

# **Interchange for US 90 and LA 318 Draft Environmental Assessment**

**Interchange for US 90/LA 318  
Route US 90  
St. Mary Parish, Louisiana  
State Project No. 700-51-0110  
Federal Aid Project No. DE-5109(501)  
ERP Project No. H.004932**

**Prepared for the:**



**Louisiana Department of Transportation and Development**

**In conjunction with the**



**US Department of Transportation  
Federal Highway Administration**

**May 2012**

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Notice to Reader

This Draft EA summarizes the environmental impacts associated with the conceptual design of the proposed Build Alternatives. The Build Alternatives are preliminary and should not be used for design, construction, or remedial action. Comments received on the Draft EA by resource agencies, local representatives and the public will be incorporated into a Final EA.

## ENVIRONMENTAL DETERMINATION CHECKLIST

**State Project No. 700-51-0110**  
**Federal Aid Project No. DE-5109(501)**  
**Name: Interchange at US 90 and LA 318**  
**Route: US 90**  
**Parish: St. Mary Parish**

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### 1. General Information

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Status:	<input type="checkbox"/>	Conceptual Layout	<input type="checkbox"/>	Plan-in-Hand
	<input checked="" type="checkbox"/>	Line and Grade	<input type="checkbox"/>	Preliminary Plans
	<input type="checkbox"/>	Survey	<input type="checkbox"/>	Final Design

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### 2. Class of Action

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- Environmental Impact Statement (EIS)
- Environmental Assessment (EA)
- Categorical Exclusion (CE)
- Programmatic CE (as defined in letter of agreement dated 03/15/95, does not require FHWA approval)

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### 3. Project Description (use attachment if necessary)

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The proposed project includes upgrading the existing US 90 and LA 318 signalized intersection to a full control of access, grade-separated interchange including the reconstruction of the US 90 frontage roads to provide local access to LA 318. The proposed action includes a No-Build Alternative and two build alternatives, either a rural diamond interchange with US 90 as an overpass or a partial cloverleaf interchange (one loop ramp) with LA 318 as an overpass.

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### 4. Public Involvement

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- Views were solicited on August 2007. Responses are included in Appendix E.
- No adverse comments were received.
- Comments are addressed in attachment.
- Views were not solicited.
- A public hearing (P/H)/Opportunity is not required.
- An opportunity for requesting a P/H will be afforded upon your concurrence.
- Opportunity was afforded, with no requests for P/H.
- A Public Hearing will be held following distribution of the Draft EA.
- A Public Meeting was held on March 22, 2011.

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### 5. Real Estate (If yes, use attachment)

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		<b>No</b>	<b>Yes</b>
a.	Will additional right-of-way be required? See Appendix A	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Will any relocations be required?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Are construction or drainage servitudes required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Will right-of-way be required from a Wetland Reserve Program (WRP) property?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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<b>6. Cultural and 106 Impacts (If yes, use attachment)</b>		<b>No</b>	<b>Yes</b>
a.	<b>Section 4(f) or 6(f) lands</b>		
	Are any impacted by the project? (if so, list below)	(X)	( )
	Are any adjacent to the project? (if so, list below)	(X)	( )
b.	<b>Known Historic sites/structures (NRHP eligibility to be determined)</b>		
	Are any impacted by the project? (if so, list below)	(X)	( )
	Are any adjacent to the project? (if so, list below)	( )	(X)
c.	<b>Known Archaeological sites (To be determined following survey)</b>		
	Are any impacted by the project? (if so, list below)	( )	( )
	Are any adjacent to the project? (if so, list below)	( )	( )
d.	<b>Cemeteries</b>		
	Are any impacted by the project? (if so, list below)	(X)	( )
	Are any adjacent to the project? (if so, list below)	(X)	( )
e.	<b>Historic Bridges</b>	(X)	( )
<b>7. Wetlands (Attach wetlands finding, if applicable)</b>		<b>No</b>	<b>Yes</b>
a.	Are wetlands being affected?	( )	(X)
b.	Are other waters of the U.S. being affected?	( )	(X)
c.	Can C.O.E. Nationwide Permit be used?	( )	(X)
<b>8. Natural Environment (use attachment if necessary)</b>		<b>No</b>	<b>Yes</b>
a.	Endangered/Threatened Species/Habitat	(X)	( )
b.	Within 100 Year Floodplain?	( )	(X)
	Is project a significant encroachment in Floodplain?	(X)	( )
c.	In Coastal Zone Management Area?	( )	(X)
	Is the project consistent with the Coastal Management Program?	( )	(X)
	Will a Coastal Use Permit be required?	( )	(X)
d.	Coastal Barrier Island (Grand Isle only)	(X)	( )
e.	Farmlands (use form AD 1006 if necessary)	( )	(X)
f.	Is project on Sole Source Aquifer?	( )	(X)
	Is coordination with EPA necessary? <b>(On-going)</b>	( )	(X)
g.	Natural & Scenic Stream Permit required	(X)	( )
h.	Is project impacting a waterway?	( )	(X)
	Has navigability determination been made?	(X)	( )
	Will a U.S. Coast Guard permit or amended permit be required?	(X)	( )
<b>9. Physical Impacts (use attachment if necessary)</b>		<b>No</b>	<b>Yes</b>
a.	Is a noise analysis warranted (Type I project)	( )	(X)
	Are there noise impacts based on violation of the (NAC)?	( )	(X)
	Are there noise impacts based on the 10 dBA increase?	( )	(X)
	Are noise abatement measures reasonable and feasible?	(X)	( )
b.	Is an air quality study warranted?	( )	(X)
	Do project level air quality levels exceed the NAAQS for CO?	(X)	( )

c.	Is project in a non-attainment area for Carbon monoxide (CO), Ozone (O <sub>3</sub> ), Nitrogen dioxide (NO <sub>2</sub> ), or Particulates (PM-10)?	(X)	( )
d.	Is project in an approved Transportation Plan, Transportation Improvement Program (TIP) and State Transportation Improvement Program (STIP)?	( )	(X)
e.	Are construction air, noise, & water impacts major?	(X)	( )
f.	Are there any known waste sites or USTs? <b>(Site Remediated – not within required right-of-way)</b>	( )	(X)
	Will these sites be tested prior to purchase of right-of-way?	(X)	( )
<b>10. Social Impacts (use attachment if necessary)</b>		<b>No</b>	<b>Yes</b>

a.	<b>Land use changes</b>	( )	(X)
b.	<b>Churches and Schools</b>		
	Are any impacted by the project? (If so, list below)	(X)	( )
	Are any adjacent to the project? (If so, list below)	(X)	( )
c.	<b>Title VI Considerations</b>	(X)	( )
d.	<b>Will any specific groups be adversely affected (i.e., minorities, low-income, elderly, disabled, etc.)?</b>	(X)	( )
e.	<b>Hospitals, medical facilities, fire police</b>		
	Are any impacted by the project? (If so, list below)	(X)	( )
	Are any adjacent to the project? (If so, list below)	(X)	( )
f.	<b>Transportation pattern changes</b>	( )	(X)
g.	<b>Community cohesion</b>	(X)	( )
h.	<b>Are short-term social/economic impacts due to construction considered major?</b>	(X)	( )
i.	<b>Do conditions warrant special construction times (i.e., school in session, congestion, tourist season, harvest)?</b> LA 318 shall remain open to traffic during the harvest season	( )	(X)
j.	<b>Were Context Sensitive Solutions considered?</b> (If so, explain below) Frontage Road alignment on NW quadrant shifted to minimize residential impacts	( )	(X)
k.	<b>Will the roadway/bridge be closed? (If yes, answer questions below)</b>	(X)	( )
	Will a detour bridge be provided?	(X)	( )
	Will a detour route be signed?	(X)	( )

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## 11. Other

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Preparer: URS Corporation  
Date: May 2012

### Attachments

- (X) S.O.V. and Responses (Appendix E)
- (X) Project Description Sheet (Chapters 1.0, 2.0, & 3.0)
- (X) Conceptual Stage Relocation Plan, November 2011 (Stand-alone document)
- (X) Traffic Study Report, September 2011 (Stand-alone document)
- (X) Noise Technical Report, November 2011 (Stand-alone document)
- (X) Draft Wetland Findings Report, September 2011 (Stand-alone document)

- (X) Exhibits and/or Maps (included in EA Document)
- (X) Map Atlas (Appendix A / Conceptual Plan - Profiles)
- (X) Farmlands Form AD 1006 (Appendix C)
- (X) Standing Structures Survey, September 2011 (Stand-alone document)
- (X) Other Public Meeting Information (April 22, 2011 Public Meeting Record - Stand-alone document on file with LADOTD, April 2011)
- (X) Other Public Hearing Record / Transcript (to be completed following the Public Hearing)
- (X) Archaeological Survey to be undertaken following the identification of a preferred alternative

# EXECUTIVE SUMMARY

## Location of Proposed Project

The Louisiana Department of Transportation and Development (LADOTD) is proposing to construct a grade-separated interchange at the intersection of US Highway 90 (US 90) and Louisiana Highway 318 (LA 318). The proposed project is located in a rural area of St. Mary Parish, Louisiana, in between the Cities of Jeanerette and Baldwin (see **Figure ES-1**). Major industry within the project vicinity includes the St. Mary Sugar Cooperative located north of the proposed project on LA 318 at LA 182, and the Port of West St. Mary located approximately 15 miles southwest of the proposed project.

## Purpose and Need

The purpose and need of the project includes:

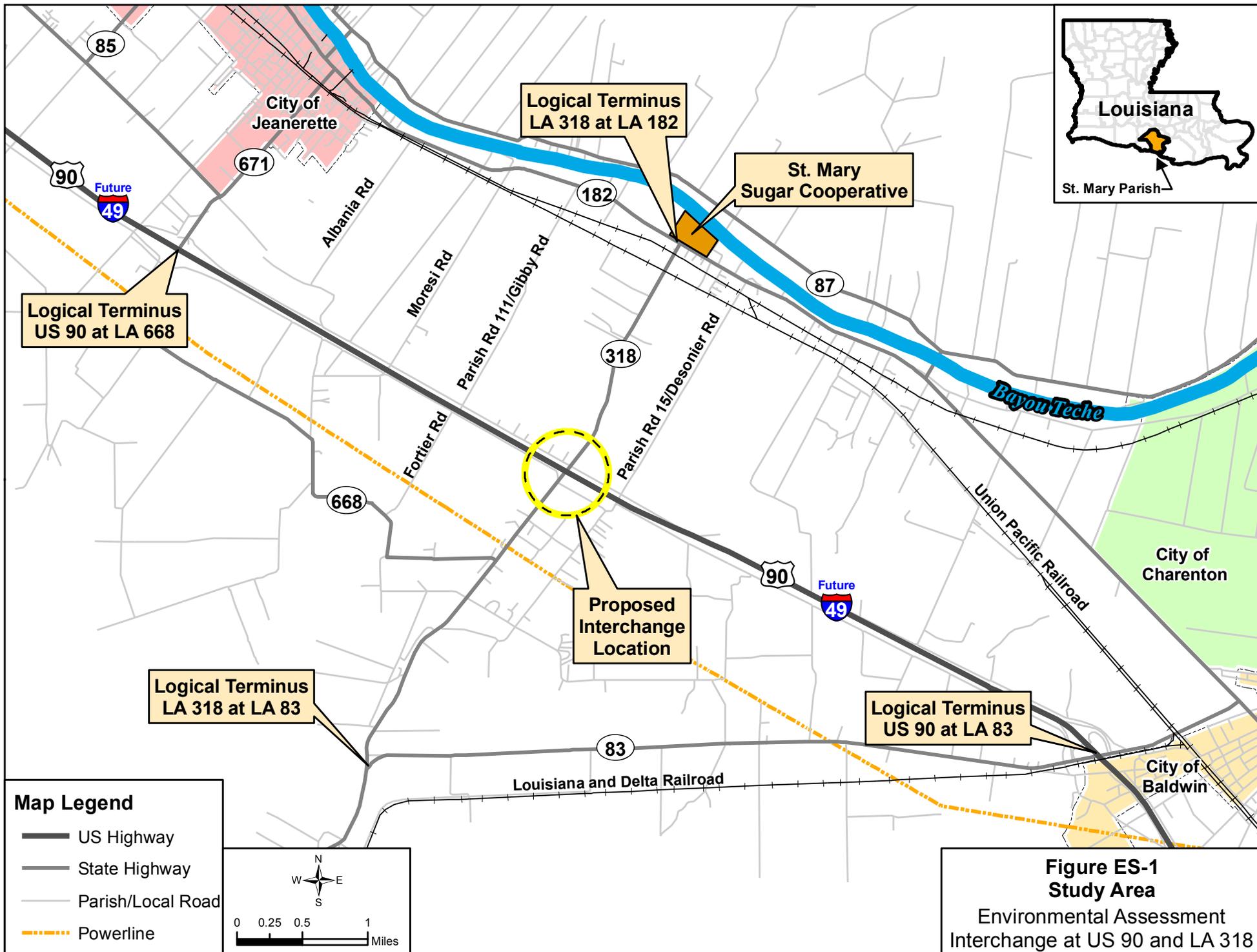
- Upgrading US 90 to interstate standards as part of the proposed future corridor for Interstate 49 (I-49) South in accordance with legislative direction;
- Improving connectivity and system linkage for industrial and commodities transport to the sugar mill and port-related industries; and
- Decreasing peak hour delay, increasing capacity, and improving overall mobility.

## Alternatives Development and Screening Methodology

Three preliminary, grade-separated interchange concepts for the proposed interchange were evaluated as part of the *US 90 and LA 318 Overpass Stage 0 Feasibility Study* (May 2007). One of the *Stage 0 Feasibility Study* interchange concepts was retained for further evaluation and two new, grade-separated interchange alternatives were developed as part of this *Stage 1 Environmental Assessment* (EA). Preliminary evaluation of these three Conceptual Alternatives (A, B, and C) included obtaining public input through a March 22, 2011 Public Meeting, from which the Conceptual Alternatives were further refined to minimize residential impacts. Based on agency and public comments, in combination with a preliminary screening evaluation of the Conceptual Alternatives, LADOTD retained one Conceptual Alternative (Alternative B) and determined that it was necessary to develop an additional build alternative (Alternative D).

## Alternatives Evaluated in this EA

Alternative B and Alternative D are the build alternatives selected and subsequently carried forth for further evaluation in this Draft EA, along with the No-Build Alternative. Alternative B consists of providing a full control of access, grade-separated overpass structure along US 90 that spans over LA 318 (see **Figure ES-2**). Alternative B would be constructed as a rural diamond interchange. Alternative D consists of providing a full control of access, grade-separated overpass structure along LA 318 that spans over US 90 (see **Figure ES-3**). Alternative D would be constructed as a combination partial cloverleaf and diamond interchange.



Logical Terminus  
LA 318 at LA 182

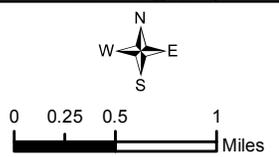
St. Mary  
Sugar Cooperative

Logical Terminus  
US 90 at LA 668

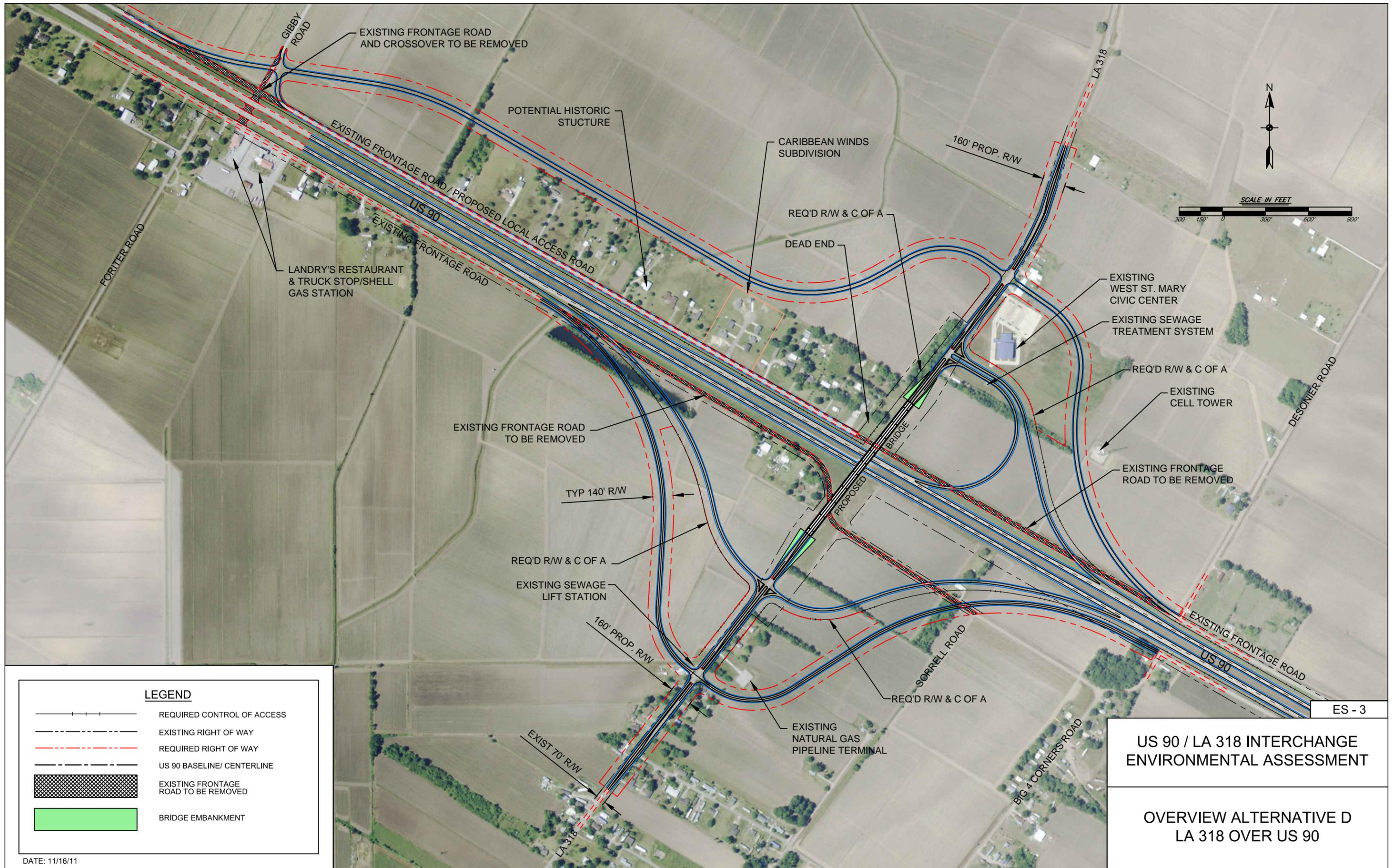
Proposed  
Interchange  
Location

Logical Terminus  
LA 318 at LA 83

Logical Terminus  
US 90 at LA 83







**LEGEND**

	REQUIRED CONTROL OF ACCESS
	EXISTING RIGHT OF WAY
	REQUIRED RIGHT OF WAY
	US 90 BASELINE/ CENTERLINE
	EXISTING FRONTAGE ROAD TO BE REMOVED
	BRIDGE EMBANKMENT

DATE: 11/16/11

ES - 3

**US 90 / LA 318 INTERCHANGE  
ENVIRONMENTAL ASSESSMENT**

**OVERVIEW ALTERNATIVE D  
LA 318 OVER US 90**

**Selection of a Preferred Alternative**

The final phase of the alternatives development process is the selection of a preferred alternative by the Federal Highway Administration (FHWA) and LADOTD. At this time, the FHWA and LADOTD have not identified a preferred alternative. A preferred alternative will be selected following the 30-day public comment period upon distribution of the Draft EA. During the 30-day comment period, a public hearing will be held to provide citizens and agencies with an opportunity to assist in the project selection process. The selection of the preferred alternative will take into consideration environmental effects of each alternative, cost, public opinion, and a number of other factors.

**Summary of Environmental Impacts**

**Table ES-1  
Summary of Project Features and Impacts**

Evaluation Criteria	Unit	No-Build Alternative	Build Alternative <sup>1</sup>	
			B	D
<b>Interchange Alignment and Right-of-way Considerations</b>				
Interchange Type - Rural	n/a – not applicable	n/a	Diamond	Combination Partial Cloverleaf and Diamond
Ramp Configuration	n/a	n/a	Diamond / Diagonal Ramps Constructed in 4 Quadrants	One Loop Ramp and 3 Diamond / Diagonal Ramps Constructed in 3 Quadrants
Bridge Configuration	n/a	None	US 90 over LA 318	LA 318 over US 90
Required Right-of-way	acres	0.0	66.9	109.3
<b>Constructability / Maintenance of Traffic (MOT) During Construction</b>				
MOT on LA 318	n/a	n/a	Construct a detour road or phase traffic and widen roadway	Construct a detour road for traffic diversion
MOT on US 90	n/a	n/a	Construct ramps and / or frontage roads first for traffic diversion	Construct ramps and / or frontage roads first for traffic diversion
<b>Human Environment Considerations &amp; Estimated Impacts</b>				
Residential Structure Impacts <sup>2</sup>	number	0	29 <sup>4</sup>	17 <sup>4</sup>
Mobile Home Structure Impacts <sup>2</sup>	number	0	7	7
Commercial Structure Impacts <sup>2,3</sup>	number	0	1	0
Caribbean Winds Parcels Impacted <sup>2</sup>	number	0	12	0
Right-of-Way Acquisition from the West St. Mary Civic Center Parcel	acres	0.0	1.9	5.5
Maintain Existing Access at Civic Center	Yes/No	Yes	Yes	No <sup>5</sup>
NRHP Eligible Standing Structures <sup>6</sup>	number	1	1	1
NRHP Eligible Archaeological Sites <sup>7</sup>	number	0	N/S <sup>7</sup>	N/S <sup>7</sup>
Disproportionate Environmental Justice Impacts	Yes/No	n/a	No	No

**Table ES-1  
Summary of Project Features and Impacts**

Evaluation Criteria	Unit	No-Build Alternative	Build Alternative <sup>1</sup>	
			B	D
Access and Travel Time Impacts in Northwest Interchange Quadrant	Yes/No	No	Yes	Yes
Noise Impacts	Yes/No	No	Yes	Yes
Feasible & Reasonable Noise Abatement	Yes/No	No	No	No
Air Quality Impacts	Yes/No	No	No	No
<b>Physical Environment Considerations &amp; Estimated Impacts</b>				
Water Well Impacted	number	0	0	1
Underlain by Chicot Aquifer	Yes/No	Yes	Yes	Yes
Natural Gas Pipeline Crossings	number	0	6	6
Natural Gas Pipeline Terminal Impact	Yes/No	No	No	Yes
Maintain Existing Access at Natural Gas Pipeline Terminal	Yes/No	Yes	Yes	No <sup>5</sup>
Sewer Treatment System at West St. Mary Civic Center	Yes/No	No	Yes	Yes
Sewer Lift Station on the West Side of LA 318 South of US 90	Yes/No	No	No	Yes
Prime Farmland Impacted	acres	0.0	66.9	109.3
<b>Natural Environment Considerations &amp; Estimated Impacts</b>				
Upland Habitat Directly Impacted	acres	0.0	2.18	2.52
Wetlands Directly Impacted	acres	0.0	0.15	0.39
Aquatic Habitat Directly Impacted	acres	0.0	1.47	1.48
100-Year Floodplains Impacted	acres	0.0	1.24	2.98
Other Waters of the US Impacted <sup>8</sup>	number	0	2	2
Scenic Streams	number	0	0	0
Significant Trees	number	0	8	3
<b>Estimated Cost Considerations (\$ 2010)</b>				
Right-of-way Cost – Land Only	\$20,000/acre	\$0	\$ 1,338,000	\$ 2,186,000
Residential Structure Acquisition	\$150,000 ea.	\$0	\$ 4,350,000	\$ 2,550,000
Mobile Home Structure Acquisition	\$25,000 ea.	\$0	\$ 175,000	\$ 175,000
Commercial Structure Acquisition <sup>3</sup>	\$150,000 ea.	\$0	\$150,000	0
Residential Relocation Assistance	\$50,000 ea.	\$0	\$ 1,250,000	\$ 850,000
Mobile Home Relocation Assistance	\$50,000 ea.	\$0	\$ 350,000	\$ 350,000
Estimated Construction Cost (rounded)	Millions \$	\$0	\$ 39.4 M	\$ 26.0 M
Total Estimated Cost (rounded)	Millions \$	\$0	\$ 47.0 M	\$ 32.1 M

Notes:

- Estimated impacts are based on the interchange layouts as shown in the Appendix A Map Atlas and are subject to change.
- Structure and relocation impacts consider worst case scenario – a structure may not be directly impacted however the parcel may be rendered unusable or would require acquisition due to control of access.
- Abandoned commercial structure is zoned for residential development in the future.
- Includes four vacant structures for Alternative B, three of which are located in the Caribbean Winds subdivision and no vacant structures for Alternative D.
- The existing Civic Center driveway on LA 318 would be relocated to the Northeast Frontage Road. The existing Natural Gas Pipeline Terminal driveway on LA 318 would be relocated to the Southeast Frontage Road.
- The potential historic structure is located in the northwest quadrant of the interchange but will not be directly impacted by either build alternative. An effects determination relative to NRHP eligibility is forthcoming from SHPO.
- Not Surveyed (N/S) – Archeological impacts to be determined following the selection of a preferred alternative.
- Other Waters of the US includes unnamed canals and tributaries.

### *Human Environment Considerations*

Both build alternatives would require the purchase of new right-of-way, but Alternative D (109.3 acres of right-of-way) would require approximately 42 more acres than Alternative B (66.9 acres of right-of-way). Neither build alternative would directly impact the West St. Mary Civic Center building; however, right-of-way acquisition would impact approximately 1.9 acres under Alternative B and 5.5 acres under Alternative D to the West St. Mary Civic Center parcel. Access to the West St. Mary Civic Center would be maintained under Alternative B, but would need to be relocated to the proposed frontage road under Alternative D.

Alternative B would impact a greater number of structures (29 residences, 7 mobile homes, and 1 abandoned commercial structure) compared to Alternative D (17 residences and 7 mobile homes). It was assumed that except for the abandoned commercial structure impacted under Alternative B, all residence and mobile home acquisitions would also require relocation assistance. These impacts are due in large part to the fact that Alternative B is a diamond interchange that would impact all four interchange quadrants, whereas Alternative D is a partial cloverleaf interchange that would only impact three interchange quadrants, thereby avoiding all structures located within the northwest interchange quadrant.

Access to non-relocated properties would be maintained through proposed frontage roads, proposed local access roads, or along portions of LA 318 where control of access restrictions do not apply. Control of access applies to LA 318, not to the same extent as on US 90; however, it still applies. Locations where control of access applies to LA 318 occur between entrance and exit ramps intersections extending to frontage road intersections. Where control of access is required, however, direct access to adjacent parcels would be prohibited. This is primarily an issue for residents in the northwest interchange quadrant under both build alternatives, where the relocation of the proposed north frontage road would affect residents' travel patterns to LA 318 and US 90. That is, residents would have to travel west on the existing frontage road / proposed access road and then backtrack on the relocated north frontage road to LA 318, thereby increasing their current travel times by 3 to 5 minutes which is considered relatively minor. Travel time for these residents to access LA 318 and US 90 would be slightly greater under Alternative D (approximately 4 minutes for the longest distance traveled) compared to Alternative B (approximately 3 minutes for the longest distance traveled) due to the larger project footprint of Alternative D.

A high concentration of minority population is present within the study area; therefore, environmental justice populations would be impacted by both build alternatives. However, because the study area is broadly minority (75.1%), and because it is impractical to relocate the proposed project elsewhere, disproportionate impacts to environmental justice populations in comparison to non-environmental justice populations are not anticipated.

The project is located in an area that is in attainment for all National Ambient Air Quality Standards, and would not have an effect on air quality. Noise impacts are anticipated under both build alternatives, with traffic noise impacts predicted at fewer structures under Alternative B (9 structures) compared to Alternative D (16 structures, including the Bambi Head Start Center).

Noise abatement analysis determined that noise barriers under both build alternatives were neither feasible and/or reasonable.

### *Physical Environment Considerations*

Both build alternatives would impact the sewage treatment system at the St. Mary Civic Center; and Alternative D would impact the sewer lift station located on the west side of LA 318 south of US 90, with possible avoidance under Alternative B. The Natural Gas Pipeline Terminal located in the southeast interchange quadrant would not be impacted by Alternative B, but access control under Alternative D would require the relocation of the terminal driveway to the proposed frontage road. Otherwise, both build alternatives would require only minor utility relocations.

Prime farmland soils are widespread throughout the study area such that the acreage of prime farmland impacted by the build alternatives is equivalent to their acres of required right-of-way. As such, Alternative D with its greater footprint would impact a larger area of prime farmland (109.3 acres) compared to Alternative B (66.9 acres). Alternative B would not directly impact any water wells, whereas Alternative D would directly impact one water well. Although both alternatives are underlain by the Chicot aquifer, they are not located near the major recharge zones and all necessary US Environmental Protection Agency (USEPA) and Louisiana Department of Environmental Quality (LDEQ) safeguards would be implemented to avoid impacts.

### *Natural Environment Considerations*

In terms of effects on the natural environment, the two build alternatives are very similar. There are several small unnamed tributaries that will be crossed by both alternatives, but these crossings are north of US 90 and outside the 100-year floodplain. South of US 90, the impacts to the 100-year floodplain associated with both Alternative B and Alternative D occur in the floodway fringe and would not increase the base-flood elevation to a level that would violate applicable floodplain regulations. While only minor impacts to the floodplain are anticipated, any drainage ditches or culverts affected by the proposed project, as well as new roadway within the 100-year floodplain, would be designed to maintain pre-construction hydrologic conditions and would not result in any substantive effect to base flood elevations of the surrounding area. Although neither build alternative would result in substantial impacts, Alternative D would result in slightly more impacts to upland habitat, wetlands, and 100-year floodplains compared to Alternative B. Overall, the impact differences between Alternative B and Alternative D are fairly minor and would not affect the overall cost of the project substantially in terms of mitigation.

### *Estimate of Probable Cost*

The estimated cost of Alternative B is approximately \$47.0 million compared to \$32.1 million for Alternative D. These costs are in 2010 dollars and are inclusive of right-of-way, structure acquisition, relocation assistance, and construction costs. Alternative D has a greater right-of-way cost in terms of land acquisition; however, Alternative B has a greater right-of-way cost in

terms of number of structures impacted and requiring relocation. A major component of the approximate \$15 million dollar cost difference between the two build alternatives relates to the bridge structures; Alternative B would require two new bridge structures on US 90, thereby costing more than Alternative D, which would require only one smaller bridge on LA 318.

### **Summary of Benefits**

Both of the build alternatives meet the purpose and need and would provide long-term benefits. Both build alternatives would replace the at-grade signalized intersection with a grade-separated interchange that would enhance emergency evacuation and reduce the potential for turning movement conflicts, which may result in a reduction of crashes. Travel time savings can be realized on US 90 and LA 318 with either of the build alternatives compared to the No-Build Alternative, resulting in reduced vehicular operating costs for both passenger and commercial vehicle operations. Furthermore, the economic vitality of the surrounding communities would likely benefit from the improved access via LA 318 to and from the St. Mary Sugar Cooperative and the Port of West St. Mary resulting from the proposed project. However, Alternative B would likely result in a greater reduction to vehicular operating costs and improved economic vitality compared to Alternative D due to Alternative B's interchange alignment (diamond), ramp configuration (no loop ramp), and bridge configuration (US 90 over LA 318) being more beneficial for truck and tractor-trailer movement.

### **Summary of Permits and Certifications**

The following permits and/or certifications are required for the proposed project:

- Authorization under the Louisiana Pollutant Discharge Elimination System (LPDES) from LDEQ for Storm Water Discharge for Construction Activities over 5 acres.
- A drainage hydraulic study will be required during design and a development permit will be required prior to commencement of construction.
- Prior to the start of project construction, a Request for a Jurisdictional Determination by the USACE and a Section 404 Permit for temporary and permanent impacts from construction of the proposed project for wetlands determined to be jurisdictional will be obtained. The permit application will include a specific plan to mitigate adverse project impacts on streams and wetlands, including mitigation for unavoidable wetland losses. Commitments to minimize harm to wetlands and streams are as follows:
  1. Dredged or fill materials used for construction will be non-polluting material in accordance with USEPA Guidelines for the Discharge of Dredged or Fill material found in 40 CFR 230.
  2. All construction activity will be performed in a manner that would minimize increased turbidity of the water in the work area and otherwise avoid adverse effects on water quality and aquatic life.

3. All dredged material not used as backfill will be placed on land, and no runoff water from the disposal site will be allowed to enter the waterway.
  4. Erosion during and after construction will be controlled as outlined in the latest edition of the LADOTD's *Standard Specifications for Highway Construction*.
  5. The project will not significantly disrupt the movement of those species of aquatic life indigenous to the water body.
  6. Temporary work ramps or haul roads, when needed, will provide sufficient waterway openings to allow the passage of expected high flows.
  7. The contractor will take precautions in the handling and storage of hazardous materials, including lubricants and fuels, to prevent discharges or spills that would result in degradation of water quality.
  8. Wetland areas will be avoided to the maximum extent practicable.
  9. Wetlands outside of the construction limits will not be used for construction support activities (borrow sites, waste sites, storage, parking access, etc.) under permit by the USACE.
  10. Heavy equipment working in wetlands will be placed on mats.
  11. Clearing of wetlands will be limited to the minimum amount necessary for the completion of the job.
  12. The contractor will be responsible for the protection of adjacent wetlands.
- Prior to construction, a Coastal Use Permit (CUP) application would need to be completed and submitted to the Coastal Management Division of the Louisiana Department of Natural Resources (LDNR). Submitting an application for a CUP does not imply that one will be required; rather the application is simply one part of the rules and procedures necessary for construction projects within the coastal zone. A prior joint permit application was filed with LDNR as part of the 2007 solicitation of views (SOV); Permit Type - SOV. LDNR had no objection to the SOV permit application (see **Table 6-1, ID No. 1**).
  - Approval by the St. Mary Parish floodplain manager for any modifications to the floodplain.

### **Summary of Commitments and Mitigation Measures**

The following commitments and mitigation measures are required for the proposed project:

- **Best Management Practices (BMPs):** Implementation of BMPs during construction to mitigate non-point source pollution and comply with USEPA Guidance on impacts to a Sole Source Aquifer.
- **Maintenance of Traffic:** A construction sequencing plan will be prepared prior to construction to minimize disruption of traffic on US 90 and LA 318. If Alternative B is selected as the preferred alternative, two lanes of traffic on US 90 in both the eastbound and westbound directions should be maintained during construction of the overpass bridges. As part of Alternative B, the construction of the ramps and/or frontage roads would be completed first and then used for diversion of traffic. The bridge structures for

the US 90 overpass would then be constructed. Similar to Alternative B, the construction of ramps and/or frontage roads for Alternative D would be completed first and then used for diversion of traffic. The bridge structure for the LA 318 overpass would then be constructed. The existing right-of way along LA 318 in the vicinity of US 90 is wide enough to provide a temporary detour road immediately adjacent to the construction of the LA 318 bridge. During the sugar cane harvest season (October through December), LA 318 should remain open to traffic at all times. The appropriate sequencing of construction operations and maintenance of traffic would ensure that LA 318 remains accessible. These provisions are necessary in order to avoid construction signed detours that would potentially increase travel time and vehicle operating costs.

- Noise: The mitigation measures that are implemented at the construction site must be determined to be necessary and would be the responsibility of the construction contractor. LADOTD may require that one or more of these measures are included as provisions to the contract documents. All mitigation measures must adhere to the latest version of the *Louisiana Standard Specifications for Roads and Bridges* and comply with state and local laws. The following potential mitigation measures may be implemented during construction to minimize adverse noise impacts:
  - Locate site equipment as far from noise sensitive receptors as possible;
  - Avoid nighttime activities in residential areas where sensitivity to noise increases during the nighttime hours, but nighttime construction work can be considered in commercial areas if deemed necessary to meet project schedules and expedite construction;
  - Avoid impact pile driving where possible in noise sensitive areas by using drilled piles and sonic or quieter vibratory pile drivers where geological conditions permit; and
  - Use specially muffled equipment, such as enclosed air compressors, and mufflers on all engines.
- Air Quality: During the construction of the proposed facility, air quality impacts will be minimized, by the project contractor, through a combination of fugitive dust control, equipment maintenance, and compliance with state and local regulations.
- Hazardous Materials: During construction, any site that is found to contain hazardous materials will be remediated and all work conducted in conformance with LDEQ, EPA, and Occupational Safety and Health Administration (OSHA) regulations and policy.
- Right-of-Way Acquisitions and Land Use: Relocations have been minimized to the maximum extent practicable. All relocation activities would be governed by the *Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act Of 1970*. Construction of the project will not begin until decent, safe, and sanitary replacement housing is in place and offered to all affected persons. Home owners will be eligible for replacement housing and moving expense payments. Owners may also be eligible for an additional payment to provide comparable housing and to assist with the increased costs of a new mortgage and incidental expenses incurred. Displaced persons, businesses,

farms, and nonprofit organizations are eligible for reimbursement for actual reasonable moving costs, as well.

- **Utility Relocations:** During the design phase of the project, LADOTD will coordinate the proposed roadway improvements with impacted utility companies.
- **Archaeological Findings:** Once a Preferred Alternative is selected, a detailed investigation including shovel tests of the alignment would be performed to determine the presence of any archeological sites located within the area of construction. Any findings would be submitted to the State Historic Preservation Office (SHPO) for a determination.
- **Plants and Wildlife Protected by Law:** The threatened Louisiana black bear may occur in the general project area. In its solicitation of views response letter, the US Fish and Wildlife Service (USFWS) recommends the following measures to minimize impacts to the Louisiana black bear and its critical habitat:
  - If construction is to be performed during the denning season (December through April) or if bald cypress or tupelo gum trees with 36 diameter at breast height or greater will be removed or destroyed, further consultation with the USFWS will be necessary; and
  - Construction workers are strongly urged to avoid bears, if work is to be performed during the non-denning season (April through December). Workers should not leave food or garbage in the field and bear proof garbage containers are recommended.
- **Protection of Trees:** During construction care should be taken to minimize damage to trees in order to prevent tree mortality.

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# CHAPTER 1.0

# 1.0 INTRODUCTION AND PURPOSE AND NEED

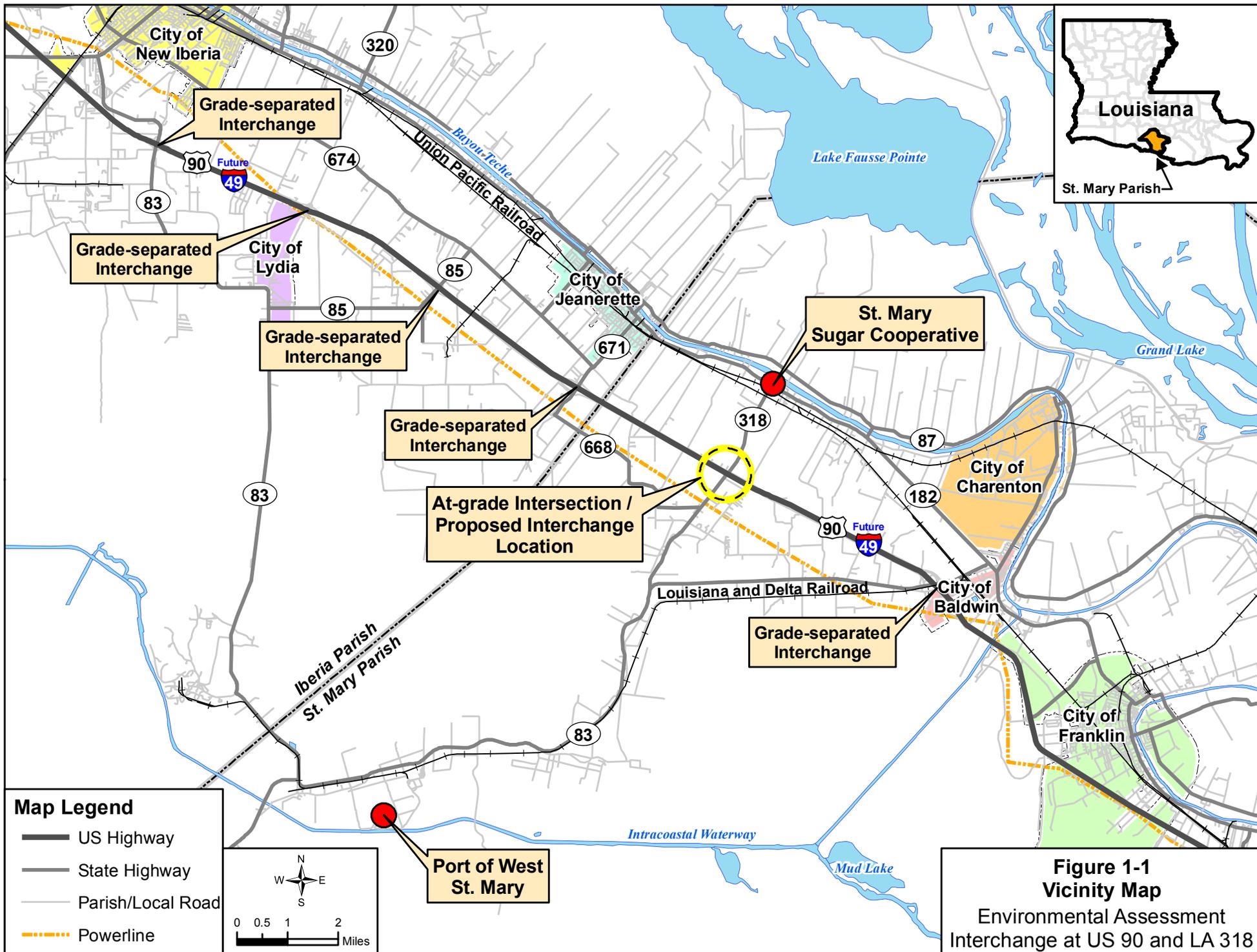
## 1.1 Project Description

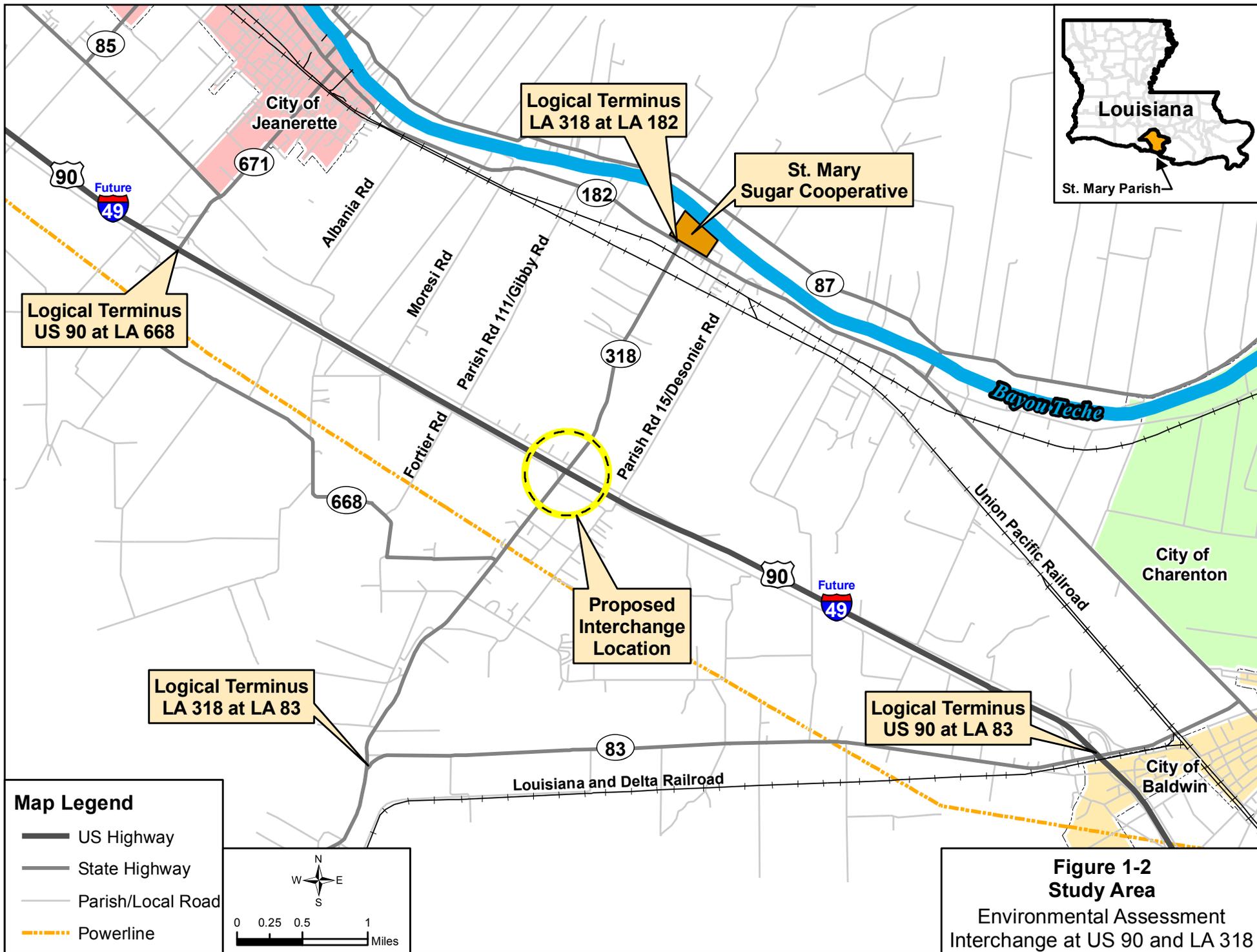
The Louisiana Department of Transportation and Development (LADOTD) is proposing to construct a grade-separated interchange at the intersection of US Highway 90 (US 90) and Louisiana Highway 318 (LA 318). This line and grade study and environmental assessment (EA) were prepared to develop potential interchange concepts and to determine the environmental impacts associated with the proposed project. The Federal Highway Administration (FHWA) is the lead Federal agency for the project.

The proposed US 90 and LA 318 interchange improvement project is located in a rural area of St. Mary Parish, Louisiana. As shown in **Figure 1-1**, the intersection of US 90 and LA 318 is located approximately mid-way between the City of New Iberia in Iberia Parish and the City of Franklin in St. Mary Parish. The City of Jeanerette and the City of Charenton are also located in close proximity to the intersection. Major industry within St. Mary Parish consists of agriculture, carbon black plants, ship builders/marine transport, diving services, oil and gas extraction services, sugar mills, and seafood processors. As shown in **Figure 1-1**, the St. Mary Sugar Cooperative, Inc. is located north of the proposed project on LA 318 at LA 182, and the Port of West St. Mary is located approximately 15 miles southwest of the proposed project. Vehicular access to the port is provided by way of LA 83.

Between the Interstate 10 (I-10) and I-49 interchange in Lafayette extending to the I-10/US 90 Business interchange in New Orleans, US 90 is designated as High Priority Corridor 37 on the National Highway System (NHS). The NHS designation for US 90 is contingent upon upgrading the corridor to interstate standards with full control of access. Locally referred to as Future I-49 and/or the I-49 South Extension, this 156-mile portion of US 90 is part of a larger plan to link New Orleans with Interstate 29 in Kansas City, Missouri and continue north to Canada. The upgrading of US 90 to interstate standards is in various stages of implementation. The existing highway includes segments with no control of access and at-grade intersections, as well as segments where interchanges and frontage roads have been constructed. The current status of intersections and interchanges along US 90 in the vicinity of the proposed project are shown in **Figure 1-1**. As shown, all US 90 intersections with major cross streets are grade-separated interchanges with the exception of the subject intersection. US 90 at LA 318 is currently an at-grade, signalized intersection. Two-way frontage roads are located on the north and south side of US 90 both east and west of LA 318.

The study area is graphically presented in **Figure 1-2**. The project limits extend to the logical termini that were identified by the LADOTD and approved by the FHWA. The eastern and western logical termini on US 90 are located at LA 668 and LA 83, respectively. On LA 318, the northern and southern project limits extend to LA 182 and LA 83, respectively.



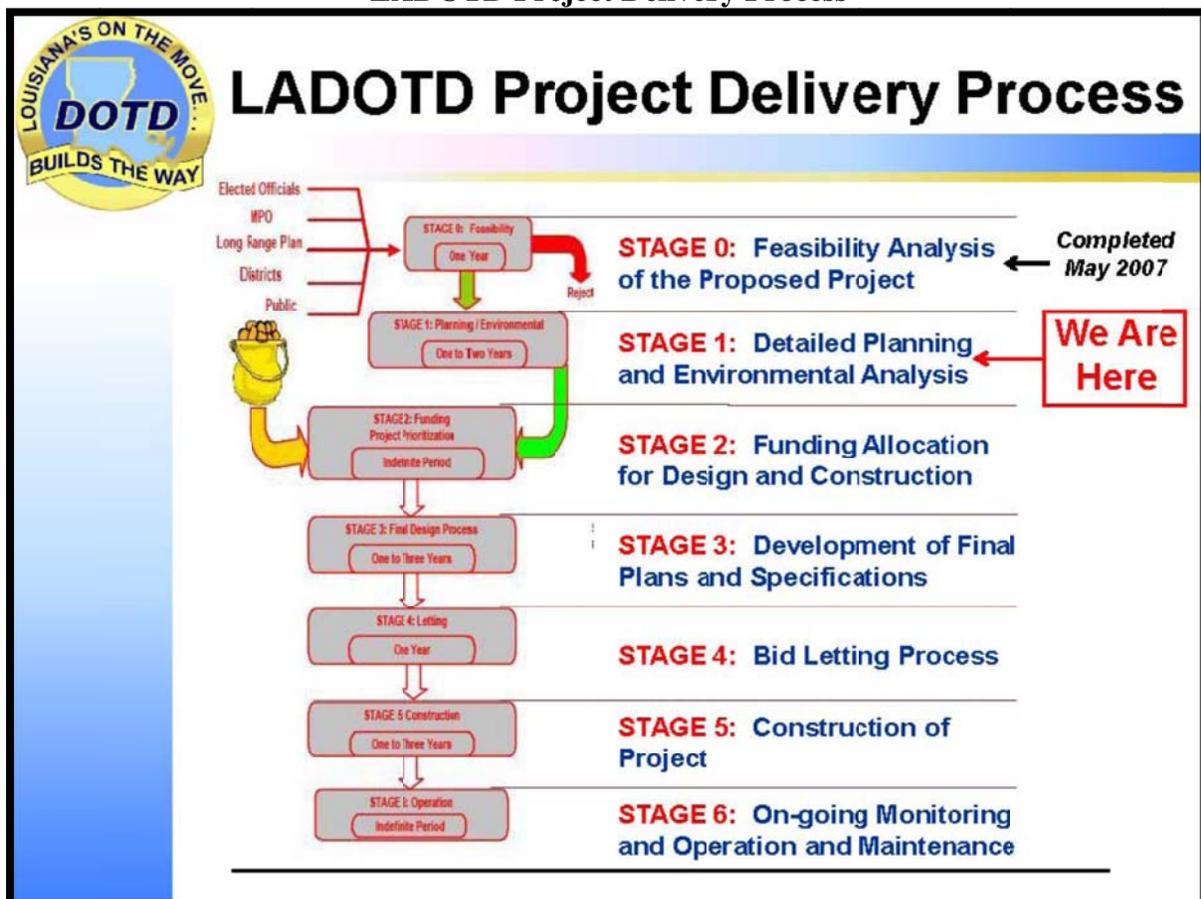


## 1.2 Project History

As previously shown in **Figure 1-1**, the intersection of US 90 and LA 318 is the only intersection spanning the US 90 Corridor within the vicinity of the proposed project that has not been upgraded to an interchange. In 2006, the LADOTD initiated a *Stage 0: Feasibility Study* for the project to determine the preliminary environmental and engineering feasibility of the project. The *Stage 0: Feasibility Study* is a requirement of LADOTD’s Program Development and Project Delivery Process for a proposed project. The *US 90 and LA 318 Overpass Stage 0 Feasibility Study* was completed in May 2007 (C.H. Fenstermaker and Associates).

Following the completion of the *Stage 0 Feasibility Study*, the project was recommended for advancement into the next stage of the LADOTD Project Delivery Process, *Stage 1: Detailed Planning and Environmental Analysis*. Stage 1 is the environmental phase of the LADOTD Project Delivery Process, with the goal of refining the Stage 0 concepts and further evaluating the effects of the alternatives on the environment. The stages of the Project Delivery Process are illustrated in **Figure 1-3**.

**Figure 1-3**  
LADOTD Project Delivery Process



### 1.3 Requirements for this Study

This EA was prepared as a requirement of the National Environmental Policy Act (NEPA). NEPA was enacted in 1969 to encourage sustainable development and informed decision-making in a manner acceptable to the United States' citizens and government agencies. US Code of Federal Regulations (CFR), 40 CFR Parts 1500-1508, are the regulations implementing NEPA and are commonly known as the CEQ regulations. They require all Federal agencies to develop guidelines to implement NEPA. Specifically, these regulations require that every Federal action or Federally funded project be evaluated on its merits by the Federal sponsor agency. Public involvement is identified as a key component of the NEPA planning process governed by these regulations. Project alternative impacts to the human, physical, and natural environment, as well as the project alternative benefits, must be evaluated. Results must be presented to the public, Indian tribes, resource agencies having jurisdictional interests in the project, and to decision-makers.

The FHWA developed regulations titled *Environmental Impact and Related Procedures*, (23 CFR Part 771) and the FHWA guidance document T6640.8A, *Guidance for Preparing Environmental and Section 4(f) documents* (FHWA, 1987), provide the guidance for this EA. Other Federal and state laws, regulations, and executive orders provide additional requirements. Relevant regulatory requirements are noted throughout this document, where appropriate.

Based on the environmental analysis that has been conducted to-date, the LADOTD and FHWA have not identified a preferred alternative. Selection of a preferred alternative will be identified following agency and public review of the Draft EA, and upon the review and evaluation of public hearing comments received on the Draft EA. A Finding of No Significant Impact (FONSI) will be issued by the FHWA if it is determined that the preferred alternative will not have significant environmental impacts. The FONSI will include commitments and mitigation measures that are intended to reduce or mitigate any unavoidable adverse impacts.

### 1.4 Proposed Action

The proposed project includes upgrading the existing US 90 and LA 318 signalized intersection to a full control of access, grade-separated interchange, including the reconstruction of the US 90 frontage roads, to provide local access to LA 318. The No-Build Alternative and two build alternatives were evaluated as part of this EA. The build alternatives include:

- Alternative B: A rural diamond interchange with US 90 overpass; and
- Alternative D: A combination partial cloverleaf (one loop ramp) and diamond interchange with LA 318 overpass.

An overview of the alternatives analysis process and a detailed description of the build alternatives are presented in **Chapter 2**.

## 1.5 Purpose and Need

Upgrading US 90 as part of the proposed future corridor for I-49 South, improving connectivity and system linkage, and improving mobility are all key aspects of the proposed project's purpose and need, as described below.

### Legislative Direction

The importance of the proposed project is demonstrated by its designation as High Priority Corridor 37 on the NHS. Enacted under the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), this portion of US 90 would be upgraded as part of the proposed future corridor for I-49 South.

US 90 is part of the NHS and is described in the *Louisiana Statewide Transportation Plan* (LADOTD, 2003) and its more recent supplemental long-range planning document entitled *Louisiana Statewide Transportation and Infrastructure Plan – Review and Status Report* (LADOTD, 2008) as a state highway of significance and “megaproject.” As a gateway to the Gulf of Mexico, US 90 serves as the link between the energy industry and the rest of the nation. In fact, as detailed in the *Interstate 49 South - America's Energy Corridor* study (LEDA, accessed January 2011), the proposed improvements are located along a stretch of US 90 from Lafayette to the Westbank Expressway in New Orleans that has the highest density of energy workers in the United States (four percent of all the nation's energy laborers work along this portion of US 90). The high concentration of energy infrastructure along the US 90 corridor establishes it as one of the top industrial corridors in the nation, thus emphasizing the need for upgrading US 90 to interstate status as an issue of national importance.

In order for US 90 to achieve interstate status, it would have to be upgraded to a full control of access highway throughout its limits. The sections of US 90 immediately east and west of the project currently have full control of access and this proposed intersection improvement would satisfy the intersection requirements for interstate corridor criteria within the project study area.

### Improve Connectivity and System Linkage

US 90 is currently classified as a rural principal arterial that generally runs east-west from Lafayette to New Orleans, connecting several cities, towns, and communities. Within the study area, US 90 is a four-lane divided highway. LA 318 is a two-lane undivided roadway and is classified as a rural major collector that connects LA 182 and US 90.

The location of the intersection of US 90 and LA 318 is a key factor in its use by heavy traffic involved in industrial and commercial commodities transport. The Port of West St. Mary is located south of US 90. The Port of West St. Mary is categorized as a shallow-draft coastal port, which is strategically located adjacent to the Louisiana and Delta Railroad. Port infrastructure includes a 150-foot channel (bottom width) that connects the port to the US Gulf Intracoastal Waterway.

The port is accessible by several modes of transportation including marine, rail, air, and highways. The 1,500-acre port is home to more than eight businesses including oil and gas related companies, fabrication and manufacturing plants, and wholesale seafood companies. LA 318 is one of three routes to US 90 from the Port of West St. Mary via LA 83. The other two routes to US 90 are both along LA 83 and include one to the northwest and one to the northeast. However, the shortest route from the port to US 90 is by way of LA 318.

The St. Mary Sugar Cooperative, Inc. is located at the intersection of LA 318 and LA 182, approximately two miles north of US 90. This sugar mill processes sugarcane that is grown throughout the region, including, but not limited to, the municipalities of Kaplan, Duson, Lake Charles, Youngsville, and adjacent parishes such as Vermillion Parish. The transport of sugarcane from these areas to the mill is by large truck and tractor-trailers via US 90 by way of LA 318. According to St. Mary Sugar Cooperative representatives (September 2006 letter to LADOTD contained in the Stage 0 Feasibility Study), in 2005 during the 100-day harvest season, approximately 25,000 to 30,000 cane trucks travelled through the US 90 and LA 318 intersection. St. Mary Sugar Cooperative representatives also noted that mud debris on roadways, a general condition resulting from the sugarcane harvesting and grinding process, tended to increase during the 100-day harvest season. In addition, traffic flow operating conditions slow down as more trucks and tractor-trailers travel the roadways during the 100-day harvest season.

By improving the US 90 and LA 318 intersection, large truck and tractor-trailer traffic would continue to utilize LA 318 rather than use adjacent routes to the east or west that would divert traffic through school zones or along two-lane frontage roads in the communities of Jeanerette and Baldwin that are not designed to accommodate heavy truck traffic.

### **Improve Mobility**

An existing condition (2010) and future design year (2035) intersection capacity analysis was conducted for the existing at-grade signalized intersection of US 90 and LA 318 as part of this EA. Under existing conditions, as well as the future year No-Build Alternative, which consists of existing geometry with projected 2035 traffic volumes, certain approaches to the intersection are projected to experience significant delays during the morning and afternoon peak hours, with poor operating levels of service anticipated.

Level of service (LOS) represents a qualitative evaluation of the traffic operational characteristics of a given intersection using procedures developed by the Transportation Research Board and contained in the *Highway Capacity Manual (HCM), Special Report 209* (1994). The Highway Capacity Manual procedures have been adapted to computer based analysis packages such as *HCS+*. Levels of service range from LOS A, a condition of little or no delay, to LOS F, a condition of capacity breakdown represented by heavy delay and congestion. LOS B is characterized as stable flow. LOS C is considered to have a stable traffic flow, but is becoming susceptible to congestion with general levels of comfort and convenience declining noticeably. LOS D approaches unstable flow as speed and freedom to maneuver are severely

restricted and LOS E represents unstable flow at or near capacity levels with poor levels of comfort and convenience.

Under existing conditions, the northbound and southbound approaches on LA 318 at US 90 currently operate at LOS D during the morning (AM) peak hour. During the afternoon (PM) peak hour, the northbound approach on LA 318 is at LOS D. The overall signalized intersection at US 90 and LA 318 operates at LOS C for the 2010 base year condition.

By the year 2035 under the No-Build Alternative, the northbound and southbound approaches on LA 318 are projected to operate at LOS E during the AM peak hour; for an overall intersection LOS D during the morning peak hour. During the PM peak hour, the northbound and southbound approaches on LA 318 are projected to operate at LOS D, while the eastbound and westbound through movement approaches on US 90 are projected to operate at LOS E; for an overall intersection LOS E during the afternoon peak hour. Level of service D through F are generally unacceptable on the rural highway system. Consequently, additional vehicular delay is projected in the future without the proposed project. The proposed project would seek to decrease peak hour delay, increase capacity, and improve overall mobility.

# CHAPTER 2.0

## 2.0 ALTERNATIVES CONSIDERED

NEPA requires that all reasonable alternatives that could achieve the purpose and need for the project be considered. This chapter describes the alternatives development process including the development of conceptual alternatives, refinement of the build alternatives, and selection of a preferred alternative. The no action alternative, herein referred to as the No-Build Alternative, must also be considered.

### 2.1 Alternatives Development Methodology

A tiered approach was utilized in the development of the build alternatives to meet the purpose and need. The methodology reduced the range of alternatives through consecutively more detailed analyses that included an engineering and environmental screening evaluation process. The following steps were undertaken as part of the tiered alternatives development process:

1. Review of Stage 0 Alternatives.
2. Development of preliminary engineering layouts for the conceptual alternatives.
3. Public review and comment on the conceptual alternatives. This was accomplished as part of the March 22, 2011 Public Meeting and comment period.
4. Preliminary evaluation of conceptual alternatives.
5. Elimination of one alternative that led to the identification of two build alternatives.
6. Refinement of the build alternatives that are the subject of this EA.
7. Public review and comment on the build alternatives and their associated impacts and benefits. This will be accomplished as part of the upcoming Public Hearing and comment period.
8. Selection of a preferred alternative.

### 2.2 Stage 0 Alternatives

The *US 90 and LA 318 Overpass Stage 0 Feasibility Study* evaluated three preliminary, grade-separated interchange concepts for the US 90 and LA 318 intersection improvements. The three preliminary concepts all included a grade-separated overpass structure along LA 318 spanning over US 90. Only one concept developed as part of the *Stage 0 Feasibility Study* was a full interchange, which was configured as a partial cloverleaf interchange with two loop ramps on the east side of LA318 in the northeast and southeast quadrants of the interchange. This concept was identified as Concept Number (No.) 1 and also included reconfiguring the existing frontage roads. The two other concepts developed as part of the *Stage 0 Feasibility Study* were grade separations without ramps. These concepts did not provide direct access from US 90 to LA 318, and consisted of elevating LA 318 over US 90 with a bridge structure and providing varying levels of geometric modifications to the existing frontage roads to improve local connectivity. These concepts were identified as Concept No. 2 and Concept No. 3 and were eliminated from further consideration because they did not meet the purpose and need for the project.

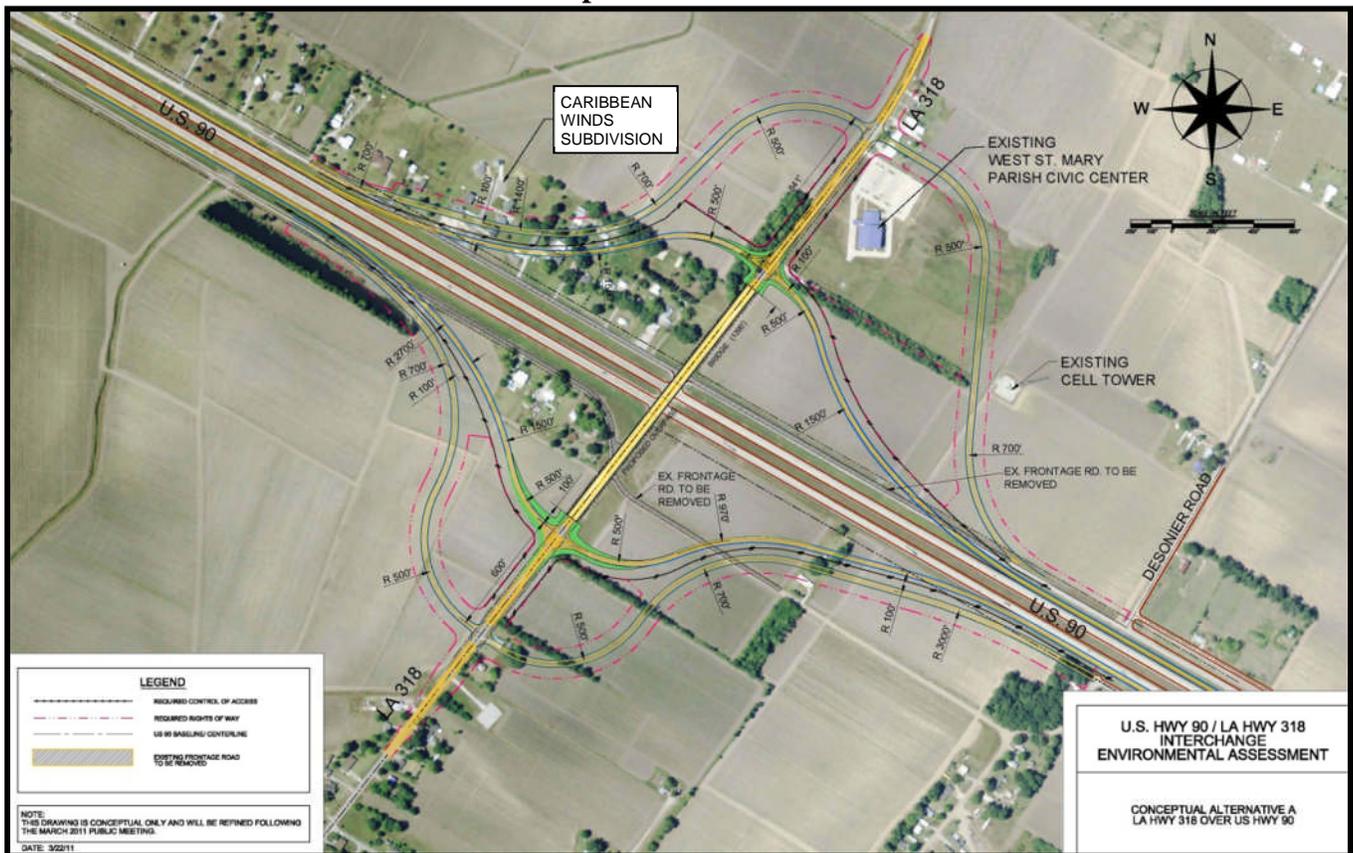
## 2.3 Conceptual Alternatives Development

Interchange Concept No. 1 from the *Stage 0 Feasibility Study* was retained for further evaluation in this *Stage 1 EA*. In addition, the LADOTD requested that two new grade-separated interchange alternatives be developed as part of the NEPA alternatives analysis process. As such, three preliminary conceptual alternatives were initially considered for the proposed grade-separated interchange; herein referred to as Conceptual Alternative A, Conceptual Alternative B, and Conceptual Alternative C that was the retained Interchange Concept No. 1 from the *Stage 0 Feasibility Study*. All three of the preliminary conceptual alternatives were developed to meet the purpose and need for the project and are described below.

### Description of Conceptual Alternatives

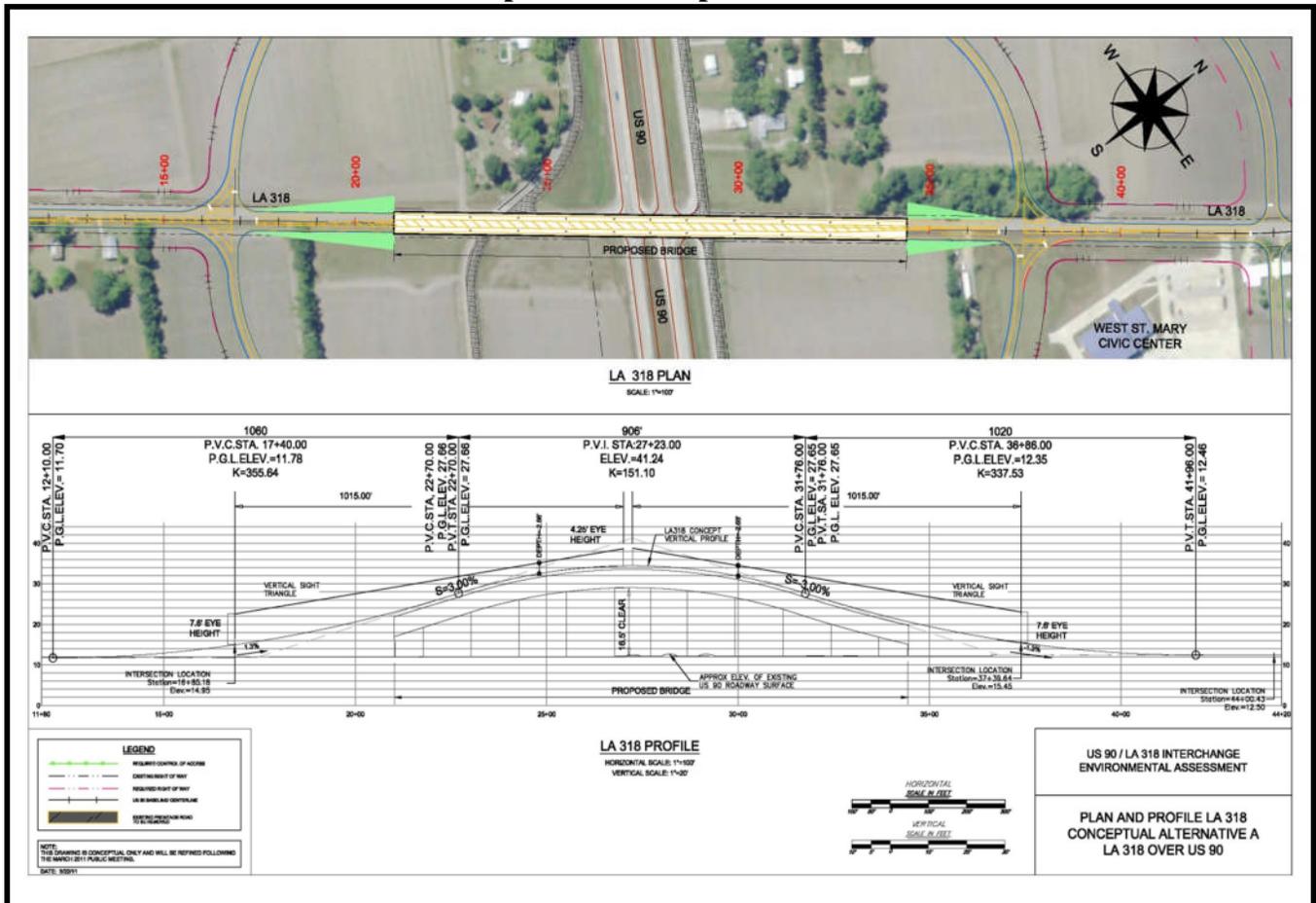
**Conceptual Alternative A**, as shown in **Figure 2-1**, consists of a rural diamond interchange with an overpass on LA 318 spanning over US 90. US 90 would remain at-grade and a bridge on LA 318 would be constructed to carry LA 318 traffic over US 90. Other proposed improvements include the widening of LA 318, constructing interchange ramps, and relocating frontage roads.

**Figure 2-1**  
**Conceptual Alternative A**



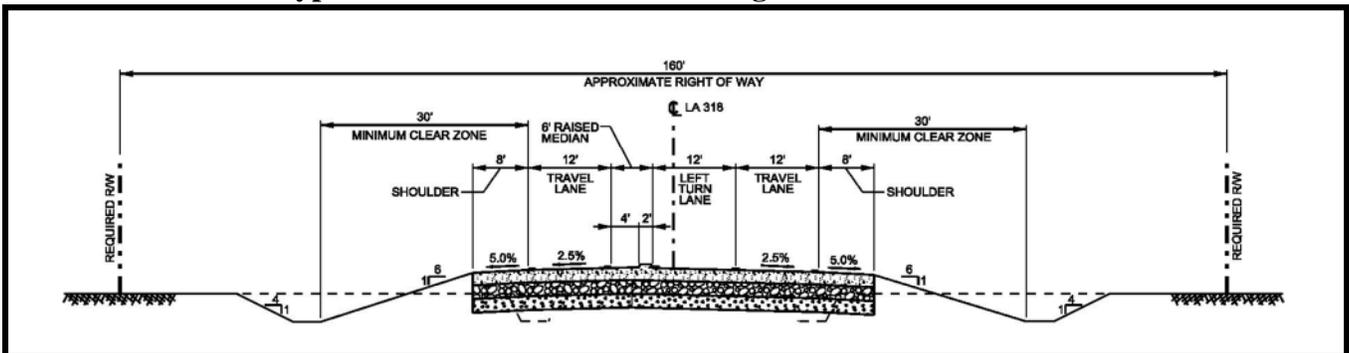
As part of Conceptual Alternative A, LA 318 would be elevated over US 90 with a bridge structure. The limits of the proposed bridge and a profile view of the LA 318 overpass and its associated vertical geometry are presented in **Figure 2-2**. As shown, the interchange ramps would intersect with LA 318 at the point where LA 318 transitions back to grade.

**Figure 2-2**  
**LA 318 Overpass for Conceptual Alternative A**



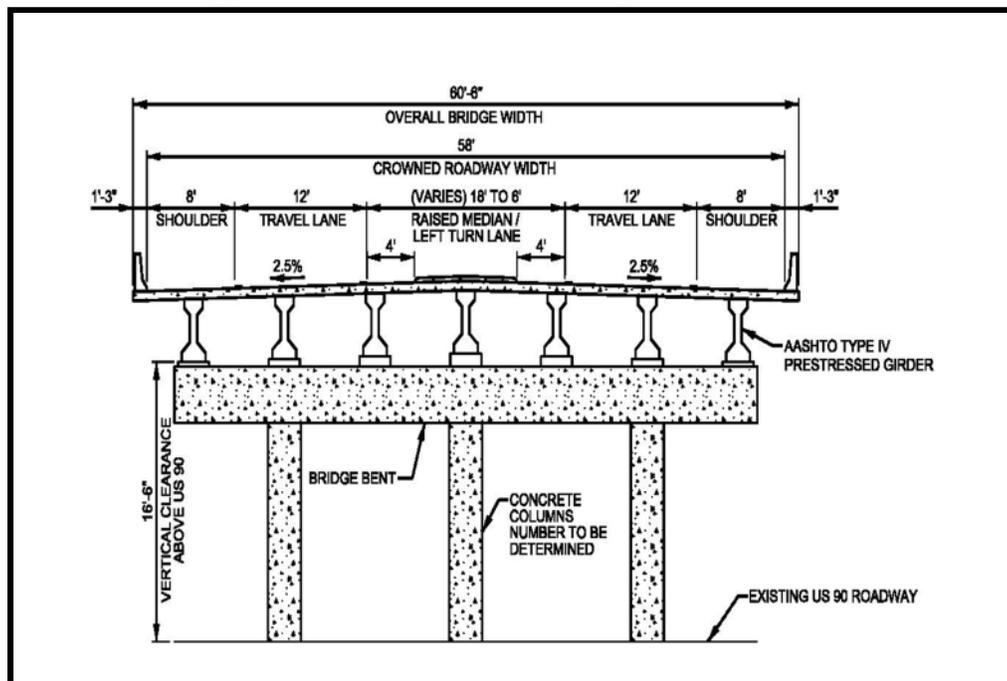
The proposed preliminary right-of-way width associated with the widening of LA 318 would be approximately 160 feet. The widening of LA 318, including the overpass, includes two, 12-foot travel lanes, 8-foot shoulders, and raised median/exclusive left-turn lanes varying in width between 6-foot and 18-foot wide. A typical section of the proposed widening of LA 318 is presented in **Figure 2-3**. This typical section represents LA 318 near the interchange ramp intersections where exclusive left-turn lanes would be provided to access the entrance ramps. The entrance and exit ramps for Conceptual Alternative A would consist of one, 15-foot travel lane, a 6-foot wide inside shoulder, and a 10-foot wide outside shoulder.

**Figure 2-3**  
**Typical Section of LA 318 Widening with Left Turn Lanes**



**Figure 2-4** illustrates a typical section of the LA 318 bridge structure over US 90. A 14-foot, painted center lane would transition to a left-turn lane to access the entrance ramps.

**Figure 2-4**  
**Typical Section of LA 318 Bridge Over US 90**

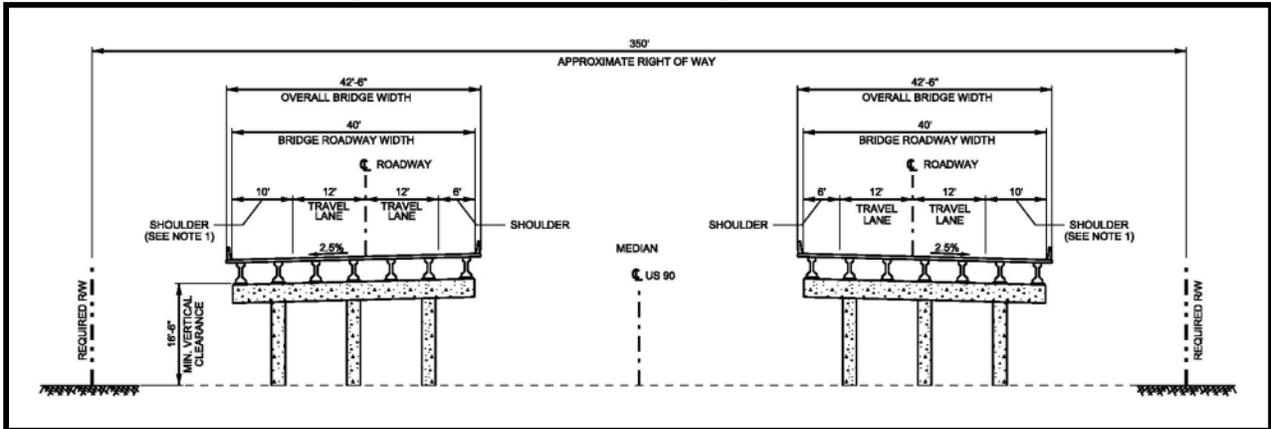


Within the proposed interchange limits, the existing frontage roads would be removed and reconstructed on new alignment. As shown in **Figure 2-5**, the two-way frontage roads would be constructed with two, 12-foot travel lanes and 6-foot shoulders. The proposed ROW associated with the relocated frontage roads would be approximately 140 feet wide. As previously shown in **Figure 2-1**, on the north side of US 90, the frontage roads would be relocated north of the West St. Mary Civic Center. South of US 90, the frontage road would intersect with LA 318 near an existing Natural Gas Pipeline Terminal that is located on the east side of LA 318.

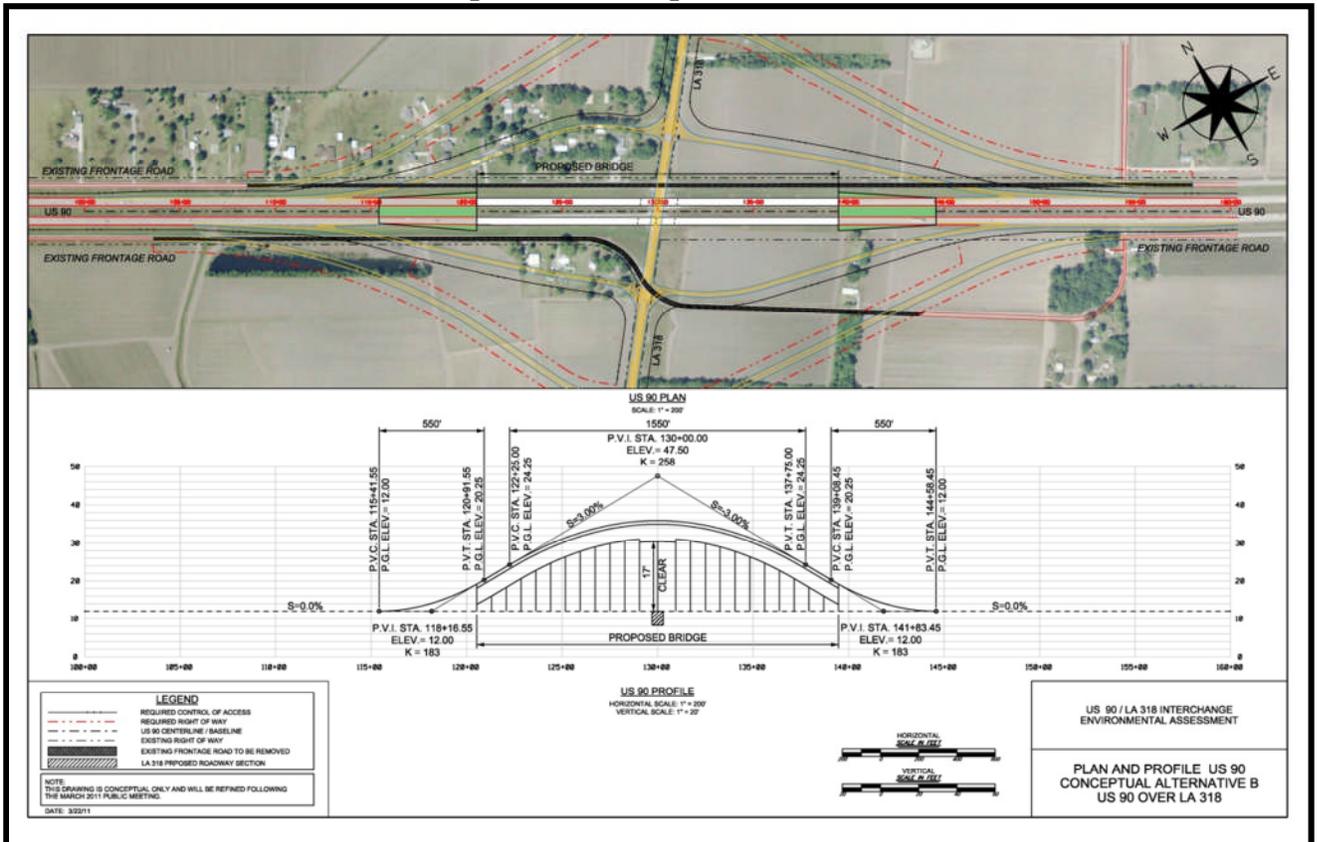


As part of Conceptual Alternative B, US 90 would be elevated over LA 318. **Figure 2-7** illustrates a typical section of the separate bridges required for the US 90 eastbound and westbound travel lanes over LA 318. **Figure 2-8** depicts the limits of the proposed bridge and a profile view of the US 90 overpass and its associated vertical geometry.

**Figure 2-7**  
**Typical Section of US 90 Bridge Over LA 318**



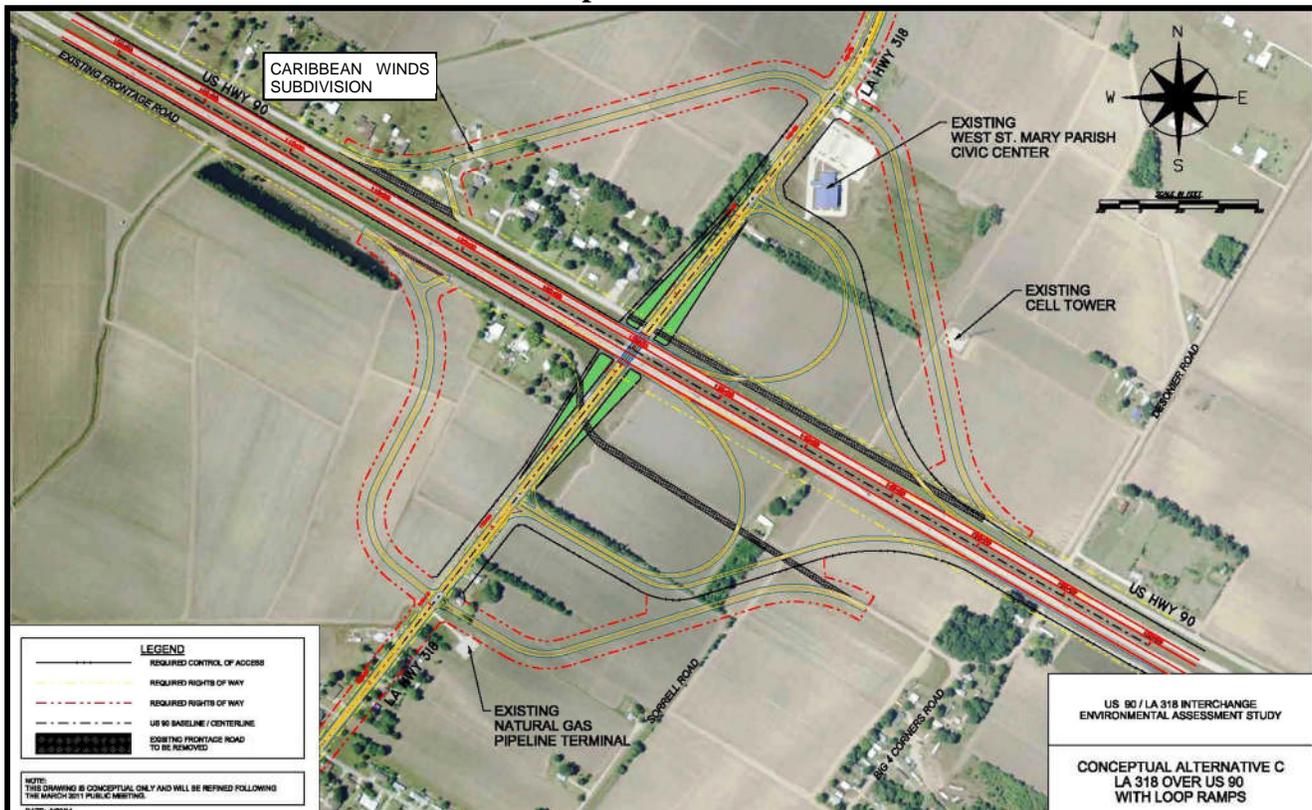
**Figure 2-8**  
**US 90 Overpass for Conceptual Alternative B**



The US 90 overpass would be constructed within the existing right-of-way. Each directional bridge structure would consist of two 12-foot travel lanes, a 6-foot inside shoulder, and a 10-foot outside shoulder. Other proposed improvements associated with Conceptual Alternative B include the widening of LA 318 (see **Figure 2-3** for typical section) and relocating frontage roads (see **Figure 2-5** for typical section). As previously shown in **Figure 2-6**, the entrance and exit ramps would intersect with LA 318 a closer distance to US 90 on both the north and south side in comparison to Conceptual Alternative A. Subsequently the relocated frontage roads would not extend as far north and south along LA 318, with the north frontage road located south of the West St. Mary Civic Center.

**Conceptual Alternative C** was the retained Interchange Concept No. 1 that evolved from the *Stage 0 Feasibility Study* and is depicted in **Figure 2-9**. This interchange configuration consists of a partial cloverleaf interchange, with an overpass on LA 318 spanning over US 90. All entrance and exit ramps would be located on the east side of LA 318. As part of the cloverleaf concept, a loop ramp would service the westbound on movement of traffic in the northeast quadrant and a loop ramp would service the eastbound off movement in the southeast quadrant. The westbound off ramp located in the northeast quadrant and the eastbound on ramp located in the southeast quadrant are configured in a diamond alignment. Just east of LA 318, a portion of each loop ramp parallels an adjacent ramp where the traffic flow would be in the opposite direction.

**Figure 2-9**  
**Conceptual Alternative C**



The north frontage road would extend north of the West St. Mary Civic Center and the south frontage road would extend to the property line of an existing Natural Gas Pipeline Terminal. As part of Conceptual Alternative C, LA 318 would be elevated over US 90 with a bridge structure. The limits of the proposed bridge and a profile view of the LA 318 overpass and its associated vertical geometry are presented in **Figure 2-10**.

**Figure 2-10**  
**LA 318 Overpass for Conceptual Alternative C**

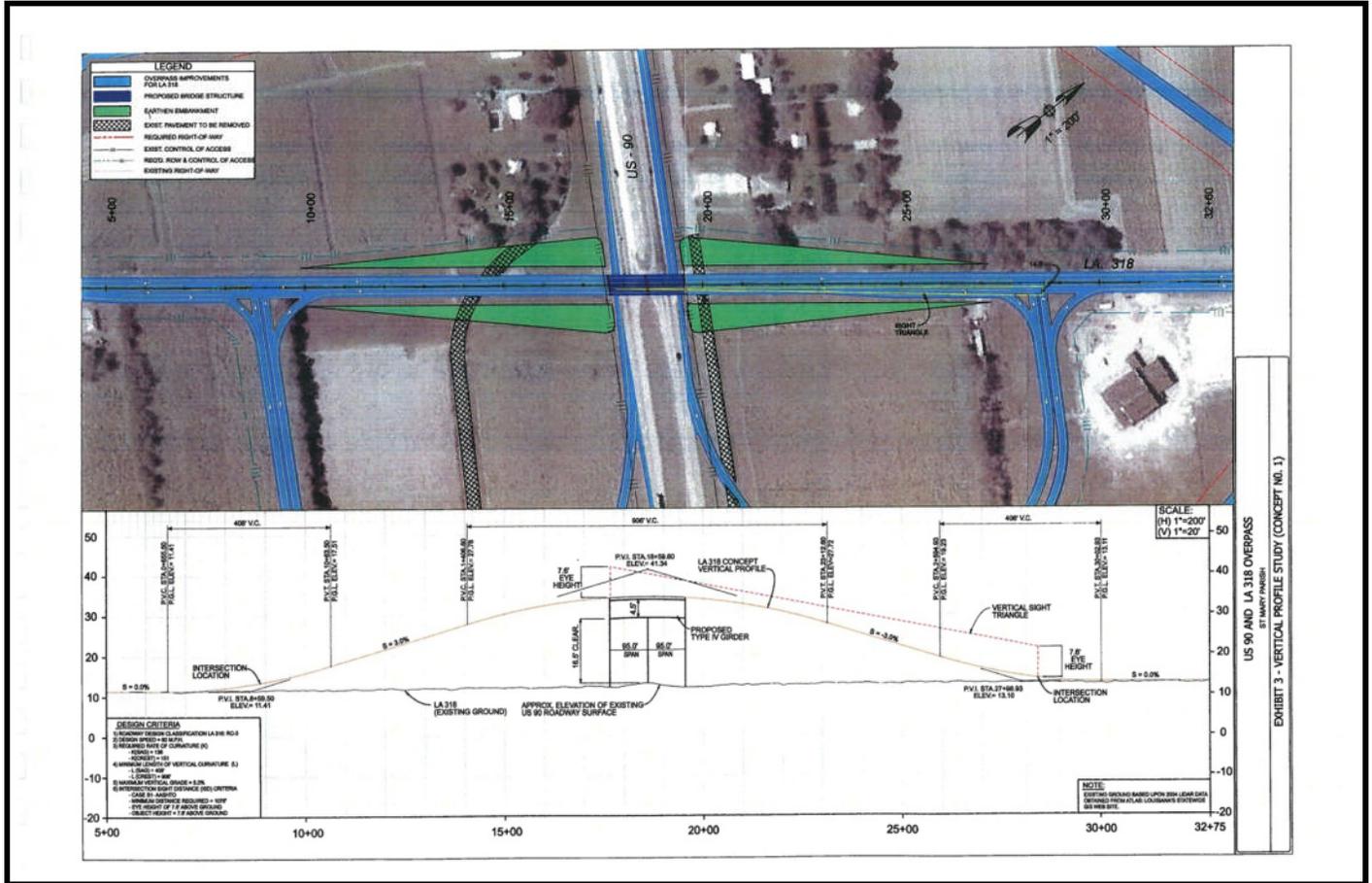


Figure Source: *US 90 and LA 318 Overpass Stage 0 Feasibility Study, May 2007*

Conceptual Alternative C would also include the upgrading of LA 318 (see **Figure 2-3** and **Figure 2-4** for roadway and bridge typical sections, respectively) and relocating frontage roads (see **Figure 2-5** for typical section). The proposed typical section for all entrance and exit ramps for each of the conceptual alternatives is similar and is shown in **Figure 2-11**. The ramps include one, 15-foot travel lane, a 6-foot inside shoulder, and a 10-foot outside shoulder.



**Table 2-1**  
**Conceptual Alternative Screening Evaluation <sup>1</sup>**

Evaluation Criteria	Unit	Conceptual Alternative		
		A	B	C
<b>Interchange Alignment and Right-of-way (ROW) Considerations</b>				
Interchange Type - Rural	n/a	Diamond	Diamond	Partial Cloverleaf
Ramp Configuration	n/a	4 quadrants, diamond	4 quadrants, diamond	2 quadrants, 2 loop ramps
Bridge Configuration	n/a	LA 318 over US 90	US 90 over LA 318	LA 318 over US 90
Estimated Required Right-of-way	acres	121	64	83
<b>Roadway Geometry Considerations</b>				
Bridge Fill Height	feet	11	7.5	22
Ramp Geometry:				
Design Speed at Gore	MPH	50	50	50
Design Speed on Ramp	MPH	40	40	40
Design Speed at Intersection	MPH	35	35	35
<b>Constructability / Maintenance of Traffic (MOT) During Construction</b>				
MOT on LA 318	n/a	Construct a detour road for traffic diversion	Construct a detour road or phase traffic and widen roadway	Construct a detour road for traffic diversion
MOT on US 90	n/a	Construct ramps and / or frontage roads first for traffic diversion	Construct ramps and / or frontage roads first for traffic diversion	Construct ramps and / or frontage roads first for traffic diversion
<b>Human Environment Considerations &amp; Estimated Impacts</b>				
Residential Relocations <sup>2,3</sup>	number	37	24	19
Mobile Home Relocations <sup>2,3</sup>	number	11	7	6
Impacts to One Potentially Eligible NRHP Structure	Yes/No	Yes	No	No
Impacts to Caribbean Winds	Yes/No	Yes	Yes	Yes
<b>Physical Environment Considerations &amp; Estimated Impacts</b>				
Natural Gas Pipeline Crossings	number	2	3	3
Natural Gas Pipeline Terminal Impact	Yes/No	No	No	Yes
Sewage Treatment System Impact at West St. Mary Civic Center	Yes/No	Yes	Yes	Yes
Prime Farmland Impacted <sup>2</sup>	Yes/No	Yes	Yes	Yes
<b>Natural Environment Considerations &amp; Estimated Impacts</b>				
Wetlands Directly Impacted <sup>2</sup>	acres	0	0	0
100-Year Floodplains Impacted <sup>2</sup>	acres	0	0	< 1
Streams Impacted <sup>2</sup>	acres	0	0	0
Aquatic Habitat Impacts	Yes/No	Yes	Yes	No
<b>Estimated Cost Considerations (\$2010)</b>				
Right-of-way Cost – Land only	\$20,000/acre	\$ 2,420,000	\$ 1,280,000	\$ 2,420,000
Residential Structure Acquisition	\$150,000 ea.	\$ 5,550,000	\$ 3,600,000	\$ 2,850,000
Mobile Home Structure Acquisition	\$25,000 ea.	\$ 275,000	\$ 175,000	\$ 150,000
Estimated Construction Cost	Millions \$	\$ 18 M	\$ 31 M	\$ 11 M <sup>4</sup>

Notes:

1. Estimated impacts are based on conceptual alternative interchange layouts dated March 22, 2011 and are subject to change.
2. Impacts will be quantified upon further development of required right-of-way.
3. Residential impacts assume worst case scenario; a structure may not be directly impacted but the parcel may be rendered unusable.
4. Construction cost estimate source: *Stage 0 Feasibility Study* (May 2007) adjusted to 2010.

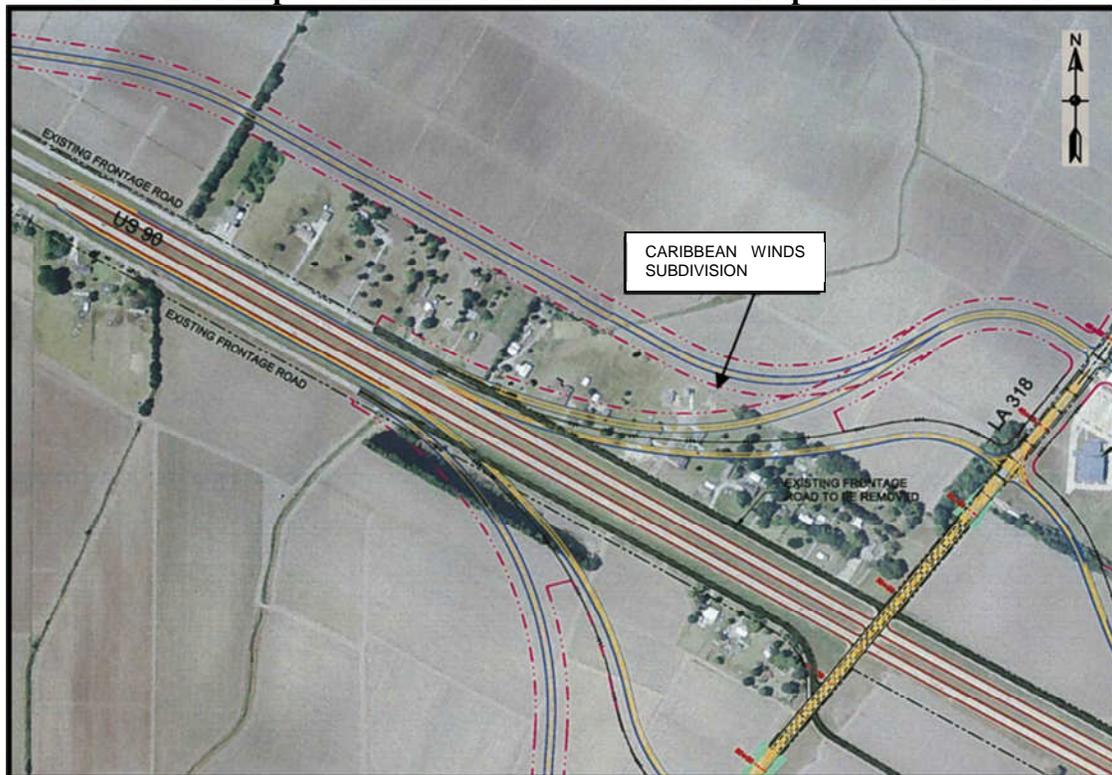
## 2.5 Conceptual Alternatives Refinement to Minimize Residential Impacts

In response to public comments regarding concerns about residential impacts, modifications of highway design features were evaluated for the conceptual alternatives. Recognizing the potential adverse impact to the residential community on the northwest quadrant of each interchange, and without compromising highway safety, it was determined that relocating the proposed two-way frontage road to the north of the residential area could potentially avoid and minimize residential relocations. The residential impact minimization evaluation consisted of the review of existing residential structures, existing parcel boundary limits, and control of access limits for the proposed interchange ramps. It should be noted that the reduction in impacted residential structures does not include potential structure impacts or additional relocations due to control of access criteria that would prohibit access to the US 90 westbound entrance ramp for Conceptual Alternatives A and B. Control of access is further defined in **Section 2.9** and residential impacts due to control of access are described in **Section 4.1**.

### Residential Minimization Measure for Conceptual Alternative A

As shown in **Figure 2-12**, the original alignment of the frontage road bisected the Caribbean Winds subdivision and impacted four residences located to the west of the subdivision. Relocating the proposed frontage road to the north avoids impacts to residential structures located west of the Caribbean Winds subdivision; thus four residential structures can be retained.

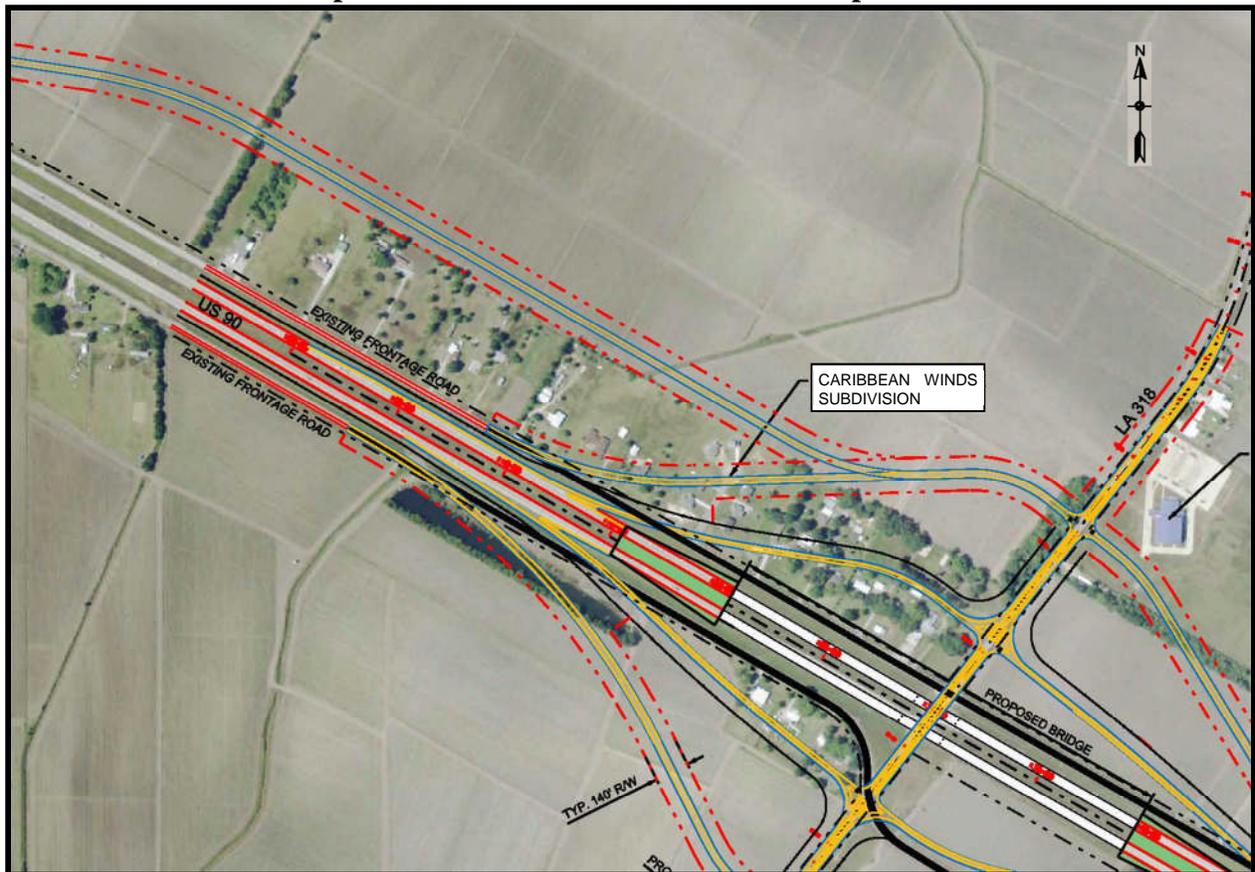
**Figure 2-12**  
**Residential Impact Minimization Measure for Conceptual Alternative A**



**Residential Minimization Measure for Conceptual Alternative B**

As shown in **Figure 2-13**, the original alignment of the frontage road bisected the Caribbean Winds subdivision and impacted five residences located to the west of the subdivision. Relocating the proposed frontage road to the north avoids impacts to five residential structures that are located west of the Caribbean Winds subdivision; thus five residential structures can be retained.

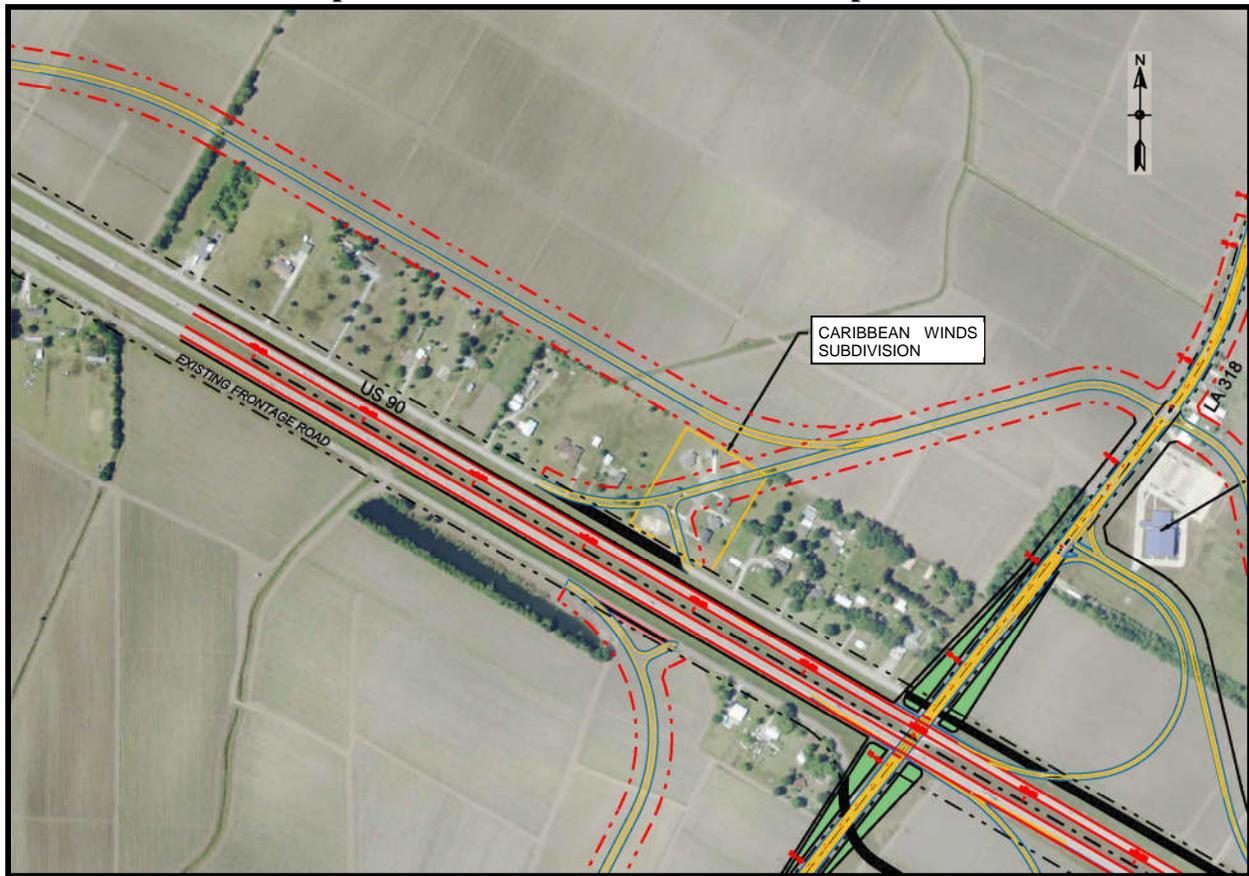
**Figure 2-13**  
**Residential Impact Minimization Measure for Conceptual Alternative B**



**Residential Minimization Measure for Conceptual Alternative C**

As shown in **Figure 2-14**, the original alignment of the frontage road bisected the Caribbean Winds subdivision and impacted four residences located to the west of the subdivision. Relocating the proposed frontage road to the north completely avoids the taking of residential structures that are located in the northwest quadrant of the interchange.

**Figure 2-14**  
**Residential Impact Minimization Measure for Conceptual Alternative C**



**Summary of Residential Minimization Measures**

**Table 2-2** provides a summary of the residential impact minimization evaluation for structures located within the northwest quadrant of each interchange alternative. As shown, the avoidance of 4 to 5 residential structures would result from relocating the frontage road to the north.

**Table 2-2**  
**Summary of Residential Structure Impact Minimization Evaluation**

Number of Structures Impacted	Conceptual Alternative		
	A	B	C
Structures Impacted by Original / South Frontage Road Alignment Only	4	5	4
Structures Impacted by Revised / North Frontage Road Alignment Only	0	0	0
Reduction in Structures Impacted Through Minimization Measure	4	5	4

Note: This evaluation did not consider structure impacts or additional relocations due to control of access criteria.

## 2.6 Identification of Build Alternatives

Based on agency and public comments received as part of the March 22, 2011 Public Meeting regarding impacts to residences and traffic operational concerns, in combination with the preliminary screening evaluation that was conducted for the conceptual alternatives, LADOTD determined that there was sufficient justification to eliminate Conceptual Alternative A.

Conceptual Alternative C was eliminated for similar reasons, with traffic operational concerns being the primary reason for elimination. As shown in **Figure 2-9**, the loop ramp located in the southeast quadrant of the interchange would serve as the US 90 eastbound exit ramp. During the sugar cane harvest season, large trucks and tractor-trailers loaded with sugar cane destined for the St. Mary Sugar Cooperative, would have to exit US 90, then traverse the loop ramp at a relatively low speed eventually stopping at the LA 318 intersection. These vehicles would then turn right and travel northward along the proposed LA 318 bridge over US 90 where the vertical approach grades would further impede traffic conditions.

Due to public preference, in addition to overall engineering and environmental feasibility, it was determined that Conceptual Alternative B would be retained. For purposes of this EA, Conceptual Alternative B was simply renamed Alternative B.

Upon further review of interchange geometric layouts and preliminary environmental impacts, LADOTD determined it was necessary to develop an additional build alternative for evaluation within the Draft EA. The new concept, identified as Alternative D, consists of a combination of interchange design features from both Conceptual Alternative A and Conceptual Alternative C.

## 2.7 Alternatives Evaluated in this EA

Alternative B and Alternative D are the build alternatives selected and subsequently carried forth for further evaluation in this Draft EA. The No-Build Alternative and build alternatives, Alternative B and Alternative D, are described below. Subsequent refinements to the build alternatives are also discussed.

### No-Build Alternative

The first possible alternative considered is the No-Build Alternative. This alternative would leave the US 90 at LA 318 intersection as it exists; no major reconstruction would be undertaken. Only minor repairs or improvements and routine annual maintenance would be performed. The No-Build Alternative serves as a benchmark to allow for the meaningful comparison of the magnitude of environmental effects associated with the build alternatives.

## **Alternative B**

The interchange configuration for Alternative B is presented in **Figure 2-15**. Alternative B consists of a grade-separated, rural diamond interchange with an overpass structure along US 90 that spans over LA 318. Diamond interchanges are the simplest and most common type of interchange.

The diamond or diagonally configured entrance and exit ramps would provide relatively high speed access from US 90 to LA 318 consistent with the posted speed limit for all vehicle types. Based on LADOTD design guidelines, the ramps would intersect with LA 318 approximately 400 feet to the north and south of the existing centerline of US 90. The minimum distance between the ramps and proposed frontage roads is approximately 600 feet. Based on the 400-foot and 600-foot distances, the north frontage road would intersect LA 318 south of the West St. Mary Civic Center.

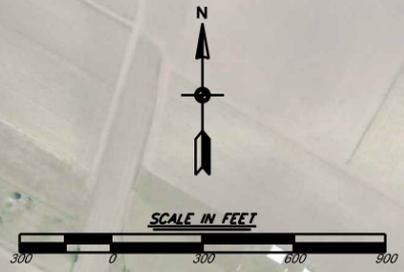
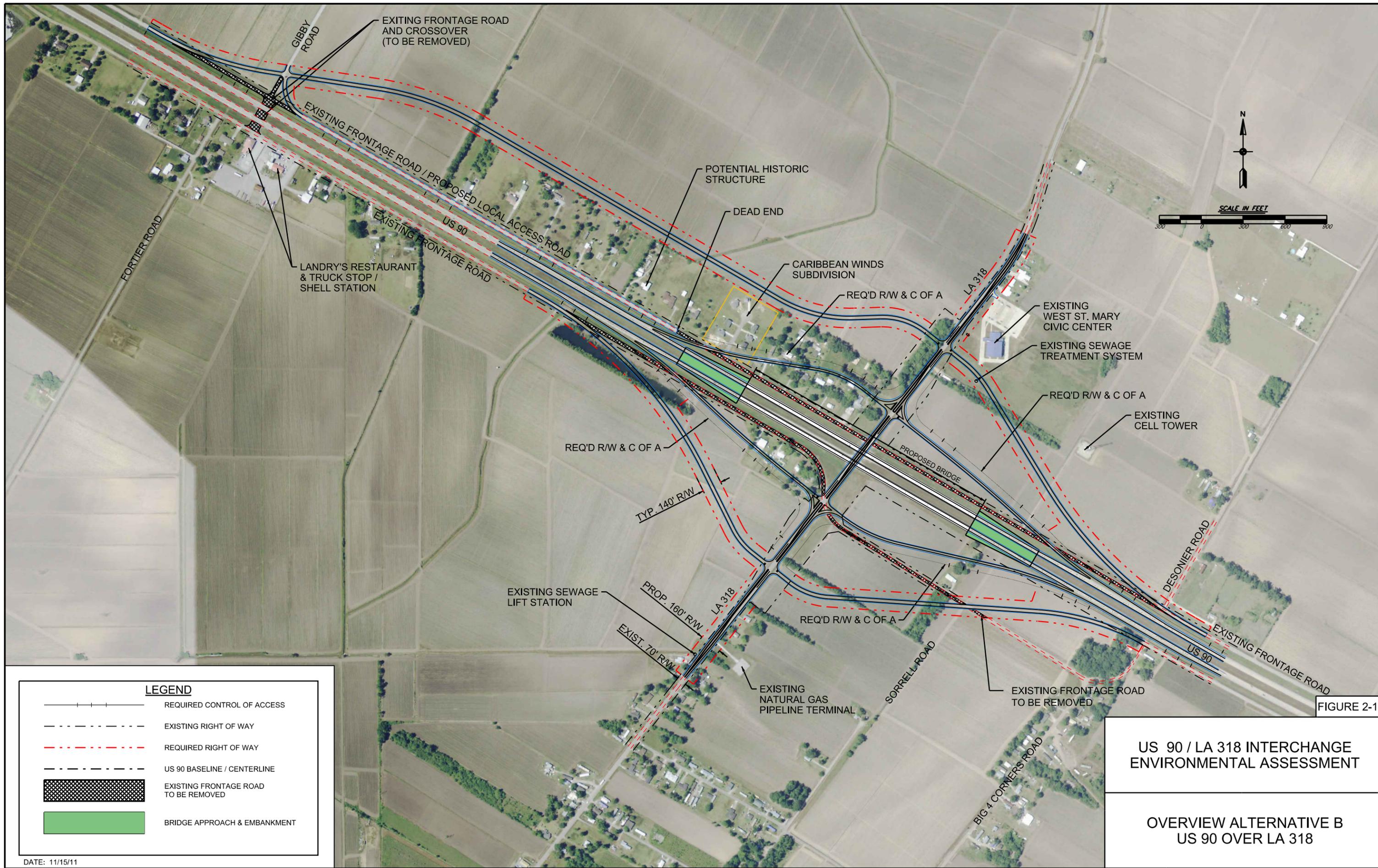
As part of Conceptual Alternative B, US 90 would be elevated over LA 318. As previously shown in **Figure 2-7**, separate bridges would be required for the US 90 eastbound and westbound travel lanes over LA 318. Each bridge would be 40-feet wide and approximately 1,894-feet long. The bridges would be constructed within the existing US 90 right-of-way.

The proposed two-way frontage road located in the northwest quadrant of the interchange was realigned from the original conceptual alternative concept as previously discussed in **Section 2.5**. The proposed alignment for the two-way frontage road is located to the north of the existing residential area that fronts the existing frontage road. The new frontage road would extend approximately 1 mile to the west of LA 318 before connecting to the existing frontage road. The existing frontage road that would serve as a proposed local access road would tie into the proposed two-way frontage road on the west end, forming a “T” intersection. On the east end, the existing frontage road / proposed local access road would terminate just west of the Caribbean Winds subdivision at a proposed dead end. The existing median crossover on US 90 located near Landry’s Seafood House, the Silver Fox Casino, and Landry’s Auto Truck Stop would be removed to provide full control of access on US 90.

Both of the US 90 ramp junctions and frontage road intersections at LA 318 would operate under stop-controlled conditions. Additional improvements include widening LA 318 in the vicinity of the proposed interchange and providing exclusive left-turn lanes at the frontage road and ramp intersections. Portions of the existing frontage roads located north and south of US 90 would be removed.

## **Alternative D**

The interchange configuration for Alternative D is presented in **Figure 2-16**. Alternative D consists of a combination partial cloverleaf (one loop ramp) and diamond interchange. LA 318 would be grade-separated over US 90 with a bridge, as previously shown in **Figure 2-4**. The LA 318 bridge would be 52 feet wide and approximately 1,158 feet long.



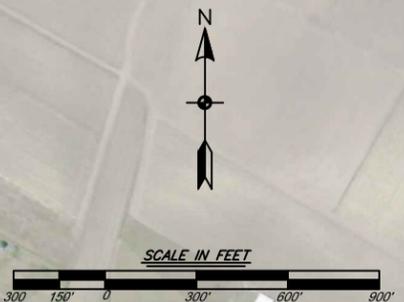
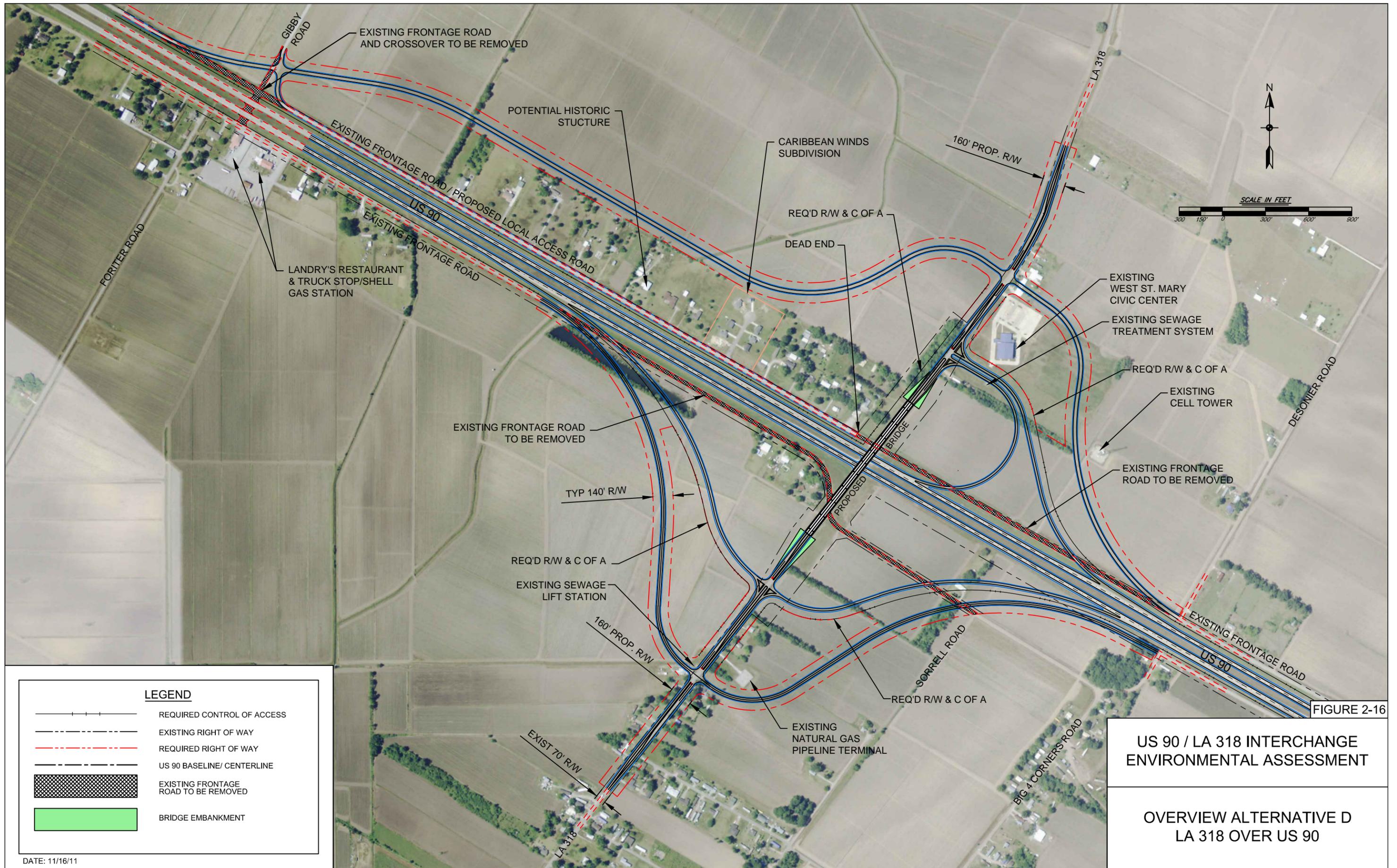
LEGEND	
	REQUIRED CONTROL OF ACCESS
	EXISTING RIGHT OF WAY
	REQUIRED RIGHT OF WAY
	US 90 BASELINE / CENTERLINE
	EXISTING FRONTAGE ROAD TO BE REMOVED
	BRIDGE APPROACH & EMBANKMENT

DATE: 11/15/11

FIGURE 2-15

US 90 / LA 318 INTERCHANGE ENVIRONMENTAL ASSESSMENT

OVERVIEW ALTERNATIVE B  
US 90 OVER LA 318



LEGEND	
	REQUIRED CONTROL OF ACCESS
	EXISTING RIGHT OF WAY
	REQUIRED RIGHT OF WAY
	US 90 BASELINE/ CENTERLINE
	EXISTING FRONTAGE ROAD TO BE REMOVED
	BRIDGE EMBANKMENT

DATE: 11/16/11

FIGURE 2-16

**US 90 / LA 318 INTERCHANGE ENVIRONMENTAL ASSESSMENT**

**OVERVIEW ALTERNATIVE D  
LA 318 OVER US 90**

As part of the interchange configuration, the loop ramp would be constructed in the northeast quadrant of the interchange. The loop ramp would serve as the US 90 westbound entrance ramp and would be accessed by way of LA 318 just south of the West St. Mary Civic Center. A diagonal westbound exit ramp from US 90 to LA 318 is also proposed in this quadrant of the interchange. At LA 318, the loop entrance ramp and diagonal exit ramp would form a “T” intersection with LA 318.

Just west of LA 318, the loop entrance ramp and diagonal exit ramp would be constructed parallel to each other, where opposing ramp traffic movements would be separated by a 14-foot depressed median (measured from edge of shoulder to edge of shoulder). The distance between edge of travel lane to edge of travel lane is 30 feet. The parallel ramp alignment configuration would extend approximately 600 feet east of LA 318 until a point where the ramps begin to diverge. On the south side of US 90, diagonal exit and entrance ramps would be located on the southwest and southeast quadrants of the interchange, respectively.

LA 318 would be elevated over US 90. The location where the entrance and exit ramps would tie into LA 318 is based on the vertical alignment of LA 318 and would occur at the point when the vertical profile meets existing grade. Based on LADOTD design guidelines, the ramps would intersect with LA 318 approximately 900 feet to the north of the existing centerline of US 90 and approximately 1,000 feet to the south of the existing centerline of US 90. The minimum distance between the ramps and relocated frontage roads is approximately 600 feet. Based on the 900-foot and 600-foot distances, the north frontage road would intersect LA 318 north of the West St. Mary Civic Center.

Similar to Alternative B, the proposed two-way frontage road located in the northwest quadrant of the interchange was realigned from the original conceptual alternative concept as previously discussed in **Section 2.5**. The proposed alignment for the two-way frontage road is located to the north of the existing residential area that fronts the existing frontage road. The new frontage road would extend approximately 1 mile to the west of LA 318 before connecting to the existing frontage road. The existing frontage road, which would serve as a proposed local access road, would tie into the proposed two-way frontage road on the west end, forming a “T” intersection. On the east end, the existing frontage road / proposed local access road would extend to just west of LA 318 at terminate at a turnaround or cul-de-sac. The existing crossover on US 90 located near Landry’s Seafood House, the Silver Fox Casino, and Landry’s Auto Truck Stop would be removed to provide full control of access on US 90.

This concept also includes reconfiguring the existing frontage roads to resemble a spread diamond layout in each quadrant of the interchange. Both of the US 90 ramp junctions and frontage road intersections at LA 318 would operate under stop-controlled conditions. Additional improvements associated with Alternative D include the following:

- Widening LA 318 in the vicinity of the proposed interchange and providing exclusive left-turn lanes at ramp and frontage road intersections;
- Providing an exclusive right-turn lane for northbound LA 318 traffic turning right onto the US 90 westbound entrance loop ramp;

- Relocating the West St. Mary Civic Center driveway from LA 318 to the northeast quadrant frontage road due to control of access on LA 318; and
- Relocating the existing Natural Gas Pipeline Terminal driveway from LA 318 to the southeast quadrant frontage road due to control of access on LA 318.

**Interchange Design Features**

**Table 2-3** provides a brief summary of interchange design features and operational characteristics associated with Alternative B and Alternative D.

**Table 2-3  
Comparison of Build Alternative Interchange Design and Operational Features**

Evaluation Criteria	Build Alternative	
	B	D
<b>Interchange Alignment and Right-of-way Considerations</b>		
Interchange Type - Rural	Diamond	Combination Partial Cloverleaf and Diamond
Ramp Configuration / Location	Diamond / Diagonal Ramps Constructed in 4 Quadrants	One Loop Ramp and 3 Diamond / Diagonal Ramps Constructed in 3 Quadrants
Grade- Separation	US 90 over LA 318	LA 318 over US 90
Bridge Configuration	US 90 – Double Structure	LA 318 – Single Structure
Bridge Length (approximate)	1,894 feet each	1,158 feet
Bridge Width <sup>1</sup>	40 feet each	52 feet
Estimated Bridge Cost (\$ 2010) <sup>2</sup>	\$18.2 million	\$7.2 million
Estimated Construction Cost (\$ 2010) <sup>2</sup>	\$39.4 million	\$26.0 million
Comparison of Magnitude of Right-of-way	Moderate	Greater Due To Loop Ramp Geometry
Estimated Required Right-of-way	66.9 acres	109.3 acres
<b>Operational Features</b>		
Driver Expectancy Relative to Entrance & Exit Ramp Locations	More Common	Less Prevalent With Loop Ramp
Ramp Speed for Vehicle Types <sup>3</sup>	Diamond Ramp: Relatively High Speed For All Vehicles	Loop Ramp: Lower Speed For Large Trucks and Tractor-Trailers
LA 318 at Ramp Intersection Turning Movement Conflicts	One-Way Ramp: 1 Turning Movement Conflict <sup>4</sup>	Two-Way Ramp: 2 Turning Movement Conflicts <sup>5</sup>

Notes:

1. Bridge width is from face to face of bridge rails and equal to roadway width.
2. Bridge construction cost estimate presented for order of magnitude informational purposes only. Estimated construction cost does not include right-of-way or relocations. See **Section 2.11** for total interchange cost estimate.
3. Ramp speed would be consistent with the posted speed limit.
4. For one-way ramp, turning movement conflict would consist of through movement traffic on LA 318 opposed by left-turn movement traffic onto the entrance ramp.
5. For two-way ramp, turning movement conflicts would consist of: 1) southbound through movement traffic on LA 318 opposed by left-turn movement traffic from the exit ramp, and 2) northbound through movement traffic on LA 318 opposed by left-turn movement traffic onto the entrance ramp.

## 2.8 Preferred Alternative

The final phase of the alternatives development process is the selection of a preferred alternative by the FHWA and LADOTD. At this time, the FHWA and LADOTD have not identified a preferred alternative. A preferred alternative will be selected following the 30-day public comment period upon distribution of the Draft EA. During the 30-day comment period, a Public Hearing will be held to provide citizens and agencies with an additional opportunity to assist in the project selection process. The selection of the preferred alternative will take into consideration environmental effects of each alternative, cost, public opinion, and a number of other factors that are summarized in **Chapter 5**.

## 2.9 Roadway Design Guidelines

The Louisiana Department of Transportation and Development's current roadway design guidelines associated with the proposed improvements are presented in **Table 2-4**. Design guidelines are presented for a rural freeway (F-3), rural freeway entrance and exit ramps, and rural collectors (RC-2 for LA 318 and RC-3 for frontage roads). In addition to the design guidelines presented in Table 2-4, LADOTD speed-lane change standard plans SC-01 and/or SC-02 shall govern the design of the entrance and exit ramps.

### Control of Access and Associated Access Impacts

For informational purposes "Control of access refers to the regulation of public access rights to and from properties abutting the highway. With full control of access, preference is given to through traffic by providing access connections with selected public roads only and by prohibiting crossings at-grade and direct private driveway connections." (*A Policy on Geometric Design of Highways and Streets*, AASHTO, 2004).

Control of access is important because it defines where vehicular access can and cannot connect to a portion of an interchange roadway system, including entrance and exit ramps. The location of the westbound entrance ramp control of access limit in the northwest quadrant of Alternative B will restrict access to all parcels of land / residential property beginning at the Caribbean Winds subdivision and extending eastward to LA 318. As shown in **Figure 2-15**, only those parcels that directly front the existing frontage road / proposed local access road west of the proposed turnaround will be able to connect with the existing roadway network. The impacts resulting from control of access restrictions are further described in **Section 4.3**, **Section 4.4** and **Section 4.5**.

**Table 2-4  
Roadway Design Guidelines**

Route		US 90	US 90 Ramps	US 90 Ramps	LA 318	Frontage Road
Item	Units	Rural Freeway F-3 <sup>1</sup>	Freeway Entrance and Exit Ramps	Loop Ramp	Rural Collector RC-3	Rural Collector RC-2
Design Speed	MPH	70	40-50 <sup>21</sup>	30 <sup>21</sup>	60	50-60 <sup>17, 21</sup>
Level of Service		B	N/A	N/A	N/A	N/A
Average Daily Traffic		N/A	N/A	N/A	Over 2,000 <sup>13</sup>	400 – 2,000 <sup>13</sup>
Number of Travel Lanes		4	1	1	2 to 4 <sup>14</sup>	2
Width of Travel Lane	Feet	12	15	15	12	11 – 12 <sup>18</sup>
Width of Shoulders (Where Used)						
Inside on multilane facilities	Feet	6 <sup>2</sup>	6 <sup>22</sup>	6 <sup>22</sup>	4	N/A
Outside	Feet	10 <sup>3</sup>	10	10	8	4 – 5 <sup>19</sup>
Type of Shoulders		Paved	Paved <sup>22</sup>	Paved <sup>22</sup>	Aggregate (2' min paved) <sup>15</sup>	Aggregate (2' min paved)
Width of Median (minimum)						
(A) Depressed	Feet	72 (min) <sup>25</sup> – 100 (des)	N/A	N/A	42 (min) – 60 (des)	N/A
(B) Raised			N/A	N/A	N/A	N/A
(C) Two Way Left Turn Lanes			N/A	N/A	N/A	N/A
(D) Continuous Barrier (4 lane)			N/A	N/A	N/A	N/A
Continuous Barrier (6 lane)			15 <sup>4</sup> 27 <sup>4</sup>	N/A	N/A	N/A
Fore Slope (vertical – horizontal)		1:6	1:6	1:6	1:6	1:4
Back Slope (vertical – horizontal)		1:4	1:4	1:4	1:4	1:4
Pavement Cross Slope	(%)	2.5	2.5	2.5	2.5	2.5
AASHTO K-Value (Crest – Minimum) /(speed)		247 (min)	44 / (40); 84 / (50)	19	151	84/ (50); 151 / (60)
AASHTO K-Value (Crest – Desirable)		436 (des) <sup>24</sup>	-	-	-	-
ASSHTO K-Value (Sag - Minimum) /(speed)		181	64/ (40); 96 / (60)	37	136	96/ (50); 136 / (60)
Maximum Superelevation <sup>5</sup>	%	10	8	8	10	10
Minimum Radius <sup>6</sup> (With 10% Superelevation)	Feet	1,700			1,100	700 <sup>20</sup>
Minimum Radius <sup>23</sup> (With 8% Superelevation)	Feet		444 (40 mph) <sup>23</sup> 758 (50 mph) <sup>23</sup>	214 (30 mph) <sup>23</sup>		
Maximum Grade	(%)	3 <sup>7</sup>	3	3	5	6 (50 mph) 5 (60 mph)
Minimum Vertical Clearance	Feet	16.5	16.5	16.5	16.5	16.5

**Table 2-4  
Roadway Design Guidelines**

Route		US 90	US 90 Ramps	US 90 Ramps	LA 318	Frontage Road
Item	Units	Rural Freeway F-3 <sup>1</sup>	Freeway Entrance and Exit Ramps	Loop Ramp	Rural Collector RC-3	Rural Collector RC-2
Width of Right-of-Way (A) Depressed Median (B) Median Barrier (C) Min. from Edge of Bridge Structure	Feet	Varies <sup>9</sup> As Needed 15 – 20 <sup>10</sup>	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A
Minimum Clear Zone (From Edge of Travel Lane)	Feet	34 <sup>11</sup>	34 <sup>11</sup>	34 <sup>11</sup>	30	26 (50 mph) 32 (60 mph)
Bridge Design Live Load <sup>12</sup>		AASHTO	AASHTO	AASHTO	AASHTO	AASHTO
Width of Bridge (Min.) (Face to Face Bridge Rail)		Roadway Width	Roadway Width	Roadway Width	Roadway Width	Roadway Width

Source: LADOTD Minimum Design Guidelines, December 2009

1. These guidelines may be used in urban areas.
2. Four feet to be paved, 10 feet to be paved on 6-lane facilities, 12 feet to be paved on 6-lane facilities with truck DDHV greater than 250.
3. Twelve feet paved when truck DDHV is greater than 250.
4. For larger medians two barriers may be required. The maximum offset of 15 feet from barrier to edge of travel lane shall not be exceeded.
5. In Districts 04 and 05, where ice is more frequent, superelevation should not exceed 8 percent from the ASSHTO  $e_{max} = 10\%$  table.
6. It may be necessary to increase the radius of the curve and/or increase shoulder width (maximum of 12 feet) to provide adequate stopping sight distance on structure.
7. Grades 1 percent higher may be used in urban areas.
8. An additional 6 inches should be added for additional future surfacing. Seventeen feet is required for trusses and pedestrian overpasses.
9. As needed for urban projects: 300 feet to 330 feet for rural projects depending on median width.
10. Twenty-five feet shall generally be provided in accordance with EDMS II.1.1.1.
11. For 1:6 Fore Slope.
12. LRFD for bridge design.
13. Current traffic may be used to determine the appropriate classification.
14. For rolling terrain, limited passing sight distance and high percentage trucks, further analysis should be made to determine if additional lanes are required when ADT is above 7,000.
15. For ADT of 5,000 or greater, a minimum of 4-foot must be paved.
16. Where the roadway dips to pass under a structure, a higher vertical clearance may be necessary. An additional 6 inches should be added for additional future surfacing.
17. The design speed may not be less than the posted speed of the overall route.
18. For design speeds greater than 50 mph and ADT greater than 1,500, use 12-foot lanes.
19. For ADT greater than 1,500, use 6-foot shoulders.
20. Radius based on 50 mph. The radius for 60 mph is shown under the RC-3 classification.
21. A design speed of 50 mph is used for the ramp gore areas, a design speed of 40 mph is used along ramp alignments, and a design speed of 30 mph is used for ramp and frontage road intersection approaches.
22. For entrance and exit ramps, the inside shoulder should consist of 2 feet of paved shoulder from the inside edge of the ramp travel lane. The remaining 4 feet of the inside shoulder should consist of aggregate.
23. The maximum superelevation on the entrance and exit ramps is based on the ASSHTO  $e_{max} = 8\%$  tables per LADOTD request.
24. The desirable K-Value of 436 is for US 90 Roadway only, use the minimum K-Value of 247 for Bridge vertical geometry.
25. A design exception may be required if the median is less than 72 feet.

## **Context Sensitive Solutions and Design**

Context sensitive solutions (CSS) and context sensitive design (CSD) are collaborative, interdisciplinary approaches that involve all stakeholders in providing a transportation facility that fits its setting. It is an approach that leads to preserving and enhancing scenic, aesthetic, historic, community, and environmental resources, while maintaining safety, mobility, and infrastructure conditions.

Public comments and information acquired from the public and key stakeholders enhanced the Project Team's awareness of environmental conditions in the project area and the desire to select an acceptable alternative for this project. Consideration of CSS and CSD were given during the development of the conceptual alternatives. Frontage road alignment revisions were included in the refinement of the conceptual alternatives that were intended to minimize or avoid residential impacts, and to maintain community cohesion by minimizing the subdivision of property, or segregation of neighborhoods.

### **2.10 Conceptual Engineering Design Layouts**

Typical roadway sections and plan / profile sheets were developed for the build alternatives. **Appendix A**, which contains an engineering **Map Atlas**, presents the conceptual engineering details for Alternatives B and D. Based on the proposed typical roadway and bridge sections, in combination with LADOTD design guidelines, geometric details of interchange components are presented in the Map Atlas including the US 90 and LA 318 bridges, ramps, frontage roads, and widening of LA 318. The horizontal geometry for interchange components are presented within the plan / profile sheets that were developed at a scale of 1 inch = 100 feet.

### **2.11 Preliminary Implementation Cost Estimates**

Conceptual construction and right-of-way costs were developed for the build alternatives. **Table 2-5** provides a summary of estimated project implementation costs, which are in 2010 dollars (\$ 2010). It should be noted that project costs could increase in the future due to potential price increases in construction materials, labor, and real estate prices. Such adjustments cannot be made accurately until the date of construction is known.

**Appendix B** contains a summary of the assumptions used in developing the construction cost estimates and include items such as contingencies and roadway pavement sections. In addition, individual spreadsheets are included for each of the interchange components along with unit costs and estimated quantities. Right-of-way (land cost only) is assumed to be \$20,000 per acre. Unit costs have been applied to potential structure takings / relocations; residences were estimated at \$150,000 each and mobile homes were estimated at \$25,000 each.

Structure acquisition costs and relocation assistance costs are detailed within **Section 4.1** and a stand-alone report entitled *Conceptual Stage Relocation Plan, US 90 and LA 318 Interchange, St. Mary Parish, Louisiana* (C-Del and URS, November 2011). Below is a summary of the

structure acquisition costs and relocation assistance costs that have also been incorporated into the total implementation cost estimate. As shown in **Table 2-5**, the total estimated cost for Alternative B is approximately \$47.0 million and approximately \$32.1 million for Alternative D.

**Table 2-5**  
**Preliminary Project Implementation Cost Estimate (\$ 2010)**

<b>Cost Component</b>	<b>Alternative B</b>	<b>Alternative D</b>
Right-of-way Cost – Land only	\$ 1,338,000	\$ 2,186,000
Residential Structure Acquisitions <sup>1</sup>	\$ 4,350,000	\$ 2,550,000
Mobile Home Structure Acquisitions <sup>1</sup>	\$ 175,000	\$ 175,000
Commercial Structure Acquisitions <sup>1</sup>	\$ 150,000	\$ 0
Relocation Assistance <sup>1</sup>	\$ 1,600,000	\$ 1,200,000
Estimated Construction Cost	\$ 39,412,000	\$25,988,000
<b>Total Estimated Cost</b>	<b>\$ 47,025,000</b>	<b>\$32,099,000</b>
<b>Total Estimated Cost (rounded)</b>	<b>\$ 47.0 Million</b>	<b>\$ 32.1 Million</b>

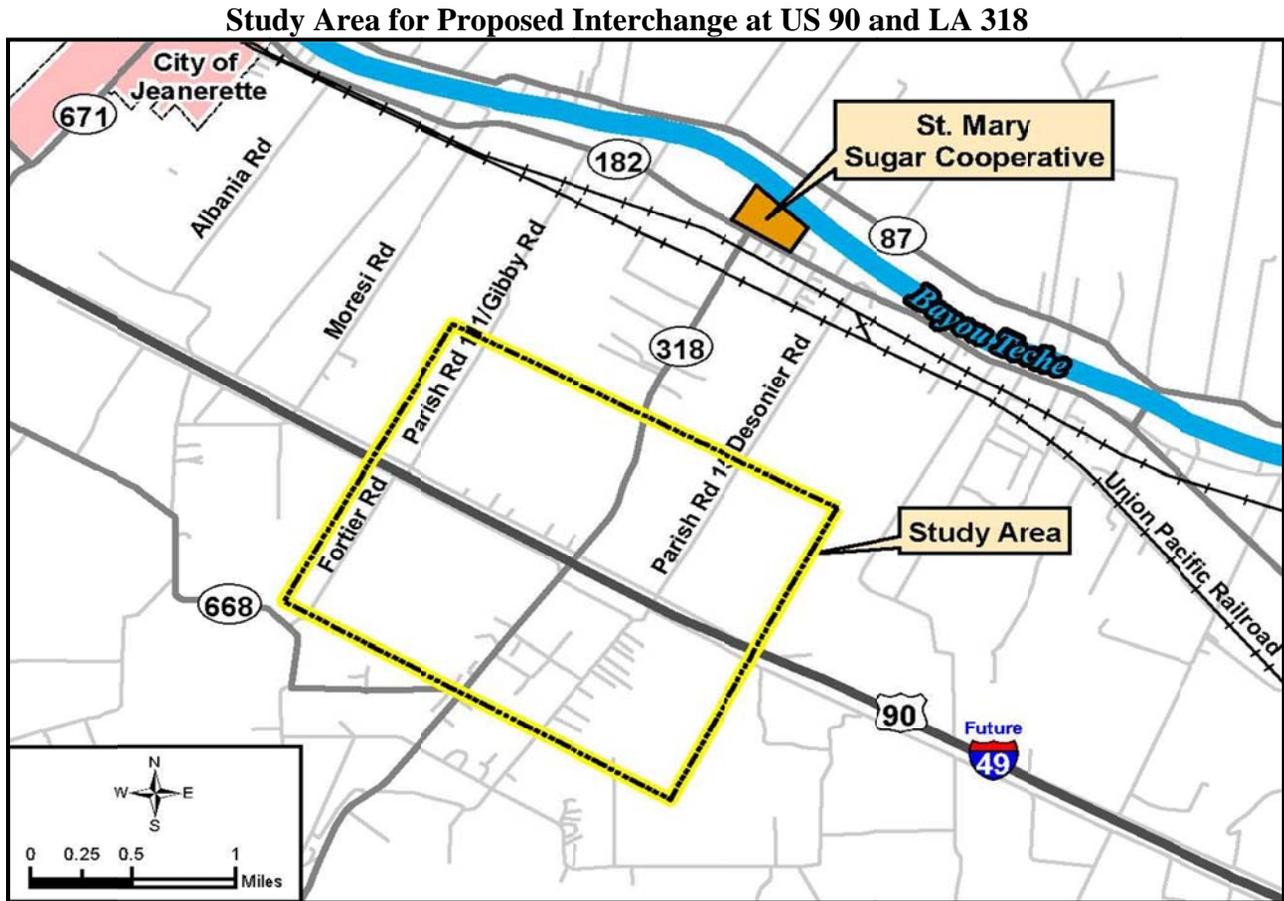
Notes:

1. As summarized within the *Conceptual Stage Relocation Plan* for the project.

# CHAPTER 3.0

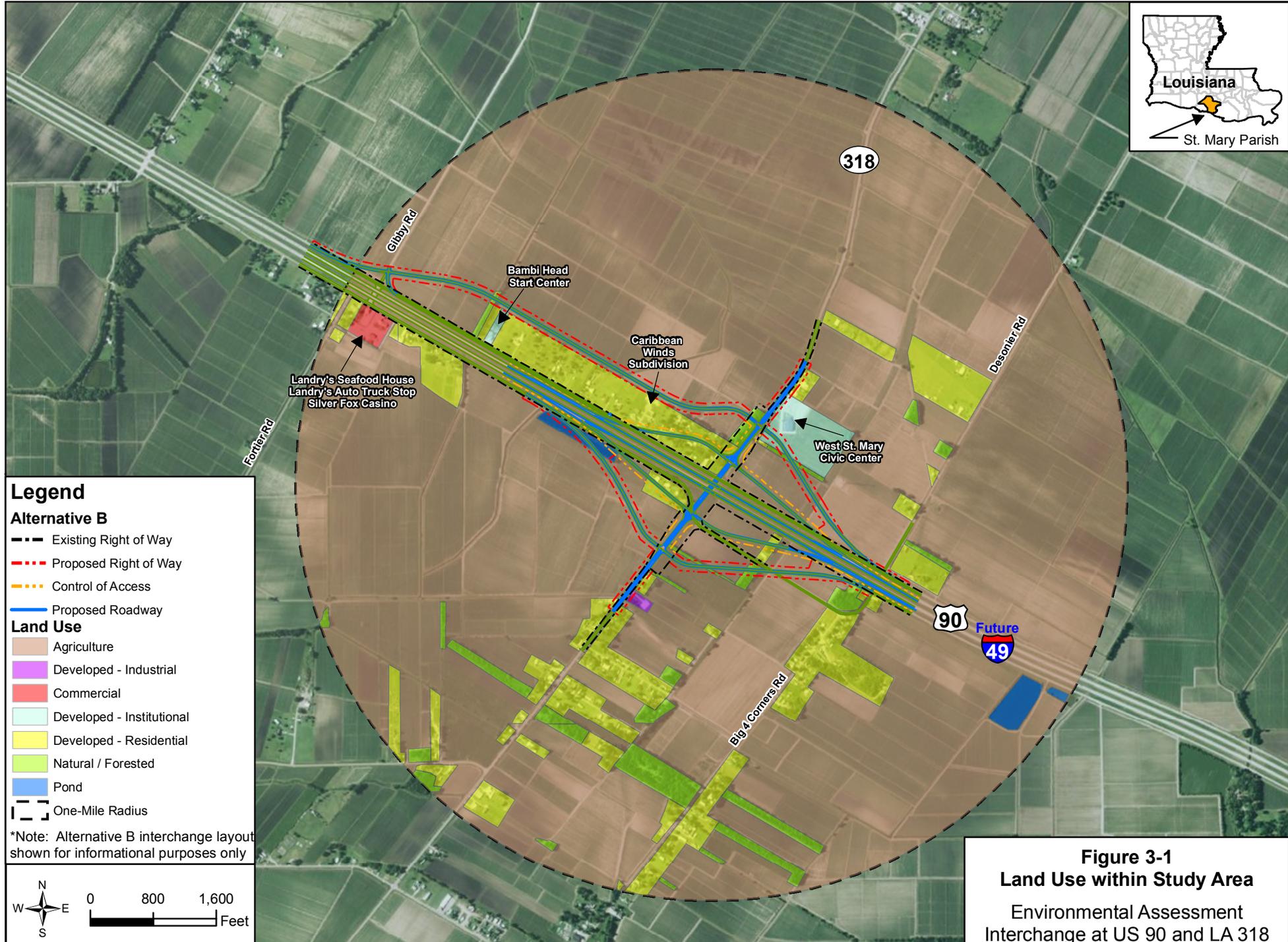
### 3.0 AFFECTED ENVIRONMENT

For the purpose of the affected environment, the study area is delineated in the graphic below, unless otherwise defined.



#### 3.1. Land Use

A one-mile radius surrounding the US 90 and LA 318 intersection was used as the study area for the purposes of the land use analysis, shown in **Figure 3-1**. Land uses were delineated using geographic information system (GIS) analysis into the following categories: developed lands, naturally wooded / forested lands, agricultural lands, and lands containing open water (pond). Developed lands include lands used for residential, commercial, institutional (the West St. Mary Civic Center), and industrial (Natural Gas Pipeline Terminal) purposes, along with major roadways in the study area, US 90 and LA 318. **Figure 3-1** shows the different land use types within the study area and **Table 3-1** presents their approximate acreages.



**Legend**

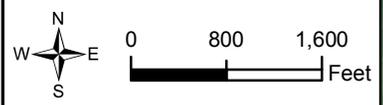
**Alternative B**

- Existing Right of Way
- - - Proposed Right of Way
- - - Control of Access
- Proposed Roadway

**Land Use**

- Agriculture
- Developed - Industrial
- Commercial
- Developed - Institutional
- Developed - Residential
- Natural / Forested
- Pond
- One-Mile Radius

\*Note: Alternative B interchange layout shown for informational purposes only



**Figure 3-1**  
**Land Use within Study Area**  
 Environmental Assessment  
 Interchange at US 90 and LA 318

**Table 3-1  
Existing Land Use**

Land Use	Acres <sup>2</sup>	Percent
Developed <sup>1</sup>	232	11.5%
Natural	44	2.2%
Agricultural	1,725	85.8%
Pond	10	0.5%
Total	2,011	100%

Notes:

1. Includes residential, commercial, institutional, industrial, and major roadways.
2. Acreage total is based on a one-mile radius surrounding the US 90 and LA 318 intersection.

Land use within this study area is predominantly agricultural (85.8%), with small groupings of residences generally located adjacent to US 90 and LA 318. Caribbean Winds subdivision, located in the northwest intersection quadrant, is the only named subdivision within the study area (includes 12 plats and eight residential structures, of which three are currently occupied). The only existing commercial land use within the one-mile study area includes the Landry's Seafood House restaurant, Landry's Auto Truck Stop, and Silver Fox Casino all located outside of the project limits near the western project terminus.

### **Land Use Plans and Other Plans**

Land use planning within the study area is governed through zoning and review by the St. Mary Parish Government, Department of Planning and Zoning. Land use objectives and management patterns are outlined within the *St. Mary Parish Comprehensive Plan*, adopted on December 18, 2002. No updates have been made to the comprehensive plan since that time (St. Mary Parish Government, 2002). The upgrading of US 90 to interstate standards is accounted for within the *St. Mary Parish Comprehensive Plan*. Economic development is facilitated by the Acadiana Regional Development District, which serves as the regional planning and resource center for St. Mary Parish, as well as Acadia, Evangeline, Iberia Lafayette, St. Landry, St. Martin, and Vermillion Parishes. US 90 is described as a highway of significance and a "megaproject" within the *Louisiana Statewide Transportation and Infrastructure Plan – Review and Status Report* (LADOTD, 2008), a long-range planning document that helps guide the investment of public resources in Louisiana.

## **3.2 Demographics / Environmental Justice**

### **Population, Race, and Ethnicity**

**Table 3-2** presents regional population trends in the State of Louisiana, St. Mary Parish, and Census tracts 410 and 411, which encompass the study area to the north and south, respectively (see **Figure 3-2**). Overall, population within these geographic locations has either decreased or increased only slightly over the 20-year period of 1990 - 2010. Whereas Louisiana experienced a 5.9% increase in population from 1990 to 2000, St. Mary Parish and Census tracts 410 and 411 all experienced population decreases from 1990 to 2000. In contrast, Louisiana,



St. Mary Parish, and Census tract 411 all experienced slight population increases from 2000 to 2010; however, Census tract 410 continued to experience a slight population decrease from 2000 to 2010.

**Table 3-2**  
**Regional Population Trends: 1990 to 2000**

Location	Population			Percent Change 1990-2000	Percent Change 2000-2010
	1990	2000	2010		
Louisiana	4,219,973	4,468,976	4,533,372	5.9%	1.4%
St. Mary Parish	58,086	53,500	54,650	- 7.9%	2.1%
Census Tract 410	4,422	4,253	4,190	- 3.8%	- 1.5%
Census Tract 411	2,412	1,877	1,898	- 22.2%	1.1%

Source: U.S. Census Bureau, Summary File 1, 1990, 2000 and 2010.

For a more localized demographic analysis, 2010 population, race, and ethnicity data were collected for the Census blocks located within a one-mile radius of the US 90 and LA 318 intersection. These project-level data, along with regional race and ethnicity data are presented in **Table 3-3**.

**Table 3-3**  
**Total Population, Race, and Ethnicity**

Category	Louisiana		St. Mary Parish		Census blocks within the Study Area <sup>1</sup>	
	Number	Percent	Number	Percent	Number	Percent
Total Population	4,533,372		54,650		877	
<b>Race and Ethnic Origin</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
White Alone	2,734,884	60.3%	31,267	57.2%	218	24.9%
Black or African American Alone	1,442,420	31.8%	17,648	32.3%	616	70.2%
American Indian and Alaskan Native Alone	28,092	0.6%	933	1.7%	1	0.1%
Asian Alone	69,327	1.5%	935	1.7%	8	0.9%
Native Hawaiian and Other Pacific Islander Alone	1,544	0.0%	11	0.02%	0	0.0%
Some Other Race Alone	6,779	0.1%	83	0.2%	4	0.5%
Two or More Races	57,766	1.3%	853	1.6%	8	0.9%
Hispanic or Latino	192,560	4.2%	2,920	5.3%	22	2.5%
Total Racial Minority <sup>2</sup>	1,798,488	39.7%	23,383	42.8%	659	75.1%

Source: U.S. Census Bureau, Summary File 1, 2010.

Notes:

1. Study area includes the Census blocks within a one-mile radius of the US 90 and LA 318 intersection (see **Figure 3-2**).
2. Racial Minority = Black or African American alone, American Indian and Alaskan Native alone, Asian alone, Native Hawaiian and Other Pacific Islander alone, Some Other Race alone, Two or More Races, and Hispanic or Latino.

As shown in **Table 3-3**, 2010 racial minority composition of 39.7% and 42.8% were reported for Louisiana and St. Mary Parish, respectively. At the project level, a 2010 racial minority composition of 75.1% was reported within a one-mile radius of the US 90 and LA 318 intersection, of which approximately 70.2% of the population is Black or African American

alone. **Figure 3-2** depicts the minority composition within a one-mile radius of the intersection, with the highest racial minority percentages reported south of US 90.

**Income and Poverty**

Median household income and percent of the population below poverty level are indicators of economic conditions. As of September 2011, 2010 median household income and low-income data have not yet been released by the U.S. Census Bureau. As such, two alternative sources of median household income and low-income data are presented in **Table 3-4** including:

- U.S. Census 2000 data for Louisiana, St. Mary Parish, and at the Census block groups within a one-mile radius of the US 90 and LA 318 intersection (i.e., Census tract 410 – block group 2 and Census tract 411 – block group 1); and
- 2005 – 2009 American Community Survey 5-Year Estimates for the Census tracts encompassing the US 90 and LA 318 intersection (i.e., Census tracts 410 and 411), available through the U.S. Census Bureau.

**Table 3-4  
Poverty Status and Median Household Income**

Category	US Census 2000 <sup>1</sup>				2005 – 2009 American Community Survey <sup>2</sup>	
	Louisiana	St. Mary Parish	Census Tract 410	Census Tract 411	Census Tract 410	Census Tract 411
	--	--	Block Group 2	Block Group 1	--	--
Median Household Income	\$32,566	\$28,072	\$28,819	\$18,594	\$34,229	\$31,683
% Families Below Poverty Level	15.8%	20.6%	27.4%	34.8%	14.6%	19.7%
% People Below Poverty Level	19.6%	23.6%	31.6%	33.8%	20.2%	24.3%

Sources:

1. U.S. Census Bureau, Summary File 3, 2000.
2. 2005-2009 American Community Survey 5-Year Estimates, available through the U.S. Census Bureau.

As shown in **Table 3-4**, although median household incomes in both Census tract 410 – block group 2 (\$28,819) and Census tract 411 – block group 1 (\$18,594) were lower than statewide (\$32,566), they were both above the 2000 poverty guideline for a four person family as defined by the U.S. Department of Health and Human Services (USHHS). Expanding outward at the Census tract level, the median household incomes reported from 2005 to 2009 as part of the American Community Survey for both Census tracts 410 and 411 were greater than the HHS poverty guidelines for 2005 through 2009 for a four person family.

According to Census 2000 data shown in **Table 3-4**, approximately 31.6% and 33.8% of people were reported below the 2000 poverty level in Census tract 410 – block group 2 and Census tract 411 – block group 1, respectively. Although these percentages (31.6% and 33.8%) are greater

than the percentage of people reported below the poverty level for Louisiana as a whole (19.6%) and St. Mary Parish (23.6%), the majority of individuals within these block groups were reported to be above the 2000 poverty level. The percentage of people below the poverty level reported from 2005 to 2009 as part of the American Community Survey at the Census tract level are only slightly higher than the percentage of people below the poverty level reported for Louisiana and St. Mary Parish.

As detailed below in **Section 3.3**, the Bambi Head Start Center, located in the northwest US 90 and LA 318 intersection quadrant (see **Figure 3-1**), can service, but is not limited to, students from low-income families. It is unknown, however, whether these students reside within or outside the study area.

**Persons with Disabilities**

Individuals with disabilities for the civilian non-institutionalized population (five years and older) were surveyed based on Census 2000 data at the Census block group level. Similar to median household income and low-income data, 2010 Census data on disabled populations have not yet been released by the U.S. Census Bureau. **Table 3-5** presents the population within the Census block groups encompassing the US 90 and LA 318 intersection reporting a disability. In 2000, approximately 41.5% of the total population within the study area Census blocks reported a disability.

**Table 3-5  
Study Area Population Reporting a Disability**

<b>Total Population</b>	<b>2,541<sup>1</sup></b>	
<b>Disability</b>	<b>Number</b>	<b>Percent of Total Population</b>
Sensory Disability	111	4.4%
Physical Disability	300	11.8%
Mental Disability	173	6.8%
Self-Care Disability	51	2.0%
Go-Outside-Home Disability	201	7.9%
Employment Disability	218	8.6%
<b>Total Disabilities Tallied</b>	<b>1,054</b>	<b>41.5%</b>

Source: U.S. Census Bureau, Summary File 3, 2000.

Note:

1. Total population in 2000 of Census block groups encompassing the US 90 and LA 318 intersection (Census tract 410 – block group 2 and Census tract 411 – block group 1).

The previously discussed Bambi Head Start Center (see **Figure 3-1**) can service, but is not limited to, students from families reporting a disability. It is unknown, however, whether these students reside within or outside the study area.

**Limited English Proficiency**

Executive Order (EO) 13166, *Improving Access to Services for Persons with Limited English Proficiency* (LEP), requires Federal agencies to examine the services they provide and identify any need for services to LEP populations. This EO requires Federal agencies to work to ensure that recipients of Federal financial assistance provide meaningful access to their LEP applicants and beneficiaries. Failure to ensure that LEP persons can effectively participate in or benefit from federally assisted programs and activities may violate the prohibition under Title VI of the Civil Rights Restoration Act of 1987 and Title VI regulations.

LEP populations were determined using Census block group level data from the 2000 Census because 2010 LEP population data has not yet been released by the U.S. Census Bureau. Within the population that is five years of age and older, persons who speak English less than “very well” are considered to have a limited English proficiency. There are two block groups encompassing the US 90 and LA 318 intersection that were assessed for LEP populations. No LEP populations were reported for Census tract 411 – block group 1 in 2000. The populations that speak English less than “very well” for Census tract 410 – block group 2 according to the 2000 Census are presented in **Table 3-6**. Approximately 2.6% of the block group’s population speaks English less than “very well.” Of this LEP population, approximately 2.2% speaks Spanish and 0.4% speaks an Indo-European language.

**Table 3-6  
LEP Populations within Census Tract 410 – Block Group 2**

Languages Spoken by LEP Populations	Percent LEP Populations
Percent Spanish	2.2%
Percent Indo-European Languages	0.4%
Percent Asian and Pacific Island Languages	0
Percent Other Languages	0
<b>Total Percent LEP Population</b>	<b>2.6%</b>

Source: U.S. Census Bureau, Summary File 3, 2000.

**Age**

Age distribution data from the 2010 Census for the Census blocks within a one-mile radius of the US 90 and LA 318 intersection is presented in **Table 3-7**, which shows that within this radius, approximately 33% of the population is aged 21 or under, approximately 55% is aged 22 to 64, and approximately 12% of the population is aged 64 and older.

**Table 3-7  
Study Area Population Age Distribution**

Age Range	Population <sup>1</sup>	Percent
0 to 9	110	12.5%
10 to 17	114	13.0%
18 to 21	64	7.3%
22 to 34	128	14.6%

**Table 3-7**  
**Study Area Population Age Distribution**

Age Range	Population <sup>1</sup>	Percent
35 to 49	177	20.2%
50 to 64	175	20.0%
64 to 74	71	8.1%
75+	38	4.3%
<b>Total Population<sup>1</sup></b>	<b>877</b>	<b>100%</b>

Source: U.S. Census Bureau, Summary File 1, 2010.

Note:

1. Population total is based on a one-mile radius surrounding the US 90 and LA 318 intersection.

### **Economics**

As shown in **Figure 1-1**, the US 90 and LA 318 intersection provides access to the St. Mary Sugar Cooperative and the Port of West St. Mary. The sugar cane industry and port-related industry are tied closely to the economic vitality of the St. Mary Parish communities. Further, and as described in **Section 1.5**, the US 90 and LA 318 intersection is located along a stretch of US 90 that provides a direct link to the energy industry of southern Louisiana and the Gulf Coast. The proposed improvement of the US 90 and LA 318 intersection to a full control of access interchange is a necessary component to the ultimate upgrading of US 90 as part of the proposed future I-40 corridor. Future economic benefits resulting from eventual upgrading of US 90 to interstate standards would likely accrue to all segments of the local and regional populations.

### **Environmental Justice**

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), requires that Federal agencies consider and address disproportionate adverse environmental and human health effects of proposed Federal projects and programs on minority and low-income populations. EO 12898 reinforces the importance of fundamental rights and legal requirements contained in Title VI of the Civil Rights Act of 1964 and the National Environmental Policy Act of 1969. EO 12898 states:

- To the greatest extent practicable and permitted by law “...each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations ...” and
- Each Federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits

of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin.

On April 15, 1997, the U.S. Department of Transportation (USDOT) issued DOT Order 5610.2 on Environmental Justice with the intention of integrating the goals of EO 12898 into USDOT actions. The following definitions were included in the DOT Order:

- **Minority** was defined as a person who is: (1) Black (a person having origins in any of the black racial groups of Africa); (2) Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture, regardless of race); (3) Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or (4) American Indian and Alaskan Native (a person having origins in any of the original people of North American and who maintains cultural identification through tribal affiliation or community recognition). Minority population was defined as any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed USDOT program, policy, or activity.
- **Low-income** was defined as a person whose median household income is at or below the U.S. Department of Health and Human Services' poverty guidelines. Low-income population was defined as any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed USDOT program, policy, or activity. For this evaluation, the term "low-income" is equivalent to, and used interchangeably with, "persons/populations below the poverty level."

The Federal Highway Administration has developed an environmental justice strategy designed to assess potential impacts among minority and low-income population groups, and to instill effective public involvement strategies as to ensure substantive outreach to, and participation of, environmental justice populations (FHWA, 2006). This FHWA strategy was utilized in the determination of potential disproportionately high and adverse human health or environmental effects on environmental justice populations, as detailed in **Section 4.2**.

### 3.3 Community Facilities

Libraries, churches, cemeteries, hospitals, schools, government facilities, recreational facilities, and public service providers are all considered community facilities. Community facilities within the study area include the West St. Mary Civic Center and the Bambi Head Start Center.

The West St. Mary Civic Center is located within the northeast US 90 and LA 318 intersection quadrant (see **Figure 3-1**) and consists of a gymnasium, game room, computer room, and four classrooms / meeting rooms. Basketball and volleyball practices and games of local school and

community teams are often held at the facility, as well as other activities such as tutoring and bingo for seniors. The West St. Mary Civic Center is also available for rent, having hosted weddings, funerals, and other various functions for the nearby communities. Existing access to the West St. Mary Civic Center is from LA 318. The West St. Mary Civic Center parking lot is immediately adjacent to the north of the building, and the building is also encircled by a paved driveway. The West St. Mary Civic Center is located on approximately 15.8 acres that is zoned “Community Action Center”, of which approximately 2.5 acres account for the building, parking lot, and driveway footprint.

The Bambi Head Start Center is located within the northwest US 90 and LA 318 intersection quadrant (see **Figure 3-1**) on land zoned single-family residential. The Bambi Head Start Center services approximately 40 students, aged three to five years old, and operates three classes during traditional school hours. Head Start program students are generally, but not exclusively, from low-income families or families reporting a disability.

### **3.4 Transportation and Traffic**

A complete analysis of existing and projected traffic operations is detailed within the stand-alone report entitled *Draft Traffic Study Report, US 90 and LA 318 Interchange, St. Mary Parish, Louisiana* (Neel-Schafer, 2011). Below is a summary of the study area roadway network, and traffic operational conditions. **Section 4.4** summarizes the report findings for the build alternatives.

#### **Existing Roadway Network Characteristics**

US 90 is a four-lane divided roadway with 12-foot lanes and LA 318 is a two-lane undivided roadway with 12-foot lanes. According to the LADOTD Rural Functional Class System, US 90 is classified as a rural principal arterial and LA 318 as rural major collector. The posted speed limit on US 90 is 65 miles per hour (MPH) and 55 MPH on LA 318. An existing two-lane, two-way frontage road parallels US 90 on both the north and south side of the highway that provides local access within the study area.

The intersection of US 90 at LA 318 is signalized. The traffic signal at US 90 and LA 318 operates as a semi-actuated isolated intersection. Two unsignalized intersections exist on LA 318 at the north and south frontage roads and are controlled by side street stop signs. In addition to the intersection at LA 318, an existing median crossover is located on US 90 approximately 1 mile west of LA 318. The median opening serves several commercial establishments including Landry’s Seafood House, the Silver Fox Casino and Shell Gas Station.

#### **Existing and Projected Traffic Conditions**

In order to identify existing roadway capacity constraints and to define future capacity requirements, an estimate of base year and design year traffic volumes were necessary. Both roadway link Average Daily Traffic (ADT) and intersection AM and PM peak hour turning movement volumes were determined.

Historical traffic counts on both US 90 and LA 318 were obtained from LADOTD and analyzed using linear regression statistical analysis. Based on the regression analysis results, a 2% annual growth rate was calculated. This growth rate was applied to existing 2006 traffic volumes to develop the 2010 base year volumes, as well as future year 2015 and 2035 volumes for the No-Build Alternative. As shown in **Table 3-8**, the 2010 Average Daily Traffic volume on US 90 is approximately 20,800 vehicles per day (vpd); the ADT on LA 318 is approximately 2,500 vpd.

**Table 3-8  
Existing and Projected Average Daily Traffic Volumes**

Year	Highway				
	US 90 Eastbound	US 90 Westbound	US 90 Total	LA 318 (North of US 90)	LA 318 (South of US 90)
2006	9,950	9,200	19,150	1,185	2,345
2010	10,800	10,000	20,800	1,200	2,540
2015	11,930	11,010	22,940	2,200	2,800
2035	17,730	16,360	24,090	3,270	4,165

Vehicle classification counts along US 90 indicate that the ADT is composed of approximately 18% heavy vehicles. On LA 318 north of US 90, the ADT is composed of approximately 38% heavy vehicles. On LA 318 south of US 90, the ADT is composed of approximately 10% heavy vehicles. The high percentage of truck traffic on LA 318 north of US 90 is contributed to the location of the St. Mary Sugar Cooperative facility located at LA 318 and LA 182.

**No-Build Alternative Intersection Capacity Analyses**

Intersection analyses were performed at each of the study area intersections. The analyses included geometry, peak hour turning movement volumes, and traffic control measures. Based on these criteria, level of service (LOS) was determined at each location.

The analyses of signalized and unsignalized intersection were performed utilizing the Highway Capacity Software Plus (HCS+), Version 5.5. This computer program models the methodologies described in the *2000 Highway Capacity Manual*. These analyses were performed for 2010, 2015, and 2035 No-Build conditions.

As described within the *2000 Highway Capacity Manual*, “vehicle capacity represents the maximum number of vehicles that can pass a given point during a specified period under prevailing roadway, traffic and control conditions,” for a given facility. “Levels of service identify ranges of operational conditions. The concept of levels of service is defined “as a qualitative measure that characterizes operational conditions within a traffic stream and their perception by motorists and passengers. These operational conditions include such factors and travel time, freedom to maneuver, traffic interruption, comfort and convenience, and safety.”

“Six levels of service are defined for each type of facility. They are given letter designations, from A to F, with level-of-service A (LOS A) representing the best operating conditions and level-of-service F (LOS F) the worst.” Utilizing the HCS+ computer program, capacity and

levels of service analyses were performed at each intersection. The intersection level of service results for the No-Build Alternative are presented in **Table 3-9**.

**Table 3-9**  
**Intersection Level of Service Results for the No-Build Scenario**

Intersection	Control	2010		2015		2035	
		Critical Movement	LOS AM/PM	Critical Movement	LOS AM/PM	Critical Movement	LOS AM/PM
US 90 at LA 318	S	Overall	C/C	Overall	C/C	Overall	D/E
LA 318 at South Frontage Rd	U	EB	B/A	EB	B/A	EB/WB	B/B
LA 318 at North Frontage Rd	U	EB/WB	A/A	EB/WB	B/A	EB/WB	B/B

*Overall - indicates the level of service for the entire intersection*

*S - Signalized Control*

*U - Unsignalized Control*

*EB - Eastbound*

*WB - Westbound*

In summary, the level of service for the northbound approach of LA 318 at the existing signalized intersection of US 90 at LA 318 operates at a level of service LOS C for the 2010 base year condition. By the year 2035, the LOS at US 90 and LA 318 is projected to operate at LOS D during the AM peak hour. During the PM peak hour, the intersection would experience heavy delays and is projected to operate at LOS E.

All unsignalized intersections operate at a LOS B or better for existing conditions. The LOS of these intersections will remain at B or better for the No-Build condition in 2015 and 2035.

### **No-Build Alternative Roadway Segment Capacity Analyses**

Roadway segment analyses were conducted to evaluate existing conditions, identify operational deficiencies, and to define future facility requirements. These analyses include the identification of peak hour traffic volumes, capacity, and level of service. US 90 and LA 318 roadway segments were evaluated with respect to 2010 base year, 2015 and 2035 future year No-Build conditions.

The analyses of roadway segments were performed using the *Highway Capacity Software Plus (HCS+)*, Version 5.5. Utilizing *HCS+* computer program, capacity and levels of service analyses were performed along US 90 and LA 318. The *HCS+ Multilane* software module was used to calculate the level of service on US 90 and *HCS+ Two-Lane Highway* software module was used to calculate the level of service on LA 318.

The US 90 segments east and west of LA 318 currently operate at a LOS A. The No-Build Year 2015 and 2035 roadway analyses indicate a LOS A and LOS B respectively, for the segments on US 90.

The LA 318 segments north and south of US 90 currently operate at a LOS C. LOS C is also projected on LA 318 in 2015 and 2035 for the segment north and south of US 90.

### 3.5 Utilities

The majority of the local roadways throughout the study area contain both buried communication and gas distribution lines, in addition to overhead transmission and distribution lines. St. Mary Parish operates water and sewer utilities throughout the area; however, there are several residences that have private water wells and/or septic systems.

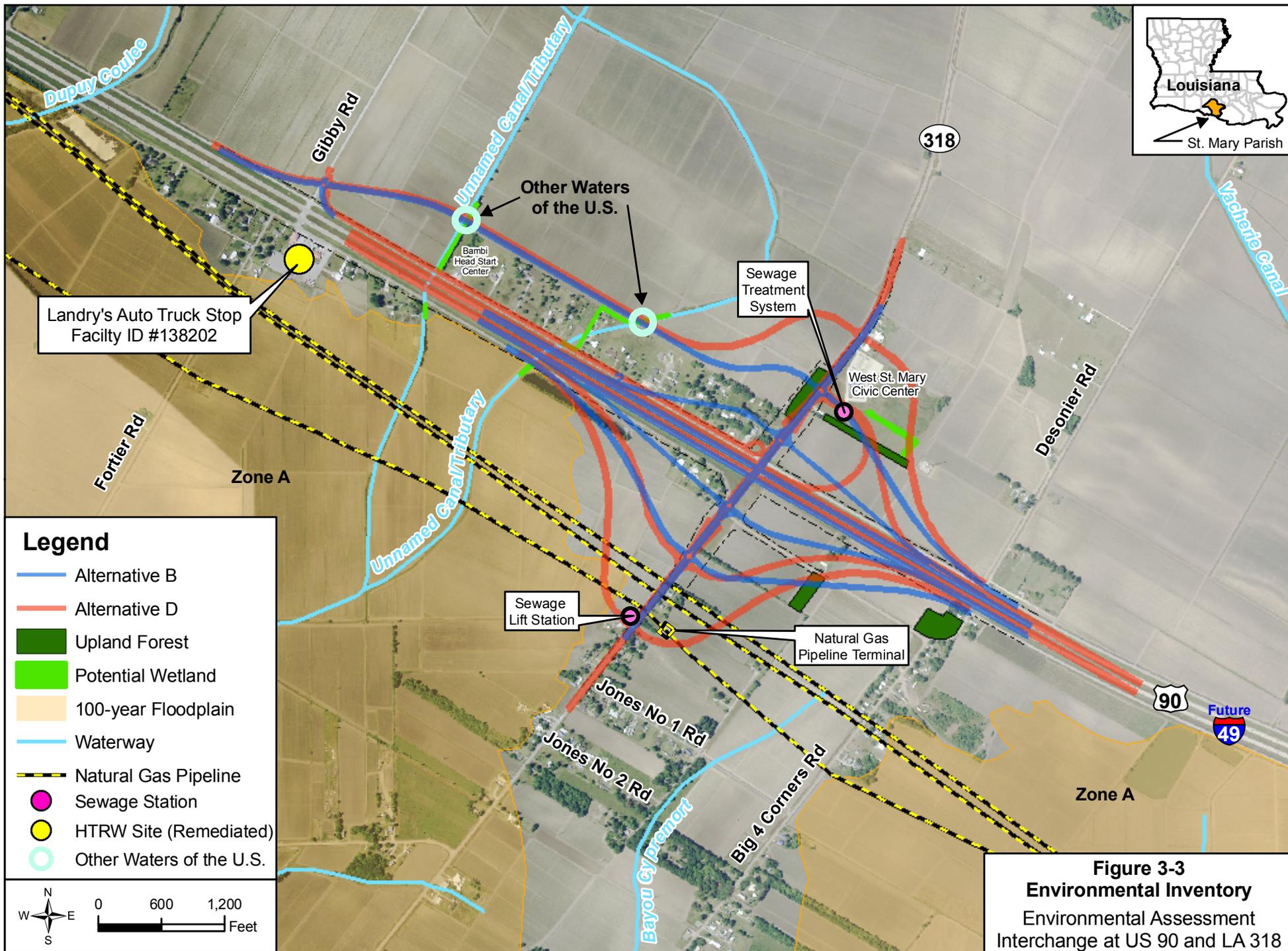
There are no utilities directly adjacent to US 90 in the study area, the utilities parallel the frontage roads located on both the east and west sides of the highway and also parallel LA 318. Cleco provides electrical service throughout the study area. Overhead low voltage distribution lines are located adjacent to the local streets to provide power to local residences and businesses. A few minor electrical lines that connect from the poles to the local customers are located underground. Bellsouth provides communications services through buried fiber optic and/or copper cable communication lines below ground in the study area. These electrical and communication utilities parallel the frontage roads located on both the east and west sides of the highway and also run along the east side of LA 318 north of US 90 and along the west side of LA 318 south of US 90.

St. Mary Parish operates a sewage lift station on the southwest side of LA 318. The lift station is located approximately 1,500 feet from the intersection of the Frontage Road and LA 318. There is also a sewage treatment system at the St. Mary Civic Center located in the southern portion of the property (See **Figure 3-3**).

Several natural gas pipelines cross the study area south of US 90. These pipelines run parallel to US 90 and cross LA 318 in three separate pipeline corridors (See **Figure 3-3**). On the south side of US 90 approximately 1,000 feet south of the intersection of LA 318 with the Frontage Road is the first corridor in which there are two gas pipelines operated by Gulf South. A second corridor parallels the first approximately 50 feet to the south and contains a single natural gas pipeline. Approximately 200 feet further south is the third pipeline corridor in which there are three natural gas pipelines operated by Columbia Gulf Transmission and they also parallel the other pipelines and US 90. There is also a terminal associated with these pipelines located on the east side of LA 318.

### 3.6 Visual Environment

The visual landscape surrounding the existing at-grade US 90 and LA 318 intersection is characterized by small groupings of residential structures, the West St. Mary Civic Center, and large areas of vacant land. With few exceptions, the land throughout the study area is flat, with



the only major visual interruptions coming from the scatterings of fencerow trees, the residential structures themselves, the various above ground utility lines described in **Section 3.5**, and the overhead hanging signal lights located at the US 90 and LA 318 intersection. One cell phone tower is located in the northeast quadrant of the intersection, approximately 650 feet northeast of the existing frontage road.

### 3.7 Cultural Resources

A preliminary historic standing structure field reconnaissance was conducted in March 2011 for those built resources located within, or immediately adjacent to, the US 90 and LA 318 intersection. A complete analysis of the field reconnaissance is detailed within the stand-alone report entitled *Preliminary Historic Standing Structure Field Reconnaissance Survey, US Hwy 90 and LA Hwy 318 Interchange, St. Mary Parish, Louisiana* (URS, 2011). Coordination with the State Historic Preservation Officer (SHPO) is on-going to assess the eligibility of any identified structures for listing in the National Register of Historic Places (NRHP). Below is a summary of the surveyed existing conditions, and **Section 4.7** summarizes the report findings.

All of the standing structures within the Area of Potential Effects (APE) visible from the public rights-of-way were surveyed and the buildings were recorded and grouped together according to building typology or architectural style. They were further broken down by estimated date of construction, condition, integrity, and significance (see **Table 3-10**; **Figure 3-4** and **Figure 3-5** for Alternative B and Alternative D, respectively). The recording procedures for architectural resources generally followed the guidelines established by the National Park Service in *National Register Bulletin 24: Guidelines for Local Survey – A Basis for Preservation Planning*. Straight-on photographs were taken and preliminary information related to building material, foundation type, structural form, architectural style, and observed alterations, was collected. The houses within the immediate view shed of the study area included:

- Twelve Ranch houses (ca. 1950s to the present day);
- Eleven mobile homes (ca. 1960s to the present day);
- Four Bungalow cottages (ca. 1920s to the present day);
- Two manufactured homes (ca. 1990s to the present day);
- Two Neo-Mediterranean houses (ca. 1970s to the present day);
- Two vernacular houses (ca. 1960s to the 1980s);
- One Contemporary Modern house (ca. 1970s to the 1980s);
- One Neo-French house (ca. 1990 to the present day);
- One civic center (ca. 1990s to the present day); and,
- The Caribbean Winds subdivision (ca. 2000s).

Cultural resources background for previously completed cultural resources surveys, previously recorded historic and prehistoric archaeological sites, historic standing structures, cemeteries, and listed National Register of Historic Places (NRHP) properties within or immediately adjacent to the build alternatives was also collected. For the purposes of this EA, the background

review encompassed a 0.5 mile (0.8 kilometer) radius surrounding the project alternatives (i.e., APE); however, none were identified following this review.

**Table 3-10**  
**Summary of Historic Standing Structures**

Historic Standing Structure	Type	Date	Recommended Significance	Affected by Alternative
1	Ranch House, Hipped Roof	1960-1970s	None	-
2	<b>Ranch House, Hipped Roof</b>	<b>1960-1970s</b>	<b>None</b>	<b>D</b>
3	<b>Vernacular Side-Gabled Linear Plan</b>	<b>1970-1980s</b>	<b>None</b>	<b>D</b>
5	<b>Mobile Home</b>	<b>1970s</b>	<b>None</b>	<b>B</b>
7	<b>Mobile Home</b>	<b>1990s-Present</b>	<b>None</b>	<b>B</b>
8	<b>Neo-French</b>	<b>1990s-Present</b>	<b>None</b>	<b>B</b>
10	<b>Ranch House, Cross Gable</b>	<b>1980-1990s</b>	<b>None</b>	<b>B</b>
11	<b>Mobile Home</b>	<b>1990s-Present</b>	<b>None</b>	<b>B</b>
13	<b>Ranch House, Hipped Roof</b>	<b>1990s-Present</b>	<b>None</b>	<b>B, D</b>
14-21	Caribbean Winds Subdivision	2000s-Present	None	-
22	Ranch House, Cross Gable	1970-1980s	None	-
23	Neo-Mediterranean	1970s-Present	None	-
<b>24</b>	<b>Bungalow</b>	<b>1920-1930s</b>	<b>High</b>	<b>-</b>
25	<b>Manufactured Home</b>	<b>2000s-Present</b>	<b>None</b>	<b>B</b>
<b>26</b>	<b>Ranch House, Cross Gable</b>	<b>1950-1960s</b>	<b>Moderate</b>	<b>B</b>
27	Mobile Home	1960-1970s	None	-
28	<b>Vernacular Side-Gabled Linear Plan</b>	<b>1960-1970s</b>	<b>None</b>	<b>D</b>
29	Ranch House, Hipped Roof	1960-1970s	None	-
30	Ranch House, Hipped Roof	1960-1970s	None	-
31	Neo-Mediterranean	1970s-Present	None	-
32-33	Mobile Home	1970s	None	-
<b>37</b>	<b>Modified Bungalow</b>	<b>1940-1950s</b>	<b>Moderate</b>	<b>-</b>
<b>38</b>	<b>Ranch House, Cross Gable</b>	<b>1950-1960s</b>	<b>Moderate</b>	<b>-</b>
39A	Mobile Home	1970s	None	-
<b>40</b>	<b>Ranch House, Hipped Roof</b>	<b>1950-1960s</b>	<b>Moderate</b>	<b>D</b>
<b>41</b>	<b>Modified Bungalow</b>	<b>1930-1940s</b>	<b>Moderate</b>	<b>-</b>
<b>42</b>	<b>Modified Bungalow</b>	<b>1930-1940s</b>	<b>Moderate</b>	<b>-</b>
43	<b>Manufactured Home</b>	<b>1990s</b>	<b>None</b>	<b>D</b>
44	<b>Mobile Home</b>	<b>1970s</b>	<b>None</b>	<b>B</b>
45	<b>Mobile Home</b>	<b>1960-1970s</b>	<b>None</b>	<b>B, D</b>
46	Mobile Home	1970s	None	-
47	Mobile Home	1970-1980s	None	-
48	Civic Center	1990s-Present	None	-
49	<b>Ranch House, Hipped Roof</b>	<b>1980-1990s</b>	<b>None</b>	<b>D</b>
50	<b>Ranch House, Hipped Roof</b>	<b>1980-1990s</b>	<b>None</b>	<b>D</b>
51	Contemporary Modern, Gable Roof	1970-1980s	None	-
52	Mobile Home	1960-1970s	None	-

Notes:

**Bold** = Within or immediately adjacent to the specified alternative; **Blue** = Moderate Significance; **Red** = High Significance

Figure 3-4  
Standing Structures within Proximity of Alternative B

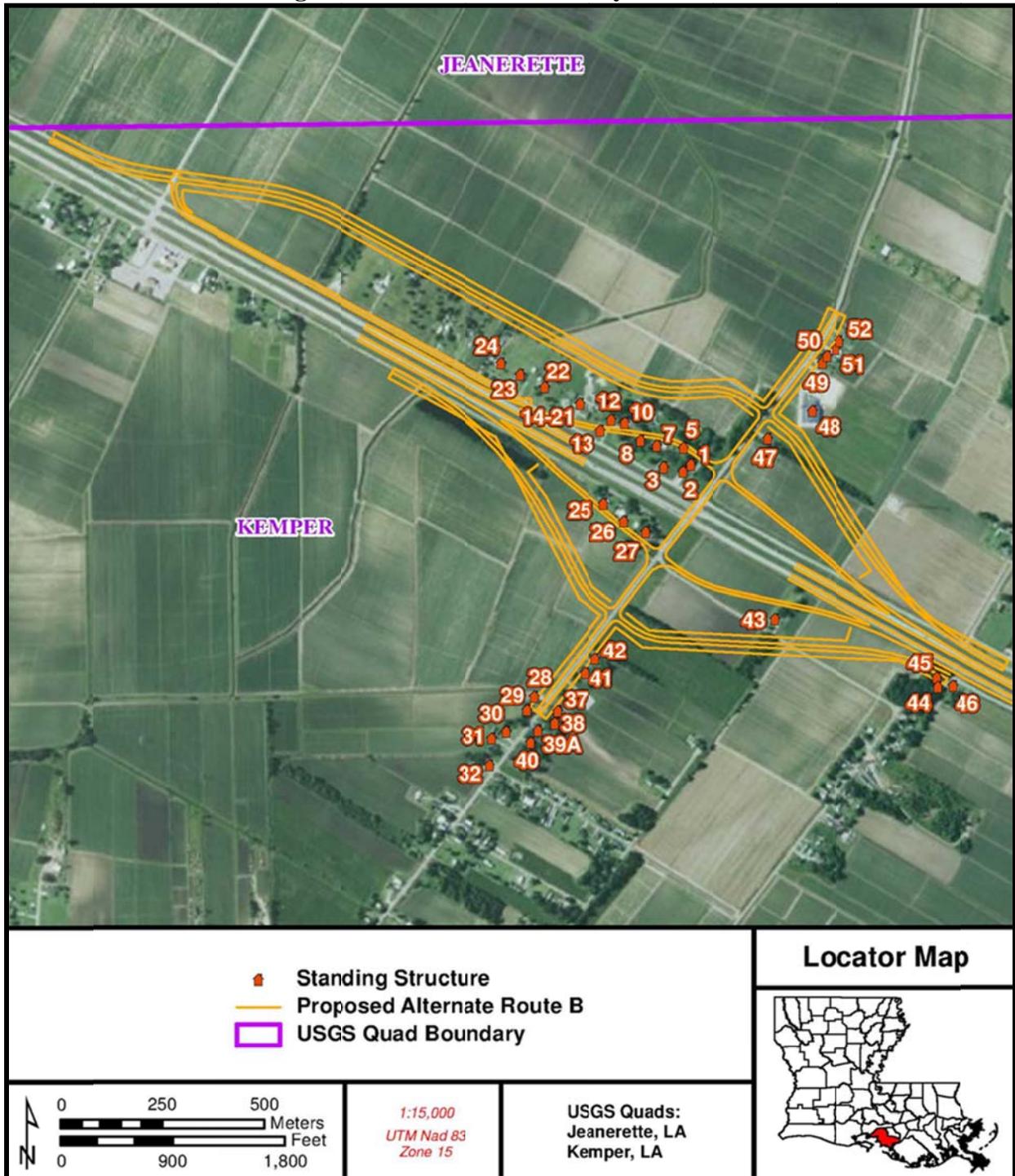
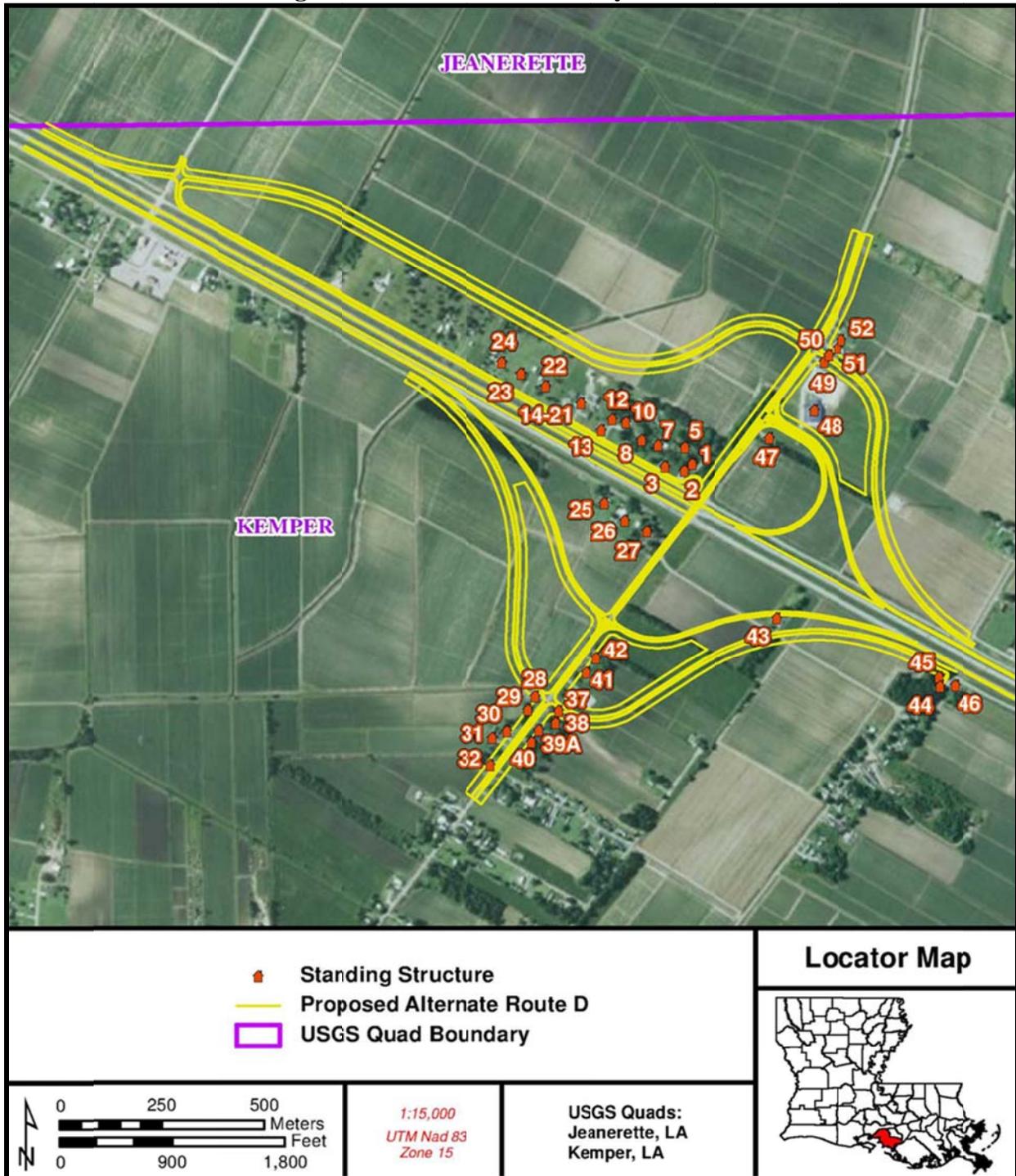


Figure 3-5  
Standing Structures within Proximity of Alternative D



### 3.8 Section 4(f) and 6(f)

Section 4(f) of the Department of Transportation Act of 1966 prohibits agencies within the USDOT from using land from any significant publicly-owned public park, recreation area, or wildlife and waterfowl refuge, or any significant historic site, unless: (1) there are no feasible and prudent alternatives to the use of such land; and (2) the proposed action or use includes all possible planning to minimize harm to the property. In addition to Section 4(f) requirements, additional protection of recreational sites is afforded by Section 6(f) of the Land and Water Conservation Fund Act (LWCF) of 1965. The provisions of the LWCF Act specify that any land or facility planned, developed, or improved with funds from this program cannot be converted to other uses unless replacement land of equal market value and roughly equivalent usefulness is provided. No resources protected by Section 4(f) or 6(f) are present within the study area.

### 3.9 Water Resources

#### Surface Water Resources

The study area is located between Jeanerette and Baldwin in southwest Louisiana, approximately 11 miles from West Cote Blanche Bay. Bayou Teche is the major waterway that flows southeast through the project area 2 miles north of US 90. While Bayou Teche does provide storm water drainage for the area, the majority of surface water in the study area flows south to the coastal marshes along West Cote Blanche Bay, which connects to the Gulf of Mexico.

Surface water resources located in the study area include slow moving watercourses, namely Bayou Cypremort, Dupuy Coulee, and Vacherie Canal along with unnamed canals and tributaries, herein identified as Other Waters of the U.S. **Figure 3-3** shows the location of these water bodies. These natural and modified drainage channels connect to each other as they flow south into West Cote Blanche Bay. The Louisiana Department of Environmental Quality (LDEQ) 2010 *Water Quality Integrated Report* designates waters throughout the State of Louisiana with the following uses: *primary contact recreation*, *secondary contact recreation*, and *fish and wildlife propagation*.

- *Primary contact recreation* is defined as any recreational or other water use in which there is prolonged and intimate contact with water involving considerable risk of absorbing waterborne constituents through the skin or of ingesting constituents from water in quantities sufficient to pose a serious health hazard. Examples include swimming, water skiing and skin diving.
- *Secondary contact recreation* is a use where the probability of ingesting appreciable quantities of water is minimal, such as fishing, boating and wading. The use of *fish and wildlife propagation* applies to waters used for preservation and reproduction of aquatic biota such as indigenous species of fish and invertebrates as well as reptiles, amphibians, and other wildlife associated with aquatic environment. It also includes maintenance of water quality at a level that prevents contamination of aquatic biota consumed by humans.

Bayou Teche and West Cote Blanche Bay are the only watersheds that are listed in the report for the study area. Bayou Teche is listed as fully supporting both primary and secondary contact recreation. The waterway is listed as not supporting fish and wildlife propagation with the suspected causes of impairment including dissolved oxygen, phosphorus, and nitrate/nitrite. The suspected sources of these impairments include crop production and municipal point source discharges. West Cote Blanche Bay is listed as fully supporting all three uses listed by the state. The report does not give specific data for the canals within the study area mainly due to the fact that they are not large enough to support the above referenced activities. However, due to the intensive sugar cane cultivation activity in the area, the potential for detrimental runoff (i.e., fertilizers or other wastes) is present.

The Clean Water Act makes it unlawful to discharge storm water from construction sites into waters of the U.S. unless authorized by the U.S. Environmental Protection Agency's (USEPA's) National Pollutant Discharge Elimination System (NPDES) General Permit. A construction project that affects greater than 5 acres is required to file a Notice of Intent (NOI) and have a Storm Water Pollution Prevention Plan (SWPPP) on site. A construction project that affects 1 to 5 acres is required to have a SWPPP on site.

### **Scenic Streams**

The National Wild and Scenic Rivers Act of 1968 (16 USC 1271) was adopted to preserve certain rivers with outstanding natural, cultural, or recreational features in a free-flowing condition. The Act classifies designated rivers as Wild, Scenic, or Recreational. The state of Louisiana implemented the Louisiana Scenic Rivers Act (RS 56:1956) which became law on July 27, 1988. The Act works to preserve, protect and enhance those unique and diverse free-flowing rivers, streams, and bayous within the state.

### **Ground Water Resources**

Fresh ground water in St. Mary Parish comes from the coastal lowlands aquifer system which consists largely of sediments deposited in a deltaic to marginal marine environment. The aquifer system, therefore, contains a highly layered mix of sand and clay. Two main aquifers within this system underlie the study area and include the Lower Mississippi River Alluvial Aquifer and the Chicot Aquifer. The Lower Mississippi River Alluvial Aquifer consists of layers of gravel, sand, silt, and clay which are recharged by direct infiltration of rainfall over river valleys, lateral and upward movement from adjacent and underlying aquifers, and overbank stream flooding. Water levels fluctuate seasonally and the water tends to be hard to very hard with dissolved calcium and magnesium. Treatment may be necessary for certain application, but the primary use is for agriculture.

The Chicot Aquifer is a name commonly applied to the upper part of this coastal lowlands aquifer system, and large quantities of fresh ground water is available from this aquifer on St. Mary Parish. The US Environmental Protection Agency (USEPA) has designated it as a sole source aquifer, indicating that the aquifer is the sole or principal drinking water source for the designated area. Consequently, the Federal government requires that a project not pose a

contamination hazard to the aquifer before it agrees to participate in that project. The Chicot Aquifer slopes gulfward with its primary recharge areas north of the study area in Allen, Beauregard, Evangeline, and Rapides Parishes. Water quality in the aquifer is excellent with depth of wells typically ranging from 50 to 800 feet (LDEQ, 2011).

The St. Mary Parish Water District operates several wells in the parish which provide potable water to residents and communities in the area. No public wells are located in the study area; however, several residences obtain their water through the St. Mary Parish Water District distribution system. The remaining residences in the study area appear to have private water wells on their properties to provide potable water.

### 3.10 Floodplains

Protection of floodplains and floodways is required by EO 11988, Floodplain Management; 23 CFR Part 650, *Location and Hydraulic Design of Encroachments of Floodplains*; and USDOT 5650.2, Floodplain Management and Protection. These regulations were designed to minimize roadway encroachments within the 100-year floodplain and to avoid land use development inconsistent with floodplain values. During periods of high water, floodplains serve to moderate flood flow, provide water quality maintenance, and serve as temporary habitat for a number of plant and animal species. The Flood Insurance Rate Maps (FIRM) available for the study area were reviewed to determine if any regulated floodplains or floodways are located within the study area. These maps included Federal Emergency Management Agency (FEMA) 1992 FIRM map 220192 0125C and the 2006 Advisory Base Flood Elevation Map LA-Z73 revised after Hurricane Rita.

Based on these maps, the majority of the study area, including everything north of US 90, is located within Zone C as classified by FEMA. Zone C denotes areas of minimal flood hazard and above the 500-year flood level. Zone C may have ponding or local drainage problems that don't warrant a detailed study or designation as a base floodplain. A portion of the southwest quadrant of the study area west of LA 318 and south of US 90 is within Zone A. **Figure 3-5** shows the location of the area designated as Zone A. The current recommended base flood elevation in this area is 11 feet. The area classified as Zone A is in the 100-year floodplain meaning it has a 1 percent chance of flooding annually.

### 3.11 Geology and Mineral Resources

Most of St. Mary Parish lies within the south-central region of the Mississippi River Delta Plain. It is made up of three distinct land types including the Southern Mississippi Valley Alluvium, the Gulf Coast Marsh, and the Southern Mississippi Valley Silty Uplands. The Southern Mississippi Valley Silty Uplands are found at some of the highest elevations in the parish and on salt domes and make up around one percent of the soils in the parish. These loamy soils formed in loess and are very low in sand content.

Over half of the parish is composed of the Southern Mississippi River Alluvium. Loamy soils are dominant on the high and intermediate parts of the natural levees, and clayey soils are

dominant on the lower parts of the natural levees and backswamps. The soils of the natural levees formed in sediments deposited by former channels of the Mississippi River and its distributaries on the Teche, Atchafalaya, and Lafourche Delta Complex. Depending on elevation and location, these soils rarely flood or experience occasional to frequent flooding. The remaining land area of the parish consists mainly of ponded, frequently flooded, and very frequently flooded, mucky and clayey, fluid soils in marshes and swamps. The Gulf Coast Marsh land type is general classification given to these soils.

Elevations in the parish range from about 16 feet above mean sea level along the natural levee of Bayou Teche in the northern part of the parish, to about 5 feet below sea level in the former marshes and swamps that have been drained.

Crude oil and natural gas are the predominant mineral products in St. Mary Parish; however, the production of salt is also an important mineral resource for the parish. Cote Blanche Island salt dome is mined by North American Salt Company and produces 9 tons of salt every minute. The salt dome is located along the coast approximately nine miles from the study area. The study area is located within the Jeanerette Oil and Gas Field. According to information obtained from the Louisiana Department of Natural Resources (LDNR) Strategic Online Natural Resources Information System (SONRIS), there are 412 oil and gas wells in the Jeanerette Field (LDNR, 2011). Of these 412 oil and gas wells, there are 66 which are listed as active by the LDNR.

### **3.12 Prime Farmland and Other Soils**

The study area is comprised mainly of Loess-covered alluvial deposits. Soils developed in three distinct parent materials including clayey alluvium, loamy alluvium and loess. The study area is composed of six soils which are briefly described in the **Table 3-11**.

**Table 3-11  
Soils within the Study Area**

Soil	% Slope	Description	Hydric	Prime Farmland
Baldwin silty clay loam	0 to 1	Found on natural levees in delta plains, poorly drained with high shrink-swell potential, rarely flooded.	Yes	Yes
Coteau silt	0 to 1	Found on terrace uplands, somewhat poorly drained, moderate shrink-swell potential, not flooded.	No	Yes
Galvez silt loam	0 to 1	Found on natural levees in delta plains, somewhat poorly drained, moderate shrink-swell potential, not flooded.	No	Yes
Iberia clay	0 to 1	Found in backswamps on delta plain, poorly drained, very high shrink-swell potential, rarely flooded.	Yes	Yes
Jeanerette silt loam	0 to 1	Found on meander scrolls on coastal plains, somewhat poorly drained, moderately high shrink-swell potential, not flooded.	No	Yes

**Table 3-11**  
**Soils within the Study Area**

Soil	% Slope	Description	Hydric	Prime Farmland
Patoutville silt	0 to 1	Found on terraces in uplands, somewhat poorly drained, moderate shrink-swell potential, not flooded.	No	Yes

Source: USDA NRCS Soil Survey for St. Mary Parish, 2007.

The Farmland Protection Policy Act (7 USC 4201, *et seq*) and its regulations (7 CFR Part 658) establish criteria for identifying and considering the effects of federal programs on the conversion of farmland to non-agricultural uses. Prime farmland soils are widespread throughout the parish and include all of the soils found within the study area.

### 3.13 Hazardous Material Sites

A preliminary investigation was conducted to determine the possible impact of potential hazardous, toxic and radioactive waste (HTRW) sites on the proposed project within the study area. The purpose of this investigation was to identify sites that may pose an adverse effect on the local environment due to hazardous materials or petroleum contamination that could be released by earth-moving activities during construction of the project. Because of the generally high cost and complicated procedures required to mitigate impacts when constructing a highway over or through contaminated sites, avoidance of these areas is usually the most prudent and feasible course of action.

A review of publically available regulatory records was conducted by searching on-line databases maintained by the USEPA and the LDEQ. Under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the USEPA maintains databases for the regulation of hazardous materials and waste sites. The purpose of the records review was to assess the potential for hazardous substance contamination from past or current activities on properties that are adjacent to the existing US 90 and LA 318 right-of-way or that would be located within the proposed right-of-way for the project. Only one regulated facility was identified on property adjacent to the existing US 90 south frontage road within the study area. The findings for all database searches are summarized in **Appendix D** and this facility is shown on **Figure 3-3**.

The LDEQ UST (Underground Storage Tank) Division maintains records of UST facilities located throughout the state and also identifies those that have had a confirmed petroleum release. There is only one facility within the study area that was previously listed in the UST database, which was Landry's Auto Truck Stop (LDEQ ID # 138202) located at 20355 Highway 90 Frontage Road in Jeanerette. This site had two citations, one on April 23, 2007 when it was given a Notice of Potential Penalty and the second, on December 4, 2009 when a penalty was assessed by LDEQ. Following site remediation on June 14, 2011 a No Further Action Notification was issued by the LDEQ. Landry's Auto Truck Stop is therefor considered a de minimus risk to the project. (See **Section 4.13** and **Appendix D** for further discussion).

### 3.14 Air Quality

The USEPA has set National Ambient Air Quality Standards (NAAQS) for six principal air pollutants (also referred to as criteria pollutants): Carbon monoxide (CO), lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide. The State of Louisiana has adopted the Federal standards for these criteria pollutants. St. Mary Parish is currently in attainment for all NAAQS (USEPA, 2011).

### 3.15 Noise

#### Human Perception of Noise

“Noise” is defined as unwanted sound. Sounds are described as noise if they interfere with an activity or disturb the person hearing them. Sound is measured in a logarithmic unit called a decibel (dB). The human ear is more sensitive to middle and high frequency sounds than it is to low frequency sounds, so sound levels are weighted to more closely reflect human perceptions. These “A-weighted” sounds are measured using the decibel unit dBA. Because the dBA is based on a logarithmic scale, a 10 dBA increase in sound level is generally perceived as twice as loud, while a 3 dBA increase is just barely perceptible to the human ear. Sound levels fluctuate with time depending on the sources of the sound audible at a specific location. In addition, the degree of annoyance associated with certain sounds varies by time of day, depending on other ambient sounds affecting the listener and the activities of the listener. The time-varying fluctuations in sound levels at a fixed location can be quite complex, so they are typically reported using statistical or mathematical descriptors that are a function of sound intensity and time. A commonly used descriptor of the equivalent sound level is Leq, which represents the equivalent of a steady, unvarying level over a defined period of time containing the same level of sound energy as the time varying noise environment. Leq(h) is a sound level averaged over one hour. For highway projects, the Leq(h) is commonly used to describe traffic-generated sound levels at locations of outdoor human use and activity.

#### Noise Evaluation Criteria

The LADOTD *Highway Traffic Noise Policy* (July 2011) was used to analyze potential project-related noise impacts. The LADOTD has assigned Noise Abatement Criteria (NAC) to seven categories of land use organized according to their sensitivity to noise as shown in **Table 3-12**. The NAC levels are Leq levels above which noise would begin to intrude on the corresponding land use. Consistent with LADOTD policy, highway traffic noise impacts occur when:

1. The Design Year 2035 Build Condition sound levels predicted by the FHWA Traffic Noise Model 2.5 (TNM) equal or exceed the LADOTD Noise Abatement Criteria (presented in **Table 3-12**) at any receiver; or
2. The Design Year 2035 Build Condition sound levels exceed the measured Existing Condition sound levels by 10 dBA or more (i.e., a “substantial” increase).

**Table 3-12**  
**LADOTD Noise Abatement Criteria<sup>1,2</sup>**

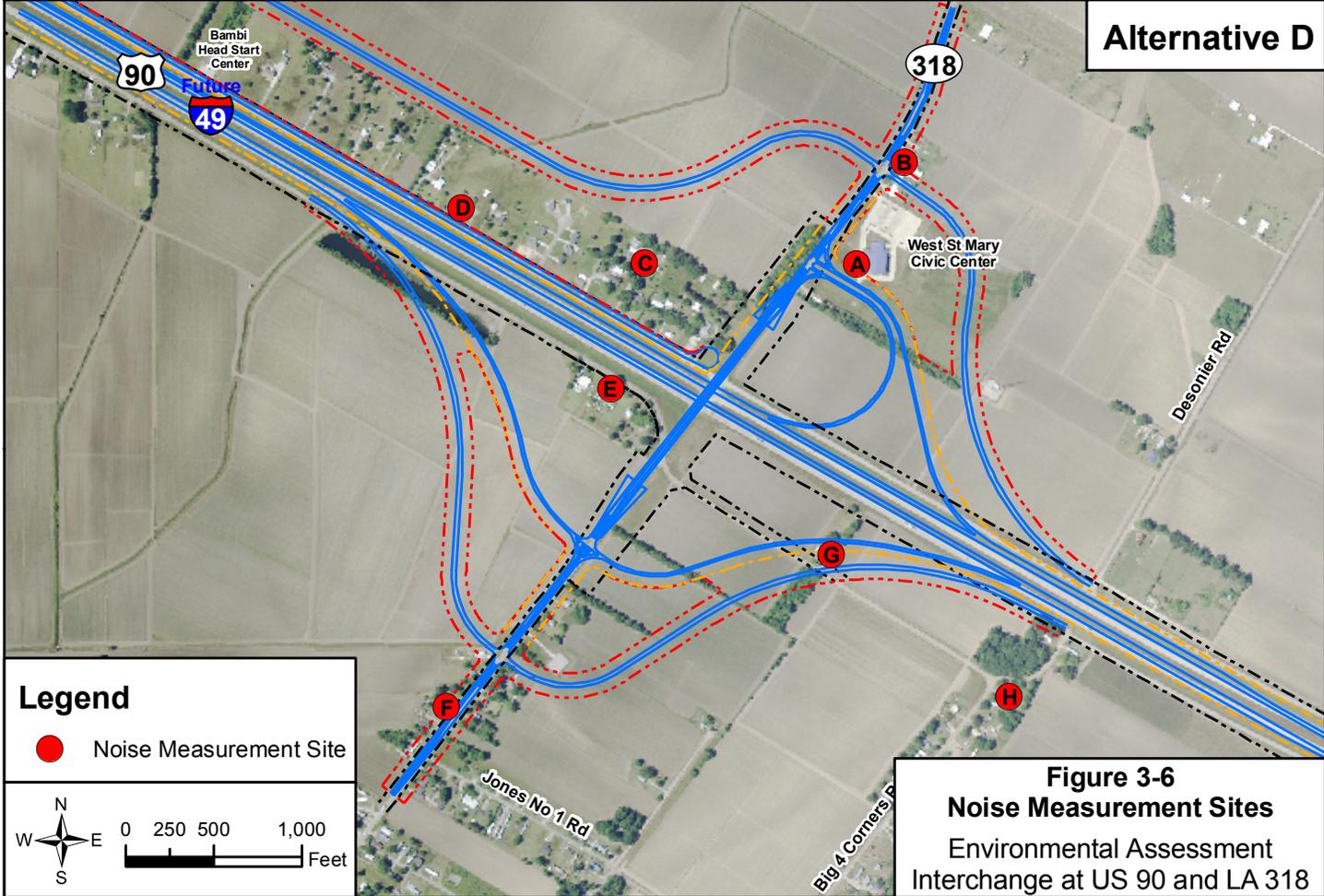
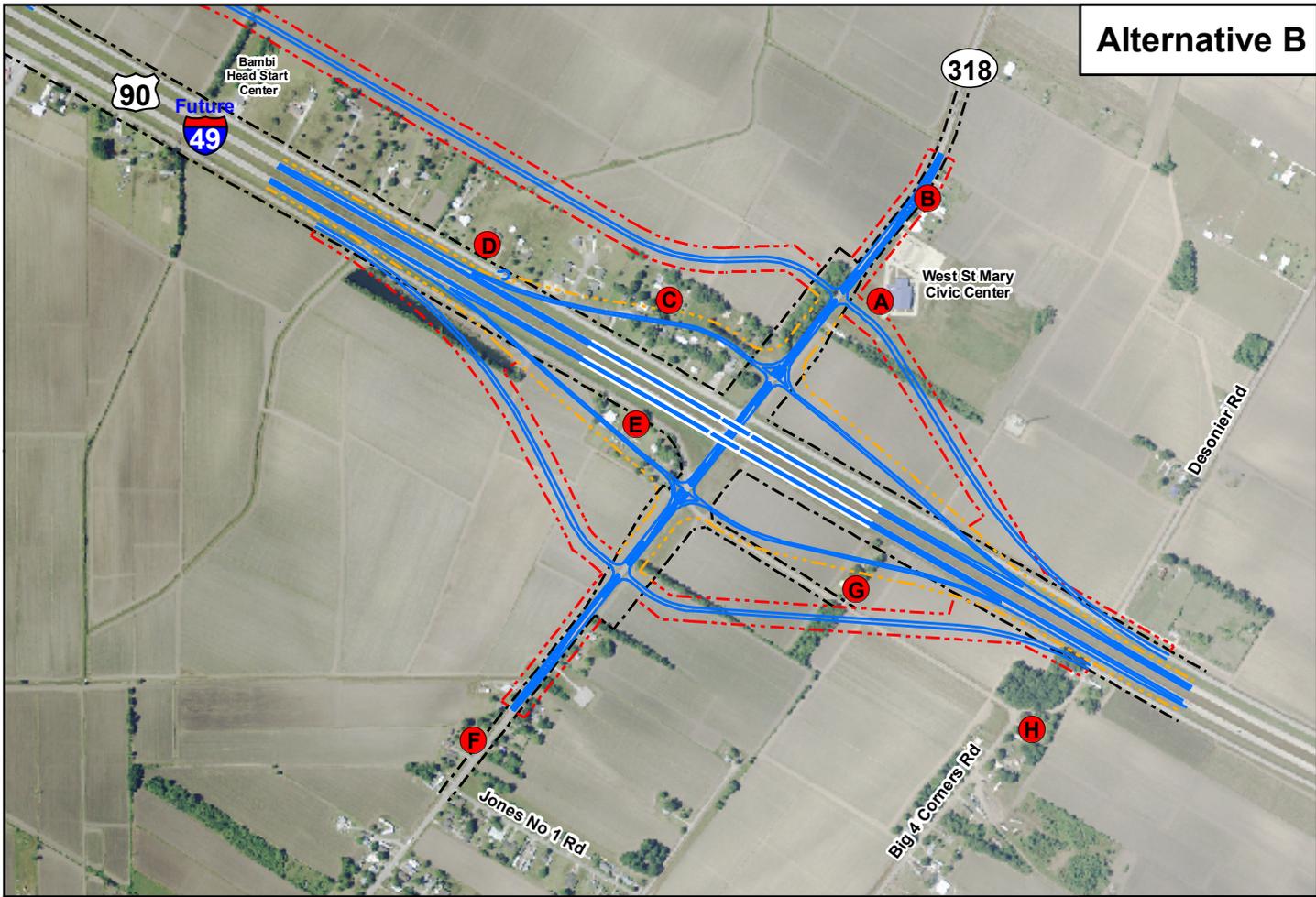
Activity Category	Leq(h) (dBA) <sup>3</sup>	Description of Activity Category
A	56 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	66 (Exterior)	Residential (includes undeveloped lands permitted for residential).
C	66 (Exterior)	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings. (Includes undeveloped land permitted for these activities).
D	51 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studio, schools, and television studios.
E	71 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F. (Includes undeveloped lands permitted for these activities).
F	-----	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, minoring, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	-----	Undeveloped lands that are not permitted.

Notes:

1. Source: *LADOTD Highway Traffic Noise Policy* (July 2011).
2. These criteria are consistent with the FHWA Noise Abatement Criteria (23 CFR Part 772) allowing for consideration of traffic noise impacts 1 dBA below the FHWA criteria.
3. Hourly A-weighted sound level in decibels (dBA).

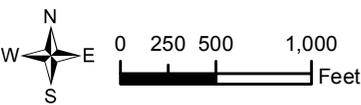
**Existing Conditions**

Existing condition noise levels were measured in May 2011 at a total of eight sites that are identified in **Figure 3-6**. The sites were selected to be generally representative of noise-sensitive, ground-level, outdoor human use or activity areas in proximity to the US 90 and LA 318 intersection. The procedures associated with the collection of the existing traffic noise levels are further described in the stand-alone *US 90 and LA 318 Interchange Improvements Noise Technical Report* (URS, November 2011). The noise levels measured at the sites are summarized in **Table 3-13**.



**Legend**

● Noise Measurement Site



**Figure 3-6**  
**Noise Measurement Sites**  
 Environmental Assessment  
 Interchange at US 90 and LA 318

**Table 3-13  
Existing Ambient Noise Levels**

Measurement Site <sup>1</sup>	General Location	Existing Noise Level Leq(h) (dBA)
Site A	West St. Mary Civic Center	57.0
Site B	Residence located adjacent to LA 318 in the northeast quadrant of the intersection.	60.1
Site C	Residence located along the proposed US 90 westbound entrance ramp for Alternative B in the northwest quadrant of the intersection.	57.9
Site D	Residence located along the existing frontage road / local access road for Alternative B in the northwest quadrant of the intersection.	67.0
Site E	Residence located adjacent to the proposed US 90 eastbound exit ramp for Alternative B in the southwest quadrant of the intersection.	66.7
Site F	Residence located adjacent to LA 318 in the southwest quadrant of the intersection, just north of Jones No. 1 Road.	64.4
Site G	Residence located between the proposed US 90 eastbound entrance ramp and frontage road for Alternative B in the southeast quadrant of the intersection.	57.3
Site H	Residence located along Big 4 Corners Road in the southeast quadrant of the intersection.	54.0

Note:

1. Measurement sites are shown in **Figure 3-6** relative to their proximity to Alternative B and Alternative D.

Generally, the occupied structures in the study area consist of single-family residences, mobile homes, and the West St. Mary Civic Center. The lowest existing noise measurement taken in the study area was 54.0 dBA and the highest measurement recorded was 67.0 dBA. Of the eight occupied structures, two residences were identified that have existing noise levels that approach or exceed applicable NAC (Site D and Site E, see **Figure 3-6**).

### 3.16 Upland, Wetland and Aquatic Communities

Vegetative communities within the study area historically consist of bottomland hardwood forest and cypress-tupelo swamp with upland ridges along active or abandoned riverine systems. Most of the natural habitat within the study area has been replaced by agricultural and other development including residential, commercial, and industrial. There are only a few small tracts of undeveloped land remaining within the study area. These tracts are covered with natural vegetation associated with upland hardwood forests including Chinese Tallow (*Sapium sebiferum*), Hackberry (*Celtis laevigata*), Water Oak (*Quercus nigra*), and Pecan (*Carya illinoensis*), and several vine and herbaceous species. These tracts are generally one acre or less in area, with most consisting simply of wooded fence rows. In terms of wildlife habitat potential, these small tracts are very limited due to size and isolation. The only species that may have the potential to be found within these tracts include various songbirds and a few small mammal species including gray squirrel (*Sciurus carolinensis*), rabbit (*Sylvilagus floridanus*), raccoon (*Procyon lotor*), or opossum (*Didelphis virginiana*).

The only current existing aquatic habitat within the study area is associated with the man-made drainage ditches used to channel and remove rainwater from the area and an agricultural pond. The larger ditches have the potential to support aquatic habitat, but they are highly degraded due to the surrounding agricultural setting. The pond covers approximately 2.5 acres and is long and linear adjacent to the US 90 frontage road. Animal species likely to occur in these aquatic habitats would include several types of minnows and frogs.

Wetland communities in the study area include two channelized canals containing emergent wetland vegetation and one emergent wetland area that is located in the open field southeast of the St. Mary Parish Civic Center. These emergent wetland areas total approximately 0.94 acres within the project area and are shown on **Figure 3-5**. A complete analysis of the field reconnaissance is detailed within the draft stand-alone report entitled *Wetland Findings Report, Proposed US Highway 90 / LA 318 Interchange, St. Mary Parish, Louisiana* (T. Baker Smith, September 2011).

### **3.17 Plants and Wildlife Protected by Law**

The *Endangered Species Act* (ESA) of 1973 (7 USC 136; 16 USC 460 *et seq*), as amended, provides for the US Department of the Interior, Fish and Wildlife Service (USFWS) to manage for rare plants and wildlife. The USFWS maintains lists of rare plants and wildlife known to be potentially present in each county/parish of the United States. This list is based on historical siting records and existing preferred habitat. Federally-protected species known to potentially occur in St. Mary Parish include the endangered West Indian Manatee (*Trichechus manatus*), Pallid Sturgeon (*Scaphirhynchus albus*), Hawksbill Sea Turtle (*Eretmochelys imbricata*), Kemp's Ridley Sea Turtle (*Lepidochelys kempii*), and Leatherback Sea Turtle (*Dermochelys coriacea*) along with the threatened Louisiana Black Bear (*Ursus americanus luteolus*), Piping Plover (*Charadrius melodus*), Gulf Sturgeon (*Acipenser oxyrinchus desotoi*), Green Sea Turtle (*Chelonia mydas*), and Loggerhead Sea Turtle (*Caretta carretta*).

The five sea turtle species, Gulf Sturgeon, and West Indian Manatee are all species found in the bays and open waters off the coast of the parish. The Piping Plover is another species which inhabits the sand bars and mud flats along the coast line of the parish. Due to the location of the study area over 11 miles from the coast, none of these species occur or would be likely to occur in the study area. The Pallid Sturgeon is mainly found in large freshwater river systems including the Mississippi River and associated tributaries such as the Atchafalaya River, Red River, and Bayou Teche. Bayou Teche is two miles north of the study area and this species would not occur in the study area.

Louisiana Black Bears are known to occur in the Atchafalaya Basin located to the east of the study area. The bears typically inhabit bottomland hardwood forests but also utilize other types of forested habitat. Remoteness is an important spatial feature of black bear habitat relative to forest tract size and the presence of roads. The study area consists mainly of large open agricultural fields interspersed with roads and residential development. There are only a few small tracts of wooded areas in the study area, none of which are more than a few hundred square feet in size. Due to the non-existence of critical habitat in the study area, black bears are

not likely to occur. There is the possibility of movement of an individual through the study area; however, due to the lack of suitable habitat it would not be expected to linger.

### **Significant Trees**

The LADOTD Engineering Directives and Standards Manual (EDSM) under directive number I.1.1.21 establishes a general policy governing the treatment of significant trees by the Department within the highway right-of-way, zone of construction or operational influence. For the purposes of this policy, a significant tree is a Live Oak, Red Oak, White Oak, Magnolia or Cypress that is considered aesthetically important, 18" or greater in diameter at breast height (dbh) (4'-6" above the ground), and having a form that separates it from the surrounding vegetation or is considered historic. Furthermore, significant trees must be in good health and not in a declining condition. There are ten live oak trees located in the yards of several residences within the study area that have a dbh of 18 inches or more.

### **3.18 Coastal Zone Management**

The *Coastal Zone Management Act* of 1972 (16 USC 1451-1456), as amended, provided for the effective management, beneficial use, protection, and development of a coastal zone. This led the State of Louisiana to implement the Coastal Resources Management Act. The Coastal Management Division (CMD) of the Louisiana Department of Natural Resources (LDNR) is charged with implementing the Louisiana Coastal Resources Program (LCRP) under authority of the State and Local Coastal Resources Management Act, as amended (Act 361, La. R.S. 49:214.21 et seq.). This law seeks to protect, develop, and restore or enhance the resources of the state's coastal zone. The CMD regulates development activities and manages the resources of the Coastal Zone. A Coastal Use Permit (CUP) Program has been established by the Act as part of the LCRP to help ensure the management and reasonable use of the state's coastal wetlands. The purpose of the CUP process is to make certain that any activity affecting the Coastal Zone is performed in accordance with guidelines established in the LCRP.

Approximately half of St. Mary Parish is within coastal zone for the state. The boundary line for the coastal zone basically runs north of US 90 roughly following Bayou Teche and all parts of the parish south of this boundary are within the coastal zone. After review of the coastal zone boundary for St. Mary Parish, the study area is located wholly within the coastal zone.

# CHAPTER 4.0

## 4.0 IMPACTS TO THE ENVIRONMENT

### 4.1 Land Use and Relocation Impacts

Implementation of Alternative B or Alternative D would result in the conversion of existing land uses into transportation right-of-way. Conversion from naturally wooded lands, agricultural lands, pond, and developed lands used for residential, institutional, and industrial purposes to transportation right-of-way was evaluated for both Alternative B and Alternative D, and the results are summarized in **Table 4-1**.

**Table 4-1**  
**Land Use Impacts by Alternative and Type**

Land Use	Alternative B		Alternative D	
	Acres	Percentage of Proposed Right-of-Way	Acres	Percentage of Proposed Right-of-Way
Developed	13	19%	14	12%
Natural	3	4%	4	4%
Agricultural	50	75%	89	82%
Pond	1	2%	2	2%
<b>Total</b>	<b>67</b>	<b>100%</b>	<b>109</b>	<b>100%</b>

Under the No-Build Alternative, land use would not be directly affected by the acquisition of land for transportation use.

#### **Consistency with Existing Land Use and Other Plans**

A stated objective of the *St. Mary Parish Comprehensive Plan* is to, “Coordinate with the Louisiana Department of Transportation and Development to implement pending transportation system improvements along I-49 and other parish roadways.” Moreover, the comprehensive plan acknowledges the general improvements along US 90 to include “interchange enhancements, elimination of at-grade intersections, capacity improvements, and other necessary congestion and safety improvements” (St. Mary Parish Government, 2002). Alternative B and Alternative D are consistent with the above plans. The upgrading of US 90 as part of the future I-49 corridor is also consistent with the long range planning goal for US 90 as listed in the *Louisiana Statewide Transportation and Infrastructure Plan – Review and Status Report* (LADOTD, 2008).

The No-Build Alternative is inconsistent with acknowledged plans for the US 90 corridor, as outlined in planning documents for the study area.

#### **Structure Impacts and Relocations**

A complete analysis of structure acquisition and relocation impacts is detailed within the stand-alone report entitled *Conceptual Stage Relocation Plan, US 90 and LA 318 Interchange, St.*

Mary Parish, Louisiana (C-Del and URS, November 2011). A brief summary of structure acquisition and relocation impacts is presented below.

Structures immediately adjacent to and nearby the proposed project were evaluated using GIS, aerial photography, and field reconnaissance. Structure locations were plotted on maps so that direct effects could be minimized as alternatives were developed and considered. While every effort was made to avoid impacts to structures, some direct impacts would result from the implementation of both Alternative B and Alternative D. **Table 4-2** gives the estimated total number of main structures and the associated structure type that would potentially be impacted by each of the build alternatives. Note that structure acquisition impacts were determined under “worst case scenario” right-of-way acquisition conditions (i.e., structure impacted, the parcel is rendered unusable, and/or residential structures located on land-locked parcels created by control of access were also assumed to be impacted) for both Alternative B and Alternative D and are subject to change based on the final project design. Relocation impacts were determined based on the occupancy status of structures that would be acquired.

**Table 4-2  
Estimated Structure Acquisition Impacts**

Structure Type	Build Alternative	
	Alternative B	Alternative D
Residential	29 <sup>1</sup>	17 <sup>2</sup>
Mobile Home	7	7
Commercial	1 <sup>3</sup>	0
<b>Total</b>	<b>37<sup>4</sup></b>	<b>24<sup>4</sup></b>
<b>Primary Reason for Structure Acquisition</b>		
Required Right-of-way	24	22
Control of Access	13 <sup>5</sup>	2
<b>Total</b>	<b>37</b>	<b>24</b>

Notes:

1. Includes four vacant residential structures, three of which are from the Caribbean Winds subdivision. Occupancy status based on field reviews conducted on January 28, 2011 and May 10, 2011.
2. Includes no vacant residences. Occupancy status based on field reviews conducted on January 28, 2011 and May 10, 2011.
3. Abandoned commercial structure zoned for future residential development.
4. Structure acquisition impacts were determined under “worst case scenario” right-of-way acquisition conditions (i.e., structure impacted, the parcel is rendered unusable, and/or residential structures located on land-locked parcels created by control of access were also assumed to be impacted) and are subject to change based on final project design.
5. Includes 12 structures located on the northwest quadrant of the interchange where the parcel is rendered unusable, and/or residential structures are located on land-locked parcels created by control of access. Eight of the 12 residential structures are within the Caribbean Winds subdivision; 3 are vacant and 5 are occupied

The total number of structure acquisition impacts is greater for Alternative B (37 structures) compared to Alternative D (24 structures). The following is a summary of structure acquisition and relocation impacts associated with each build alternative.

- **Alternative B:** Of the 37 total structure acquisitions for Alternative B, 29 are residential structures, seven are mobile homes, and one is a commercial structure. This commercial structure is of frame construction, vacant, and zoned for future residential development.

Additionally, four of the acquired residential structures were determined to be vacant based on field review (conducted in January 2011 and May 2011), three of which are from the Caribbean Winds subdivision. These vacant structures would not require relocation assistance. Twenty-four of the 37 acquisition impacts would result from required right-of-way take. Thirteen of the 37 acquisition impacts would result from the parcel being rendered unusable and/or the residential structures being located on land-locked parcels created by control of access. Of the 13 structures impacted due to control of access limitations, 12 would be located in the northwest interchange quadrant; 8 of which are residential structures located within the Caribbean Winds subdivision. Under Alternative B, 21 of the acquired residential structures are of frame construction, six are brick veneer, and two are manufactured homes.

- **Alternative D:** Of the 24 total structure acquisitions for Alternative D, 17 are residential structures and seven are mobile homes. Field review (conducted January and May 2011) determined that all of the acquired residential structures appeared to be occupied. Twenty-two (22) of the 24 acquisition impacts would result from right-of-way take; and two would result from control of access. Under Alternative D, 10 of the acquired residential structures are of frame construction, five are brick veneer, and two are manufactured homes.

The No-Build Alternative would not require right-of-way acquisition, and therefore, would not result in structure acquisition and/or relocation impacts.

### **Relocation Assistance**

All relocation activities are governed by the Federal *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970* (Public Law 91-646) as needed, which insures that decent, safe, and sanitary replacement housing will be provided for all displaced persons. The program is designed to provide assistance to displaced persons in relocating to a replacement property in which to live or do business. Relocation resources are available to all residential relocates without discrimination. If necessary, LADOTD will provide housing of last resort to accommodate difficult or special residential displacements, which may involve the use of other methods of providing comparable decent, safe, and sanitary housing within a person's financial means.

## **4.2 Demographics and Environmental Justice**

Demographic data (detailed in **Section 3.2**) within the study area indicate the following:

- The total racial minority composition reported in 2010 is 75.1%;
- The percentage of people in 2000 below the poverty level ranged from approximately 32% to 34%;
- The median household incomes in 2000 were above the 2000 HHS poverty guideline;
- Approximately 41.5% of individuals surrounding the project area reported a disability in 2000;

- Approximately 2.6% of the population were reported to speak English less than “very well” in 2000; and
- Approximately 12.4% of the population was aged 64 and older in 2000.

**Relocation Impacts:** A major consideration in determining the potential for environmental justice issues is related to potential relocation impacts. Alternative B would result in 36 residential structure acquisitions and 32 relocations (i.e., 4 vacant residences) and Alternative D would result in 24 residential structure acquisitions and 24 relocations (i.e., no vacant residences). As previously described, structure acquisitions were determined under “worst case scenario” right-of-way acquisition conditions as previously described and are subject to change based on the final project design. Relocation impacts were based on the estimated number of occupied structures

**Table 4-3** summarizes residential acquisition and relocation impacts resulting from Alternative B and Alternative D in relation to the distribution of minority populations within a one-mile radius of the proposed interchange.

Of the 36 residential relocations resulting from Alternative B, approximately 86% (31) are located within Census blocks reporting minority percentages of 40% to 60%; and all of the residential relocations resulting from Alternative D are located within Census blocks reporting minority percentages of 60% or greater. Based on the data presented in **Table 4-3**, residential relocation impacts would predominantly occur in areas reporting high minority percentages.

**Table 4-3  
Comparative Acquisition and Relocation Impacts on Percent Minority  
Populations**

Percent Minority Composition of 2010 Census Blocks <sup>2</sup>	Number of Impacts <sup>1</sup>	
	Alternative B	Alternative D
Less than 20%	0	0
20% to 40%	5	0
40% to 60%	16	0
60% to 80%	5	3
80% to 100%	10	21
<b>Total</b>	<b>36</b>	<b>24</b>

Notes:

1. Structure acquisition and relocation impacts determined under “worst case scenario” right-of-way acquisition conditions and are subject to change based on the final project design; does not include commercial displacement impacts.
2. Within a one-mile radius of the proposed US 90 and LA 318 interchange.

**Noise Impacts:** Another area of concern in determining potential environmental justice issues involves noise impacts. The results of the traffic noise analysis performed for this project are presented in **Section 4.15**. In summary, noise impacts are expected to occur in the design year 2035 at nine structures under Alternative B (seven residences and two mobile homes), with the majority of impacted residences located in the southeast quadrant of the interchange, adjacent to LA 318. As shown in **Figure 3-2**, the southeast quadrant has a minority composition ranging

from 80% to 100%. Noise impacts are expected to occur in the design year 2035 at 16 structures under Alternative D (12 residences, two mobile homes, the Bambi Head Start Center, and a former commercial frame structure zoned for future residential development), with the majority of impacted residences located in the northwest quadrant of the proposed interchange adjacent to the existing US 90 north frontage road. As shown in **Figure 3-2**, the northwest quadrant has a minority composition ranging from less than 20% towards the western project terminus to 40% to 60% closer to the intersection of US 90 and LA 318. Given the above data, noise impacts are anticipated to occur in areas reporting high minority percentages for both Alternatives B and D, with a larger concentration of high minority populations experiencing noise impacts under Alternative D. A traffic noise abatement analysis determined that noise barriers did not result in a reasonable reduction in noise levels and/or were not economically feasible given the scattered nature of the residences surrounding the proposed interchange project, as in accordance with the LADOTD *Highway Traffic Noise Policy*.

**Access Impacts:** As detailed in **Section 4.4**, control of access would be implemented at specific areas along the build alternative project alignments, thereby affecting access to adjacent parcels that abut existing roadways within the study area, which contains a high concentration of minority populations. In particular, the travel distance and travel time of residents living within the northwest interchange quadrant would slightly increase in order to access LA 318 and US 90 due to the relocation of the north frontage road. This extended travel distance (up to 2 miles) and travel time experienced by residents would be greater under Alternative D compared to Alternative B (up to 4 minutes versus 3 minutes). Details relating to this and other alterations in access and travel patterns are provided in **Section 4.4**. Any residence “land-locked” with no points of roadway access would be purchased and the residents relocated according to Federal and state regulations. Generally, LADOTD provides “driveway” access by permit. The construction and cost of the access are borne by the property owner, and divergence from this standard would require FHWA approval.

Prior to the evaluation of impacts on environmental justice populations, consideration was given to public outreach efforts and avoidance and minimization measures employed throughout the project development and evaluation process, as well as to the enhancements and benefits associated with implementation of the US 90 and LA 318 interchange project. These efforts and measures are described below.

### **Public Outreach**

An open forum Public Involvement Meeting to discuss the proposed US 90 and LA 318 interchange was held on Tuesday, March 22, 2011 at the West St. Mary Civic Center from 4:00 PM to 7:00 PM. The West St. Mary Civic Center is an American Disabilities Act compliant facility that is utilized by members of the local community for various recreational and meeting activities. Below is a brief summary of outreach efforts associated with the Public Meeting and further details are provided in **Section 6.2**.

The purpose of the Public Meeting was to share information, obtain public input on three proposed conceptual alternatives, and ultimately select which alternative(s) would be further

studied as part of the EA. Various methods of notification were utilized to inform all populations of the Public Meeting including:

- Commercial advertisements were placed in two local newspapers on two separate occasions prior to the Public Meeting;
- Approximately 100 flyers were distributed to local businesses, churches, and other community oriented establishments during the week prior to the Public Meeting in order to reach as many facets of the population as possible; and
- Letters were sent to residents and/or property owners and businesses within and near the proposed interchange project locale, as well as to elected officials, agency representatives, and local organizations.

Public meeting handouts and comment forms were provided at the meeting, and extra copies were available for attendees to take home to share with other members of the community. A seven-minute video presentation about the proposed project was also available for viewing along with large display maps of the proposed project. Accommodations were made for citizens requesting assistance in providing their comments, such as the project team recording verbal comments from citizens throughout the display area and one commenter with the inability to write, verbally dictating his responses to the comment form to a project team member. Attendees of the Public Meeting represented various demographic populations, and there was a strong minority and elderly population presence at the Public Meeting. Moreover, continued communication occurred over the ten-day comment period with representatives from the West St. Mary Civic Center, who retained extra copies of the project handout and comment form for distribution to citizens unable to attend the Public Meeting.

### **Avoidance and Minimization Efforts**

As detailed in **Section 2.4**, three proposed interchange alternatives, Alternatives A, B, and C, were presented at the March 22, 2011 Public Meeting. Two primary issues were identified from the previously described public outreach efforts relating to these three alternatives:

1. A concern from residents was expressed relating to potential displacement impacts associated with Alternatives A and B, including concern expressed from the Southern Mutual Help Association, Inc. (SMHA), which is the developer of the Caribbean Winds subdivision located in the northwest quadrant of the proposed US 90 and LA 318 interchange; and
2. A preference for Alternative B, with US 90 grade-separated over LA 318, was expressed by representatives of the sugar cane and port-related industries in order to improve truck and tractor-trailer access to LA 318.

In response to the first concern, modifications were made to Alternative B and a new alternative, Alternative D, was developed for further analysis as part of the EA that combined aspects of Alternative A and Alternative C. In summary, the westbound frontage road in the northwest quadrant of the interchange was modified in Alternative B to pass behind the residences located

within this interchange quadrant, thereby minimizing the severity of residential impacts, including those to the Caribbean Winds subdivision (see **Figure 2-15**). This same northwest quadrant frontage road design was incorporated into the new Alternative D, which also included the incorporation of a westbound loop entrance ramp to US 90 in the northeast quadrant of the proposed interchange, thereby avoiding all impacts to residences in the northwest quadrant of the proposed interchange (see **Figure 2-16**).

In response to the second concern, Alternative B with US 90 grade-separated over LA 318 was carried forward for further analysis as part of this EA.

A separate meeting was conducted on July 21, 2011 between LADOTD, FHWA, and representatives for the SMHA in regard to potential impacts to the Caribbean Winds subdivision (meeting records are included within **Appendix E**). SMHA is a not-for-profit corporation that works to “build healthy and prosperous rural communities and address life quality issues” in Louisiana. SMHA’s programs include providing assistance to low-wealth families in the obtainment of home loans and promoting public involvement efforts for the citizens of economically distressed areas, among other community-focused initiatives ([www.southernmutualhelp.org](http://www.southernmutualhelp.org), accessed September 8, 2011). Counsel for SMHA expressed concern that their client is being damaged financially due to uncertainties involved in the alternative routes for the proposed interchange project. The new Alternative D was presented to SMHA representatives at this meeting, noting that this new alternative was designed to avoid adversely impacting the Caribbean Winds subdivision, as well as nearby residences. An FHWA representative explained that hardship acquisitions could be completed if Alternative B was selected, which could require some residents of the Caribbean Winds subdivision to be relocated.

In a follow-up letter from SMHA representatives dated August 16, 2011 to LADOTD, SMHA posed additional questions regarding the design and impacts to the Caribbean Winds subdivision resulting from implementation of Alternative D. A copy of this letter and LADOTD’s response letter are included in **Appendix E**. Continued coordination between LADOTD and SMHA is anticipated, and LADOTD would work with SMHA to the extent practicable.

Following the above described July 21, 2011 meeting, a supplemental Public Notice was sent to all attendees of the March 22, 2011 Public Meeting informing them of the modified Alternative B and new Alternative D alignments. A copy of this additional Public Notice is included in **Appendix E**.

In an additional effort to explore minimizing residential and parcel impacts, roadway widening options along LA 318 were explored for Alternative B that involved an impacts comparison of widening LA 318 symmetrically from the roadway centerline versus widening LA 318 entirely to the west. In summary, LA 318 widening entirely to the west would result in the following impacts in comparison to LA 318 widening from the roadway centerline:

- A greater total length of construction on LA 318;
- An additional 2.15 acres of required right-of-way along LA 318;

- Overall, a fewer number of parcels impacted, but an increase in the number of residential relocations;
- Increased number of impacted parcels from the Caribbean Winds subdivision; and
- An additional \$1.9 million in estimated right-of-way and construction costs.

Based on the above LA 318 widening comparison analysis, widening entirely to the west would result in greater economic and social impacts compared to widening from the roadway centerline. Therefore, LA 318 widening entirely to the west was determined to be not practicable and, as a consequence, LA 318 widening from the roadway centerline was incorporated into the preliminary design of Alternative B, as presented in the Map Atlas in **Appendix A**.

### **Determination of Environmental Justice Impacts**

**Low-Income Populations:** As detailed in **Section 3.2** and **Table 3-4**, the median household incomes for the Census block groups surrounding the proposed interchange, Census tract 410 – block group 2 (\$28,819) and census tract 411, block group 1 (\$18,594), were greater than the 2000 HHS poverty guideline for a four person family. In addition, the percentage of people above the 2000 poverty level within Census tract 410 – block group 2 (68.4%) and Census tract 411 – block group 1 (66.2%) was greater than the percentages of people reported below the poverty level (31.6% and 33.8%, respectively). It is not anticipated that the size and distribution of low-income populations has changed substantially from 2000 to 2010. That is, from 2000 to 2010, only minor changes in population (less than  $\pm 2\%$ ) have occurred within the Census tracts surrounding the proposed interchange (see **Table 3-2**). Furthermore, over a five-year period (2005 to 2009), the median household incomes for Census tract 410 (\$34,229) and Census tract 411 (\$31,683) surrounding the proposed interchange were still trending above the HHS poverty guidelines for those respective years; and the percentages of people above poverty level for Census tract 410 (79.8%) and Census tract 411 (75.7%) were also greater than those below poverty level (see **Table 3-4**). For the above reasons, disproportionate adverse impacts to low-income populations are not anticipated.

**LEP, Elderly, and Disabled Populations:** Disproportionate impacts to LEP populations and the elderly are not anticipated given their low percent composition of the population surrounding the study area in 2000 (2.6% for LEP populations and 12.4% for individuals aged 64+ years old) and that, similar to low-income populations, substantial changes to the size and distribution of these populations from 2000 to 2010 are not expected to have occurred (see **Table 3-6** and **Table 3-7**). It is also important to note that, although not a majority of the population, approximately 41.5% of individuals surrounding the proposed interchange reported a disability in 2000 (see **Table 3-5**).

**Community Facilities and Services:** One community facility within the study area, the Bambi Head Start Center, whose enrollment can include students from low-income families and families reporting a disability, would be impacted by noise given the construction of Alternative D, but not Alternative B. Construction of a noise wall at this facility was determined unreasonable in accordance with the LADOTD *Highway Traffic Noise Policy* (see **Section 4.15**).

Construction of Alternative B or Alternative D would not result in right-of-way acquisition from the Bambi Head Start Center. Furthermore, it is unknown whether students enrolled within this facility reside within or outside the study area.

Emergency community services such as police, fire, medical, etc. would benefit from travel time savings on US 90 resulting from a higher travel speed (70 MPH) and the removal of the signalized intersection at LA 318. However, these same community services would be impacted by the increased time of up to 3 to 4 minutes needed to travel from US 90 and LA 318 to and from the residences within the northwest interchange quadrant as a result of the relocation of the north frontage road. Additional details relating to access and travel patterns are provided in **Section 4.4**.

**Minority Populations:** Analysis of 2010 Census block data determined a high minority composition (75.1%) within a one-mile radius of the proposed interchange (see **Table 3-3**). Therefore and as previously described, implementation of either Alternative B or Alternative D would result in residential relocation impacts, noise impacts, and impacts to existing access and travel patterns for residents of the northwest interchange quadrant.

The proposed improvements to the US 90 and LA 318 interchange are necessary prior to the future upgrading of US 90 to interstate standards as part of the proposed future I-49 South corridor enacted under SAFETEA-LU. Relocating these interchange improvements to another location where potential impacts on minority or low-income populations might be reduced would not be practicable. Furthermore, the adjacent interchanges located to the east and west of the US 90 and LA 318 interchange site have already been reconstructed with grade-separated structures and with full control of access in accordance with interchange requirements for interstate corridor criteria.

Various public outreach efforts were employed to ensure inclusion and participation from all populations; and it was in response to public comments that Alternative B was modified and the new Alternative D was developed. Both the modified Alternative B and new Alternative D were designed to meet LADOTD roadway design standards (see **Table 2-4**) while also minimizing and avoiding as many impacts as possible to the surrounding community. All relocation activities would be consistent with USDOT policy as mandated by the Federal Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970, the Civil Rights Act of 1964, and the Urban Development Act of 1974, which ensure that decent, safe, and sanitary replacement housing will be provided for all displaced residents, without discrimination.

Any potential adverse impacts on environmental justice populations would be offset in part by project-related benefits. The proposed project would replace an at-grade signalized intersection with a grade-separated interchange that would enhance emergency evacuation and reduce the potential for turning conflicts, which may result in a reduction of crashes. Implementation of Alternative B would improve access for trucks and tractor-trailers to LA 318, thereby improving overall driving conditions for all populations. The westbound loop entrance ramp of Alternative D could potentially slow traffic operations as large trucks and tractor-trailers would necessarily slow down to maneuver the turning radius of the ramp; however overall traffic flow

would still be improved for all populations as a result of the grade-separated design of the proposed interchange. Furthermore, the economic vitality of the surrounding communities would likely benefit from the improved access to and from the St. Mary Sugar Cooperative and the Port of West St. Mary resulting from the proposed interchange project.

In summary, the proposed improvements are necessary at the US 90 and LA 318 interchange for the eventual upgrade of US 90 to interstate standards, and there is no other practicable alternative. The area surrounding the proposed interchange is broadly composed of environmental justice populations (75.1% minority). Given that the composition of non-environmental justice populations surrounding the US 90 and LA 318 interchange is limited, impacts resulting from the proposed improvements would not be greater or more severe on environmental justice populations compared to non-environmental justice populations. Therefore, disproportionate impacts to environmental justice populations are not anticipated.

The No-Build Alternative would not result in any of the above described benefits associated with either Alternative B or Alternative D. The No-Build Alternative could result in future traffic congestion and delay (intersection LOS E in the design year 2035), as well as constraints to truck and tractor-trailer access to LA 318, which in turn could result in adverse impacts to traffic flow, thus affecting the predominantly minority population in the US 90 and LA 318 interchange locale.

### 4.3 Community Facilities

As described in **Section 3.3**, two community facilities are located within the study area: the West St. Mary Civic Center located in the northeast interchange quadrant and the Bambi Head Start Center, located within the northwest interchange quadrant towards the western project terminus (see **Figure 3-1**).

Implementation of Alternative B would result in approximately 1.9 acres of proposed right-of-way impacts to the West St. Mary Civic Center parcel, of which less than 0.1 acre would impact existing pavement and the remainder would impact open field. Access to the West St. Mary Civic Center under Alternative B would be maintained at the existing location from LA 318. Alternative B would require the relocation of the sewer lift station located south of the West St. Mary Civic Center building (see **Figure 3-3**), as well as the relocation of the West St. Mary Civic Center sign.

Implementation of Alternative D would result in approximately 5.5 acres of proposed right-of-way impacts to the West St. Mary Civic Center parcel, of which less than 0.1 acre would impact existing pavement and the remainder would impact open field. The West St. Mary Civic Center driveway would be relocated from LA 318 to the frontage road due to control of access along LA 318 under Alternative D. The relocated driveway would be constructed towards the eastern end of the parking lot as to maintain adequate queuing distance and prevent congestion at the frontage road / LA 318 junction. Alternative D would require the relocation of the sewer lift station located south of the West St. Mary Civic Center building (see **Figure 3-3**), but would not require the relocation of the West St. Mary Civic Center sign.

Neither Alternative B nor Alternative D would result in right-of-way acquisition from the Bambi Head Start Center. As detailed in **Section 4.15**, construction of Alternative B would not result in a highway traffic noise impact at the Bambi Head Start Center, whereas construction of Alternative D would result in a noise impact at this facility. A noise barrier evaluation within the northwest interchange quadrant was completed, but determined that the construction of a noise barrier would be unreasonable in accordance with the LADOTD *Highway Traffic Noise Policy*.

The No-Build Alternative would have no effect on the West St. Mary Civic Center or the Bambi Head Start Center.

## **4.4 Transportation and Traffic**

### **Future Roadway Network Characteristics**

Alternative B consists of a rural diamond interchange with an overpass structure along US 90. Separate bridges would be constructed for the US 90 eastbound and westbound lanes over LA 318. Alternative D consists of a combination partial cloverleaf (one loop ramp) and diamond interchange. A single bridge would be constructed to grade-separate LA 318 over US 90.

Upgrading US 90 to freeway standards with full control of access within the project limits will be achieved with both build alternatives. As US 90 and LA 318 would be grade-separated under each alternative, the existing signalized intersection at US 90 and LA 318 would be eliminated. An existing median crossover on US 90 located near the western project limits near Landry's Seafood House would be removed to provide full control of access.

As part of constructing a full control of access facility, construction of interchange ramps and the relocation of adjacent frontage roads would occur. The proposed entrance and exit ramps intersecting with LA 318 would result in two new unsignalized interchanges on both the north and south sides of US 90. The relocated frontage roads that tie into LA 318 would also result in two additional unsignalized intersections on both sides of US 90.

### **Build Alternative Intersection Capacity Analyses**

Intersection analyses were performed at each of the LA 318 ramps and frontage road unsignalized intersections. The intersection level of service results for Alternative B for future year 2015 and design year 2035 are presented in **Table 4-4**.

**Table 4-4  
Intersection Level of Service Results for Alternative B**

Intersection	Control	2015		2035	
		Critical Movement	LOS AM/PM	Critical Movement	LOS AM/PM
LA 318 at South Frontage Rd	U	EB	B/A	EB/WB	B/B
LA 318 at North Frontage Rd	U	EB/WB	B/A	EB/WB	B/B
LA 318 at US 90 Eastbound Ramp	U	EB	B/A	EB	B/B
LA 318 at US 90 Westbound Ramp	U	WB	B/A	WB	B/B

*U - Unsignalized Control*

*EB - Eastbound*

*WB - Westbound*

The intersection level of service results for Alternative D for future year 2015 and 2035 are presented in **Table 4-5**.

**Table 4-5  
Intersection Level of Service Results for Alternative D**

Intersection	Control	2015		2035	
		Critical Movement	LOS AM/PM	Critical Movement	LOS AM/PM
LA 318 at South Frontage Rd	U	EB	B/A	EB/WB	B/B
LA 318 at North Frontage Rd	U	EB/WB	B/A	EB/WB	B/B
LA 318 at US 90 Eastbound Ramp	U	EB	B/A	EB	B/B
LA 318 at US 90 Westbound Ramp	U	WB	B/A	WB	B/B

*U - Unsignalized Control*

*EB - Eastbound*

*WB - Westbound*

As shown in **Tables 4-4** and **Table 4-5** based on 2015 and 2035 projected volumes, all unsignalized intersections are projected to operate at a LOS B or better in 2015 and 2035; resulting in little to no traffic operational deficiencies.

**Build Alternative Roadway Segment Capacity Analyses**

The 2015 and 2035 roadway analyses for Alternative B and Alternative D indicate a LOS A and LOS B, respectively, for the US 90 segments east and west of LA 318.

The 2015 and 2035 roadway analyses for Alternative B and Alternative D indicate a LOS C for the LA 318 segment north of US 90 and LOS C for the LA 318 segment south of US 90.

**Build Alternative Ramp Junction Analyses**

Ramp junction analyses were conducted to evaluate the ramp junctions identified in Alternatives B and D for operational deficiencies, and to define future facility requirements. Four (4) ramp junctions identified in Alternatives B and D were evaluated with respect to year 2015 and design year 2035 build conditions. The analyses of merge and diverge ramp junctions were performed utilizing the *Highway Capacity Software Plus (HCS+), Version 5.5*. These analyses were performed for 2015 and 2035 build conditions. The results are presented below in **Table 4-6**. The analyses indicate that the ramps will operate at an acceptable LOS during the design year 2035 for Alternatives B and D.

**Table 4-6  
Ramp Junction Level of Service Results for Alternative B and D**

Ramp Junction	Type	2015	2035
		LOS AM/PM	LOS AM/PM
US 90 Eastbound Off Ramp	Diverge	A/A	A/A
US 90 Eastbound On Ramp	Merge	A/A	A/A
US 90 Westbound Off Ramp	Diverge	A/A	A/B
US 90 Westbound On Ramp	Merge	A/A	A/B

**Summary of Traffic Operations**

Under the No-Build Alternative, the intersection of US 90 and LA 318 would experience significant delays during the design year 2035; during the AM peak hour an overall LOS D is projected, and during the PM peak hour an overall LOS E is projected. Traffic delays on the northbound and southbound approaches of LA 318 would be significant.

For both Alternative B or Alternative D, constructing an interchange at this location would improve through movement traffic operations on US 90 and LA 318 because traffic delays associated with the signalized intersection of US 90 and LA 318 will be eliminated. The interchange will separate US 90 traffic from LA 318 thereby reducing the potential for turning movement conflicts. The reduction in turning movement conflicts at US 90 and LA 318 may result in a reduction in crashes. According to the Highway Safety Manual (HSM) (AASHTO, 2010), the potential crash effects of converting a three-leg or four-leg at-grade intersection into a grade-separated interchange results in a Crash Modification Factor (CMF) of 0.58 for all crashes in the area of the intersection (all severities). This means that a 42% reduction in all crashes for all severities could be expected and that the proposed interchange would operate safer by reducing conflict movements when compared to an at-grade intersection.

**Travel Patterns, Control of Access and Associated Access Impacts**

Regulating access is called access control or control of access. According to *A Policy on Geometric Design of Highways and Streets*, “Control of access refers to the regulation of public

access rights to and from properties abutting the highway. With full control of access, preference is given to through traffic by providing access connections with selected public roads only and by prohibiting crossings at-grade and direct private driveway connections. Generally, full or partial access control is accomplished by legally obtaining the access rights from the abutting property owners (usually at the time of purchase of the right-of-way) or by the use of frontage roads” (AASHTO, 2004). Control of access is important because it defines where vehicular access can and cannot connect to a portion of an interchange roadway system, including cross streets, and entrance and exit ramps.

Access to properties would be maintained through proposed frontage roads, proposed local access roads or along portions of LA 318 where control of access restrictions does not apply. Control of access applies to LA 318, but not to the same extent as it applies to US 90. Where access control is proposed, direct access to the abutting adjacent property would be prohibited. This would result in changes in travel patterns and driveway access, which would result in slight increased travel times primarily for local traffic.

As part of the build alternatives, US 90 would be converted to a full control of access facility within the project limits. On the western terminus of the project near Landry’s Seafood House currently there is one driveway along the existing south frontage road that has direct access to US 90. A median crossover is located on US 90 at this location that also has an intersecting driveway that connects to the north frontage road at Gibby Street. The median cross over and connection between US 90 and the north and south frontage road would be eliminated. Controlling access at this location would result in changes in travel patterns to access facilities located on the opposite side of the highway, which would result in increased travel times for local traffic.

Under Alternative B, the location of the US 90 westbound entrance ramp control of access limit in the northwest quadrant of the interchange will restrict access to all parcels of land / residential property beginning at the Caribbean Winds subdivision and extending eastward to LA 318. As previously shown in **Figure 2-15**, that depicts an overview of Alternative B, all of these parcels of land would be situated between the westbound entrance ramp control of access limit and the proposed north frontage road and would be “land-locked” with no means of access to the surrounding roadway network. Subsequently, it has been assumed that all “land-locked” residential structures would be purchased; applicable relocations costs have been included in the cost for Alternative B. The parcels of land that directly front the existing frontage road / proposed local access road west of the Caribbean Winds subdivision at the proposed dead end would not be impacted.

As previously shown in **Figure 2-16**, that depicts an overview of Alternative D, the location of the westbound exit ramp control of access limit in the northeast quadrant of the interchange parallels the loop ramp and continues north along the east side of LA 318. The control of access terminates north of the existing West St. Mary Civic Center driveway on LA 318. Subsequently, access to the existing driveway into the West St. Mary Civic Center parking lot would be restricted and a new driveway that connects to the frontage road will be required.

As part of Alternative D, the location of the eastbound entrance ramp control of access limit in the southeast quadrant of the interchange parallels the ramp and continues south along the east side of LA 318 to a point where it connects to the required frontage road right-of-way. The control of access terminates south of an existing driveway to a Natural Gas Pipeline Terminal on LA 318. Subsequently, access to the existing driveway will be restricted and a new driveway with access to the frontage road would be required.

As part of both build alternatives, the existing frontage road / proposed local access road located on the northwest quadrant of each interchange will serve only the residents that live on the street. This street would become a residential street with very low daily traffic volumes and signs would be installed indicating that the street is for “local access only”. A dead-end is proposed on the eastern most end of each street with the terminus ending beyond the driveway of the last house on the street. A stub out beyond the last driveway would provide adequate space for a 3-point turn-around to be made on this 24-foot roadway by both cars and medium trucks, such as trash collection vehicles.

Travel time savings would be realized by motorists using US 90 due to a slightly higher travel speed (70 MPH), the absence of cross street conflicting traffic, and the removal of the signalized intersection at LA 318 that currently affects traffic operations. Travel time for residents within the northwest interchange quadrant would increase due to the relocation of frontage roads and their connectivity to the existing roadway network. That is, for both build alternatives, residents of the northwest interchange quadrant would have to travel west on the existing frontage road / proposed local access road to reach the north frontage road, and then backtrack east on the north frontage road to reach LA 318. Both build alternatives would result in slight increase in travel distance (approximately 2 miles) and travel time (up to 3 or 4 minutes) for these residents; however the travel distance and time would be greater for Alternative D.

Travel time on loop ramps, such as the one proposed in the northeast quadrant for Alternative D, tends to be greater than on a diamond or diagonally configured ramp. Another disadvantage associated with loop ramps is related to operational conditions for large trucks and tractor-trailers. The radius of a loop ramp curve is established based on design speed. The posted speed limit is generally lower than the design speed, but in some cases they could be the same. Subsequently, if posted speed limits are exceeded, large truck could potentially flip over. This is a concern because the loop ramp is proposed on the north side of US 90 along LA 318 where heavy vehicles account for approximately 38% of the average daily traffic volume on LA 318.

With regard to design features, Alternatives B and D differ by the westbound on-ramp configuration. Alternative B proposes a traditional diamond interchange and a diagonal configuration for the westbound on-ramp, while Alternative D proposes a partial cloverleaf interchange and a loop configuration for the westbound on-ramp. Based on AASHTO’s *Policy on Geometric Design of Highways and Streets*, the required acceleration length for vehicles entering an interstate from 25 MPH to 50 MPH (70% of mainline speed) is 550 feet. As previously noted in **Section 2.9**, LADOTD speed-lane change standard plans SC-01 and SC-02 shall govern the design of entrance and exit ramps. The LADOTD standard plan SC-01 requires a 700 foot acceleration lane with a 300 foot taper, which meets or exceeds the AASHTO

minimum requirement. This is an important design feature for Alternative D, as vehicles may be entering the US 90 westbound lanes from the loop ramp at a slower speed compared to vehicles entering from a diagonally configured entrance ramp under Alternative B. For Alternative D, the proposed acceleration lane would provide adequate distance for vehicles to accelerate and enter the US 90 westbound mainline safely.

LA 318 would be elevated over US 90 as part of Alternative D (see Sheet 38 in **Appendix A**). The profile grade on the LA 318 bridge is proposed at 3% and the vertical curve and corresponding K-value on the bridge would be designed to provide adequate stopping sight distance for northbound vehicles at the westbound entrance loop ramp/eastbound exit ramp intersection. An exclusive right-turn lane is proposed for northbound LA 318 traffic turning right onto the US 90 westbound entrance loop ramp. Beginning immediately after the LA 318 bridge structure, the right-turn lane includes a 125 foot taper with a 200 foot storage/deceleration lane prior to the channelized turn onto the westbound loop ramp.

The right-turn lane in combination with the channelized turn lane onto the loop ramp would provide approximately 300 feet of storage that could accommodate approximately 12 cars or up to 4 to 6 large trucks. The roadway design features proposed including the minimal grade on the bridge (3%), proposed vertical curve, and right turn deceleration lane would safely accommodate traffic through this intersection.

At this same location, the loop entrance ramp and diagonal exit ramp would be constructed parallel to each other, where opposing ramp traffic movements would be separated by a 14-foot depressed median or 30 feet between the edge of the travel lanes. Channelized medians, pavement markings and signage would be installed to address all movements through the intersection and to manage driver expectancy. Warning signs would be installed to avoid wrong way traffic on the westbound exit ramp. Special illuminated warning signage, using LED's or beacons, could be installed to provide greater visibility at night.

Under the No-Build Alternative, the roadway network would remain as it is currently configured. Existing travel patterns would not change and access to adjacent property would be retained.

## **4.5 Utilities**

Utilities would be impacted by both build alternatives. The low voltage electrical distribution lines that parallel LA 318 would be impacted from the widening of this road under both Alternative B and Alternative D. The electrical lines that parallel both the existing north and south frontage roads would all be impacted and require relocation under Alternative B. The impacts would be similar under Alternative D with the exception of the electrical lines along the existing northwest frontage road. The new frontage road under Alternative D would be constructed to avoid the residences and the existing frontage road would remain in place, eliminating the need to impact or relocate the existing electrical lines in the northwest quadrant of the interchange.

Six natural gas pipelines, within three separate pipeline corridors, that cross LA 318 south of US 90, would be affected by the build alternatives. Alternative B would have minor impacts associated with the widening of LA 318 in the vicinity of the six pipelines. Alternative D would have the most impact on the pipelines because of the associated widening of LA 318, as well as the new frontage road construction. The frontage road on the south side of US 90 would involve construction of a new road over all six pipelines on both the east and west sides of LA 318. A Natural Gas Pipeline Terminal associated with the three natural gas pipelines furthest to the south is located on the east side of LA 318. This Natural Gas Pipeline Terminal would not be affected by Alternative B; however, under Alternative D the entrance would have to be relocated from LA 318 to the proposed frontage road on the east side of the terminal due to control of access (see **Section 4.4** for additional access discussion).

The sewage treatment system at the St. Mary Civic Center would be directly impacted under both alternatives. The sewage lift station located on the west side of LA 318 south of US 90 would be within the required right-of-way for the proposed widening of LA 318 as part of Alternative B. Under Alternative D, the sewage lift station is directly impacted by the construction of the LA 318 and frontage road intersection. Impacts to local, water, sewer, gas, and phone lines would occur along portions of LA 318 and the frontage roads under both build alternatives. The exception would be that under Alternative D, all local utilities along the northwest frontage road would be avoided since the existing frontage road would remain in place, thereby eliminating the need to impact or relocate the existing utilities.

The Bellsouth fiber optic and/or copper cable communication lines would be impacted from the widening of LA 318 under both Alternative B and Alternative D. Impacts to communication lines that currently parallel the existing frontage roads would be similar under both build alternatives with the exception of the northwest quadrant. Under Alternative D, these lines would not be impacted as the existing frontage road would remain in place.

LADOTD would work with Cleco, Gulf South and Columbia Gulf Transmission, Bellsouth, and St. Mary Parish to coordinate the relocation of any of the low voltage electrical distribution lines, natural gas pipelines, communication lines, water lines, and sewer lines. Any necessary relocation of utilities would be planned and conducted so that disruptions in service are minimized and safety is not compromised.

The No-Build Alternative would have no impacts to utilities within the study area.

## **4.6 Visual Environment**

The visual landscape under both Alternative B and Alternative D is anticipated to be impacted as the result of upgrading the existing at-grade US 90 and LA 318 intersection to a grade-separated interchange. That is, under both Alternative B and Alternative D, the height of their associated overpasses in relation to the flat open nature of the study area would have a visual impact on the current landscape. The visual landscape associated with Alternative B would include two parallel US 90 overpasses, and the visual landscape associated with Alternative D would include one LA 318 overpass. A visual impact would be anticipated under both build alternatives given

that the overall project footprints for Alternative B (diamond interchange) and Alternative D (partial cloverleaf interchange) are necessarily greater than the existing roadway footprint. However, all new construction for Alternative B and Alternative D, except for their respective overpasses, would generally be at-grade, and therefore, unlikely to substantially alter the existing visual landscape. Furthermore, given that the interchanges along US 90 within the project vicinity have all been reconstructed as grade-separated interchanges (see **Figure 1-1**), the proposed improvements to the US 90 and LA 318 interchange would be consistent with the overall visual landscape of the US 90 / future I-49 South corridor.

The No-Build Alternative would have no impacts on the existing visual landscape of the study area.

## 4.7 Cultural Resources

As previously described in **Section 3.7**, a complete analysis of the historic standing structure field reconnaissance (conducted in March 2011) for the proposed project is detailed the stand-alone draft report entitled *Preliminary Historic Standing Structure Field Reconnaissance Survey*. Below is a summary of the report findings. Refer to **Table 3-1**, as well as **Figure 3-4** and **Figure 3-5** for Historic Standing Structure (HSS) locations for Alternative B and Alternative D, respectively.

Nineteen structures and the Caribbean Winds subdivision do not appear to be located within the APE of Alternatives B or D. These buildings include six mobile homes, five ranch houses, four bungalows, two New-Mediterranean structures, one contemporary modern structure, the West St. Mary Civic Center, and the Caribbean Winds subdivision. Structures HSS 28, 29, 37, and 38 were identified as being of Moderate significance, while HSS 24, a 1920s to 1930s Bungalow, was identified as being of High significance.

Ten properties appear to be located within the APE of Alternative B; HSS 5, 7, 8, 10, 11, 13, 25, 26, 44, and 45. These buildings include six mobile and/or manufactured homes, three ranch houses, and a single Neo-French structure. Only HSS 26, one of the ranch houses, was identified as being of Moderate significance.

Nine properties appear to be located within the APE of Alternative D; HSS 2, 3, 13, 28, 40, 43, 45, 49, and 50. These buildings include five ranch houses, two mobile and/or manufactured homes, and two vernacular structures; only HSS 40, one of the ranch houses, was identified as being of Moderate significance. Finally, only HSS 45 (mobile home) and HSS 13 (ranch house) are currently associated with both Alternatives B and D.

Once either Alternative B or Alternative D is selected as the preferred alternative, a detailed Phase I cultural resources survey would be implemented to document information about prehistoric and/or historic archaeological site locations and structures of historical, architectural, and cultural significance within the preferred corridor. This survey would employ the recording procedures and guidelines established by the Louisiana Divisions of Archaeology and Historic

Preservation. This information would then be used to assess the eligibility for listing any identified sites and/or structures for listing in the National Register of Historic Places by SHPO

The No-Build Alternative would have no impacts on cultural resources within the study area.

#### **4.8 Section 4(f) and 6(f)**

There are no resources protected by Section 4(f) or Section 6(f) that would be used by Alternative B or Alternative D within the study area. Therefore, consideration under Section 4(f) and Section 6(f) is not required.

Implementation of the No-Build Alternative would not impact any Section 4(f) or Section 6(f) resource within the study area.

#### **4.9 Water Resources**

##### **Surface Waters Resources**

Alternative B and Alternative D would increase the amount of impervious surfaces within the study area. The increase of impervious surface would reduce the ability of the surrounding area to absorb rainfall, resulting in an increase of storm water runoff. The increased runoff could cause erosion and higher sediment loads in the receiving ditches that eventually drain into Dupuy Coulee and Bayou Cypremort, and eventually into the coastal marshes and West Cote Blanche Bay. Additionally, roadway surfaces collect hydrocarbons, sediment, and rubber particles that are washed off the roadway surface during rainfall events and ultimately discharged by the surface drainage system. While Alternative D would involve slightly more new impervious surface cover than Alternative B, the potential adverse effects to water quality associated with either of the build alternatives would be minimal given the intensively managed agricultural nature of the study area.

Alternative B and Alternative D would require the relocation of man-made drainage ditches that run parallel to several local roads in the study area including LA 318, US 90, and the associated frontage roads. Both alternatives would require two new crossings of existing waterways, identified as Other Waters of the US. The crossings would occur along the northwest frontage road with the construction of box culverts required to maintain flow. These two unnamed canals / tributaries flow perpendicular to US 90 and are hydrologically connected to Dupuy Coulee (see **Figure 3-3**). The crossings are both located north of US 90 and are not within the 100-year floodplain for either drainage way. Efforts would be made to eliminate or reduce any temporary impacts to water quality from storm water runoff during construction, as noted in **Section 4.19**. Impacts associated with these two new crossings occur with construction for the frontage road in the northwest quadrant of the interchange. An existing waterway crossing and culvert on the proposed southwest frontage road would only have minor modifications and the potential impacts under both Alternative B and Alternative D would be similar; the box culvert at this location may have to be extended to the south.

The No-Build Alternative would have no effect on surface waters located within the study area.

## **Scenic Streams**

There are no rivers, streams, or bayous within St. Mary Parish that are included in the lists of Federal or state scenic streams.

## **Potable Ground Water Resources**

A survey of groundwater wells in the study area was conducted by accessing the US Geological Survey (USGS) records and reviewing the water well registry provided by the LDNR SONRIS database. A total of 14 water wells are located within the study area. The SONRIS well registry includes domestic, agriculture, industry, and monitoring wells, as well as plugged and abandoned wells. Nine of the wells are classified as domestic with depths ranging from 180 to 330 feet and draw from either the Atchafalaya aquifer or the upper sands of the Chicot aquifer. In addition, there are five monitoring wells between 15 and 20 feet in depth all associated with R and R Oil Company. New roadway alignments associated with Alternative B are located within 100 feet of two water wells, but the alternative does not directly impact any water wells. Alternative D does have one currently active domestic water well located within the proposed right-of-way with potential direct impacts associated with construction.

Both build alternatives are underlain by the Chicot aquifer, which is classified as a sole source aquifer for the area by the USEPA. While no portion of the build alternatives are located near the major recharge zones that are located well to the north in Beauregard, Allen, and Evangeline Parishes, additional recharge is supplied from vertical leakage from the surface through the overlying clay confining layers. Activities during construction of the proposed project including excavation and pile-driving have the potential to puncture these clay layers and expose the aquifer to contamination. All necessary safeguards required by the USEPA and LDEQ would be implemented to avoid impacts to public water supplies. The USEPA has indicated in its letter dated March 1, 2011, found in **Appendix E**, that the project should not have an adverse effect on the quality of groundwater underlying the project site.

The No-Build Alternative would have no effect on potable groundwater resources located within the study area.

## **4.10 Floodplains**

A floodplain evaluation was conducted in accordance with Executive Order (EO) 11988 and 23 CFR 650. This evaluation showed that both Alternative B and Alternative D would cross portions of the 100-year floodplain. **Figure 3-3** shows where each alternative crosses the 100-year floodplain and **Table 4-7** compares the acreage that would be impacted by each alternative. All of the impacts to the 100-year floodplain occur in the southwest quadrant of the study area. Both build alternatives cross the floodplain near the unnamed tributary near the location where the proposed frontage road for each alternative would reconnect to the existing frontage road. A second area would only be impacted by Alternative D where the frontage road extends further south to connect to LA 318.

**Table 4-7  
Potential Impacts to 100-year Floodplain**

	No-Build Alternative	Alternative B	Alternative D
Floodplain (acres)	0	1.24	2.98

Source: FEMA 2006 Flood Insurance Rate Map

The floodplain is divided into two sections, the floodway and floodway fringe, according to FEMA and the National Flood Insurance Program (NFIP). The floodway is defined as the channel of the stream and adjacent floodplain that should be kept free of encroachment, while the floodway fringe is the area between the floodway boundary and the 100-year floodplain boundary. The impacts to the floodplain associated with both Alternative B and Alternative D occur in the floodway fringe and would not increase the base-flood elevation to a level that would violate applicable floodplain regulations. While only minor impacts to the floodplain are anticipated, any drainage ditches or culverts affected by the proposed project, as well as new roadway within the 100-year floodplain, would be designed to maintain pre-construction hydrologic conditions and would not result in any substantive effect to base flood elevations of the surrounding area. The hydraulic design practices for construction of either build alternative would be in accordance with current LADOTD and FHWA design policies and standards. All elements of project design and construction would meet Federal requirements, resulting in no adverse impacts on the floodplain. Coordination with the St. Mary Parish Floodplain Administrator has been initiated (see **Appendix E**), with a final determination upon the projects impacts to 100-year floodplains upon review of this EA.

The No-Build Alternative would have no effect on floodplains located within the study area.

#### 4.11 Geology and Mineral Resources

There is no foreseeable impact to geology from either of the build alternatives. While both alternatives involve bridge and roadway construction that would require foundation work and embankment of the soil, these activities would have only minor impacts to surface soils and would not alter the overall geology of the study area.

Information obtained from the LDNR SONRIS website indicates that there are three oil/gas wells located within the study area north of US 90. Well 144942 is located west of LA 318 and Well 189750 and 72005 are both located east of LA 318. The SONRIS database indicated that all three of the wells were dry holes that have since been plugged and abandoned, the most recent over 25 years ago. None of the abandoned wells are located within the proposed right-of-way for either build alternative. No other oil/gas wells were identified within the study area or during site visits; therefore, no impacts to mineral resources are anticipated for Alternative B or Alternative D.

The No-Build Alternative would have no effect on geology and mineral resources located within the study area.

## 4.12 Prime Farmland and Other Soils

Direct effects to prime farmland soils are measured in terms of acreage of soils classified as prime farmland that would be converted for construction of roadway surfaces. As noted in **Section 3.12**, prime farmland soils are widespread throughout the study area and all soils within the footprints of both build alternatives are classified as prime farmland soils. Therefore, acreage of prime farmland that would be converted to transportation right-of-way is equivalent to the amount of new right-of-way required by each build alternative. **Table 4-8** summarizes the impacts to each soil type by acre.

**Table 4-8**  
**Potential Impacts to Prime Farmland Soil Types**

Alternative	Soil Type & Acres Impacted					
	Baldwin silty clay loam (BdA)	Coteau silt (CoA)	Galvez silt loam (GaA)	Iberia clay (IbA)	Patoutville silt (PaA)	Total
No-Build	0	0	0	0	0	0
B	4.75	27.98	3.60	26.67	3.90	66.90
D	9.63	40.27	1.60	53.81	3.99	109.3

Source: NRCS Web Soil Survey, 2011.

Farmland Conversion Impact Rating (FCIR) Form (Form AD-1006) was submitted to the NRCS for completion for both build alternatives. Form AD-1006 documents the evaluation of land within each build alternative footprint using criteria based on the Farmland Protection Policy Act (FPPA). Criteria are designed to assess important agricultural and other factors used to determine the associated level of protection needed for the land. **Appendix C** contains a completed form for the project build alternatives.

On the Form AD-1006, Sites A and B correspond to Alternative B and Alternative D, respectively. As was noted, all of the soils within the project footprint are classified as prime farmland soils whereby Alternative D would have the greater impact than Alternative B because it requires more new right-of-way.

While all Federal projects are subject to the FPPA requirements, which include consultation with the NRCS and completion of FCIR forms, the FPPA is intended to minimize the impact Federal projects have on the unnecessary and irreversible conversion of farmland to non-agricultural use. However, the FPPA does not authorize the Federal government to regulate the use of private or non-federal land or, in any way, affect the property rights of owners. Therefore, since all of the impacted project area is non-federal lands, the FPPA has no authority to dictate its use or conversion to transportation right-of-way. Hence, mitigation of prime farmland impacts would not be required.

The No-Build Alternative would have no effect on prime farmland soils located within the study area.

### 4.13 Hazardous Material Sites

The regulated facility described in **Section 3.13** and shown on **Figure 3-3** (Landry's Auto Truck Stop) is located on the south side of US 90 approximately one mile west from the intersection with LA 318. Under both Alternative B and Alternative D, the proposed frontage road in the northwest quadrant would connect with the existing frontage road approximately 300 feet to the north of Landry's Auto Truck Stop on the opposite side of US 90 at Gibby Road. There would be no new right-of-way required and no construction on or adjacent to the parcel of property where the regulated facility is located.

Based on the fact that this property is not adjacent to any areas of proposed roadway construction or excavation, nor would land be acquired from the property, this site is considered to be a de minimis risk in terms of potential environmental effects or impacts during construction activities due to compliance with the LDEQ. Therefore, no adverse effects are anticipated with construction of either of the two build alternatives. Further detailed analysis of the site in a Phase I Environmental Site Assessment is not considered warranted at this time due to the fact that the facility is not within the right-of-way that will be acquired as part of this project. (See **Appendix D**).

The No-Build Alternative would not impact any properties that may be contaminated by environmentally regulated substances or USTs.

### 4.14 Air Quality

With the reduction in carbon monoxide emissions over the past 20 years in particular, the need for detailed microscale air quality modeling on transportation projects has been substantially reduced. As a result, the FHWA has identified simpler, alternative screening methodologies to determine the air quality impacts of proposed roadway improvements on projects other than the largest new highway projects or isolated projects that are thought to pose a risk to human health from air emissions. A number of techniques have been identified ranging from computer-based screening tools to comparative analyses (FHWA, 2004). The FHWA's approach has allowed state DOTs more flexibility in determining the best methodology for assessing air quality impacts while avoiding unnecessarily complex analyses that add little to the reliability of the results.

The proposed US 90 and LA 318 interchange is located in an area that is in attainment for all NAAQS, as discussed previously in **Section 3.14**. Because the proposed project is not a major undertaking that could have widespread effects on the transportation network or result in significant increases in traffic volumes, the LADOTD has proposed the use of a comparative analysis to determine the potential impacts on local air quality. The comparative approach involves using the results of another similar project on which detailed modeling was performed and no violations of the NAAQS were predicted. The design and traffic characteristics of that project are compared to the details of the proposed project to confirm their comparability. Based on their similarity in terms of design and operation, the results of the previous air quality modeling, which demonstrated compliance with the applicable NAAQS, are extrapolated to the

proposed project to confirm that it, too, would not result in a violation of air quality standards or worsen any existing violations.

The project that was used for comparison with the US 90 and LA 318 interchange project to evaluate potential air quality impacts is the upgrade of US 90 from Kaliste Saloom Road near the Lafayette Regional Airport to the US 90 and LA 88 interchange in Lafayette, St. Martin, and Iberia Parishes (hereafter referred to as the Lafayette project). This project involved the upgrading of a 10.8-mile section of US 90 to interstate standards as part of the I-49 South project discussed previously in this EA, along with construction of new interchanges and two-lane, one-way frontage roads serving local traffic. The mainline extended from a heavily-travelled section with high average daily traffic (ADT) at the terminus near the City of Lafayette to a less used section with lower ADT near the other terminus, where the surrounding land uses were primarily agricultural with limited development. There were many interchange configurations associated with the mainline improvement. Not all involved construction of frontage roads. A screening methodology was used as part of the air quality analysis for that project to select potential intersections for detailed modeling. One of the criteria used in this screening was level of service (LOS). At the outset, any intersections that exhibited a LOS C or better was removed from consideration. The modeling was based on a worst case approach which assumes that if applicable NAAQS standards are not exceeded for the intersection with worst case conditions in terms of traffic peak hour volumes, delay, and LOS for the future build scenario in the design year, then there would be no exceedance of the standards for the remaining intersections.

The Lafayette project identified only one intersection (the northbound frontage road at Verot School Road) that would have a LOS D or E under the build scenario in the design year. Modeling determined that one-hour and eight-hour CO concentrations at this intersection during the morning peak hour in the design year would be 6.7 parts per million (ppm) and 5.3 ppm. When compared to the one-hour and eight-hour NAAQA standards for CO of 35 ppm and 9.0 ppm, it was determined that there would be no violations of the standards at this intersection. Further, because this intersection represented worst case conditions, it was concluded that there would be no violations of the CO standards at any location along the project alignment.

In terms of comparing the Lafayette Project to the US 90 and LA 318 project, it should be noted that only one of the intersections for the US 90 and LA 318 project would operate below LOS C under the No-Build Alternative or under both of the build alternatives in any analysis year. Under the No-Build Alternative, the existing signalized intersection at US 90 and LA 318 is projected to operate at LOS D and LOS E during the morning and afternoon peak hours, respectively in the design year 2035. The proposed project would convert this existing at-grade intersection to a grade-separated interchange, therefore reducing delay and improving vehicular operating conditions. As such, the proposed project would not be subject to analysis based on the standard assumptions used in the screening intersections mentioned above and subsequently does not qualify for detailed modeling. All at-grade intersections at ramp and frontage road crossings with LA 318 associated with the build alternatives are projected to operate at LOS A or LOS B under the design year. These intersections affected by the proposed project would also not have qualified for detailed modeling based on the standard assumptions used in screening intersections. Furthermore, these intersection operating characteristics (LOC B or better) would

not have any potential for violation of the one-hour or eight-hour CO standards. In addition, traffic volumes for the Lafayette project were significantly higher than for the proposed US 90 and LA 318 interchange project. No violations of air quality standards were predicted for the Lafayette project even with these higher traffic volumes. As a result, it is reasonable to conclude that the US 90 and LA 318 project would not result in violations of air quality standards under either of the build alternatives.

Short-term localized air quality impacts may occur during project construction due to emissions from construction equipment and airborne dust from construction operations. Gaseous and particulate emissions will primarily affect areas in close proximity to the construction site. Any adverse effects of construction on air quality will be temporary and affect only a very limited area. The construction contractor will comply with LADOTD standard practices that are intended to minimize these impacts.

#### **4.15 Noise**

Traffic noise impacts occur when the predicted noise levels equal or exceed the noise abatement criteria (NAC) presented in **Table 3-12**, or when the predicted noise levels exceed the existing levels by at least 10 dBA. Traffic abatement measures are evaluated when traffic noise impacts are predicted.

Potential traffic noise impacts for the design year (2035) associated with the No-Build Alternative, Alternative B, and Alternative D were estimated using the FHWA Traffic Noise Model Version 2.5 (TNM 2.5). In addition to modeling sensitive receptors in the study area, predicted noise level contours were also established for the 66 dBA and 71 dBA highway traffic noise levels for each of the build alternatives. The contours were used to aid in illustrating the predicted noise impacts under each build alternative. A detailed description of the methodology and assumptions applied to this traffic noise study are contained in the stand-alone *Noise Technical Report* (URS, November 2011).

##### **2035 No-Build Alternative**

Predicted noise levels at the eight measurement sites are expected to increase under the No-Build Alternative in the design year 2035. Noise level increases at these eight sites range from 0.9 dBA to 6.4 dBA, as shown in **Table 4-9**. Two of the measurement sites would have highway traffic noise levels approaching or exceeding the applicable NAC. No sites are predicated to have future noise levels exceeding existing the noise levels by 10 dBA or more.

Predicted noise level contours were also established for the 66 dBA and 71 dBA highway traffic noise levels to aid in illustrating the predicted noise impacts associated with the No-Build Alternative. The sensitive receptors and 2035 No-Build Alternative noise level contours are illustrated in **Figure 4-1**.

**Table 4-9**  
**2035 No-Build Alternative Measurement Site Model Results**

Measurement Site	Existing Condition Model Results (dBA)	2035 No-Build Alternative (dBA)	Noise Level Increase (dBA)	Site Impacted $\geq 66$ dBA	Site $\geq 10$ dBA Over Existing Noise Levels
Site A	58.0	62.3	4.3	No	No
Site B	59.2	63.7	4.5	No	No
Site C	56.9	59.2	2.3	No	No
Site D	64.9	66.7	1.8	Yes	No
Site E	65.9	67.1	1.2	Yes	No
Site F	62.1	63.0	0.9	No	No
Site G	54.3	60.7	6.4	No	No
Site H	51.4	56.6	5.2	No	No

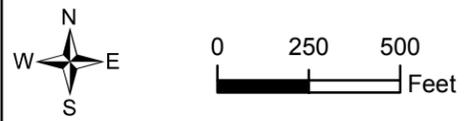
The 71 dBA noise level contours were only determined to be associated with US 90 highway traffic. Generally, the 71 dBA noise level contour is located within the existing US 90 right-of-way. The 66 dBA noise level contour associated with the US 90 highway traffic is generally located 50 to 60 feet outside of the existing right-of-way. LA 318 is predicted to have highway traffic noise levels below 71 dBA and, therefore, only the 66 dBA contour is depicted in **Figure 4-1**, which is located approximately 30 feet outside of the existing right-of-way in the vicinity of the sensitive receptors. There would be no noise impact associated with the frontage road located in the southeast quadrant of the intersection. In total, 20 residences are predicted to have noise levels that approach or exceed the applicable NAC under the No-Build Alternative. The impacted structures would include 15 houses and five mobile homes.

The *Noise Technical Report* includes a detailed table specifying the predicted impacts by the noise receiver identification numbers presented in **Figure 4-1**.

**Alternative B**

Predicted noise level contours for Alternative B are shown in **Figure 4-2**. Noise impacts are associated with vehicular traffic on the US 90 mainline and LA 318 south of US 90. With construction of Alternative B, highway traffic noise impacts are predicted to occur at approximately nine structures, which would include seven houses and two mobile homes. The impacted residences are located along US 90 and LA 318; the majority of the impacts are located on the east side of LA 318, south of US 90.

The *Noise Technical Report* includes a detailed table specifying the predicted impacts by the noise receiver identification numbers presented in **Figure 4-2**.





- Legend**
- Proposed Roadway
  - - - Control of Access
  - - - Proposed Right of Way
  - - - Existing Right of Way
- Noise Contour**
- 66 dBA
  - 71 dBA
- Noise Measurement Site**
- Noise Measurement Site
- Noise Receivers**
- ① Outside 66 dBA Contour Line
  - ① Inside 66 dBA Contour Line



**Figure 4-2**  
**Alternative B**  
**2035 Noise Contours**  
 Environmental Assessment  
 Interchange at US 90 and LA 318

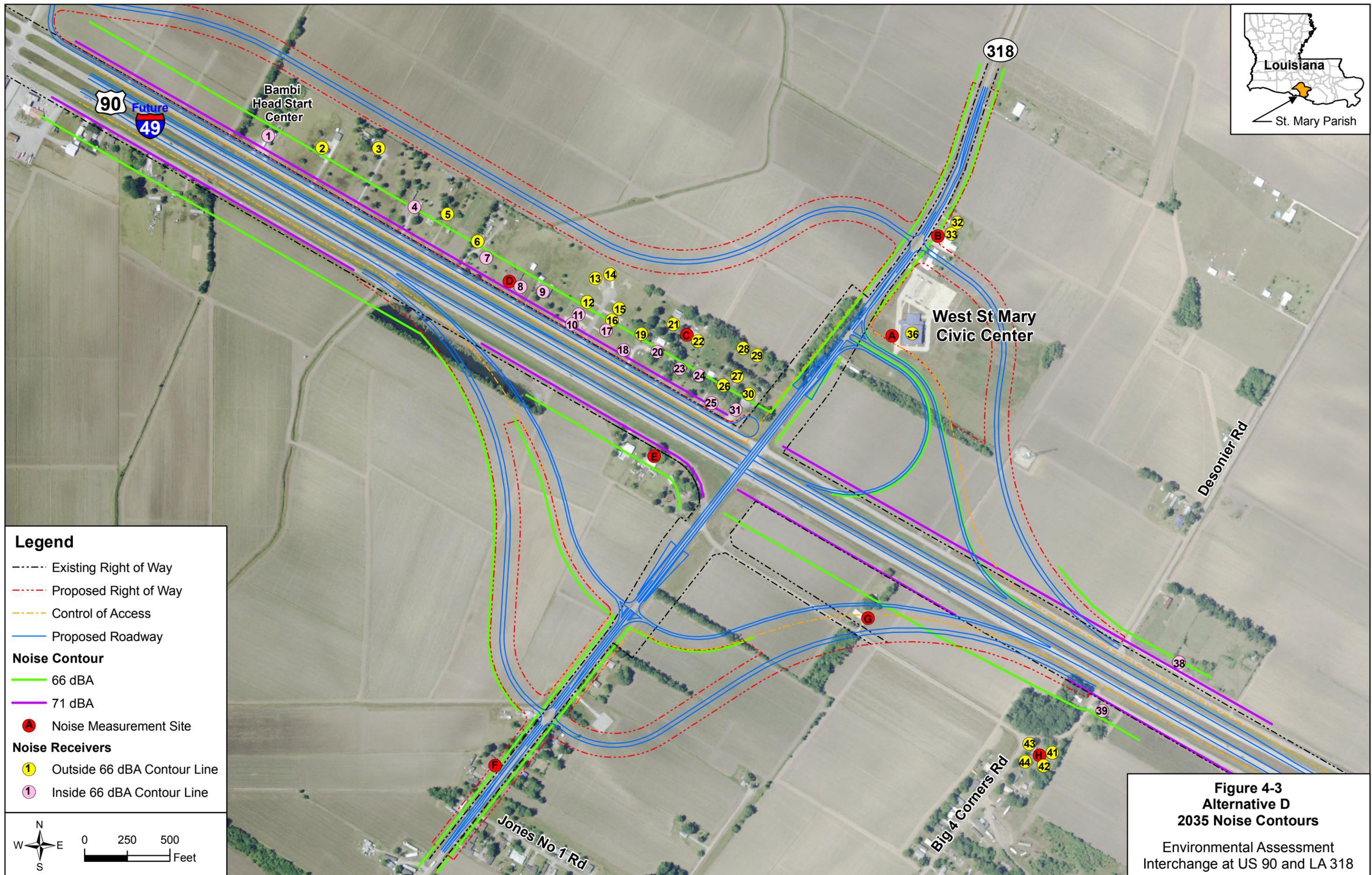
## **Alternative D**

Predicted noise level contours for Alternative D are shown in **Figure 4-3**. Noise impacts are associated with vehicular traffic on the US 90 mainline. With construction of Alternative D, highway traffic noise impacts are predicted to occur in the design year at approximately 16 structures, which would include 12 houses, two mobile homes, the Bambi Head Start Center, and a former commercial frame structure zoned for future residential development. The impacted structures are located along US 90; the majority of the impacts are located in the northwest quadrant of the interchange. The *Noise Technical Report* includes a detailed table specifying the predicted impacts by the noise receiver identification numbers presented in **Figure 4-3**.

As part of Alternative D, exterior traffic noise impacts are predicted to occur at the Bambi Head Start Center in the design year. The exterior predicted noise level is estimated to be 67.8 dBA. Due to the noise sensitive activities that occur at day care facilities, an interior noise level was predicted using FHWA's *Highway Traffic Noise: Analysis and Abatement Guidance* (December 2011). The interior noise level for the Bambi Head Start Center was computed by subtracting noise reduction factors from the predicted exterior noise level for the building. A building noise reduction factor of 20 dBA was utilized for this evaluation which corresponds to a light frame structure with ordinary sash windows that would be closed most days of the year due to hot and humid climate conditions. Thus, the interior noise level is predicted to be a 47.8 dBA. The predicted interior noise level of 47.8 dBA is less than the 51 dBA (interior) level established for this type of activity (Activity Category D) under the noise abatement criteria as previously shown in **Table 3-12**, therefore interior noise impacts are not anticipated to occur and mitigation would not be required.

## **Summary of Noise Impacts**

**Table 4-10** presents the predicted noise levels at the measurement sites. The noise levels are expected to increase under the two build alternatives in the design year 2035. Results are only presented for the noise measurement sites that would not be taken with construction of the build alternatives. Noise level increases at the four remaining sites for Alternative B would range from 1.8 dBA to 6.9 dBA. Noise level increases at the five remaining sites for Alternative D would range from 3.9 dBA to 5.8 dBA.



**Figure 4-3**  
**Alternative D**  
**2035 Noise Contours**  
 Environmental Assessment  
 Interchange at US 90 and LA 318

**Table 4-10**  
**2035 Build Alternatives Measurement Site Model Results**

Measurement Site	Existing Conditions (2010) Model Results (dBA)	Alternative B		Alternative D	
		Model Results (dBA)	Noise Level Increase (dBA)	Model Results (dBA)	Noise Level Increase (dBA)
Site A	58.0	64.9	6.9	62.8 <sup>1</sup>	4.8
Site B	59.2	( <sup>2</sup> )	-	64.7	5.5
Site C	56.9	( <sup>2</sup> )	-	61.5	4.6
Site D	64.9	67.7	2.8	68.8	3.9
Site E	65.9	( <sup>2</sup> )	-	( <sup>3</sup> )	-
Site F	62.1	63.9	1.8	( <sup>3</sup> )	-
Site G	54.3	( <sup>2</sup> )	-	( <sup>3</sup> )	-
Site H	51.4	56.5	5.1	57.2	5.8

Notes:

1. Although Site A would not be impacted by construction of Alternative D, the noise measurement site was located in close proximity to the US 90 loop ramp; therefore a different location in the vicinity of the site was modeled.
2. This is anticipated to be a relocation under Alternative B.
3. This site is anticipated to be a relocation under Alternative D.

**Table 4-11** presents a summary of the adverse noise impacts that were predicted by the future year TNM 2.5 models. Some of the structures in the study area are predicted to have future traffic noise levels approach or exceed the applicable NAC.

**Table 4-11**  
**Summary of Traffic Noise Impacts Year 2035**

Alternative	Sensitive Receptors Impacted $\geq 66$ dBA	Sensitive Receptors $\geq 10$ dBA Over Existing Noise Levels
No-Build Alternative	20	0
Alternative B	9	0
Alternative D	16	1

### **Potential Noise Mitigation Measures**

Since noise impacts have been identified for this project, the feasibility and reasonableness of potential noise abatement measures must be evaluated. Specific abatement measures including traffic management measures, alteration of horizontal and vertical alignments, acquisition of property rights to provide noise buffers, noise insulation of public use or nonprofit institutional structures, and the construction of noise barriers were evaluated for feasibility and reasonableness. Abatement measures that are determined to be feasible and reasonable, outlined

in the LADOTD *Highway Traffic Noise Policy*, can be recommended as effective measures to reduce adverse noise impacts associated with the proposed interchange.

The LADOTD considers noise abatement to be feasible when 75 percent of the first row of impacted receptors adjacent to the noise barrier receive at least a 5 dBA reduction in traffic noise. The LADOTD considers noise abatement to be reasonable if the following three criteria are met:

1. The noise reduction design goal is met – at a minimum at least one benefited receptor must receive a noise reduction of at least 8 dBA;
2. Cost effectiveness – the cost of the abatement measure should be equal to or less than \$35,000 per benefited receiver; and
3. Concurrence from the public on the noise abatement measure – at least 50 percent of the responses received should be positive.

Receptors in the study area are anticipated to exceed the noise abatement criteria; therefore the possible abatement measures were evaluated for reasonableness and feasibility. The *Noise Technical Report* contains the detailed evaluation for all of the possible abatement measures. Traffic management measures, alteration of horizontal and vertical alignments, acquisition of property rights to provide noise buffers, and noise insulation of public use or nonprofit institutional structures were determined to be either unreasonable or infeasible. A detailed evaluation of the construction of noise barriers was conducted. Noise barriers were evaluated for reasonableness and feasibility at one location in the study area along US 90 under each build alternative as follows:

- For Alternative B, a continuous noise barrier could be installed on US 90 along the westbound mainlane, from just west of Noise Receiver 1 (see **Figure 4-2**) to just east of Noise Receiver 9. This noise barrier was estimated to be 2,100 feet in length.
- For Alternative D, a continuous noise barrier could be installed on US 90 along the westbound mainlane, from just west of Noise Receiver 1 (see **Figure 4-3**) to just east of Noise Receiver 31. The noise barrier would be located between westbound US 90 and the proposed local access road fronting this residential area. This noise barrier was estimated to be 3,100 feet in length.

### ***Reasonableness***

Prior to modeling the noise barrier, a preliminary reasonableness evaluation was conducted based on the LADOTD *Highway Traffic Noise Policy*. One of the three criteria for reasonableness outlined in the policy states that the “cost estimate of the noise abatement measure should be equal to or less than \$35,000 per benefited receptor.” The LADOTD *Highway Traffic Noise Policy* defines a benefited receptor as “a recipient of an abatement measure, whether impacted or not, receiving 5 dBA or more reduction in the noise level as a result of the proposed abatement.”

To determine the cost per benefited receptor, preliminary cost estimates were calculated based on LADOTD 2011 noise barrier wall costs per square foot for the structures located immediately adjacent to US 90. Various barrier heights were also evaluated in the preliminary cost estimates. **Table 4-12** presents the cost estimates by build alternative for a noise barrier along US 90 in the northwest quadrant of the proposed interchange. It was determined that the only reasonable scenario based on cost per benefited receiver would be a noise barrier that is no higher than 10 feet at the specified location under Alternative D only.

**Table 4-12**  
**Estimated Barrier Costs**

Alternative	Estimated Length (ft)	Height (ft)	Area (sq ft)	Estimated Cost per Square Foot <sup>1</sup>	Estimated Material and Labor Cost	Total Number of Potential Receivers <sup>2</sup> (Predicted Benefited Receivers) <sup>3</sup>	Cost per Potential Receiver (Cost per Predicted Benefited Receiver)
Alternative B	2,100	10	21,000	\$20	\$420,000	9	\$46,667
Alternative D	3,100		31,000	\$18	\$558,000	31 (13)	\$18,000 (\$42,900)
Alternative B	2,100	15	31,500	\$79	\$2,488,500	9	\$276,500
Alternative D	3,100		46,500	\$72	\$3,348,000	31	\$108,000
Alternative B	2,100	20	42,000	\$72	\$3,024,000	9	\$336,000
Alternative D	3,100		62,000	\$65	\$4,030,000	31	\$130,000

Notes:

1. Based on LADOTD 2011 noise barrier wall costs per square foot.
2. Total number of receivers in vicinity of the noise barrier.
3. Receivers that are predicted to have at least a 5 dBA reduction by TNM 2.5.

TNM 2.5 was used to evaluate this scenario for Alternative D, which included a 10-foot continuous noise barrier located between westbound US 90 and the local access road. The results of the modeling analysis indicated that 13 receivers are predicted to have at least a 5 dBA noise reduction. Additionally, the TNM 2.5 evaluation indicated that two receivers are predicted to have at least an 8 dBA reduction with the installation of a noise barrier under Alternative D.

Based on a total of 13 benefited receivers, the cost per benefited receiver would be approximately \$42,900. Because the cost of constructing noise barriers along US 90 for Alternative D would be greater than \$35,000 per benefited receiver, a noise barrier at this location would not be considered reasonable under the LADOTD policy.

***Feasibility***

The feasibility of a 10-foot high noise barrier for Alternative D was analyzed using the results of the TNM 2.5 evaluation. The results indicated that 13 receivers are predicted to have at least a 5 dBA noise reduction with noise barrier construction. The LADOTD considers noise abatement to be feasible when 75 percent of the first row of impacted receptors adjacent to the noise barrier

receive at least a 5 dBA reduction in traffic noise. Of the 13 benefited receptors, 12 of the receptors are located on the first row of impacted receptors. This noise abatement measure was determined to be feasible since 92 percent of the first row of impacted receptors would be benefited.

**Summary**

A noise abatement measure must be determined to be both feasible and reasonable per LADOTD criteria. Although the preliminary cost estimate for a continuous noise barrier under Alternative D was determined to be reasonable, the results of the TNM 2.5 modeling analysis indicated that the cost per benefited receiver would exceed the \$35,000 criterion in the LADOTD *Highway Traffic Noise Policy*. The 10-foot noise barrier for Alternative D would meet the noise reduction goal of providing an 8 dBA reduction for at least one receiver per the LADOTD *Highway Traffic Noise Policy*. The LADOTD *Highway Traffic Noise Policy* states that the abatement must be feasible and that all three of the reasonableness criteria must be met for the abatement to be considered reasonable. Since at least one of the three reasonableness criteria would not be met, the construction of noise barriers under both build alternatives was determined to be unreasonable.

**4.16 Upland, Wetland and Aquatic Communities**

An evaluation was conducted to determine the various habitat types located in the study area, as well as their composition and extent and is in the stand-alone *Wetland Findings Report, Proposed US Highway 90 / LA 318 Interchange, St. Mary Parish, Louisiana* (T. Baker Smith, 2011). This evaluation showed that both Alternative B and Alternative D would impact several natural habitat types along with the large portion of agricultural and developed lands. **Figure 3-5** shows where each alternative crosses the upland or forested areas, the potential wetlands, and the aquatic habitat which consists of the pond located in the southwest interchange quadrant. **Table 4-13** compares the acreages of each habitat type that would be impacted by each of the build alternatives.

**Table 4-13  
Potential Impacts to Upland, Wetland, and Aquatic Communities**

Habitat Type	No-Build Alternative	Alternative B	Alternative D
Upland Habitat (acres)	0	2.18	2.52
Wetland Habitat (acres)	0	0.15	0.39
Aquatic Habitat (acres)	0	1.47	1.48

Source: Aerial Imagery 2011

The majority of the study area consists of agricultural farmland, roadways, and residential development. Other than the small pockets of emergent wetland areas (shown in **Figure 3-3**), none of the natural communities within the project area are communities of special concern.

The emergent wetland areas have the potential to be classified as jurisdictional, and thus are under the authority and protection of the US Army Corps of Engineers (USACE). The Wetlands Findings Report would be submitted to the USACE for their determination. Any areas of wetlands that are classified as jurisdictional and impacted by either build alternative would need to be mitigated through the Section 404 Permit Process under the Clean Water Act.

The No-Build Alternative would have no effect on upland, aquatic, or wetland communities located within the study area.

#### **4.17 Plants and Wildlife Protected by Law**

Field review verified the absence of potential habitat located within the study area or within the proposed right-of-way for either Alternative B or Alternative D that is suitable to support federally-protected flora and fauna species listed for St. Mary Parish. Correspondence during the Solicitation of Views (SOV) period with both the USFWS and the Louisiana Natural Heritage Program (LNHP) confirm that no impacts to rare, threatened, or endangered species or critical habitats are likely to occur with either of the build alternatives. The USFWS did note that the Louisiana Black Bear may occur in the general study area; however, a lack of suitable habitat, as well as the absence of eligible denning trees within the study area, substantially limits the potential for an occurrence (see **Section 5.3** for mitigation measures and **Section 6.1, Table 6-1** and **Appendix E** for SOV information).

The No-Build Alternative would have no effect on the rare, threatened, or endangered species that are listed for St. Mary Parish.

#### **Significant Trees**

Field review of the study area confirmed that several live oak trees that fit the criteria for significant tree status by the LADOTD would be impacted by the build alternatives. Under Alternative B, there are several live oak trees over 18 inches dbh that would be impacted that are located in the yards of several residences in both the northwest and southwest quadrants of the interchange. A total of 8 trees fit the criteria under the LADOTD Directive I.1.1.21. Five are located in the northwest quadrant of the interchange and three are located in the southwest quadrant of the interchange. While over 18 inches dbh, these trees are fairly typical in their shape and do not appear to have any unique features or of a significant age to be of historic importance. Under Alternative D, there are 3 live oak trees that could potentially qualify under the LADOTD Directive as significant. These trees are located in the front yards of two homes that are located in the southwest quadrant of the interchange. These trees, while over 18 inches dbh, are fairly typical in their shape and do not appear to have any unique features or of a significant age to be of historic importance. During construction care should be taken to minimize damage to trees in order to prevent tree mortality.

The No-Build Alternative would have no effect on significant trees.

## 4.18 Coastal Zone Management

The entire study area is located within the coastal zone. Therefore, both of the build alternatives are also located in the coastal zone. For either Alternative B or Alternative D, a Coastal Use Permit (CUP) application would need to be completed and submitted to the Coastal Management Division (CMD). Submitting an application for a CUP does not imply that a CUP will be required; the application is simply one step in the rules and procedures to identify if a project will have impacts to the coastal zone. The No-Build Alternative would have no impacts to the coastal zone within the study area.

## 4.19 Construction Effects and Best Management Practices

Expansion of existing LA 318 and construction of a new interchange and associated frontage roads on US 90 would result in a variety of temporary effects associated with storage of materials and equipment, construction equipment operations, and other similar activities. Construction effects do not include permanent effects resulting from land conversion to roadway and rights-of-way, nor do they refer to indirect effects caused by the presence of the roadway facility. Construction effects relate only to those temporary features (i.e., staging areas) and operations strictly associated with construction activities alone. A variety of best management practices (BMPs) can be effectively employed to reduce various construction-related impacts.

### Economic Effects

The injection of construction funds into the area would likely draw some labor from the adjacent communities of Jeanerette and Baldwin, but also from the larger communities of New Iberia, Franklin, and Lafayette. Since most of the labor would likely commute into the study area, only some of the construction workers salaries would be spent inside the study area for lunches and incidentals. However, the larger region as a whole may realize the balance of these direct spending benefits. A substantial portion of raw materials would likely be purchased locally. Specialty materials may constitute the only material purchase “leaks” from the region. Long-term benefits of the build alternatives would include marginal fuel and time savings from users of the interchange. The build alternatives would facilitate planned development of US 90 as the future I-49, and would benefit access to the St. Mary Sugar Cooperative and Port of West St. Mary.

### Physical and Social Effects

#### *Construction Methods, Accessibility and Effects*

Construction methods employed for the project would comply with industry standards for excavation, embankment and compaction of soils using heavy equipment such as bulldozers, graders, cranes, and haul trucks. Traffic disruption is anticipated; however, approved traffic control plans would be utilized in areas where traffic would interface with construction work zones. Construction activity should typically take place in daylight between hours of 7:00 a.m.

and 7:00 p.m., and be suspended during the weekend (at least Sundays) and on locally observed Federal and state holidays.

While only temporary in nature, the construction of the project could potentially require detours. Maintenance of traffic, construction sequencing, and detouring would be planned and scheduled to minimize impacts to local residences, businesses, and the traveling public. Access to residences and businesses impacted by construction would be maintained by temporary driveways or connections, where necessary. Detours may be required at various locations throughout the construction process. Maintenance of traffic along LA 318 could consist of an adjacent detour road or phased construction sequencing. As part of Alternative B, the construction of the ramps and/or frontage roads would be completed first and then used for diversion of traffic. The bridge structures for the US 90 overpass would then be constructed. Similar to Alternative B, the construction of ramps and/or frontage roads for Alternative D would be completed first and then used for diversion of traffic. The bridge structure for the LA 318 overpass would then be constructed. The existing right-of way along LA 318 in the vicinity of US 90 is wide enough to provide a temporary detour road immediately adjacent to the construction of the LA 318 bridge. Local police, fire departments, and other emergency service providers would be notified in advance of any construction-related activities to allow for proper planning and alternate route identification. Therefore, disruption to emergency responders should be minimal.

During the sugar cane harvest season (October through December), LA 318 should remain open to traffic at all times. The appropriate sequencing of construction operations and maintenance of traffic would ensure that LA 318 remains accessible. These provisions are necessary in order to avoid signed construction detours that would potentially increase travel time and vehicle operating costs.

Debris and excess spoil materials generated during construction would normally be disposed of off-site. Disposal of unsuitable or excess material, trash, debris, and spoil would be governed by local and/or state regulation.

### ***Staging Areas***

Construction staging areas would be identified by the contractor after the project is let for construction. It is recognized that staging areas would be necessary for storage of equipment, material stockpiles, and office facilities. These areas would be located within or closely adjacent to the alternative, and would be approved by LADOTD prior to the start of construction.

### ***Water Quality and Drainage***

Water quality and drainage impacts would be temporary in nature. Existing drainage is comprised of man-made ditches for almost all of the study area, and some minor modifications to the flow and configuration would be made during construction. An erosion and sediment control plan would be developed and implemented that includes all specifications and BMPs necessary to control erosion and sedimentation from construction activities. Examples of BMPs used to

mitigate construction effects on water quality and drainage include, but are not limited to, the use of stacked hay bales, silt fences, mulching, reseeding, and use of buffer zones. Regarding impacts to surface water quality, direct effects of the construction activities would have the greatest effect to turbidity and nutrient loads. However, BMPs that would be employed would greatly mitigate these effects, and effects would be temporary. Indirect effects associated with induced development and other non-point sources of pollution during construction activities are anticipated to be either mitigated by BMPs or minor in nature (see **Section 4.20**).

### *Noise*

Project construction activities would have short-term noise effects in the immediate vicinity of the construction site. Effects on community noise levels during construction would be derived from construction equipment operation and construction vehicles and delivery vehicles traveling to and from the site. Noise impacts during the construction phase would be temporary and closely related to the various types and phases of construction required. Increases in noise levels due to operation of delivery trucks and other construction vehicles would not be substantial. Small increases in noise levels may be expected near a few defined truck routes and in the immediate vicinity of the proposed project site. Additionally, noise impacts may be associated with pile driving operations during bridge construction for both build alternatives.

### *Biotic Communities*

Direct impacts from construction activities are limited to the temporary removal or alteration of both aquatic and terrestrial habitats and the death or displacement of relatively sedentary animals at staging areas and other temporarily disturbed sites. Wildlife populations are susceptible to habitat alteration and "pulse" disturbances such as construction noise. Some minor impacts to biotic communities within the staging area are unavoidable. BMPs along with construction and design techniques would help to reduce the amount of area that would be altered by construction activities.

### *Utility Services*

Utilities that are within the proposed right-of-way for the selected build alternative would be relocated during the first phase of construction. Temporary construction activities would not affect utility services other than requiring temporary power connections and similar. Such connections, however, would not require substantial service disruptions. Therefore, substantial adverse effects to utility services are not anticipated from the construction activities alone.

The No-Build Alternative would not result in construction effects.

## 4.20 Secondary and Cumulative Effects

### Indirect or Secondary Effects

Indirect or secondary effects are reasonably foreseeable impacts caused by an action that are expected to occur either later in time or further in distance from the project or both. An evaluation of indirect impacts attempts to determine whether a project might generate substantial impacts that may not be immediately apparent beyond the direct and more easily recognizable effects that are expected to occur upon or after project implementation. Analysis of indirect impacts often focuses on land use changes and secondary development spurred or supported by a transportation improvement. However, roadway upgrades may indirectly impact other environmental considerations or resources in ways that are difficult to anticipate and evaluate. As a result, regulatory requirements specify that the analysis effort should focus on indirect impacts that are reasonably foreseeable.

Both Alternative B and Alternative D have limited potential to impact land uses surrounding the US 90 and LA 318 interchange through induced development. Control-of-access would limit induced development near the junctions of the proposed entrance/exit ramps and LA 318. The development of vacant parcels surrounding the proposed frontage roads would not be limited by control-of-access. However, representatives from the St. Mary Parish Planning Department and the Office of Economic Development do not expect substantial commercial project-induced changes in land use or development in the foreseeable future given the rural nature of the study area combined with a generally anticipated slow growth rate. Representatives from the Office of Economic Development did note, however, that if any development within the foreseeable future were to be induced by the proposed project, it would likely be for multi-family residential use along 30 acres of privately-owned agricultural land adjacent to US 90 near Landry's Seafood House restaurant, Landry's Auto Truck Stop, and the Silver Fox Casino at the western project terminus. Such a new development would eventually result in the loss of prime farmland, open space, and natural habitat. Further, an increase in storm water runoff due to an increase in impervious surfaces would also be expected.

The study area is primarily zoned as agricultural, with some inter-mixing of residential zoning. The only commercially zoned parcels near the proposed project are the previously mentioned restaurant, truck stop, and casino located near the western project terminus. St. Mary Parish zoning regulations prevent any out of compliance changes in land use or development; and any future changes would be subject to both St. Mary Parish zoning regulations and development standards.

### Cumulative Effects

Cumulative effects result from the incremental impacts of a proposed project added to other past, present, and reasonably foreseeable future actions, regardless of the type of action and who undertakes such action. An evaluation of cumulative impacts attempts to determine whether the effects of the proposed project, when combined with the effects of other actions, could result in substantial impacts on environmental resources or conditions. According to St. Mary Parish

Planning Department representatives, no new development or redevelopment projects are either planned or currently under construction within the study area. The proposed project, in combination with the one potential project-induced development within the study area (i.e., a multi-family residential development along US 90), would increase overall impervious surface cover, thereby resulting in a greater potential impact to water quality, prime farmland, open space, and natural habitat than compared to impacts generated by the build alternatives alone. However, given that the study area is not expected to be modified substantially by project-induced developments (as acknowledged by St. Mary Parish Government representatives) and that no reasonably foreseeable developments are expected, substantial cumulative impacts to the human, natural, and physical environments are not anticipated.

# CHAPTER 5.0

## 5.0 SUMMARY AND RECOMMENDATIONS

### 5.1 Summary of Environmental Impacts

Table 5-1  
Summary of Project Features and Impacts

Evaluation Criteria	Unit	No-Build Alternative	Build Alternative <sup>1</sup>	
			B	D
<b>Interchange Alignment and Right-of-way Considerations</b>				
Interchange Type - Rural	n/a – not applicable	n/a	Diamond	Combination Partial Cloverleaf and Diamond
Ramp Configuration	n/a	n/a	Diamond / Diagonal Ramps Constructed in 4 Quadrants	One Loop Ramp and 3 Diamond / Diagonal Ramps Constructed in 3 Quadrants
Bridge Configuration	n/a	None	US 90 over LA 318	LA 318 over US 90
Required Right-of-way	acres	0.0	66.9	109.3
<b>Constructability / Maintenance of Traffic (MOT) During Construction</b>				
MOT on LA 318	n/a	n/a	Construct a detour road or phase traffic and widen roadway	Construct a detour road for traffic diversion
MOT on US 90	n/a	n/a	Construct ramps and / or frontage roads first for traffic diversion	Construct ramps and / or frontage roads first for traffic diversion
<b>Human Environment Considerations &amp; Estimated Impacts</b>				
Residential Structure Impacts <sup>2</sup>	number	0	29 <sup>4</sup>	17 <sup>4</sup>
Mobile Home Structure Impacts <sup>2</sup>	number	0	7	7
Commercial Structure Impacts <sup>2,3</sup>	number	0	1	0
Caribbean Winds Parcels Impacted <sup>2</sup>	number	0	12	0
Right-of-Way Acquisition from the West St. Mary Civic Center Parcel	acres	0.0	1.9	5.5
Maintain Existing Access at Civic Center	Yes/No	Yes	Yes	No <sup>5</sup>
NRHP Eligible Standing Structures <sup>6</sup>	number	1	1	1
NRHP Eligible Archaeological Sites <sup>7</sup>	number	0	N/S <sup>7</sup>	N/S <sup>7</sup>
Disproportionate Environmental Justice Impacts	Yes/No	n/a	No	No
Access and Travel Time Impacts in Northwest Interchange Quadrant	Yes/No	No	Yes	Yes
Noise Impacts	Yes/No	No	Yes	Yes
Feasible & Reasonable Noise Abatement	Yes/No	No	No	No
Air Quality Impacts	Yes/No	No	No	No
<b>Physical Environment Considerations &amp; Estimated Impacts</b>				
Water Well Impacted	number	0	0	1
Underlain by Chicot Aquifer	Yes/No	Yes	Yes	Yes
Natural Gas Pipeline Crossings	number	0	6	6
Natural Gas Pipeline Terminal Impact	Yes/No	No	No	Yes

**Table 5-1  
Summary of Project Features and Impacts**

Evaluation Criteria	Unit	No-Build Alternative	Build Alternative <sup>1</sup>	
			B	D
Maintain Existing Access at Natural Gas Pipeline Terminal	Yes/No	Yes	Yes	No <sup>5</sup>
Sewer Treatment System at West St. Mary Civic Center	Yes/No	No	Yes	Yes
Sewer Lift Station on the West Side of LA 318 South of US 90	Yes/No	No	No	Yes
Prime Farmland Impacted	acres	0.0	66.9	109.3
<b>Natural Environment Considerations &amp; Estimated Impacts</b>				
Upland Habitat Directly Impacted	acres	0.0	2.18	2.52
Wetlands Directly Impacted	acres	0.0	0.15	0.39
Aquatic Habitat Directly Impacted	acres	0.0	1.47	1.48
100-Year Floodplains Impacted	acres	0.0	1.24	2.98
Other Waters of the US Impacted <sup>8</sup>	number	0	2	2
Scenic Streams	number	0	0	0
Significant Trees	number	0	8	3
<b>Estimated Cost Considerations (\$ 2010)</b>				
Right-of-way Cost – Land Only	\$20,000/acre	\$0	\$ 1,338,000	\$ 2,186,000
Residential Structure Acquisition	\$150,000 ea.	\$0	\$ 4,350,000	\$ 2,550,000
Mobile Home Structure Acquisition	\$25,000 ea.	\$0	\$ 175,000	\$ 175,000
Commercial Structure Acquisition <sup>3</sup>	\$150,000 ea.	\$0	\$150,000	0
Residential Relocation Assistance	\$50,000 ea.	\$0	\$ 1,250,000	\$ 850,000
Mobile Home Relocation Assistance	\$50,000 ea.	\$0	\$ 350,000	\$ 350,000
Estimated Construction Cost (rounded)	Millions \$	\$0	\$ 39.4 M	\$ 26.0 M
Total Estimated Cost (rounded)	Millions \$	\$0	\$ 47.0 M	\$ 32.1 M

Notes:

1. Estimated impacts are based on the interchange layouts as shown in the Appendix A Map Atlas and are subject to change.
2. Structure and relocation impacts consider worst case scenario – a structure may not be directly impacted however the parcel may be rendered unusable or would require acquisition due to control of access.
3. Abandoned commercial structure is zoned for residential development in the future.
4. Includes four vacant structures for Alternative B, three of which are located in the Caribbean Winds subdivision and no vacant structures for Alternative D.
5. The existing Civic Center driveway on LA 318 would be relocated to the Northeast Frontage Road. The existing Natural Gas Pipeline Terminal driveway on LA 318 would be relocated to the Southeast Frontage Road.
6. The potential historic structure is located in the northwest quadrant of the interchange but will not be directly impacted by either build alternative. An effects determination relative to NRHP eligibility is forthcoming from SHPO.
7. Not Surveyed (N/S) – Archeological impacts to be determined following the selection of a preferred alternative.
8. Other Waters of the US includes unnamed canals and tributaries.

**Human Environment Considerations**

Both build alternatives would require the purchase of new right-of-way, but Alternative D (109.3 acres of right-of-way) would require approximately 42 more acres than Alternative B (66.9 acres of right-of-way). Although neither build alternative would directly impact the West St. Mary Civic Center building, right-of-way acquisition would impact approximately 1.9 acres under Alternative B and 5.5 acres under Alternative D to the West St. Mary Civic Center parcel. Access to the West St. Mary Civic Center would be maintained under Alternative B, but would need to be relocated to the frontage road under Alternative D.

Alternative B would impact a greater number of structures (29 residences, 7 mobile homes, and 1 abandoned commercial structure) compared to Alternative D (17 residences and 7 mobile homes). It was assumed that except for the abandoned commercial structure impacted under Alternative B, all residence and mobile home acquisitions would also require relocation assistance. These impacts are due in large part to the fact that Alternative B is a diamond interchange that would impact all four interchange quadrants, whereas Alternative D is a partial cloverleaf interchange that would only impact three interchange quadrants, thereby avoiding all structures located within the northwest interchange quadrant.

Access to non-relocated properties would be maintained through proposed frontage roads, proposed local access roads, or along portions of LA 318 where control of access restrictions do not apply. Control of access applies to LA 318, not to the same extent as on US 90; however, it still applies. Locations where control of access applies to LA 318 occur between entrance and exit ramps intersections extending to frontage road intersections. Where control of access is required, however, direct access to adjacent parcels would be prohibited. This is primarily an issue for residents in the northwest interchange quadrant under both build alternatives, where the relocation of the proposed north frontage road would affect residents' travel patterns to LA 318 and US 90. That is, residents would have to travel west on the existing frontage road / proposed access road and then backtrack on the relocated north frontage road to LA 318, thereby increasing their current travel times by 3 to 5 minutes which is considered relatively minor. Travel time for these residents to access LA 318 and US 90 would be slightly greater under Alternative D (approximately 4 minutes for the longest distance traveled) compared to Alternative B (approximately 3 minutes for the longest distance traveled) due to the larger project footprint of Alternative D.

A high concentration of minority population is present within the study area; therefore, environmental justice populations would be impacted by both build alternatives. However, because the study area is broadly minority (75.1%), and because it is impractical to relocate the proposed project elsewhere, disproportionate impacts to environmental justice populations in comparison to non-environmental justice populations are not anticipated.

The project is located in an area that is in attainment for all NAAQS, and would not have an effect on air quality. Noise impacts are anticipated under both build alternatives, with traffic noise impacts predicted at fewer structures under Alternative B (nine structures) compared to Alternative D (16 structures, including the Bambi Head Start Center). Noise abatement analysis determined that noise barriers under both build alternatives were neither feasible and/or reasonable.

### **Physical Environment Considerations**

Both build alternatives would impact the sewage treatment system at the St. Mary Civic Center; and Alternative D would impact the sewer lift station located on the west side of LA 318 south of US 90, with possible avoidance under Alternative B. The Natural Gas Pipeline Terminal located in the southeast interchange quadrant would not be impacted by Alternative B, but access control

under Alternative D would require the relocation of the terminal driveway to the proposed frontage road. Otherwise, both build alternatives would require only minor utility relocations.

Prime farmland soils are widespread throughout the study area such that the acreage of prime farmland impacted by the build alternatives is equivalent to their acres of required right-of-way. As such, Alternative D with its greater footprint would impact a larger area of prime farmland (109.3 acres) compared to Alternative B (66.9 acres). Alternative B would not directly impact any water wells, whereas Alternative D would directly impact one water well. Although both alternatives are underlain by the Chicot aquifer, they are not located near the major recharge zones and all necessary USEPA and LDEQ safeguards would be implemented to avoid impacts.

### **Natural Environment Considerations**

In terms of effects on the natural environment, the two build alternatives are very similar. There are several small unnamed tributaries that will be crossed by both alternatives, but these crossings are north of US 90 and outside the 100-year floodplain. South of US 90, the impacts to the 100-year floodplain associated with both Alternative B and Alternative D occur in the floodway fringe and would not increase the base-flood elevation to a level that would violate applicable floodplain regulations. While only minor impacts to the floodplain are anticipated, any drainage ditches or culverts affected by the proposed project, as well as new roadway within the 100-year floodplain, would be designed to maintain pre-construction hydrologic conditions and would not result in any substantive effect to base flood elevations of the surrounding area. Although neither build alternative would result in substantial impacts, Alternative D would result in slightly more impacts to upland habitat, wetlands, and 100-year floodplains compared to Alternative B, as shown in **Table 5-1**. Overall, the impact differences between Alternative B and Alternative D are fairly minor and would not affect the overall cost of the project substantially in terms of mitigation.

### **Estimate of Probable Cost**

The estimated cost of Alternative B is approximately \$47.0 million compared to \$32.1 million for Alternative D. These costs are in 2010 dollars and are inclusive of right-of-way, structure acquisition, relocation assistance, and construction costs. Alternative D has a greater right-of-way cost in terms of land acquisition; however, Alternative B has a greater right-of-way cost in terms of number of structures impacted and requiring relocation. A major component of the approximate \$15 million dollar cost difference between the two build alternatives relates to the bridge structures; Alternative B would require two new bridge structures on US 90, thereby costing more than Alternative D, which would require only one smaller bridge on LA 318.

### **Summary of Benefits**

Both of the build alternatives meet the purpose and need and would provide long-term benefits. Both build alternatives would replace the at-grade signalized intersection with a grade-separated interchange that would enhance emergency evacuation and reduce the potential for turning movement conflicts, which may result in a reduction of crashes. Travel time savings can be

realized on US 90 and LA 318 with either of the build alternatives compared to the No-Build Alternative, resulting in reduced vehicular operating costs for both passenger and commercial vehicle operations. Furthermore, the economic vitality of the surrounding communities would likely benefit from the improved access via LA 318 to and from the St. Mary Sugar Cooperative and the Port of West St. Mary resulting from the proposed project. However, Alternative B would likely result in a greater reduction to vehicular operating costs and improved economic vitality compared to Alternative D due to Alternative B's interchange alignment (diamond), ramp configuration (no loop ramp), and bridge configuration (US 90 over LA 318) being more beneficial for truck and tractor-trailer movement.

## **5.2 Summary of Permits and Certifications**

The following permits and/or certifications are required for the proposed project:

- Authorization under the Louisiana Pollutant Discharge Elimination System (LPDES) from LDEQ for Storm Water Discharge for Construction Activities over 5 acres.
- A drainage hydraulic study will be required during design and a development permit will be required prior to commencement of construction.
- Prior to the start of project construction, a Request for a Jurisdictional Determination by the USACE and a Section 404 Permit for temporary and permanent impacts from construction of the proposed project for wetlands determined to be jurisdictional will be obtained. The permit application will include a specific plan to mitigate adverse project impacts on streams and wetlands, including mitigation for unavoidable wetland losses. Commitments to minimize harm to wetlands and streams are as follows:
  1. Dredged or fill materials used for construction will be non-polluting material in accordance with EPA Guidelines for the Discharge of Dredged or Fill material found in 40 CFR 230.
  2. All construction activity will be performed in a manner that would minimize increased turbidity of the water in the work area and otherwise avoid adverse effects on water quality and aquatic life.
  3. All dredged material not used as backfill will be placed on land, and no runoff water from the disposal site will be allowed to enter the waterway.
  4. Erosion during and after construction will be controlled as outlined in the latest edition of the LADOTD's *Standard Specifications for Highway Construction*.
  5. The project will not significantly disrupt the movement of those species of aquatic life indigenous to the water body.
  6. Temporary work ramps or haul roads, when needed, will provide sufficient waterway openings to allow the passage of expected high flows.
  7. The contractor will take precautions in the handling and storage of hazardous materials, including lubricants and fuels, to prevent discharges or spills that would result in degradation of water quality.
  8. Wetland areas will be avoided to the maximum extent practicable.

9. Wetlands outside of the construction limits will not be used for construction support activities (borrow sites, waste sites, storage, parking access, etc.) under permit by the USACE.
  10. Heavy equipment working in wetlands will be placed on mats.
  11. Clearing of wetlands will be limited to the minimum amount necessary for the completion of the job.
  12. The contractor will be responsible for the protection of adjacent wetlands.
- Prior to construction, a Coastal Use Permit (CUP) application would need to be completed and submitted to the Coastal Management Division of the Louisiana Department of Natural Resources (LDNR). Submitting an application for a CUP does not imply that one will be required; rather the application is simply one part of the rules and procedures necessary for construction projects within the coastal zone. A prior joint permit application was filed with LDNR as part of the 2007 solicitation of views (SOV); Permit Type - SOV. LDNR had no objection to the SOV permit application (see **Table 6-1, ID No. 1**).
  - Approval by the St. Mary Parish floodplain manager for any modifications to the floodplain.

### **5.3 Summary of Commitments and Mitigation Measures**

The following commitments and mitigation measures are required for the proposed project:

- **Best Management Practices (BMPs):** Implementation of BMPs during construction to mitigate non-point source pollution and comply with USEPA Guidance on impacts to a Sole Source Aquifer.
- **Maintenance of Traffic:** A construction sequencing plan will be prepared prior to construction to minimize disruption of traffic on US 90 and LA 318. If Alternative B is selected as the preferred alternative, two lanes of traffic on US 90 in both the eastbound and westbound directions should be maintained during construction of the overpass bridges. As part of Alternative B, the construction of the ramps and/or frontage roads would be completed first and then used for diversion of traffic. The bridge structures for the US 90 overpass would then be constructed. Similar to Alternative B, the construction of ramps and/or frontage roads for Alternative D would be completed first and then used for diversion of traffic. The bridge structure for the LA 318 overpass would then be constructed. The existing right-of way along LA 318 in the vicinity of US 90 is wide enough to provide a temporary detour road immediately adjacent to the construction of the LA 318 bridge. During the sugar cane harvest season (October through December), LA 318 should remain open to traffic at all times. The appropriate sequencing of construction operations and maintenance of traffic would ensure that LA 318 remains accessible. These provisions are necessary in order to avoid construction signed detours that would potentially increase travel time and vehicle operating costs.

- **Noise:** The mitigation measures that are implemented at the construction site must be determined to be necessary and would be the responsibility of the construction contractor. LADOTD may require that one or more of these measures are included as provisions to the contract documents. All mitigation measures must adhere to the latest version of the *Louisiana Standard Specifications for Roads and Bridges* and comply with state and local laws. The following potential mitigation measures may be implemented during construction to minimize adverse noise impacts:
  - Locate site equipment as far from noise sensitive receptors as possible;
  - Avoid nighttime activities in residential areas where sensitivity to noise increases during the nighttime hours, but nighttime construction work can be considered in commercial areas if deemed necessary to meet project schedules and expedite construction;
  - Avoid impact pile driving where possible in noise sensitive areas by using drilled piles and sonic or quieter vibratory pile drivers where geological conditions permit; and
  - Use specially muffled equipment, such as enclosed air compressors, and mufflers on all engines.
- **Air Quality:** During the construction of the proposed facility, air quality impacts will be minimized, by the project contractor, through a combination of fugitive dust control, equipment maintenance, and compliance with state and local regulations.
- **Hazardous Materials:** During construction, any site that is found to contain hazardous materials will be remediated and all work conducted in conformance with LDEQ, EPA, and OSHA regulations and policy.
- **Right-of-Way Acquisitions and Land Use:** Relocations have been minimized to the maximum extent practicable. All relocation activities would be governed by the *Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act Of 1970*. Construction of the project will not begin until decent, safe, and sanitary replacement housing is in place and offered to all affected persons. Home owners will be eligible for replacement housing and moving expense payments. Owners may also be eligible for an additional payment to provide comparable housing and to assist with the increased costs of a new mortgage and incidental expenses incurred. Displaced persons, businesses, farms, and nonprofit organizations are eligible for reimbursement for actual reasonable moving costs, as well.
- **Utility Relocations:** During the design phase of the project, LADOTD will coordinate the proposed roadway improvements with impacted utility companies.
- **Archaeological Findings:** Once a Preferred Alternative is selected, a detailed investigation including shovel tests of the alignment would be performed to determine the presence of any archeological sites located within the area of construction. Any findings would be submitted to the State Historic Preservation Office (SHPO) for a determination.

- **Plants and Wildlife Protected by Law:** The threatened Louisiana black bear may occur in the general project area. In its solicitation of views response letter, the US Fish and Wildlife Service (USFWS) recommends the following measures to minimize impacts to the Louisiana black bear and its critical habitat:
  - If construction is to be performed during the denning season (December through April) or if bald cypress or tupelo gum trees with 36 diameter at breast height or greater will be removed or destroyed, further consultation with the USFWS will be necessary; and
  - Construction workers are strongly urged to avoid bears, if work is to be performed during the non-denning season (April through December). Workers should not leave food or garbage in the field and bear proof garbage containers are recommended.
- **Protection of Trees:** During construction care should be taken to minimize damage to trees in order to prevent tree mortality.

# CHAPTER 6.0

## 6.0 AGENCY, PUBLIC, AND TRIBAL COORDINATION AND INVOLVEMENT

This chapter contains a summary of agency and Native American Tribe coordination, and a summary of public involvement opportunities and activities that were undertaken for the project.

### 6.1 Solicitation of Views

During the initial planning stage of the project, views from Federal, state, and local agencies, organizations, and individuals were solicited. Early coordination was initiated with a Solicitation of Views (SOV) packet which occurred for the project as part of the 2007 *Stage 0 Feasibility Study*. The SOV packet was mailed August 16, 2007 to applicable Federal, state and local agencies, organizations, individuals, Native American Tribal contacts, and elected officials in the project area. The packet included a letter, preliminary project description, project location map, and preliminary plans. The SOV letter requested identification of possible adverse economic, social, or environmental effects or concerns. Copies of the SOV packet and SOV responses are included in **Appendix E**. Table 6-1 summarizes agency responses to the SOV packet.

Native American Tribe coordination was also initiated through the SOV. The response from the Chitimacha Tribe of Louisiana is found within **Table 6-1** under identification (ID) No. 8.

**Table 6-1  
Summary of Solicitation of Views Responses**

ID No.	Date	Responder	Comment Summary	How SOV Comment Was Addressed
1	8/16/2007 (permit submittal)	LA Department of Natural Resources, Coastal Management Division	On-line Joint Permit Application for work within the Louisiana Coastal Zone. Permit No. P20071197; Permit Type - SOV. No Objection received on 8/20/2007.	See Sections 3.18, 4.18 and 5.2
2	8/17/2007	<b>Bradley E. Spicer</b> , Assistant Commissioner, LA Department of Agriculture and Forestry	No Comment	No Action Required
3	8/20/2007	<b>Sharon Schexnayder</b> , Contracts/Grants Supervisor, LA Department of Environmental Quality	Referred SOV to Ms. Joanna Gardner, Office of the Secretary of the Louisiana Department of Environmental Quality	No Action Required
4	8/20/2007	<b>D. A. Sullen</b> Acting supervisor, LA Field Office, US Fish and Wildlife Service	Project reviewed for Federal trust resources under the Endangered Species Act of 1973. The project is not likely to adversely affect these resources.	See Sections 3.17, 4.17 and 5.3

**Table 6-1  
Summary of Solicitation of Views Responses**

ID No.	Date	Responder	Comment Summary	How SOV Comment Was Addressed
5	8/31/2007	<b>Gary Lester,</b> Natural Heritage Program, LA Department of Wildlife and Fisheries	The Louisiana Black Bear may occur in the general project area. Protection of den trees will be necessary during construction. No other rare, threatened or endangered species or critical habitats are anticipated. No state or federal parks, wildlife refuges, scenic streams, or wildlife management area are known at the site.	See Sections 3.8, 3.9, 3.17, 4.8, 4.9, 4.17 and 5.3
6	9/5/2007	<b>Keith J. Aymond,</b> Forestry Program Director, LA Department of Agriculture and Forestry	There will be physical disturbances; damage to trees should be kept as minimal as possible. Actions taken to reduce damage will decrease the chance of insect or disease problems that may lead to tree mortality.	See Sections 3.17, 4.17 and 5.3
7	9/6/2007	<b>Miles M. Croom,</b> Assistant Regional Administrator, Habitat Conservation Division, National Oceanic and Atmospheric Administration	Any adverse effects to marine and anadromous fishery resources would be minimal and therefore, do not object to issuance of permit.	See Sections 3.16 and 4.16
8	9/13/2007	<b>Kimberly S. Walden,</b> Director, Cultural Department Chitimacha Tribe of Louisiana	Historically and prehistorically, the Chitimacha Tribe of LA was located near the project. However, records and oral traditions do not indicate that a specific archeological or cultural property is in the project vicinity, therefore no objection to implementation. If archaeological remains are discovered during the construction, the SHPO must be contacted immediately.	See Sections 3.7, 4.7 and 5.3
9	9/13/2007	<b>James H. Welsh,</b> Commissioner of Conservation, LA Department of Natural Resources, Office of Conservation	Review of records indicate: no active oil, gas, or injection wells; one plugged well (Serial No. 144942); two registered water wells in the vicinity that the project should not impact; care must be taken to locate any other wells installed before registration was required.	See Sections 3.5, 4.5 and 5.3
10	9/27/2007	<b>Pam Breaux,</b> State Historic Preservation Officer	No known archaeological sites or historic properties will be affected. This effect determination could change should new information come to our attention.	See Sections 3.7, 4.7 and 5.3
11	10/2/2007	<b>Karen L. Oberlies,</b> SOV Manager, New Orleans District, US Army Corps of Engineers	Do not anticipate any adverse impacts. No jurisdictional wetlands, therefore permit under Section 404 of the Clean Water Act will not be required.	See Sections 3.9, 3.16, 4.16 and 5.2

Source: LADOTD, 2007

## 6.2 Public Involvement

### Public Meeting

Public involvement is intended to create opportunities for the public to have input in identifying transportation problems and solutions and to participate in the project planning process. An open forum Public Involvement Meeting to discuss the proposed interchange improvements was held on Tuesday, March 22, 2011. The meeting was held at the West St. Mary Civic Center in Jeanerette, Louisiana from 4:00 p.m. to 7:00 p.m.

The primary purpose of the March 22, 2011 Public Meeting was to share information and obtain public input on three proposed conceptual alternatives for constructing a grade-separated interchange at the intersection of US 90 and LA 318. Additional objectives of the Public Meeting were to identify alternative preferences and to narrow down the number of conceptual alternatives from two out of three for further analysis in the Draft EA. This was accomplished through the use of a survey that was part of the Public Meeting comment form.

A complete synopsis of the Public Meeting is compiled in the *US 90 and LA 318 Interchange Improvements Public Meeting Record, March 22, 2011* (URS, 2011). The methods of notification used to inform the public about the Public Meeting included: placing commercial advertisements in two local newspapers; distributing flyers in public locations and local churches; and sending letters to property owners, businesses, elected officials, and agency representatives. The commercial display advertisements, placed in the *Franklin Banner Tribune*, appeared in the circulations dated March 14, 2011 and March 21, 2011. The commercial display advertisements, placed in the *Daily Iberian*, appeared in the circulations dated March 13, 2011 and March 21, 2011.

Public representation of 60 attendees at the meetings is considered to be generally strong considering the localized nature of the project. The comment response is also considered to be strong with 32 attendees providing their comments on the night of the Public Meeting and an additional 46 commenters responding over the ten-day comment period.

When asked about the importance of the project, 92 percent (72 commenters) thought the project was important, 4 percent (3 commenters) did not think the project was important, and 4 percent (3 commenters) did not respond to the question. Safety issues were the overwhelming explanation given as to why commenter's thought the project was important due to the number of crashes that have occurred at the US 90 and LA 318 intersection.

Of the three build alternatives presented, Conceptual Alternative B was preferred by approximately 65 percent of the commenters that expressed preference for one alternative. Interchange design and improving sugar cane truck and tractor-trailer access to LA 318 were the primary reasons given for preference of Conceptual Alternative B, that consists of US 90 grade-separated over LA 318. Approximately 11 percent preferred Conceptual Alternative C because it would result in the fewest number of residential displacements compared to the other build alternatives. Likewise, approximately 4 percent expressed preference for the No-Build

Alternative as to avoid the potential displacement of any residence. Approximately 3 percent expressed preference for Conceptual Alternative A and approximately 17 percent of commenters did not express a preference for either the No-Build Alternative or any of the build alternatives. A summary table of public comments received during the comment period is located in Appendix D of the *US 90 and LA 318 Interchange Improvements Public Meeting Record, March 22, 2011* and summarized below in **Table 6-2**.

**Table 6-2  
Summary of March 2011 Public Meeting Comments and Resolution**

Comment / Issue / Concern	How Comment was Addressed
<b>Alternative Preference</b>	
4% of commenters stated a preference for the No-Build Alternative	The No-Build Alternative was retained.
3% of commenters stated a preference for Conceptual Alternative A	Conceptual Alternative A was omitted; however a new Alternative D was developed which is a combination of Conceptual Alternatives A and C.
65% of commenters stated a preference for Conceptual Alternative B	Conceptual Alternative B was retained.
11% of commenters stated a preference for Conceptual Alternative C	Conceptual Alternative C was omitted; however a new Alternative D was developed which is a combination of Conceptual Alternatives A and C.
<b>Benefits Associated with Alternative Preference</b>	
Best alternative / design of the interchange.	Majority of commenters selected Conceptual Alternative B, which was retained.
Improves driving conditions / access of sugar cane trucks and tractors	Majority of commenters selected Conceptual Alternative B, which was retained.
Economic / business impacts	Majority of commenters selected Conceptual Alternative B, which was retained.
Property owner effects	Majority of commenters selected Conceptual Alternative C, which was omitted but later refined as Alternative D.
Safety	Majority of commenters selected Conceptual Alternative C, which was omitted but later refined as Alternative D.
<b>Overall Project Importance</b>	
Improves traffic / driving conditions	Public support was expressed because implementation would result in improved traffic operations and driving conditions with a grade-separated interchange.
Economic benefits	Public support was expressed because implementation would result in economic benefits including travel time savings for US 90 motorists.
Property owner effects	Public support was expressed because implementation would result in beneficial property owner effects.
Safety issues	Significant public support was expressed because implementation would result in improved roadway safety by eliminating the at-grade intersection.
Upgrading for future I-49	Public support was expressed because implementation would result in compliance with upgrading future I-49.

**Table 6-2  
Summary of March 2011 Public Meeting Comments and Resolution**

Comment / Issue / Concern	How Comment was Addressed
<b>Overall Project Impacts</b>	
Relocation impacts	Alternative D with revised frontage road was developed to minimize residential relocations compared to Conceptual Alternatives A and C; and residential taking minimization options were also explored. Residential impacts to property on the northwest quadrant of the interchange would be avoided with Alternative D. Relocations have been evaluated and are contained in <b>Section 4.1</b> .
Construction impacts	Construction impacts are short-term in comparison to the potential long-term benefits of the project. Construction duration of an interchange is estimated at two years. Maintenance of traffic during construction, especially during the harvest season, is described in <b>Section 4.19</b> .
Access impacts	Change in access is unavoidable to the motoring public when converting an existing highway from limited access to full control of access. Local travel patterns would be slightly altered. A diamond interchange with diagonal ramps is more favorable to traffic operating conditions compared to loop ramps, where lower driving speed is necessary. Large trucks and tractor - trailers hauling sugar cane could experience operational issues. Access impacts have been evaluated in <b>Section 4.4</b> .
Noise impacts	Noise impacts and noise abatement measures have been evaluated and are contained in <b>Section 4.15</b> .
Utility impacts	Impacts to public utilities have been evaluated and are contained in <b>Section 4.5</b> .

**Continued Public Involvement**

Upon the identification of the build alternatives, in July 2011, LADOTD distributed a supplemental Public Notice describing the alternatives that had evolved since the March 22, 2011 Public Meeting. The Public Notice included graphics depicting the modified layout for Alternative B, which included the relocated frontage road on the northwest quadrant of the intersection, and the new Alternative D interchange concept, that emerged from a combination of Conceptual Alternatives A and C. The Public Notice was sent to all citizens that attended the March 22, 2011 Public Meeting as well as to other individuals that were already on the project mailing list. The updated master mailing list is included in **Appendix E**. According to LADOTD project staff, no responses were received relative to this supplemental Public Notice.

**6.3 Agency and Stakeholder Coordination**

**Elected Officials and Regulatory Agency Coordination**

State and local public officials, as well as regulatory agencies were notified of the March 22, 2011 Public Meeting by mail. These officials and agency representatives were invited to attend

the public meeting to offer comments regarding the proposed project. Two elected officials and several community leaders attended the meeting.

In lieu of attending the March 22, 2011 Public Meeting, several agencies provided additional comments for the record. These agencies included:

- The Federal Emergency Management Agency (FEMA), Region IV Mitigation Division;
- The United States Environmental Protection Agency, Sole Source Aquifer Program;
- The Louisiana Department of Environmental Quality, Business and Community Outreach Division; and
- The Louisiana Department of Children and Family Services.

Copies of the *US 90 and LA 318 Interchange Improvements Public Meeting Record* were distributed to regulatory agencies and elected officials. One response was received following this distribution. The LA Department of Agriculture provided a response dated May 9, 2011 in support of an alternative that would provide an overpass for US 90 over LA 318.

Consultation with the St. Mary Parish Director of Planning and Floodplain Administrator was undertaken early in the EA process to obtain information relative to planned development and the 100-year floodplain. Copies of agency correspondence, mailing lists, and meeting records are included in **Appendix E**.

### **Stakeholder Coordination**

Coordination with study area key stakeholders was undertaken during the development of the EA. A meeting with the St. Mary Sugar Co-operative was held on January 27, 2011 to discuss their industry operations relative to the proposed interchange improvements. Traffic and safety concerns were raised with regard to an interchange configuration that included LA 318 being elevated over US 90 because of large trucks and tractor-trailers.

Coordination between LADOTD, FHWA and representatives of the Southern Mutual Help Association / Caribbean Winds subdivision developer has been on-going since the March 22, 2011 Public Meeting. A detailed description of this coordination effort is presented in **Section 4.2** under the Public Outreach subsection of Environmental Justice. A copy of all stakeholder correspondence is included in **Appendix E**.

## **6.4 Draft EA Distribution**

The distribution list of recipients of the Draft EA is included in **Table 6-3**. The distribution list includes Federal, state, and local agencies, elected officials, community organizations, key stakeholders, and libraries. Recipients of the Executive Summary will also be provided an electronic version portable disk format (pdf) of the Draft EA on CD.

**Table 6-3  
EA Distribution List**

#	Recipient	Address	Contact	No. of Draft EA Copies	No. of Executive Summary Copies
<b>Lead Agencies</b>					
1	LA Department of Transportation and Development	1201 Capitol Access Road Room 502 P Baton Rouge, LA 70802 P.O. Box 94245 Baton Rouge, LA 70804-9245	Ms. Noel Ardoin, P.E.	15 and 1 CD	
2	LA Department of Transportation and Development	428 Hugh Wallis Road Lafayette, LA 70502-3648	Mr. Mike Moss	5	
3	Federal Highway Administration	5304 Flanders Drive, Suite A Baton Rouge, LA 70808-4348	Ms. Lismary Gavillan	1	
<b>Federal Agencies</b>					
4	US Army Corps of Engineers, New Orleans District Regulatory Branch	USACE NOD 7400 Leake Ave. New Orleans, LA 70118 P. O. Box 60267 (70160-0267)	Ms. Karen Oberlis	1	
5	US Coast Guard, 8th District	Hale Boggs Federal Building 500 Poydras New Orleans, LA 70130	District Commander		1
6	US Department of Agriculture, Natural Resources Conservation Service	3737 Government Street Alexandria, LA 72302	Mr. Kevin Norton	1	
7	US Department of Commerce, Economic Development Administration	504 Lavaca Street, Suite 1100 Austin, TX 78701-2858			1
8	US Department of the Interior, Office of Environmental Policy and Compliance	1301 Young Street, Suite 1124 Dallas, TX 75202	Mr. Willie Taylor, Director Ms. Mary Blanchard, Deputy Director	1 and 5 CDs	
9	US Department of Commerce, National Oceanic and Atmospheric Administration- Southeast Regional Office	263 13th Avenue, South St. Petersburg, FL 33701	Mr. Miles Croom	1	
10	US Environmental Protection Agency, Region 6	Fountain Place 12 <sup>th</sup> Floor, Suite 1200 1445 Ross Avenue - 6ENXP Dallas, TX 75202-2733	Mr. Michael Bechdol	1 and 3 CDs	
11	US Fish and Wildlife Service, Lafayette Ecological Service Field Office	646 Cajundome Blvd. Suite 400 Lafayette, LA 70506	Mr. James F. Boggs	1	
12	US Geological Survey, LA	3535 S. Sherwood Forest Blvd. Suite 120 Baton Rouge, LA 70816	Mr. Charles Demas		1
13	US Federal Emergency Management Agency, Region 6	800 North Loop 288 Denton, TX 76209-3698	Ms. Mayra G. Diaz, Natural Hazards Program Specialist	1	

**Table 6-3  
EA Distribution List**

#	Recipient	Address	Contact	No. of Draft EA Copies	No. of Executive Summary Copies
<b>Louisiana State Agencies</b>					
14	LA Department of Agriculture and Forestry, Office of Soil and Water Conservation	P. O. Box 3554 Baton Rouge, LA 70821-3554 5825 Florida Boulevard Baton Rouge, LA 70806	Mr. Bradley Spicer	1	
15	LA Department of Agriculture and Forestry, Office of Forestry	9418 Highway 165 Oberlin, LA 70555-3521	Mr. Keith Aymond	1	
16	LA Department of Natural Resources, Office of Mineral Resources	P.O. Box 2827 Baton Rouge, LA 70821-2827 617 North 3rd Street Baton Rouge, LA 70802	Mr. Jody Montelaro		1
17	LA Department of Transportation and Development, Floodplain Management Program	P. O. Box 94275 Baton Rouge, LA 70804-9245 8900 Jimmy Wedell Baton Rouge, LA 70807	Ms. Pamela L. Miller, CFM	1	
18	LA Department of Public Safety, Highway Safety Commission	P. O. Box 66336 Baton Rouge, LA 70896 7919 Independence Blvd., Ste 2100 Baton Rouge, LA 70806	Mr. John LeBlanc		1
19	LA Department of Wildlife and Fisheries	P.O. Box 98000 Baton Rouge, LA 70898-9000 2000 Quail Drive Baton Rouge, LA 70808	Mr. Jay DePrato Mr. Russell Watson	1	1
20	LA Department of Wildlife & Fisheries, Louisiana Natural Heritage Program	P.O. Box 98000 Baton Rouge, LA 70898-9000 2000 Quail Drive Baton Rouge, LA 70808	Ms. Amity Bass	1	
21	LA Department of Culture, Recreation and Tourism, Section 106 Review	P.O. Box 44247, Capitol Annex Baton Rouge, LA 70804 Division of Archeology 1051 North 3 <sup>rd</sup> Street Baton Rouge, LA 70802	Ms. Pam Breaux, Ms. Rachel Watson	1	
22	LA Department of Economic Development, Office of Commerce and Industry	P. O. Box 94185 Baton Rouge, LA 70804-9185 1051 North 3 <sup>rd</sup> Street Baton Rouge, LA 70802	Mr. Don Hutchinson	1	
23	LA Department of Environmental Quality	P.O. Box 4303 Baton Rouge, LA 70821-4303 602 North 5 <sup>th</sup> Street Baton Rouge, La 70802	Ms. Beth Dixon	1	
24	LA Department of Natural Resources, Office of Conservation	P.O. Box 94275 Baton Rouge, LA 70804-9275 617 North 3 <sup>rd</sup> Street, 9 <sup>th</sup> Floor Baton Rouge, LA 70802	Mr. James H. Welsh, Commissioner of Conservation	1	

**Table 6-3  
EA Distribution List**

#	Recipient	Address	Contact	No. of Draft EA Copies	No. of Executive Summary Copies
25	La Department of Natural Resources, Coastal Management Division	P.O. Box 44487 Baton Rouge, LA 70804-4487 617 North 3 <sup>rd</sup> Street, Suite 1048 Baton Rouge, LA 70802	Ms. Christine Charrier, Mr. Karl Morgan	1	
26	LA Department of Health and Hospitals, Office of Public Health	628 N. 4th Street Baton Rouge, LA 70802	Mr. Jake Causey		1
27	LA Forestry Service	2316 S. McArthur Drive Alexandria, LA 71301-3037			1
28	LA Department of Children and Family Services	627 North 4 <sup>th</sup> Street Baton Rouge, LA 70802	Ms. Martina Stribling, Deputy Undersecretary		1
29	LA Department of Economic Development, Office of Business Development	1051 N. 3rd Street Baton Rouge, LA 70802-5239	Mr. Don Hutchinson		1
30	LA Forestry Service	2316 S. McArthur Drive Alexandria, LA 71301-3037			1
31	LA Good Roads Association	646 North Street Baton Rouge, LA 70802	Mr. Preston Eggars		1
32	LA Office of Management and Finance	P.O. Box 3776 Baton Rouge, LA 70821	Ms. Ruth Johnson		1
33	LA State Attorney General, Environmental Out Reach Division	1885 N. 3rd Street Baton Rouge, LA 70802	Mr. James Caldwell		1
34	LA State Land Office, Division of Administration	P.O. Box 44124 Baton Rouge, LA 70804	Mr. Charles St. Romain		1
35	LA State Planning Office	Capitol Annex Building 2nd Floor Baton Rouge, LA 70804			1
36	LA State Police Troup C	627 North 4th Street Baton Rouge, LA 70802			1
37	LA Office of Indian Affairs	150 N. Third Baton Rouge, LA 70801	Mr. Mark Ford	1	
38	Inter-Tribal Council of LA, Inc.	8281 Goodwood Boulevard, Suite I-2 Baton Rouge, LA 70808	Mr. Kevin Billiot	1	
39	Chitimacha Tribe of LA	105 Houma Drive Charenton, LA 70523	Ms. Kimberly S. Walden	1	
<b>Federal and State Elected Officials</b>					
40	US House of Representatives	206 Cannon HOB Washington, DC 20515	Honorable Jeff Landry		1
41	US Senate	500 Poydras Street, Room 1005 New Orleans, LA 70130	Senator Mary Landrieu		1

**Table 6-3  
EA Distribution List**

#	Recipient	Address	Contact	No. of Draft EA Copies	No. of Executive Summary Copies
42	US Senate	2800 Veterans Boulevard, Suite 201 Metairie, LA 70002	Senator David Vitter		1
43	LA House of Representatives	St. Mary Parish Courthouse, Room 304 Franklin, LA 70538	Honorable Sam Jones		1
44	LA House of Representatives	P.O. 1809 Gray, LA 70359-1809	Honorable Joe Harrison		1
45	LA State Senate	1103 Eighth Street Morgan City, LA 70380	Senator D. A. "Butch" Gautreaux		1
<b>Local Officials, Agencies, and NGO</b>					
46	St. Mary Parish Police Jury	500 Main St. Courthouse 5th Floor Franklin, LA 70538	Paul Naquin, Jr., President	1	11
47	St. Mary Parish Planning Department	500 Main St. Courthouse 5th Floor Franklin, LA 70538	Ms. Tammy Luke, Floodplain Administrator	2	
48	City of Franklin	1526 Sterling Road Franklin, LA 70538-3860	Mayor Raymond Harris		1
49	Town of Baldwin	P. O. Box 213 Baldwin, LA 70514-213	Mayor Wayne Breaux		1
50	City of Jeanerette	1010 Main Street Jeanerette, LA 70544	Mr. Arthur Verret		1
51	St. Mary Parish School Board	P.O. Box 170 Centerville, LA 70522			1
52	St. Mary Parish Sheriff	P.O. Box 571 Franklin, LA 70538	Mr. David Naquin		1
53	St. Mary Parish Soil & Water Conservation District	500 Main St. Courthouse Room 310 Franklin, LA 70538			1
54	St. Mary Parish Civil Defense	P.O. Box 247 Patterson, LA 70392-0247			1
55	St. Mary Parish Chamber of Commerce	7332 Hwy 182 East Morgan City, LA 70381			1
56	St. Mary Parish Farm Bureau Federation	1500 Hospital Avenue Franklin, LA 70538	Mr. Mark Chauvin		1
57	LA Economic Development	P.O. Box 395 Patterson, LA 70392	Ms. Anne M. Perry		1
58	South LA Economic Council	P.O. Box 2048-NSU Thibodaux, LA 70310	Mr. Vic Lafont		1
59	Cajun Coast Visitors & Convention Bureau	P.O. Box 2332 Morgan City, LA 70381	Ms. Carrie Stansbury		1
60	West St. Mary Civic Center	P. O. Box 579 Franklin, LA 70538	Ms. Virginia Sutton	2	
61	Sierra Club / Delta Club	P.O. Box 19469 New Orleans, LA 70179-0469			1

**Draft Environmental Assessment  
Interchange at US 90 and LA 318**

**Table 6-3  
EA Distribution List**

#	Recipient	Address	Contact	No. of Draft EA Copies	No. of Executive Summary Copies
62	I-49 International Coalition	P.O. Box 404 Gretna, LA 70054	Mayor Ronnie Harris		1
<b>Libraries</b>					
63	LA State Library	Recorder of State Documents 701 North 4 <sup>th</sup> Street Baton Rouge, LA 70802	Ms. Ferol Foos	5	
64	University of New Orleans	University of New Orleans Earl K. Long Library State Documents 2000 Lakefront New Orleans, LA 70148	Mr. K. E. Owen	1	
65	McNeese State University	Lether E. Frazar Memorial Library State Documents 4205 Ryan Street Lake Charles, LA 70609	Document Librarian	1	
66	University of LA at Lafayette	University of Louisiana at Lafayette Edith Garland Dupre Library State Documents 302 E. St. Mary Boulevard Lafayette, LA 70504	Document Librarian	1	
67	St. Mary Parish Library	206 Iberia Street Franklin, LA 70538-4906	Document Librarian	1	
<b>Stakeholders</b>					
68	Port of West St. Mary	15301 Highway 182 W Franklin, LA 70538	Mr. David Allain		1
69	St. Mary Sugar Co-op	20056 Hwy 182 West Jeanerette, LA 70544-8532	Mr. Dave Thibodeaux		1
70	Couhig Partners, LLC (representatives for Southern Mutual Help Association / Caribbean Winds)	643 Magazine Street, Suite 300 New Orleans, LA 70130	Mr. Rob Couhig Ms. Lisa Maher	1	
71	Lockett Center Four Corners	Linda's One Stop 1534 Cypremort Road Jeanerette, LA 70544	Mrs. Linda Lockett	1	
72	Mathews Program Research & Development, LLC	2208 Highway 318 Jeanerette, LA 70544	Mr. Craig Mathews	1	
<b>Total Copies</b>				<b>58<sup>1</sup></b>	<b>50<sup>2</sup></b>

Notes:

1. 58 copies of Draft EA plus 9 CD's containing the Draft EA
2. 50 copies of the Executive Summary plus 50 CD's containing the Draft EA

## **6.5 Public Hearing**

A Public Hearing will be held immediately following the distribution of the Draft EA to provide citizens with an opportunity to view the alternatives being presented in the Draft EA and to review estimated impacts pertaining to the build alternatives. A 30-day comment period will be afforded to allow ample time for review of the Draft EA.

Following the 30-day comment period, a complete synopsis of the Public Hearing will be compiled within a Public Hearing record. Comments received will be grouped into similar topics and/or areas of concerns. The Final EA will address each comment and the disposition of how each comment was addressed will be summarized within the Final EA in the comment / response summary table.

# CHAPTER 7.0

## 7.0 REFERENCES CITED

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# CHAPTER 8.0

## 8.0 ACRONYM LIST

ADT	Average Daily Traffic
APE	Area of Potential Effects
ASTM	American Society for Testing and Materials
BMP	Best Management Practice
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
CMD	Coastal Management Division
CMF	Crash Modification Factor
CORRACTS	Corrective Action Reports
CSD	Context Sensitive Design
CSS	Context Sensitive Solutions
CUP	Coastal Use Permit
CWA	Clean Water Act
dbh	Diameter at Breast Height
EA	Environmental Assessment
EDR	Environmental Data Resources, Inc.
EO	Executive Order
ESA	Endangered Species Act
FCIR	Farmland Conversion Impact Rating Form
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act

GIS	Geographic Information System
HCM	Highway Capacity Manual
HHS	Historic Standing Structures
HSM	Highway Safety Manual
LADOTD	Louisiana Department of Transportation and Development
LCRP	Louisiana Coastal Resources Program
LDEQ	Louisiana Department of Environmental Quality
LDNR	Louisiana Department of Natural Resources
LEP	Limited English Proficiency
LNHP	Louisiana Natural Heritage Program
LOS	Level of Service
LPDES	Louisiana Pollutant Discharge Elimination System
LUST	Leaking Underground Storage Tank
LWCF	Land and Water Conservation Fund Act
MOT	Maintenance of Traffic
MPH	Miles per Hour
n/a	Not Applicable
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHS	National Highway System
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities/Superfund List
NRC	National Response Center
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
RATFA	State Remedial Action Trust Fund Act
RCRA	Resource Conservation and Recovery Act

RECAP	Risk Evaluation/Corrective Action Program
SAFETEA-LU	Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users
SHPO	State Historic Preservation Officer
SMHA	Southern Mutual Help Association, Inc.
SONRIS	Strategic Online Natural Resources Information System
SOV	Solicitation of Views
SWPPP	Storm Water Pollution Prevention Plan
TNM	Traffic Noise Model
USDOT	US Department of Transportation
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
USHHS	US Department of Health and Human Services
UST	Underground Storage Tank