680	$397,800
Total Costs	$57.7 M	$57.9 M	$58.6 M	$61.4 M

[1] Wetland and farmland acreage is calculated within right-of-way limits – Farmlands contain prime, unique, and statewide important farmlands
[2] To Be Determined - An intensive survey of the Preferred Alternative will be completed once selected
[3] Preliminary costs based on conceptual design
[4] Mitigation costs were derived from general wetland and stream ratios obtained from mitigation bank representatives – specific costs will be developed for the preferred alternative once selected and data analysis is completed

Recommendations

Based on Preliminary evaluations and input received from the PIOH held on September 1, 2011, Alternative B appears to be the best fit alternative. Alternative B has the lowest amount of wetland and stream impacts. Alternative B is second behind Alternative A in number of displacements and preference at the PIOH, but this is offset by the significant difference in ecological impacts. Alternate B is the closest to downtown Waycross and will

have the greatest effect in terms of drawing traffic from local streets. It requires less right-of-way which reduces impacts to local properties.

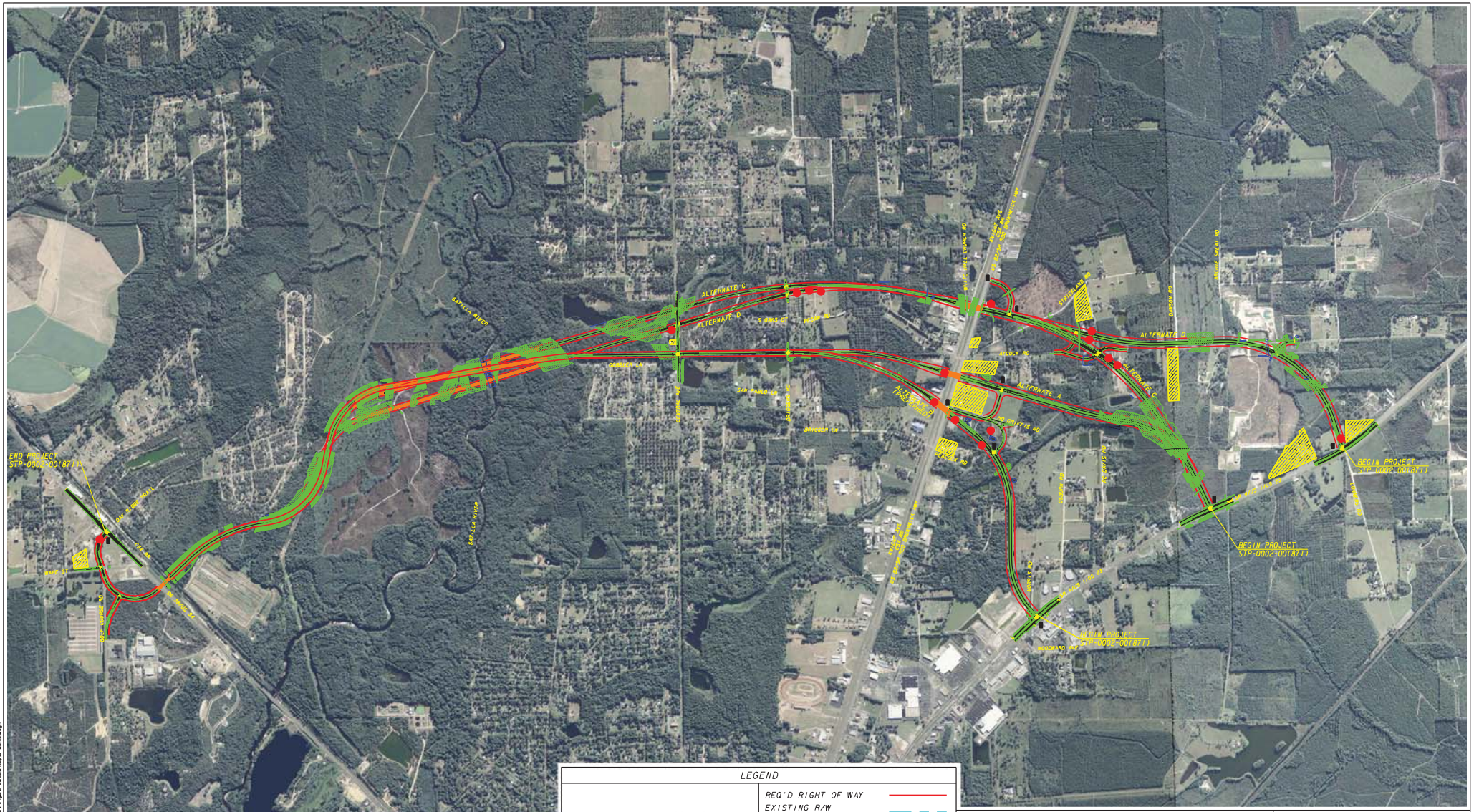
Alternative A has the second highest amount of wetland impacts which would increase the overall cost of this alternative due to the necessary mitigation. It also impacts a potentially eligible historical site located along HO Griffis Road

Alternate C has an additional connection at Aycock, which would create an additional conflict point at this intersection. Alternates C and D eliminates access to Strickland Road which would be undesirable for the locals since it would limit local connectivity.

Alternate D utilizes Aycock Road right-of-way which would impact access to the properties that currently front Aycock Road. In addition, Alternate D terminates farther west than the other alternates, which will reduce the amount of traffic drawn to it. This in turn would reduce the overall effectiveness of the bypass. It may also impact two historical resources.

Concept Layouts

Waycross Bypass from SR 4/US 1/US 23 to SR 520/US 82



WAYCROSS EAST BYPASS
ALTERNATES A, B, C, & D

NEW LOCATION FROM SR 4/US 1/US 23 TO SR 38/US 84

PROJECT NO: STP-0002-00(871)

P. I NO: 0002871

COUNTY: PIERCE/WARE

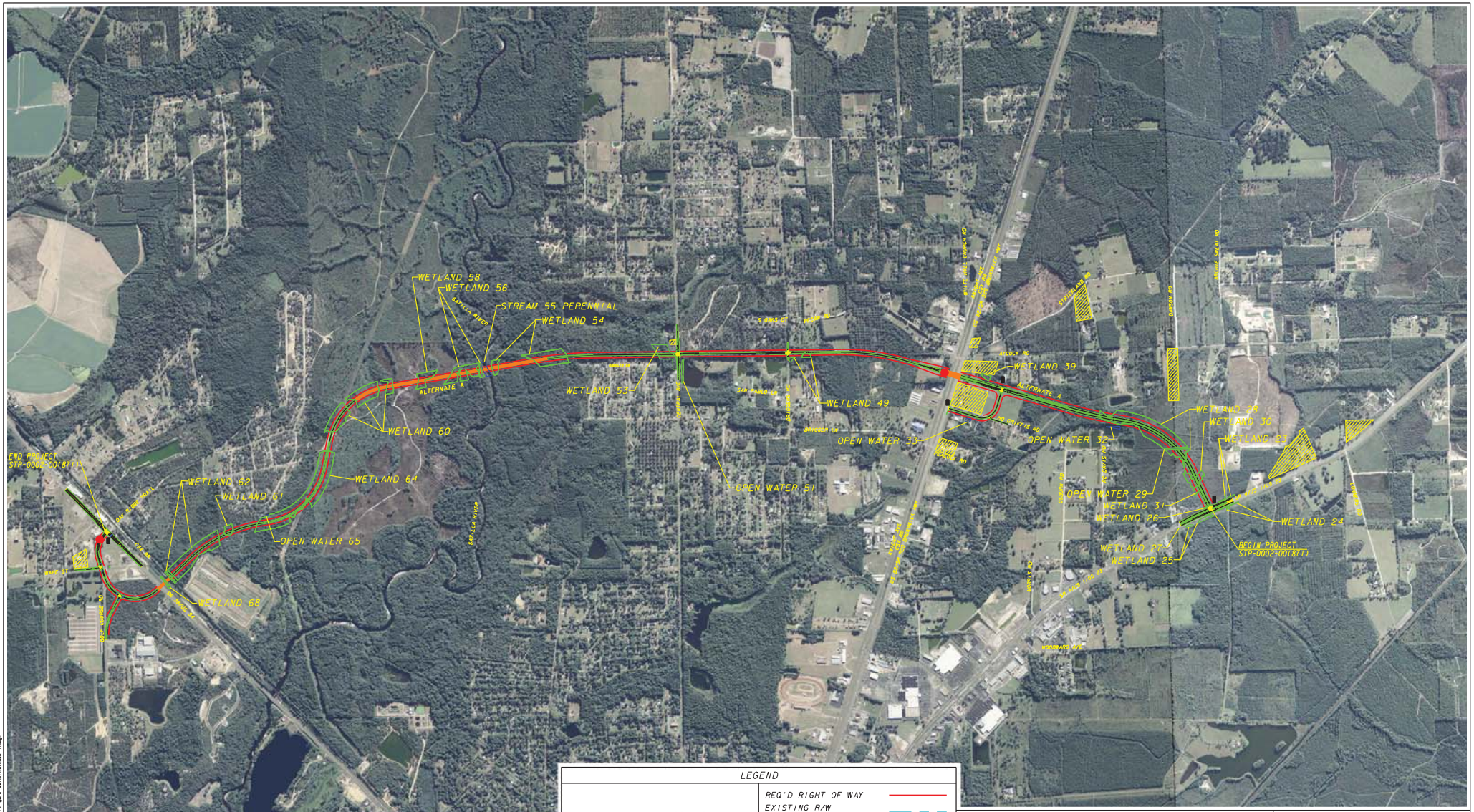
FIGURE xx

Georgia Department of Transportation

Florence & Hutcheson
CONSULTING ENGINEERS

L:\0799\Environmental\Practical Alts Report\Figure 02_Concepts Combo.dgn

JWW 9/11/2012



LEGEND

MEDIAN BRIDGE LANE LANE

- REQ'D RIGHT OF WAY
- EXISTING R/W PROPERTY LINE
- RIVER/POND/LAKE
- FLOOD PLAIN
- WETLANDS
- POTENTIAL HISTORICAL/ CULTURAL SITE
- DISPLACEMENT

WAYCROSS EAST BYPASS
ALTERNATE A

NEW LOCATION FROM SR 4/US 1/US 23 TO SR 38/US 84

PROJECT NO: STP-0002-00(871)

P. I NO: 0002871

COUNTY: PIERCE/WARE

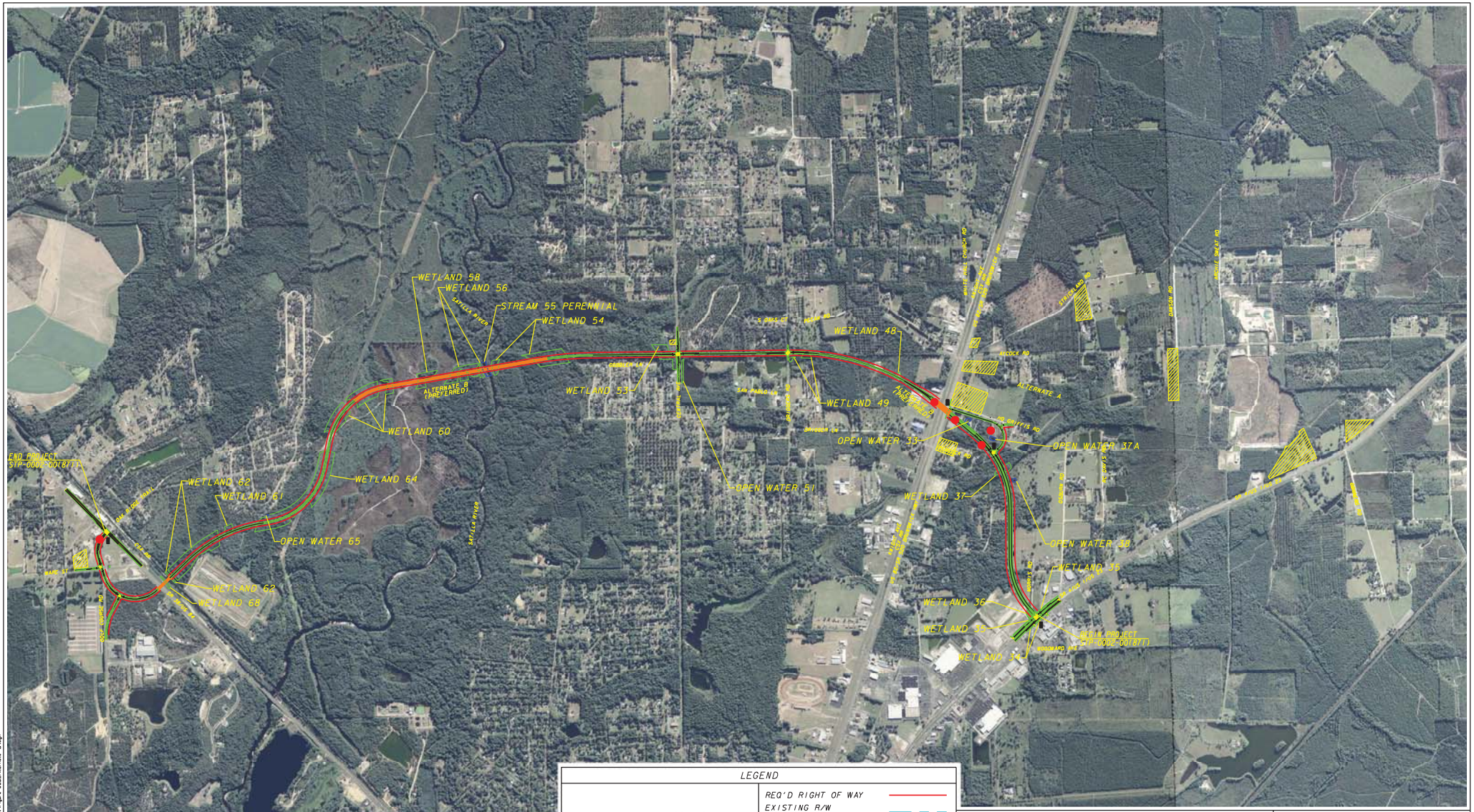
FIGURE 2A

Georgia Department of Transportation

Florence & Hutcheson
CONSULTING ENGINEERS

I:\0719\environmental\graphics\figure 02A_Alternate "A".dgn

JWM 9/11/2012



WAYCROSS EAST BYPASS
ALTERNATE B

NEW LOCATION FROM SR 4/US 1/US 23 TO SR 38/US 84

PROJECT NO: STP-0002-00(871)

P. I NO: 0002871

COUNTY: PIERCE/WARE

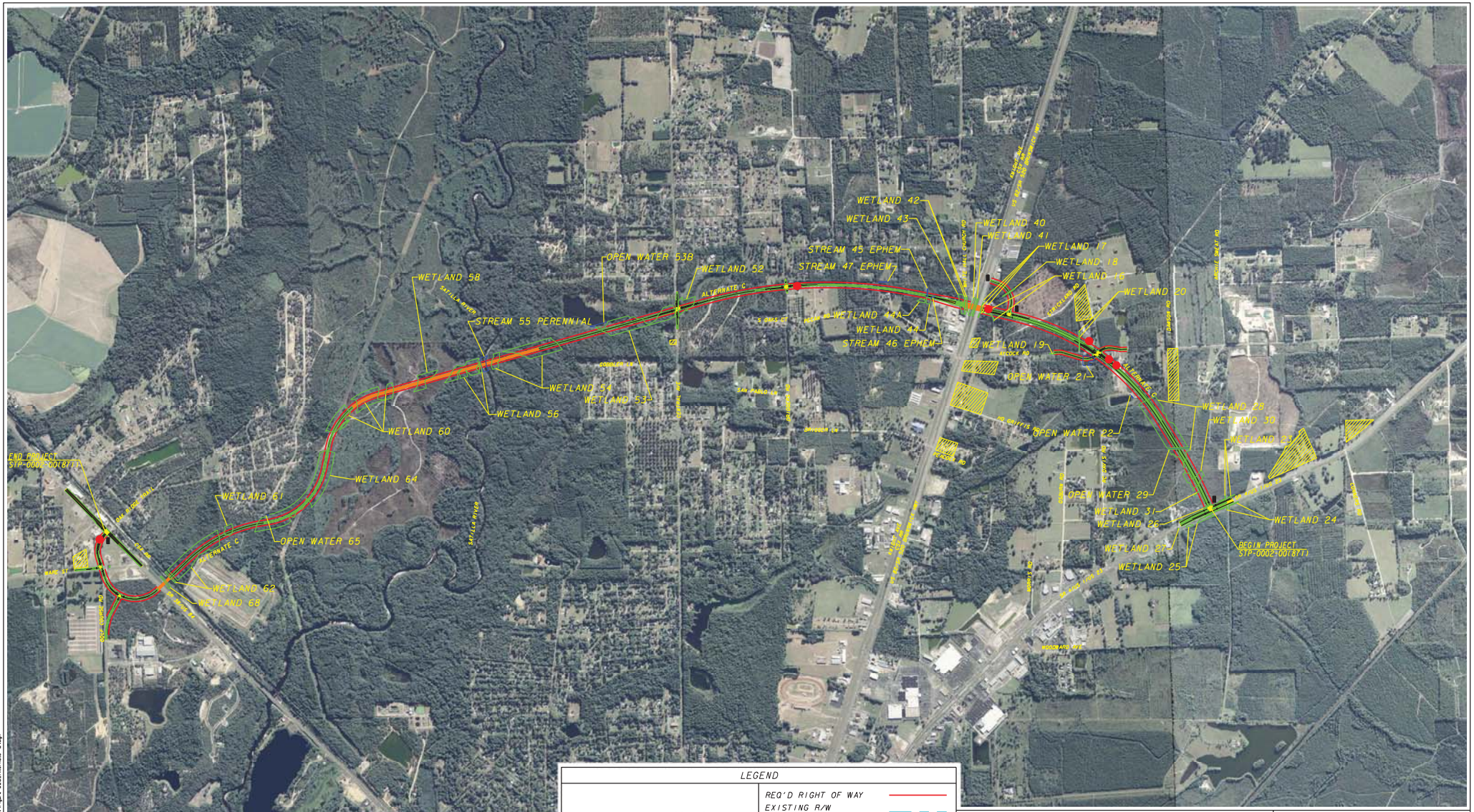
FIGURE 2B

Georgia Department of Transportation

Florence & Hutcheson
CONSULTING ENGINEERS
1200 Johnson Ferry Rd., Suite 200 • Marietta, GA 30068
TEL: (770) 426-8157 FAX: (770) 426-0947

I:\0719\environmental\graphics\gis reports\Figure 02B_Alternate B.dgn

JWM 9/11/2012



LEGEND

MEDIAN BRIDGE LANE LANE

- REQ'D RIGHT OF WAY
- EXISTING R/W PROPERTY LINE
- RIVER/POND/LAKE
- FLOOD PLAIN
- WETLANDS
- POTENTIAL HISTORICAL/ CULTURAL SITE
- DISPLACEMENT

SCALE 0 1000 2000 FEET

WAYCROSS EAST BYPASS
ALTERNATE C

NEW LOCATION FROM SR 4/US 1/US 23 TO SR 38/US 84

PROJECT NO: STP-0002-00(871)

P. I NO: 0002871

COUNTY: PIERCE/WARE

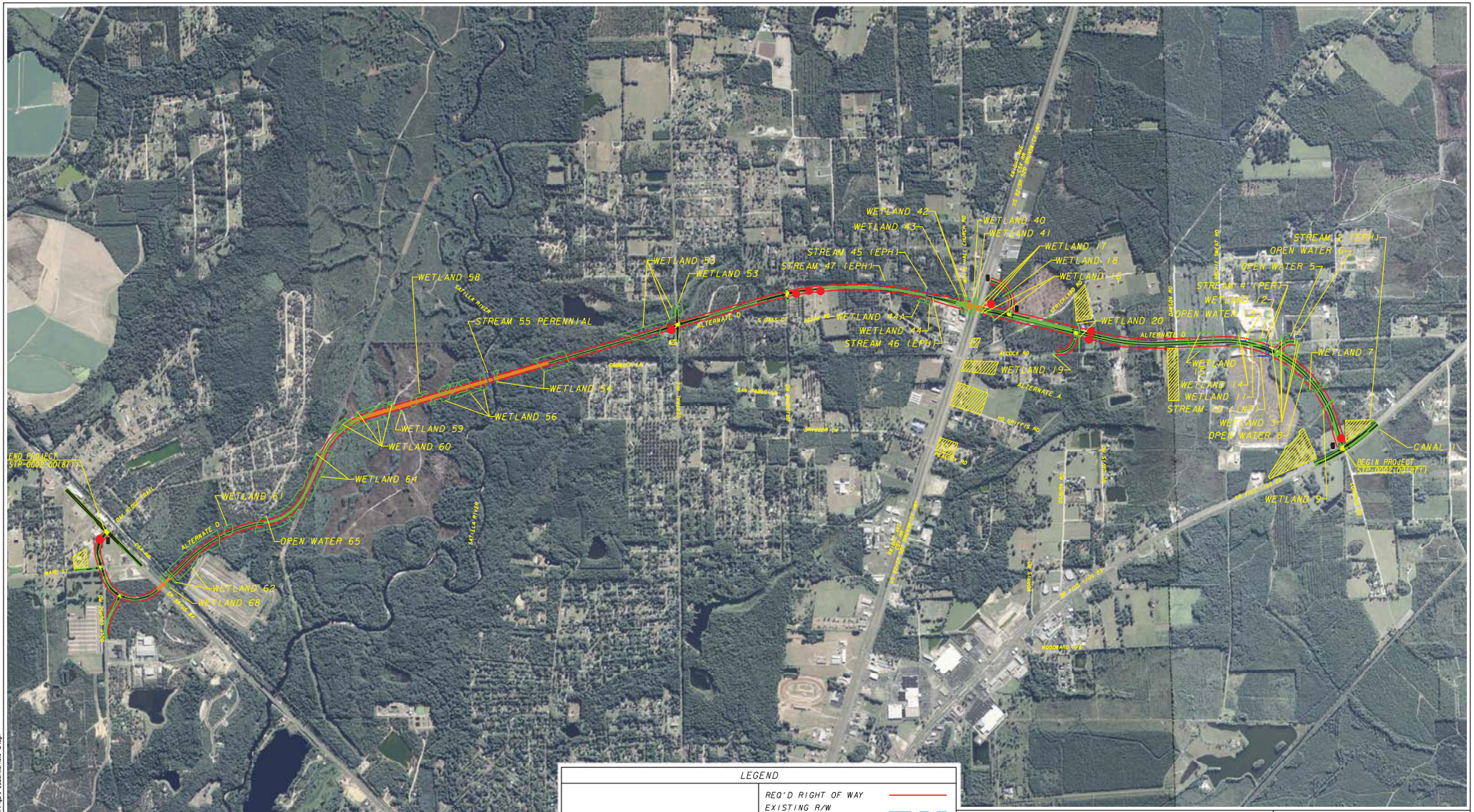
FIGURE 2C

Georgia Department of Transportation

Florence & Hutcheson
CONSULTING ENGINEERS

I:\0719\environmental\practical\its report\Figure 02C_Alternate C.dgn

JWM 9/11/2012



WAYCROSS EAST BYPASS
ALTERNATE D

NEW LOCATION FROM SR 4/US 1/US 23 TO SR 38/US 84

PROJECT NO: STP-0002-00(871)

P. I NO: 0002871

COUNTY: PIERCE/WARE

FIGURE 2D

Georgia Department of Transportation

Florence & Hutcheson
CONSULTING ENGINEERS
1200 Ridgeview Dr., Suite 200 • Suwanee, GA 30024
TEL: (770) 495-9157 FAX: (770) 495-9167

I:\0719\environmental\practical\ds report\Figure 02D_Alternate 'D'.dgn

JWM 9/11/2012