DRAFT INDIVIDUAL ENVIRONMENTAL REPORT SUPPLEMENT

LAKE PONTCHARTRAIN AND VICINITY, CHALMETTE LOOP LEVEE AND CAERNARVON FLOODWALL,

ORLEANS, ST. BERNARD, AND PLAQUEMINES PARISH, LOUISIANA

IERS # 8,9,10.a

US Army Corps of Engineers®

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1. INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Mississippi Valley Division, New Orleans District (CEMVN), has prepared this Individual Environmental Report Supplement (IERS) # 8,9,10.a to evaluate the potential impacts associated with the proposed modification to flood protection improvements to the Lake Pontchartrain and Vicinity (LPV) Hurricane and Storm Damage Risk Reduction System (HSDRRS) in Orleans, St. Bernard, and Plaquemines Parish, Louisiana.

The CEMVN initially evaluated the potential impacts associated with constructing the selected plans for HSDRRS around the Chalmette Loop area of the Lake Pontchartrain and Vicinity in three IERs. A Decision Record for IER #8 titled Lake Pontchartrain and Vicinity (LPV), Bayou Dupre Control Structure, St. Bernard Parish, Louisiana was signed on June 23, 2009. IER #8 evaluated the potential effects associated with the construction and improvement of a flood control structure on Bayou Dupre (LPV 144.02). A Decision Record for IER #9 titled LPV, Caernarvon Floodwall, St. Bernard Parish, Louisiana was signed on February 8, 2010. IER #9 evaluated the potential effects associated with construction of a new floodwall alignment to the west of the Caernarvon Canal to replace the existing Caernarvon Floodwall (LPV 149). A Decision Record for IER #10 s titled LPV Chalmette Loop Levee, St. Bernard Parish, Louisiana was signed on May 26, 2009. IER #10 evaluated the potential effects associated with raising the Chalmette Loop Levee reaches LPV 145, LPV 146, LPV 147, and LPV 148.02 to the 100-year level of risk reduction (figure 1). These original IERs are incorporated by reference into this IERS 8,9,10.a. Copies of the documents and other supporting information are available upon request or at www.nolaenvironmental.gov.

To evaluate the potential impacts for a design change to the original Chalmette Loop T-wall project, the CEMVN is preparing this IERS #8,9,10.a entitled "Lake Pontchartrain and Vicinity, Bayou Dupre Control Structure, Caernarvon Floodwall and Chalmette Loop, Orleans, St. Bernard, and Plaquemines Parishes, Louisiana. The proposed modification described in this supplement pertains to enabling operation and maintenance access for the LPV 144 – LPV 149 reaches and a tie-in to the Mississippi River Levee.

IERS #8/9/10.a has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) and the Council on Environmental Quality's (CEQ) Regulations (40 Code of Federal Regulations [CFR] 1500-1508), and the USACE Engineering Regulation (ER), ER 200-2-2 Environmental Quality, Procedures for Implementing NEPA (33 CFR 230). The execution of an IER, in lieu of a traditional environmental assessment (EA) or environmental impact statement (EIS), is provided for in ER 200-2-2, Procedures for Implementing NEPA (33 CFR 230), and pursuant to the CEQ Regulations for

Figure 1: Chalmette Loop Levee and T-wall reaches identified by LPV 144.02, 145, 146, 147, 148.02, and 149.

Implementing NEPA (40 CFR 1506.11). The Alternative Arrangements can be found at www.nolaenvironmental.gov, and are herein incorporated by reference.

The CEMVN implemented Alternative Arrangements on 13 March 2007, under the provisions of the CEQ Regulations for Implementing NEPA (40 CFR 1506.11). The Alternative Arrangements were developed and implemented in the aftermath of Hurricanes Katrina and Rita in order to evaluate environmental impacts arising from hurricane and storm damage risk reduction (HSDRRS) projects in a timely manner, utilizing the NEPA emergency procedures found at 40 CFR 1506.11. The Alternative Arrangements were published on 13 March 2007 in 72 FR 11337, and are available for public review at www.nolaenvironmental.gov.

This draft IERS #8,9,10.a will be distributed for a 30-day public review on January 14, 2013. Comments received during the 30-day comment period from federal and state resource agencies, tribal governments and citizens will be included in Appendices B (Public Comments) and D (Agency Coordination). A public meeting would be considered if requested during the review period. After the 30-day public review period, and public meeting, if held, the CEMVN Commander will review all comments received and determine if they rise to the level of being substantive in nature or not. If the comments are considered to not be substantive, the District Commander would be expected to make a decision on the proposed action. If a comment(s) is determined to be substantive in nature, an addendum to the IER would be prepared and published for an additional 30-day public review period. Once the District Commander makes a decision on the proposed action it will be documented in an IER Decision Record.

1.1 BACKGROUND

Selected Plan for IER #8, IER #9 and IER #10 and Constructed "De Minimus" Modifications

IER #8 disclosed the potential impacts associated with constructing LPV 144.02 a new flood control structure with steel sector gates and floodwall tie-ins on the floodside of and adjacent to the existing (old) Bayou Dupre structure (figure 2). The new flood control structure would be built to an elevation of +31 ft North American Vertical Datum 1988 (NAVD88). The completed new structure would be operated in and maintained in the open position most of the time and closed during storms.

During quality control testing of the new IER #8 Bayou Dupre sector gate a problem was discovered with the pintle fabrication that requires replacement of the lower pintle ball and bushing. To complete the necessary repairs, the structure must be dewatered and components replaced outside of the 2012 Hurricane Season. The proposed work is anticipated to start in March 2013 and would be completed in 90 days. A reevaluation memo for this "de minimus" modification to make the repairs was coordinated with members of the interagency team via email dated April 11, 2012. The U.S. Fish and Wildlife Service (USFWS) concurred with our threatened and endangered species "not likely to adversely effect" determination via fax dated April 13, 2012. The Louisiana Department of Natural Resources (DNR) concurred with our negative coastal zone consistency determination by letter dated April 13, 2012 which stated that the project does not demonstrate any reasonable foreseeable effects on coastal uses or resource.

IER #8 originally described that "the old structure would be de-authorized and left in the open position," however, at the request of the local sponsor and for safety/liability reasons the old Bayou Dupre sector gate leaves would be removed and the guidewalls extended to cover this portion of the structure where the old gate leaves were removed, the electrical systems would be disarmed, walkways blocked, and generator removed. The concrete walls and foundation elements would remain in place and no changes would be made to the control house or generator building. Benefits derived from making the old gate inoperable include reduced maintenance costs, eliminating theft opportunities and improved boater and pedestrian safety.

IER #9 disclosed the potential impacts associated with constructing a 0.5 mile floodwall tie-in to the Mississippi River Levee (MRL) system, new floodgates across Louisiana (LA) Highway 39 and the Norfolk Southern railroad; a floodwall (T-wall) to an elevation of approximately +26 ft NAVD88 along the east bank of the Caernarvon Freshwater Diversion Canal (CFDC) turning southeast and then east to the Caernarvon Canal, a 56 ft wide (+26 ft NAVD88) sector gate; and a tie-in to the LPV 148.02 levee/t-wall. This construction is for the most part complete however the tie-in to the MRL was constructed to an approximate +20 ft elevation. Access to work sites was provided via arterial roadways such as Interstate 510, Highway 47, Highway 46 and Highway 39, and other local roads. Staging areas were used in the vicinity of the existing levee right of way (figure 3).

Figure 2: IER #8 Bayou Dupre LPV 144.02 Construction Staging Area

IER #10 disclosed the potential impacts for constructing approximately 22 miles of floodwall on top of the existing Chalmette Loop earthen levee (figure 4 and 5). The T-wall is largely now constructed, however, impervious fill instead of constructing the splash pad could be placed from the top of the floodwall footing and slope to the existing grade in order to reduce erosive forces by providing a slope instead of a vertical concrete face. The proposed slope will be 3 horizontal on 1 vertical. The impervious fill thickness will vary from 3' at the flood wall to zero where it meets the existing slope. The existing vegetation will be stripped prior to placing the fill. Once the fill is added and compacted, Bermuda grass turf would be re-established per current USACE specifications following construction (figure 5). The T-wall elevation ranges from EL +29 ft NAVD88, except along the Mississippi River Gulf Outlet (MRGO) where the elevation varies from 29 to 31 ft. At the intersection of the Chalmette Loop Levee and Highway 46, a bridge would be built over the new T-wall. After evaluating additional constructability factors, safety, operability, scheduling, and cost analysis for gates, two 45 ft wide trolley gates across Hwy 46 were constructed instead of constructing a bridge. The existing gate across the adjacent Bayou Road was replaced by a taller gate.

Figure 3: IER #9 Staging Areas and Easements for LPV 149 Caernarvon Floodwall.

Figure 4: Wildlife access gates/ramps constructed along LPV 145, 146, and 148.02 T-wall.

In order to accommodate terrestrial wildlife movement, the construction of access areas for wildlife to traverse the T-wall was required. This feature consisted of two earthen ramps or gates to be constructed within the LPV 145, LPV 146 and LPV 148.02 reaches with the intent that wildlife would have access to both sides of the T-wall as needed. Instead of constructing only two earthen ramps or gates per reach for wildlife access, three earthen ramps with roller gates were constructed for these reaches (figure 4). The gates were to remain in the "open" position unless a storm was approaching at which time they would be closed just before the storm made landfall and opened directly after the storm passed. The modification to construct roller gates was coordinated with Non Governmental Organizations on March 3, 2011 and the resource agencies on April 4, 2011. A threatened and endangered species "no effect" determination was coordinated with USFWS on March 3, 2010. Site visits for interagency team members to view the wildlife access gates were conducted on July 14 and July 22, 2011.

In August 2011 a need to temporarily close the gates due to an impending storm arose and the action was coordinated with the USFWS via email on September 1, 2011 and again on August 24, 2012 who indicated that while this change does not represent an ideal condition for wildlife, they recognize the need to ensure public safety during impending storms. In August they were advised that the wildlife gates would remain closed for the duration of the 2012 hurricane season. As a means of documenting wildlife gate operations, the USFWS requested they be notified when the gates were opened and closed. A reevaluation memo describing this "de minimus" change was coordinated with the interagency team on September 12, 2011 at the monthly interagency meeting. A "no effect" determination to coastal resources was coordinated with the Louisiana Department of Natural Resources via email dated September 26, 2011. As such, no additional NEPA documentation was required because these minor modifications were within the same footprint (or smaller) of the area impacted and considered less of an impact by providing additional access, constructability, scheduling and cost savings.

Construction access for LPV 145 was accomplished via a temporary bridge across Bayou Bienvenue and by barge and once the T-wall construction was complete the temporary bridge across Bayou Bienvenue was removed. Approximately 18 acres, located on both the flood side and protected side adjacent to Bayou Bienvenue, were used as staging areas for LPV 145 (figure 6). In addition, approximately 7 acres, located on both the flood side and protected side adjacent to Bayou Dupre, were used as staging areas for LPV 145 and LPV 146 (figure 2). The staging areas were sited primarily on the existing levee or on dredge spoils deposited during construction of the MRGO.

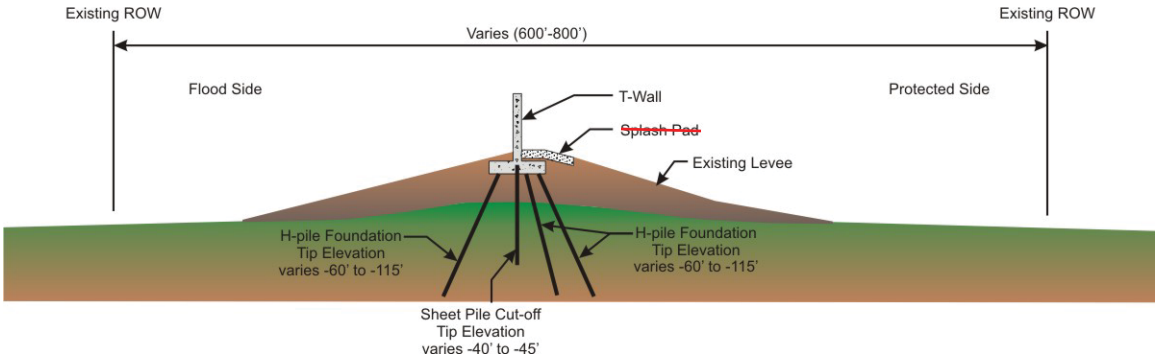

Figure 5: Typical Section of the Chalmette Loop T-wall constructed on the existing Levee.

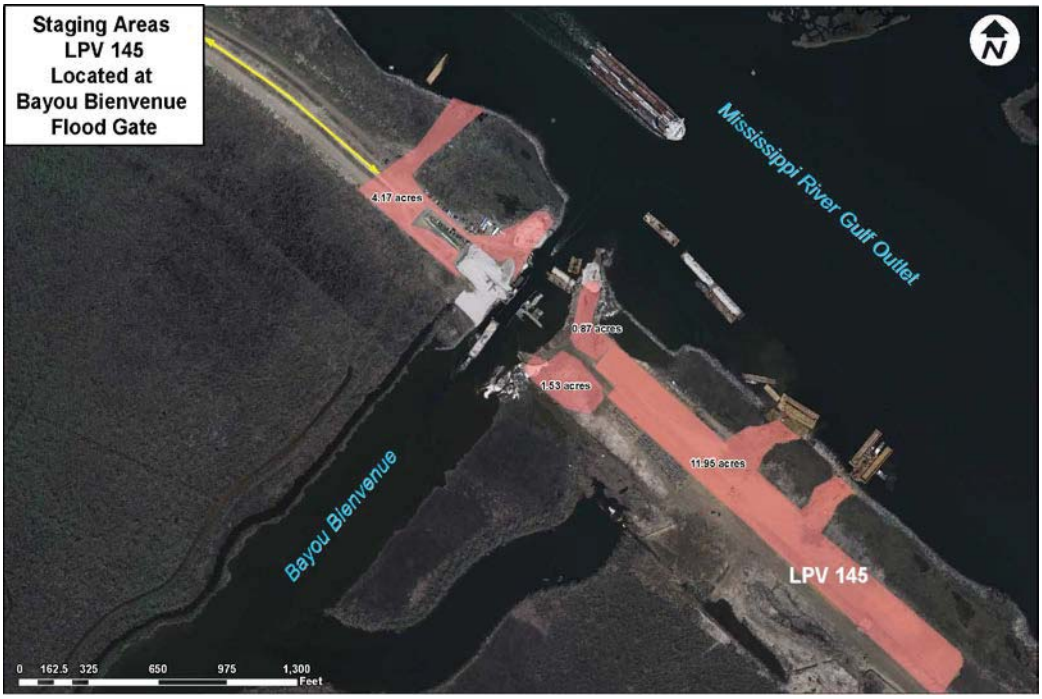

Figure 6: Staging areas used near Bayou Bienvenue to construct LPV 145.

1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed action is to provide access for maintenance of the 100-year level of risk reduction for Orleans, St. Bernard and Plaquemines Parish. The proposed action results from a defined need to reduce flood risk and storm damage to residences, businesses, and other infrastructure from hurricanes (100-year storm events) and other high water events. The majority of levees in this system were damaged due to overtopping during Hurricane Katrina. The damaged levees have been repaired to the pre-Katrina design height and a majority of the HSDRRS has taken place and when complete the HSDRRS would lower the risk of harm to citizens and minimize damage to infrastructure during a storm event. .The modifications proposed in IERS 8,9,10.a would allow for increased access and availability to operate and maintain the existing 22.5 mile levee/T-wall that surrounds the Chalmette Loop including the 9 wildlife access gates, and enables quick access prior to and immediately after storm events. The completed HSDRRS provides adequate structural measures to meet the 100-year level of hurricane and storm damage risk reduction for St. Bernard Parish and provides 0.2% or 500 year event resiliency by preventing overflow of storm surge. The safety of people in the region is the highest priority of the USACE CEMVN.

1.3 AUTHORITY FOR THE PROPOSED ACTION

The proposed action was authorized by the Department of Defense (DoD), Emergency Supplemental Appropriations to Address Hurricanes in the Gulf of Mexico, and Pandemic Influenza Act of 2006 (3rd Supplemental – Public Law [PL] 109-148, Chapter 3, Construction, and Flood Control and Coastal Emergencies) and the Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (PL 109-234; 4th Supplemental). Additional Supplemental Appropriations include the U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act of 2007 (5th Supplemental - PL 110-28, Title IV, Chapter 3, Flood Control and Coastal Emergencies). Additional funding was provided in the Fiscal Year 2008 Emergency Supplemental Funding, PL 110-252 (6th Supplemental).

1.4 PRIOR REPORTS

A number of studies and reports on water resources development in the proposed project area have been prepared by the USACE, other Federal, state, and local agencies, research institutes, and individuals. Pertinent studies, reports, and projects not previously discussed in IER #8, 9, or 10 are summarized below:

- On 30 May 2012, the CEMVN Commander signed a Decision Record on IERS #11.d entitled, “Improved Protection on the Inner Harbor Navigation Canal, Orleans and St. Bernard Parishes, Louisiana.” The document evaluates the potential effects associated with schedule delays for constructing the Seabrook Gate Complex as described in the original IER #11 Tier 2 Pontchartrain.

- On 13 January 2012, the CEMVN Commander signed a Decision Record for IERS #25.a entitled “Government Furnished Borrow Material #3, Orleans Parish, Louisiana.” The document evaluates the after the fact modifications to IER #25, which include placing approximately 105,000 cubic yards of excess material, known as Recycled Embankment Material (REM), on a 22.4-acre site.

- On 11 January 2012, the CEMVN Commander signed a Decision Record on IERS #33.a entitled, "West Bank and Vicinity and Mississippi River Levee Co-Located Levees, Plaquemines Parish and Orleans Parish, Louisiana." The document was prepared to evaluate the potential impacts associated with the proposed construction and maintenance of Resilient Features in order to improve the resiliency and longevity of previously implemented Engineered Alternative Measures, addressed under IER #33, along the West Bank and Vicinity – Mississippi River Levee Co-Located Project.

- On 19 December 2011, the CEMVN Commander signed a Decision Record on IER #35 entitled, "Contractor-Furnished Borrow Material #8, Jefferson, Terrebonne, and St. John the Baptist Parishes, Louisiana." The document was prepared to evaluate the potential impacts associated with the actions taken by commercial contractors as a result of excavating borrow areas for use in construction of the HSDRRS.

- On 7 September 2011, the CEMVN Commander signed a Decision Record on the Addendum for IERS #15.a entitled "Lake Cataouatche Levee Jefferson Parish, Louisiana." The document evaluates the horizontal direction drill relocation of a Chevron pipeline.

- On 6 July 2011, the CEMVN Commander signed a Decision Record on IERS #1b entitled "La Branche Wetlands Levee LPV 04.2B Access Road and Ditch Relocation St. Charles Parish, Louisiana." The document evaluates the potential impacts associated with relocating an access road onto Pontchartrain Levee District property and providing proper access to the levee reach.

- On April 21, 2011, the CEMVN Commander signed a Decision Record on the IERS #13a entitled "West Bank and Vicinity Hero Canal Levee and Eastern Tie-in, Plaquemines Parish, Louisiana." IERS #13a contains a modification to the original plan which includes the potential closing of Hero Canal for a maximum of approximately 60 days and a minimum of approximately 30 days within a 90 day time frame. The proposed action is located in Plaquemines Parish near New Orleans, Louisiana.

- On 22 March 2011, the CEMVN Commander signed a Decision Record on IERS #11.c entitled "Improved Protection on the Inner Harbor Navigation Canal, Orleans and St. Bernard Parishes, Louisiana." The document evaluates the potential impacts associated with the construction of those actions approved in IER #11 Tier 2 Borgne, with the exception of expanded size of the access channel due to erosion of the access channel due to erosion of the bankline.

- On February 22, 2011, the CEMVN Commander signed a Decision Record on the IERS #12.a entitled "GIWW, Harvey and Algiers Levees and Floodwalls, Jefferson, Orleans and Plaquemines Parishes, Louisiana." The document was prepared to evaluate the potential impacts associated with the construction of an access road, the use of a pontoon bridge in the V-Line Levee Canal, and the placement of riprap along an 800-foot length of the V-Line Canal.

- On February 2, 2011, the CEMVN Commander signed a Decision Record on the IERS #12/13 Waterline entitled "GIWW, Harvey and Algiers Levees and Floodwalls/Hero Canal Levee and Eastern Tie-in, Plaquemines Parish, IERS #12/13 Waterline." The document was prepared to evaluate the potential impacts associated with operations and maintenance of the Western Closure Complex.

- On 29 November 2010, the CEMVN Commander signed a Decision Record on IERS #11.b entitled "Improved Protection on the Inner Harbor Navigation Canal, Orleans and St. Bernard Parishes, Louisiana." The document evaluates the potential effects associated with restoring and reinforcing 4.6 miles of levees and floodwalls along the Inner Harbor Navigation Canal (IHNC) to meet current HSDRRS design guidelines for seepage and stability.

- On 7 October 2010, the CEMVN Commander signed a Decision Record on IER #27 entitled, "Outfall Canal Remediation on the 17th Street, Orleans Avenue and London Avenue Canals, Jefferson and Orleans Parishes, Louisiana. The document was prepared to evaluate the potential impacts associated with strengthening of floodwalls along these three outfall canals.

- On 3 May 2010, the CEMVN Commander signed a Decision Record on IERS #7 entitled "Lake Pontchartrain and Vicinity, New Orleans East Lakefront to Michoud Canal, Orleans Parish, Louisiana." The document evaluates the potential effects associated with proposed project revisions to the original IER #7, including constructing a temporary bridge across Interstate 10 (I-10), expansion of construction easements for highway tie-ins on LPV 109 for I-10 and Highway 90, expansion of right of way (ROW) on LPV 111 and barge access locations, construction of a T-wall and raising/relocating USFWS pump stations.

- On 1 April 2010, the CEMVN Commander signed a Decision Record on IER #11 Tier 2 Pontchartrain entitled "Improved Protection on the Inner Harbor Navigation Canal, Tier 2 Pontchartrain, Orleans Parish, Louisiana." The document was prepared to evaluate the potential impacts associated with the proposed construction of a storm surge risk reduction structure on the IHNC where it meets Lake Pontchartrain at Seabrook.

- On 8 February 2010, the CEMVN Commander signed a Decision Record on IER #9 entitled "Lake Pontchartrain and Vicinity, Caernarvon Floodwall, St. Bernard Parish, Louisiana." The document evaluates the potential effects associated with the replacement of two floodgates, approximately 1,500 feet (ft) of floodwall, and a levee tie-in at the southwestern terminus of the Chalmette Loop Levee.

- On 8 February 2010, the CEMVN Commander signed a Decision Record on IERS #6 entitled "Lake Pontchartrain and Vicinity, East Citrus Lakefront Levee, Orleans Parish, Louisiana." The document evaluates the potential effects associated with the proposed project modifications to the original IER #6, including construction of new I-walls and a T-wall.

- On 22 January 2010, the CEMVN Commander signed a Decision Record on IER #32 entitled, "Contractor Furnished Borrow Material #6, Ascension, Plaquemines, and St. Charles Parishes, Louisiana." The document was prepared to evaluate the potential impacts associated with the possible excavation of seven proposed contractor furnished borrow areas.

- On 18 December 2009, the CEMVN Commander signed a Decision Record on IERS #3.a entitled "Lake Pontchartrain and Vicinity, Jefferson East Bank, Jefferson Parish, Louisiana." The document evaluates the potential effects associated with the proposed project revisions within the IER #3 project area such as the construction of wave attenuation berms and foreshore along the Jefferson

Parish lakefront and a T-wall, overpass bridge, and traffic detour lane bridge spans at the Lake Pontchartrain Causeway Bridge abutment.

- On 10 December 2009, the CEMVN Commander signed a Decision Record on IERS #11 Tier 2 Borgne entitled "Improved Protection on the Inner Harbor Navigation Canal, Orleans, and St. Bernard Parishes, Louisiana." The document evaluates the potential effects associated with proposed project revisions to the original IER #11 Tier 2 Borgne gate design at Bayou Bienvenue.

- On 28 September 2009, the CEMVN Commander signed a Decision Record on IER #30 entitled, "Contractor Furnished Borrow Material #5, St. Bernard and St. James Parishes, Louisiana, and Hancock County, Mississippi." The document evaluates the potential impacts associated with the possible excavation of three proposed contractor furnished borrow areas.

- On 8 September 2009, the CEMVN Commander signed a Decision Record on IER #29 entitled, "Contractor Furnished Borrow Material #4, Orleans, St. John the Baptist, and St. Tammany Parishes, Louisiana." The document evaluates the potential effects associated with the possible excavation of three proposed contractor furnished borrow areas.

- On 31 July 2009, the CEMVN Commander signed a Decision Record on IER #28 entitled, "Government Furnished Borrow Material #4, Plaquemines, St. Bernard, and Jefferson Parishes, Louisiana." The document evaluates the potential impacts associated with the possible excavation of two government furnished borrow areas, and an access road to a previously approved government furnished borrow area.

- On June 23, 2009, the CEMVN Commander signed a Decision Record on IER #8 entitled "Lake Pontchartrain and Vicinity, Bayou Dupre Control Structure, St. Bernard Parish, Louisiana." The document evaluates the potential effects associated with the proposed improvement and replacement of a flood control structure on Bayou Dupre.

- On 26 May 26 2009, the CEMVN Commander signed the Decision Record for IER #10 entitled "Lake Pontchartrain and Vicinity, Chalmette Loop Levee, St. Bernard Parish, Louisiana." The document evaluates the potential effects associated with construction of an approximately 22 mile T-wall on top of the existing Chalmette Loop levee in St. Bernard, Louisiana.

1.5 INTEGRATION WITH OTHER INDIVIDUAL ENVIRONMENTAL REPORTS

The CEMVN is preparing a draft Comprehensive Environmental Document (CED) that will describe the HSDRRS work completed on a system-wide scale. The draft CED will describe the integration of individual IERs into a systematic planning effort as well as overall cumulative impacts and future operations and maintenance requirements. Additionally, the CED will contain updated information for any IER that had incomplete or unavailable data at the time it was posted for public review.

The draft CED would be available for a 60-day public review period, and posted on www.nolaenvironmental.gov. Additionally hard copies would be available upon request by contacting the CEMVN. A notice of availability would be provided by U.S. postal

service or electronic mail to interested parties and a notice would be placed in national and local newspapers advising of the availability of the draft CED for review. Upon completion of the 60-day review period, comments would be compiled and addressed. A final CED would be prepared upon resolution of comments received, signed by the District Commander, and made available to stakeholders requesting a copy.

Compensatory mitigation for unavoidable impacts associated with this and other proposed HSDRRS projects would be documented in forthcoming mitigation IERs, which are being written concurrently with all other IERs.

1.6 PUBLIC CONCERNS

Throughout southern Louisiana, one of the greatest areas of public concern is reducing the risk of hurricane, storm, and flood damage for businesses and residences, and enhancing public safety during major storm events. Hurricane Katrina forced residents from their homes, temporarily closed many businesses, and due to extensive flooding, made returning to their homes and businesses in a timely manner unsafe. The proposed action for this IERS #8,9,10.a stemmed from concern from the local sponsor to be able to quickly operate to close the wildlife access gates on LPV 145 for an impending storm event as well as inspect and maintain the 22.5 miles of T-wall constructed to reduce the risk of Orleans, St. Bernard, and Plaquemines Parishes from 100 year storm events and resiliency to prevent overflow for 0.2% or 500 year events. Additional opportunities for public involvement will be provided as part of the 30-day public period for this draft SIERS #8,9,10.a and comments will be included within appendix B of the final IER.

2. ALTERNATIVES

2.1 ALTERNATIVES DEVELOPMENT AND PRELIMINARY SCREENING CRITERIA

NEPA requires Federal agencies to rigorously explore and objectively evaluate all reasonable alternatives including the potential for taking "no action" in their alternatives analysis (40 CFR 1502.14(d)). Likewise, Section 73 of the WRDA of 1974 (PL 93-251) requires Federal agencies to give consideration to non-structural measures to reduce or prevent flood damage. These alternatives were discussed and analyzed in IER #8, IER #9 and IER #10.

2.2 DESCRIPTION OF THE ALTERNATIVES

At the time of the completion of IER #8, IER #9 and IER #10, engineering designs had not been finalized for all of the actions and alternatives. Since that time, engineering details of the action have been further developed and revised. Therefore, the changes to the action that could result in further impact to the natural or human environment are being addressed in this IERS #8,9,10.a.

No Action. Under the no action alternative, the Government-approved action as described in IER #8, IER #9 and IER #10 and modified by "de minimus" actions coordinated through environmental reevaluations would be constructed.

Proposed Action. The proposed action would be instrumental in providing 100-year level of risk reduction for Orleans Parish, St. Bernard, and Plaquemines Parishes, Louisiana. Levee reaches LPV 145, 146, 148, and 149 would have a 15 ft wide permanent access road constructed on the protected side, a tie-in to the MRL constructed to elevation +26 ft NAVD88, and a permanent swing span bridge constructed across Bayou Bienvenue.

2.3 PROPOSED ACTION

2.3.1.1 **LPV 144.02 Bayou Bienvenue Swing Span Bridge**

Construction of a permanent 135 ft x 16 ft swing span bridge across Bayou Bienvenue is proposed to allow for access to the "island" of reach LPV 145. The proposed area of impacts is approximately 2.6 acres, of this approximately 0.2 acres is over Bayou Bienvenue where water depths are estimated to be 0-6-ft and where approximately 6 piles would be filled with a 1,000 cubic yards of material for construction of the pivot pier and the east ramp tie-in (figure 7 and 8). The construction duration is estimated to be approximately 8 months and includes all features of a permanently operational swing span bridge, including northwest and southeast approach roads and ramps, mechanical, hydraulic, electrical, existing floodgate control house revisions, navigational lighting, and other necessary features. The proposed layout of the new swing span bridge would be positioned to avoid foundations and sheetpile from the previous temporary bridge. The centerline for the new bridge would be as close as possible to the existing Bayou Bienvenue structure to minimize construction the construction footprint and to protect the structure. Extensions to existing guidewalls and pile cluster would be constructed to the same +12 ft NAVD88 elevation as the existing guidewalls . The new bridge would be operable from both sides of Bayou Bienvenue but would remain in the open position

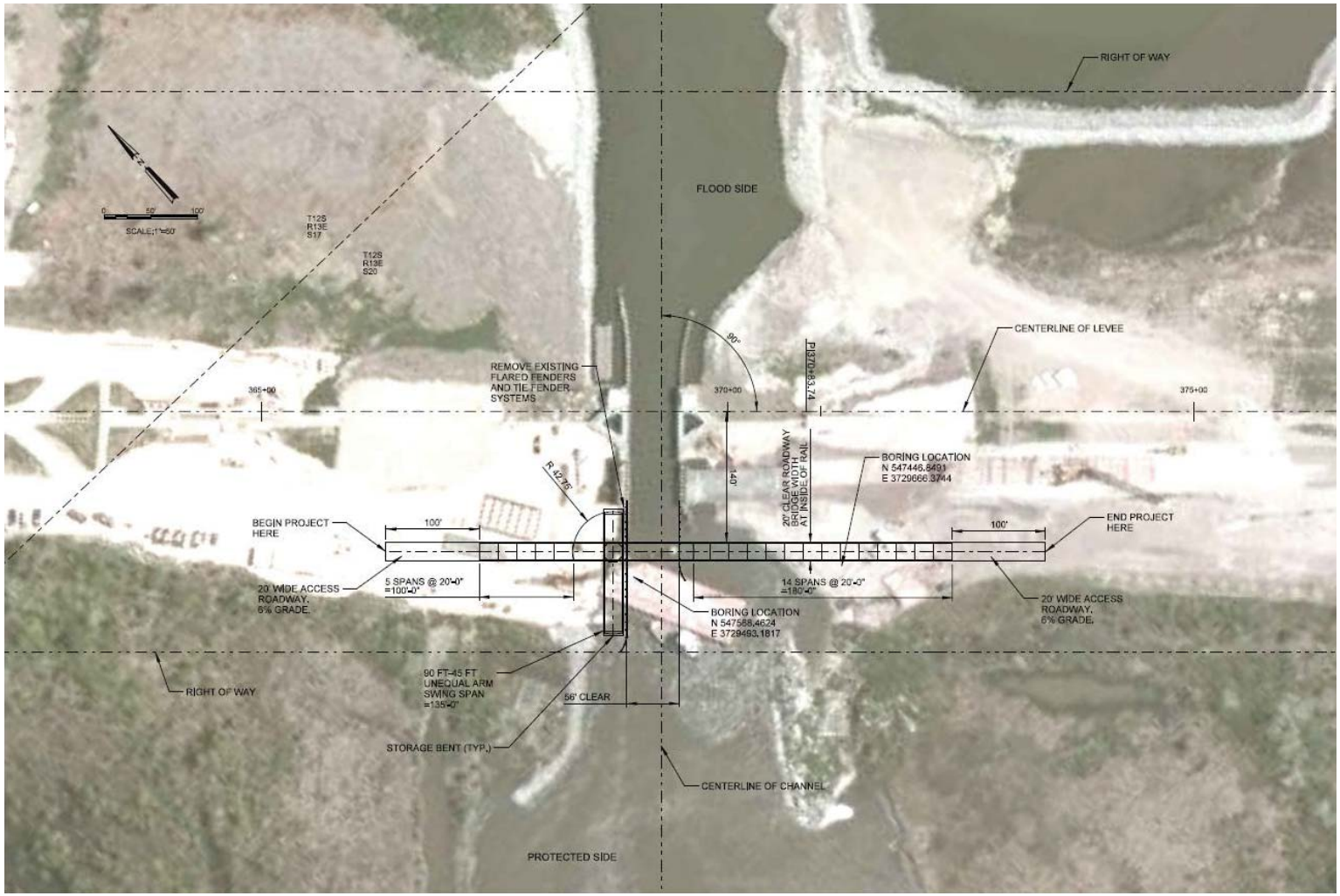

Figure 7: Proposed Bayou Bienvenue protected side 135 ft x 16 ft swing span bridge.

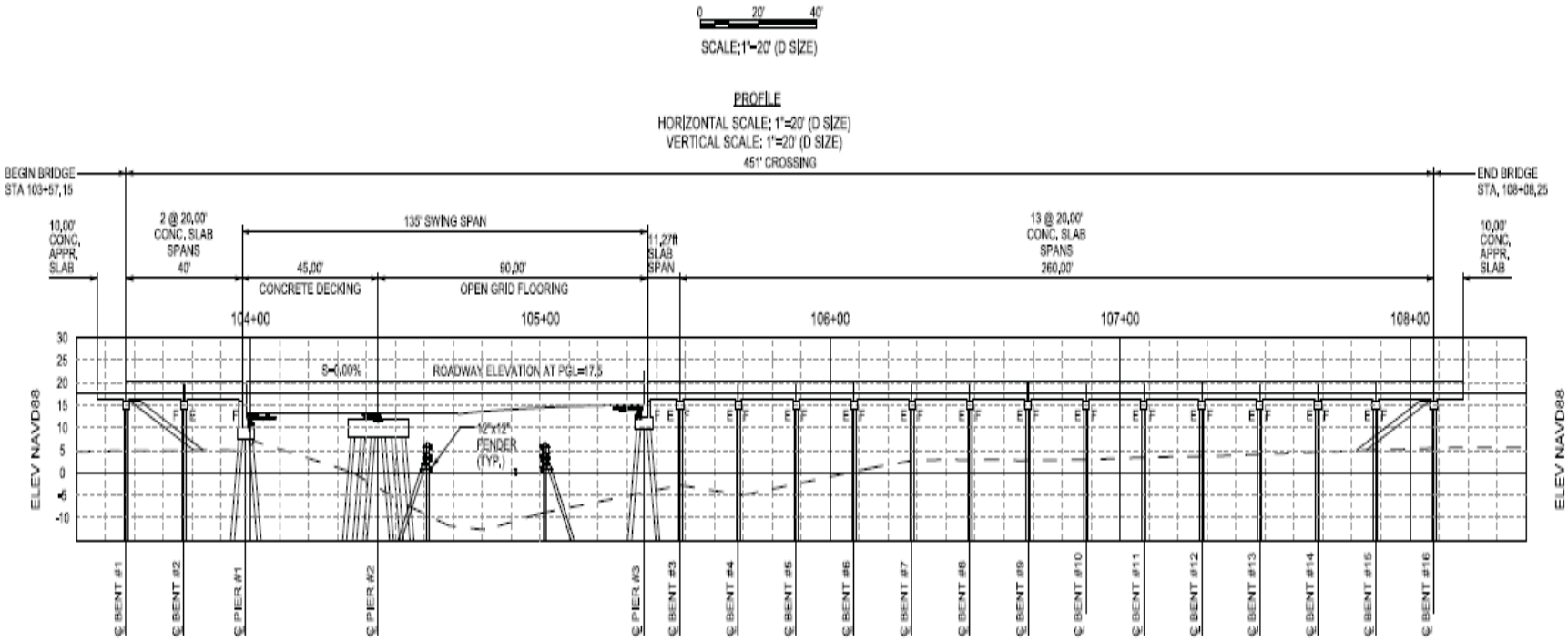

Figure 8: Proposed Bayou Bienvenue profile, pivot pier installed on north bank would be within 0-6 ft of water. Dotted line depicts average water depths.

and only operated for maintenance. No channel or bank excavation would occur, nor would the Bayou Bienvenue channel flow be restricted. The majority of the swing span bridge assembly would be with the bridge in the open position adjacent to the north bank. However, navigation could be temporarily impeded during this initial construction for short durations (approximately 30 minutes at a time) mainly during mobilization of equipment and material to the opposite side of the bayou.

2.3.1.2 LPV 145, 146, 148.02, and 149 Access Road

A temporary 22.5 mile (approximately 85 ft wide) gravel access/haul road was constructed on the protected side of levee reaches LPV 145, 146, 148.02 and 149 to access the HSDRRS Chalmette Loop T-wall (IER #10) and the Caernarvon Floodwall (IER #9). The proposed action would be to improve the road and use it permanently for inspection vehicles access and maintenance of LPV 145, LPV 146, LPV 148.02, and LPV 149 (figures 9-14). The road runs in a southerly direction from the Bayou Bienvenue Floodgate along the MRGO past the Bayou Dupre Floodgate, then west to Verret at Highway 46 continuing to Caernarvon near the Mississippi River where it ends. Leaving the temporary road in place would provide access for inspection and maintenance of the Chalmette Loop Levee/T-walls as well as expedite operation for closure of the wildlife access gates prior to storm events to provide risk reduction by reducing flood risk and storm damages from 100-year storm events for St. Bernard and Orleans Parish.

The proposed permanent access road would be 22.5 miles long and reduced from its previous 85-ft width to an approximate 15ft width (7+ miles in LPV 145, LPV 146 and LPV 148.02 and 1,800 lf in LPV 149) in St. Bernard and Plaquemines parish. Construction activities include degrading the existing haul road, stockpiling the gravel salvaged from the temporary haul road within the existing ROW and reusing the gravel for construction of the permanent access road. The proposed access road would be constructed with a sand sub-base and covered with gravel. Approximately 70 ft of the 85ft wide access road (approximately 190 acres) would be restored to turf grass by placing and compacting approved clay fill and borrow material, covering with topsoil, followed by seeding and fertilizing. Existing pipelines would be protected by timber mat during access road construction. The same equipment that was used for construction of the Chalmette Loop T-wall and Caernarvon Floodwall as described in IER #9 and #10 would be used to accomplish this work (graders, dump trucks, loaders and compaction equipment). The total area impacted by the proposed access road is approximately 270.6 acres (LPV 145 = 70, LPV 146 = 90, LPV 148.02 = 110, LPV 149 = 7); of this the total area approximately 237.8 acres (LPV 145 = 55, LPV 146 = 85, LPV 148.02 = 85, LPV 149 = 12.9) would be disturbed by excavation, grading, borrow, and fill.

Table 1: Estimated Construction Material Quantities to Complete Proposed Action

Material	Units	Estimated Quantity
Surface Stone Stripping	Cubic Yard	258,396
Stockpile Stripped Stone	Cubic Yard	258,396
Borrow	Banked Cubic Yard	143,168.5
Surfacing (Granular) placed from stockpile	Banked Cubic Yard	31,630
Concrete	Cubic Yard	780
Compacted Clay	Cubic Yard	19,000

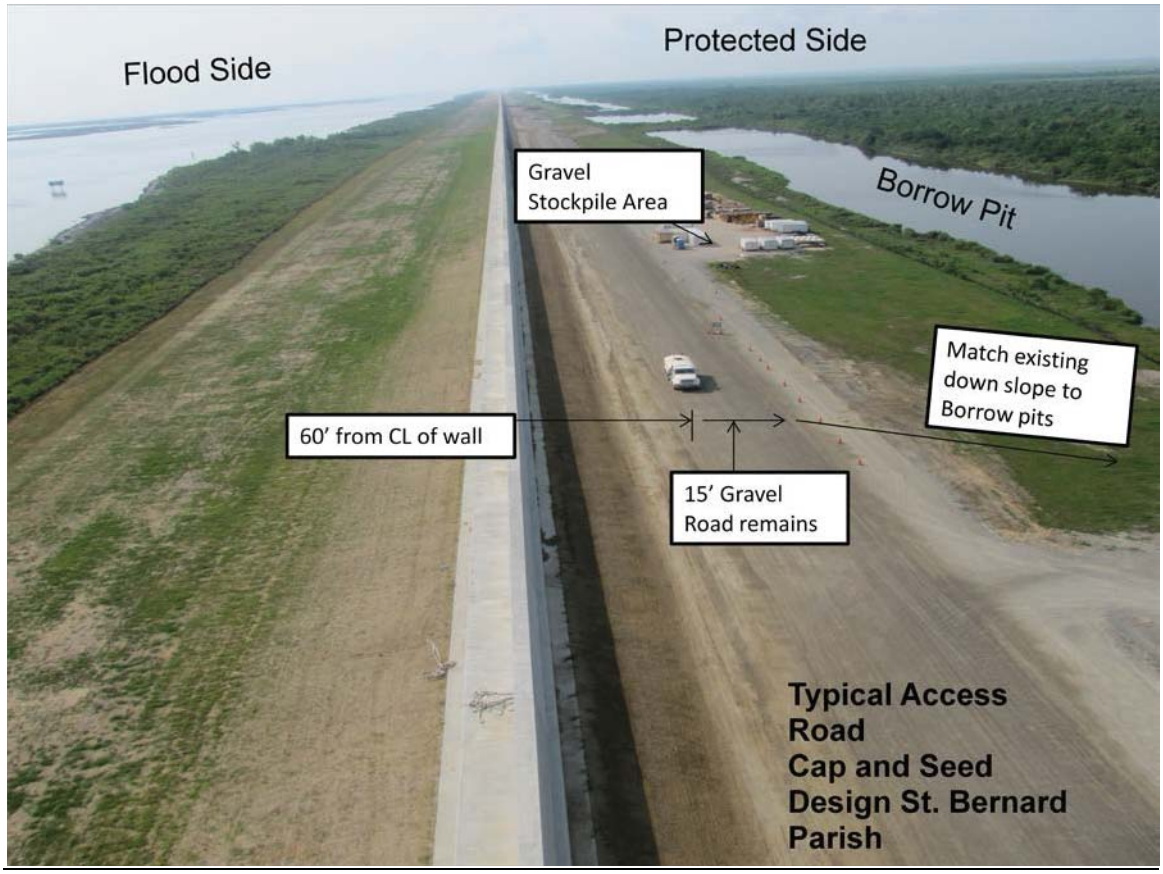

Figure 9: Aerial view of proposed protected side 15 ft wide access road. Stockpile areas would be the same as was used to construct the Chalmette Loop T-wall.

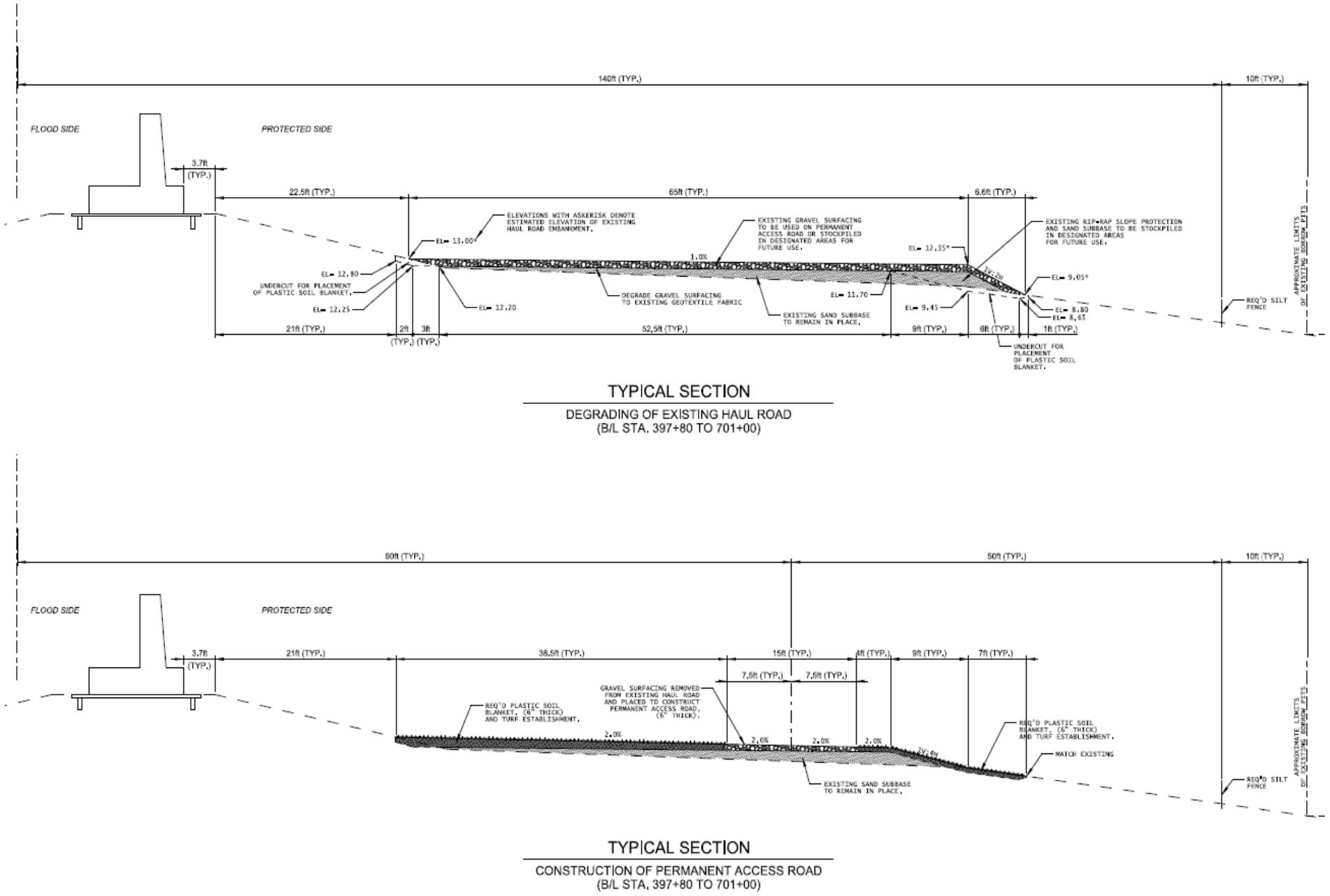

Figure 10: LPV 145 Existing haul road (top) and proposed 15 ft wide protected side access road (bottom).

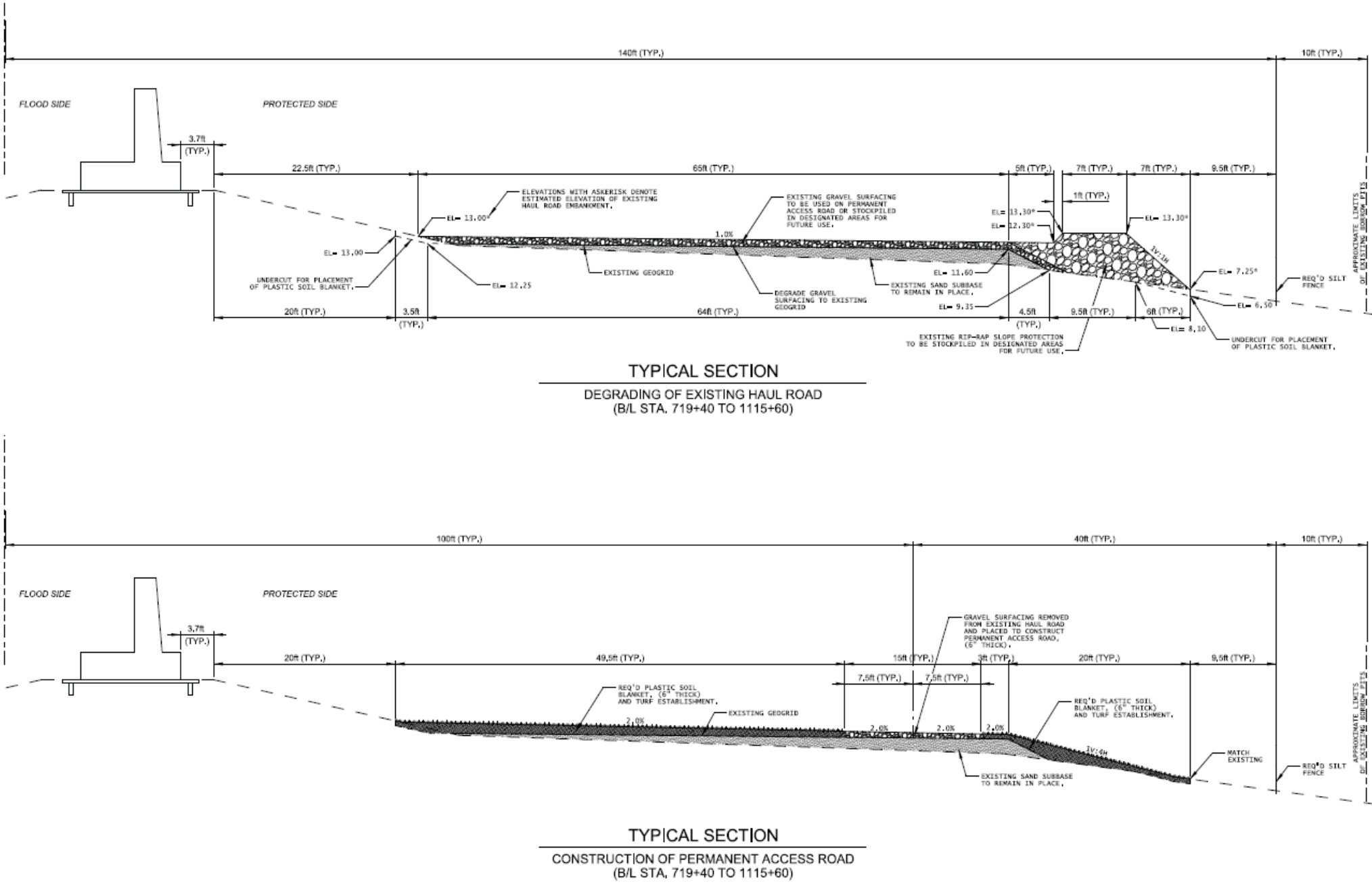

Figure 11: LPV 146 Existing haul road (top) and proposed 15 ft wide protected side access road (bottom).

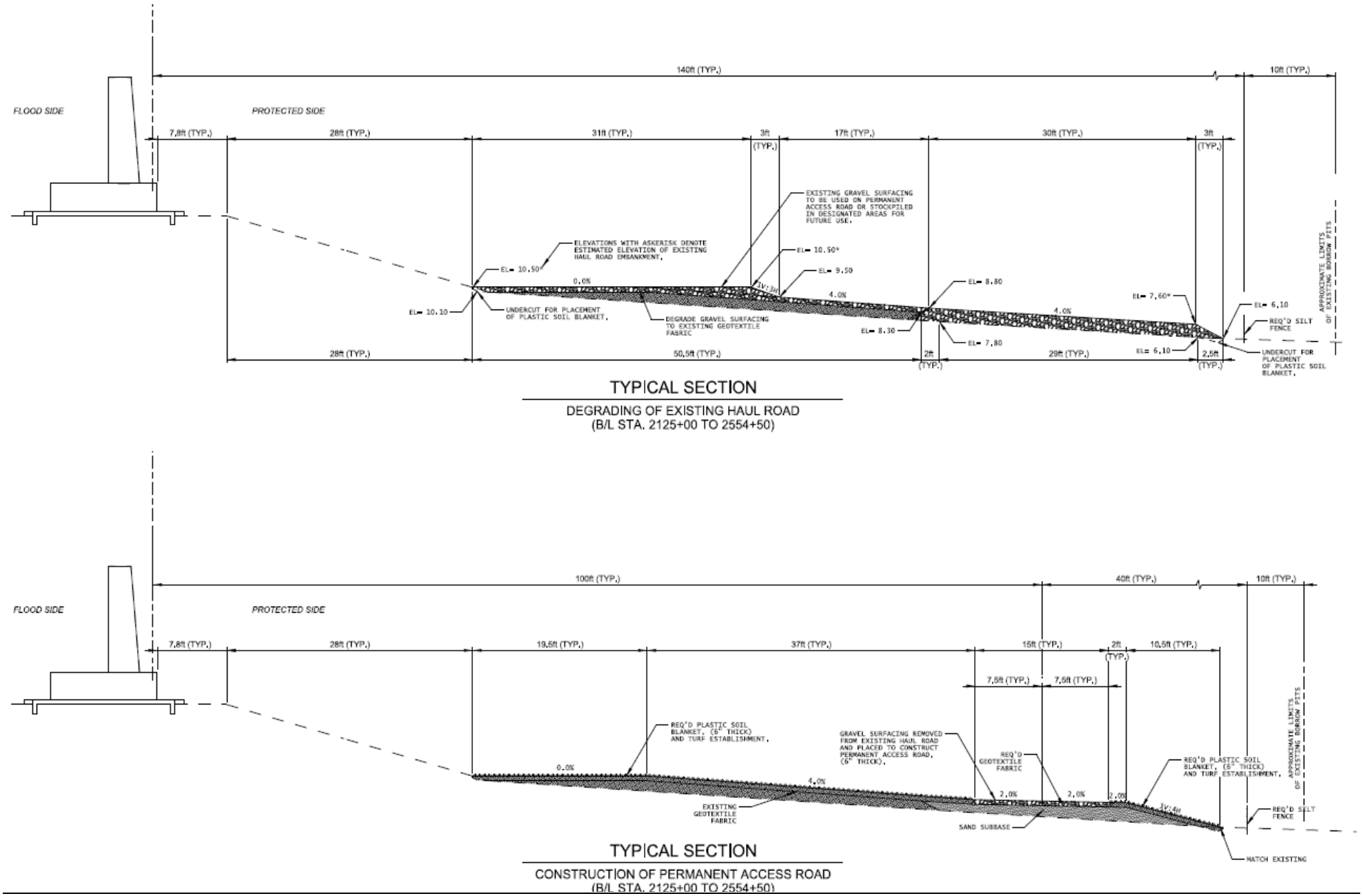

Figure 12: LPV 148.02 Existing haul road (top) and proposed 15 ft wide access road (bottom).

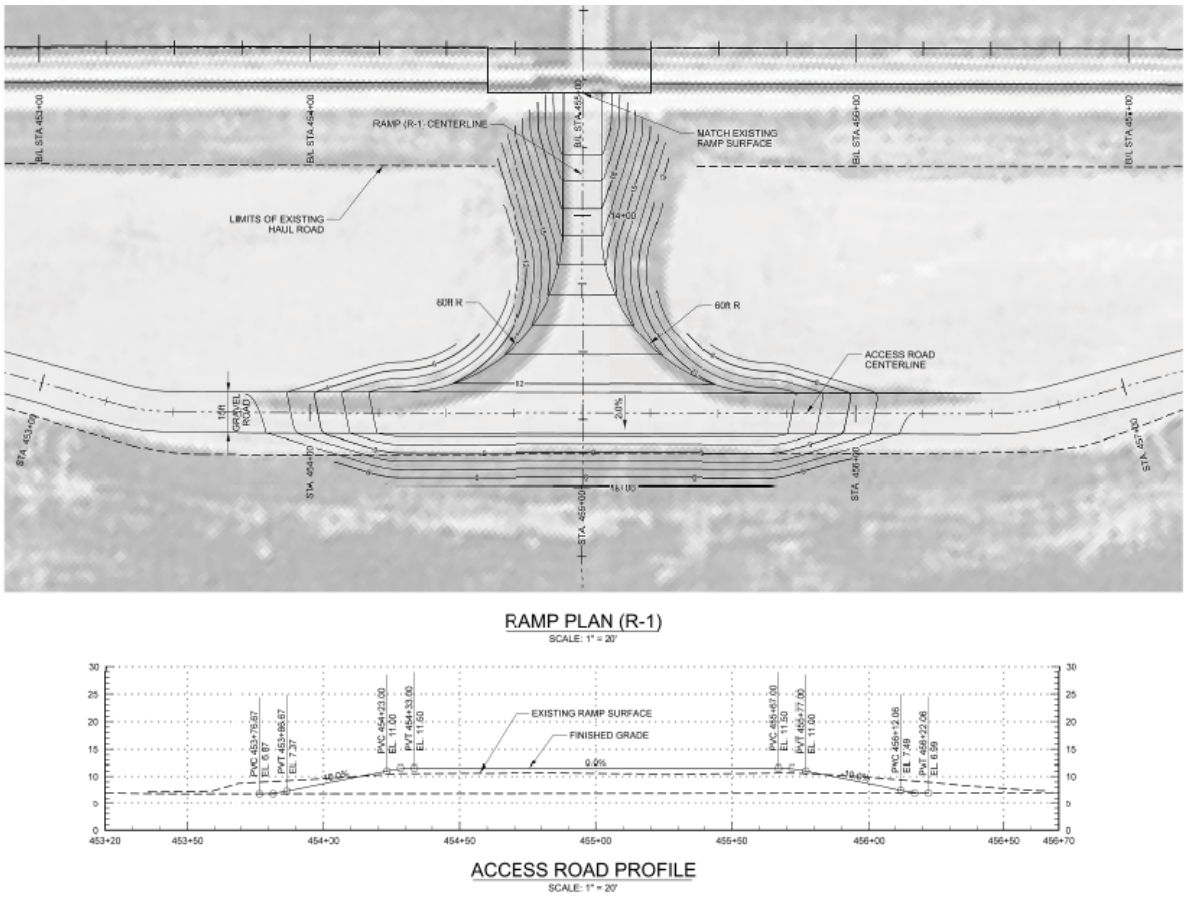

Figure 13: Proposed typical wildlife access ramp with adjacent protected side access road.

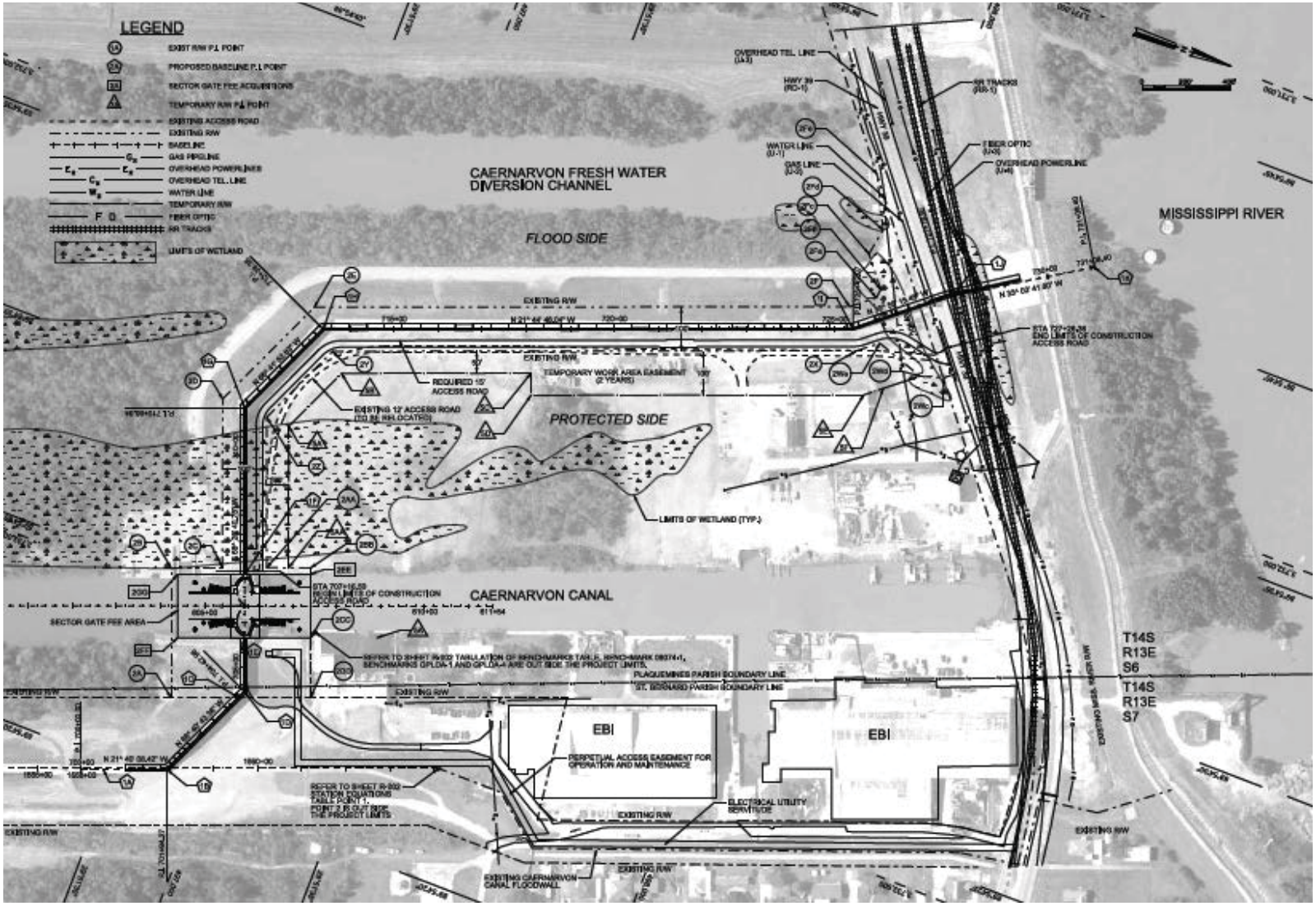

Figure 14: LPV 149 Proposed 15 ft wide protected side access road. IER #9 disclosed the wetland impacts and a Mitigation IER is in preparation..

2.3.1.2 **Mississippi River Levee (MRL) Floodwall Tie-In**

The proposed LPV 149 MRL floodwall tie-in would meet 100 year HSDRRS design criteria and provide 0.2% or 500 year event resiliency (figures 15 and 16). At the time of construction, the exact design of the transition between the HSDRRS floodwall at LPV 149 and the MRL had not been determined so the floodwall was stepped down rapidly from 26 ft to 19.96 ft NAVD88 at the tie-in. Further engineering analysis has determined that in order to certify levees and provide 0.2% resiliency, additional work is required for the MRL tie-in. Construction for the MRL tie-in would involve raising the elevation of the LPV 149 floodwall to approximately +26 ft NAVD88 and continue the transition upstream on the MRL. The existing LPV 149 floodwall steps down from elevation 26 ft to approximately 20 ft (figure 15). Raising the floodwall would be accomplished by dowel/capping approximately 100 ft of the LPV 149 floodwall with concrete then constructing a new +26 ft NAVD88 T-wall/L-wall to run approximately 100 ft upstream along the protected side edge of the MRL and concrete slope protection. The approximate dimensions of the new floodwall would have a 14 inch wide x 7 ft high stem and would be 140 ft in length (this includes the tie-in to MRL and 100 ft upstream portion). No closings or interference would occur to the emergency access road on the MRL. Staging areas or temporary work area easements for LPV 149 would be approximately 15 acres (9 acres protected side and 6 acres flood side) of maintained grass and gravel lots that were previously used as staging for construction of the LPV 149 Caernarvon Floodwall (figure 3 and 14). The perpetual levee/floodwall easement (existing ROW) would be approximately 7.4 acres includes the 0.16 acres for the proposed 15 ft wide access road (figure 14). The LPV 149 MRL tie-in requires approximately 0.23 acres (100ft x 100 ft) within existing MRL ROW to install the concrete cap to tie-in to existing EL +26 ft floodwall and add a new T-wall stem up to 100 ft up stream on the MRL. This area is currently vegetated with turf grass, covered with the existing gravel roadway, or slope paving on the protected side of T-wall/levee reaches LPV 145, LPV 146, LPV 148.02, and LPV 149. In total the acreage required for LPV 149 is approximately 22.63 acres (15 acres temporary and 7.63 acres existing ROW). The estimated quantities for the MRL tie-in include: concrete 300 cy, compacted fill 140 cy, rebar 5,000 lbs, sheetpile 2,800 linear ft.

If it is found to be more cost effective and can fit within the existing MRL ROW, earthen material could be added to raise the elevation of the tie-in instead of constructing the floodwall to approximately elevation 26 feet and continue upstream with a 24 ft NAVD88 elevation by adding an earthen levee lift along the MRL. The new earthen levee lift footprint runs along the levee and on the protected side in order to incorporate an earthen stability berm within the earthen levee lift. Concrete slope paving would be installed on the stability berms located on the floodside of the MRL. The estimated materials for this earthen lift includes approximately 300 cyds of concrete and approximately 12,000 cyds of compacted fill or borrow material.

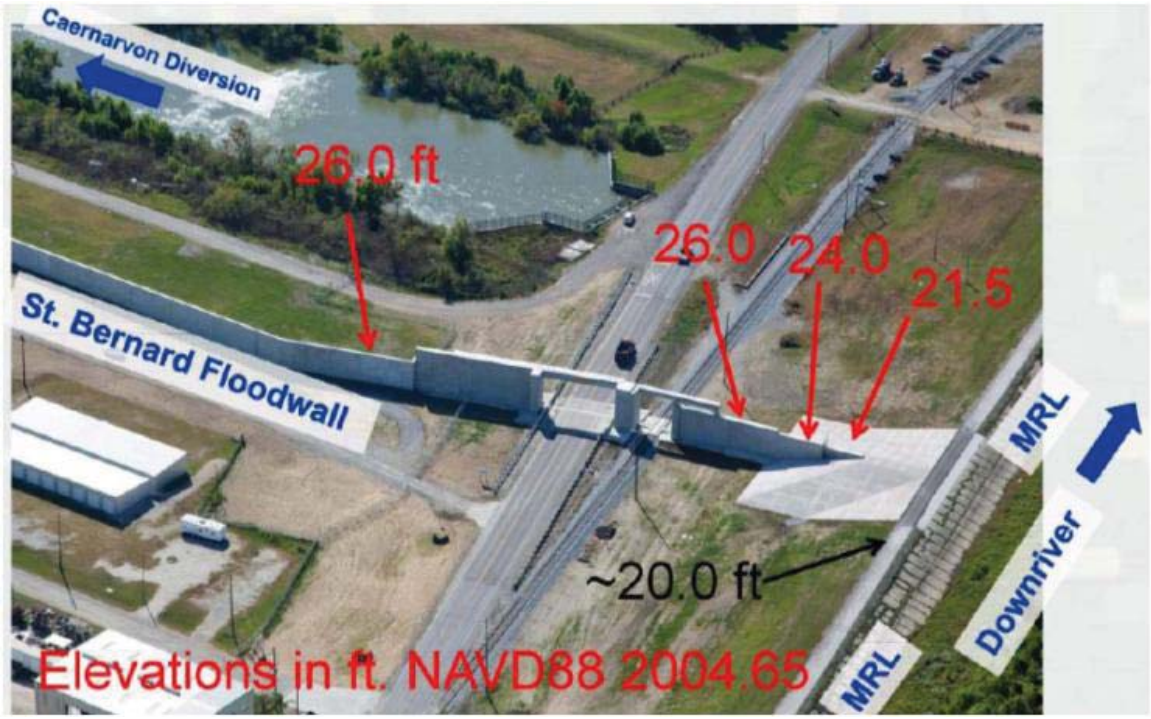

Figure 15: LPV 149 existing tie-in to Mississippi River Levee steps down from 26 ft to ~20 ft and is proposed to be raised 70 to 100 ft upstream.

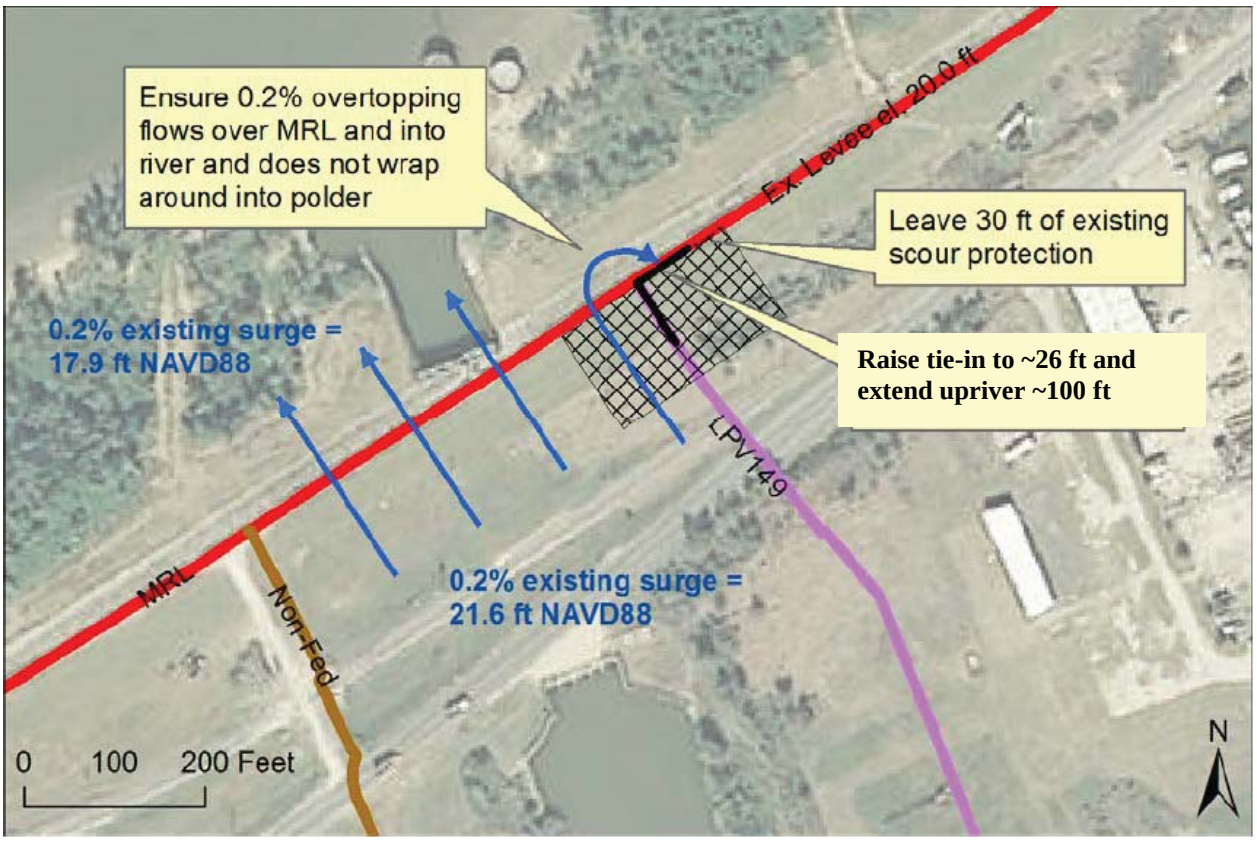

Figure 16: LPV 149 Mississippi River levee tie-in to be raised for 0.2% resiliency.

2.4 ALTERNATIVES TO THE PROPOSED ACTION

2.4.1 LPV 144.02, LPV 145, LPV 146, LPV 148.02 and LPV 149 (LPV 145-149) and MRL tie-in

The alternative to the proposed action considered in detail for LPV 144.02 and LPV 145-LPV 149, and the MRL tie-in was the no action alternative.

2.4.1.1 No Action.

Under the no action alternative no bridge would be built across Bayou Bienvenue (LPV144.02), the temporary 70 to 85 ft wide by 22.5 mile access road would be removed from LPV 145-149, and the MRL tie-in would be constructed to the +26 ft NAVD 88. Construction activities would be similar to the action as approved in IER 8, 9 and 10 involving clearing and grading; however the existing protected side road would be removed, stockpiled materials would be disposed in an appropriate manner such as hauled to a construction and debris landfill and not stockpiled within the existing ROW. As per the plans and specification of the previously approved actions, the construction site would be restored to preconstruction conditions to permit growth of vegetation for a grassed levee toe and berm.

2.5 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

In addition to the alternatives already eliminated from further consideration as part of the IER #8, IER #9 and IER #10 documents, one additional alternative was eliminated from further consideration because it did not adequately meet the screening criteria evaluation.

2.5.1 LPV 144.02 Bayou Bienvenue Bridge and LPV 145-149 Flood side Access Road

This alternative consists of constructing a permanent 135 ft x 16 ft swing span bridge across Bayou Bienvenue on the flood side of the Chalmette Loop to allow for access to the "island" of reach LPV 145. It would also include construction of a 15 ft wide by 22.5 mile access road (7+ miles in LPV 145, LPV 146 and LPV 148.02 and 1,800 lf in LPV 149) within ROW on the flood side of the Chalmette Loop T-wall in St. Bernard and Plaquemines. Construction activities would be similar to the proposed action however the action would then involve clearing, grading, and removing the existing protected side road and relocating it to the flood side, setting up flood side stockpile areas for excess materials, and capping and seeding the remaining portions of the flood and protected sides of the Chalmette Loop levee. The footprint, estimated quantities for materials, and cost would be approximately doubled because the existing protected side access road was removed after construction of the t-wall was completed in 2011. This alternative was eliminated because it had greater impacts than the proposed action, increased risk to personnel if they flood side road during storm events, and had increased operation and maintenance costs for maintaining a flood side road that would have to be repaired after every storm event. The flood side access road alternative was not considered an effective engineering solution to provide 100-year hurricane risk reduction.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 ENVIRONMENTAL SETTING

IER #8, IER #9 and IER #10 contain a complete discussion of the environmental setting for the project area and are incorporated by reference into this document. For reference, the project area is located in the northwest portion of St. Bernard Parish, with much of the project along the south bank of the MRGO. Dominant physiographic features in the vicinity include the MRGO, Lake Borgne, the Mississippi River, and extensive marshes of the Central Wetlands Area (CWA) as well as outside the Chalmette Loop Levee System. The project area as well as the communities and waterways in and around the Chalmette Loop are labeled on figure 1. As such, no additional discussion of environmental setting will be made in this document.

3.2 SIGNIFICANT RESOURCES

This section contains a list of the significant resources located in the vicinity of the proposed action, and describes in detail those resources that would be impacted, directly or indirectly, by the proposed alternatives. Direct impacts are those that would be caused by the action taken and occur at the same time and place (40 CFR 1508.8(a)). Indirect impacts are those that would be caused by the action and would be later in time or farther removed in distance, but are still reasonably foreseeable (40 CFR 1508.8(b)). Cumulative impacts are discussed in section 4.

The resources described in this section are those recognized as significant by laws, executive orders, regulations, and other standards of National, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public. Further detail on the significance of each of these resources can be found by contacting the CEMVN, or on www.nolaenvironmental.gov, which offers information on the ecological and human value of these resources, as well as the laws and regulations governing each resource. Search for “Significant Resources Background Material” in the website’s digital library for additional information. Table 2 shows those significant resources found within the project area, and notes whether they would be impacted by any of the alternatives analyzed in this IER.

Table 2: Significant Resources in Project Study Area

Significant Resource	Impacted	Not Impacted
Wetlands		X*
Upland Communities	X	
Bayous and Canals Bayou Bienvenue, Bayou Dupre, Jourda and Caernarvon Canal	X	
Wildlife	X	
Essential Fish Habitat		X*
Aquatic Communities		X*
Threatened and Endangered Species		X*
Water Quality	X	
Soils	X	
Floodplains and Drainage		X*
Utilities	X	
Air Quality	X	
Noise	X	
Transportation	X	
Cultural Resources		X*
Aesthetic (Visual) Resources		X*
Recreation		X*
Socioeconomic	X	
Environmental Justice		X*
HTRW		X*

*= The proposed action poses no additional impacts above those described in IER #8, IER #9, and IER #10 therefore these significant resources are not discussed in this document.

3.2.1 Upland Communities

Existing Conditions

The upland vegetation within the project area is located within the developed areas between the Mississippi River and the non-Federal levee system. The only upland areas located within the Federal levee system corridors are the levees themselves. Prior to the HSDRRS construction, approximately 1,081 acres of various upland habitats were located within the existing right-of-way the majority of which was temporarily impacted during construction. Turfing contracts have been implemented and grass has been established on the flood and projected side of the levee/t-wall in the areas surrounding the haul road. The Federal levee corridors are primarily maintained turf grasses consisting of Bahia grass (*Paspalum notatum*) and Bermuda grass (*Cynodon dactylon*).

Discussion of Impacts

No Action Alternative

Direct and Indirect Impacts to Upland Communities

Under the no action alternative the HSDRRS would be constructed as described in IERs #8, 9, and 10. The remaining temporary construction activities would involve clearing, grading, and removing the existing protected side road, stockpiled materials would be

disposed in an appropriate manner such as hauled to a construction and debris landfill and not stockpiled within the existing ROW.

Cumulative Impacts to Upland Communities

Once complete the construction site would be restored to near natural conditions to permit growth of vegetation ex. a grassed levee toe and berm. The Federal levee corridors would return to maintained turf grasses consisting of Bahia grass with occasional pockets of natural vegetation along the interface between the maintained levee and wetland areas.

Proposed Action Alternative

Direct Impacts to Upland Communities

The proposed action alternative would involve construction along a previously disturbed and/or developed corridor on the uplands mainly maintained levee/turf grass on the protected side of LPV 145-149 within the existing ROW. This would result in temporary and permanent impacts to upland habitat due to the Bayou Bienvenue bridge, access road construction and the MRL tie-in. The total permanent area impacted by the proposed access road is approximately 270.6 acres (LPV 145 = 70, LPV 146 = 90, LPV 148.02 = 110, LPV 149 = 7); of this the total area to be disturbed by excavation, grading, borrow, and fill is approximately 237.8 acres (LPV 145 = 55, LPV 146 = 85, LPV 148.02 = 85, LPV 149 = 12.9). These impacts would be temporary, as the grading the gravel road to reduce the size to only 15 ft wide the remaining area within the ROW would be replanted and allowed to revegetate following completion of construction. There would be no additional impacts on prime and unique farmlands from the proposed action.

Indirect Impacts to Upland Communities

Potential indirect impacts on upland communities from the proposed action would involve the temporary removal of expanses of a 75-80 ft wide gravel road and turf grass that comprise the protected side of the levee from the immediate project area during construction. After construction is complete, the levees would be reseeded and the pasture/maintained turf grass habitat would be restored. Areas within the ROW would be maintained by grass cutting, so reestablishment of upland shrub/scrub habitat which existed pre-HSDRRS construction should not occur. Any indirect impacts to upland habitat with the proposed action would be temporary.

Cumulative Impacts to Upland Communities

Potential cumulative impacts on the upland communities within the project area from the proposed action would involve the combined effects from the multiple LPV levee/t-wall reaches within the Chalmette Loop HSDRRS as well as other HSDRRS projects throughout the area. Most of the upland habitat that would be impacted is frequently mowed turf grass or gravel road that covers the ROWs along the HSDRRS throughout the area. These impacts would be temporary and a majority of the upland habitat would be restored after construction activities are completed.

Construction of impermeable surfaces from the construction of the 15 ft wide access road would result in permanent loss of approximately 270.6 acres of upland habitat, however, currently this area exists as a gravel road. In St. Bernard Parish, for example, the natural

levees/upland habitat covers about 58 square miles (Heinrich 2005), or 37,120 acres. There would be no additional farmland potentially cumulatively affected as result of the proposed action. Thus, there would be no additional cumulative impacts to non-wet uplands under these alternatives. The overall area including the MRGO spoil bank would benefit from the increased hurricane and storm damage risk reduction and reduced erosion impacts the completed HSDRRS would provide.

3.2.2 Bayous and Canals (Bayou Bienvenue, Bayou Dupre, Jourda and Caernarvon Canal)

Existing Conditions

The proposed project area includes several bayous and canals and the Central Wetlands Area within the Chalmette Loop that have been discussed in the previous IERs 8, 9, and 10, that information is incorporated into this IERS 8,9,10.a by reference. As such, the specific waterways that are in the direct vicinity of proposed project include two bayous, Bayou Bienvenue and Bayou Dupre that cut through the Chalmette Loop levee and T-wall (LPV 145-146), the Jourda Canal runs parallel to LPV 148 and the Caernarvon Canal that cuts through the Caernarvon Floodwall (LPV 149). These bayous and canals are navigable waters of the United States. CEMVN has coordinated the original IER #8, IER #9 and IER #10 HSDRRS projects as well as what is proposed for this IERS #8,9,10.a with the Louisiana Department of Wildlife and Fisheries (LDWF). The designated Scenic River segments in the area are approximately 2.5 miles away from the proposed construction. The proposed action was reviewed by LDWF as per email response dated 10 Oct 12, the department does not anticipate any negative ecological impacts to the designated Scenic Streams in the vicinity of this project if it is constructed and maintained in the manner described, therefore, no Scenic River Permit is required.

Water quality for these bayous continues to be impacted by nearby urban populations and industry. Bayou Bienvenue is listed as only partially supporting its designated uses for primary and secondary contact recreation and fish and wildlife propagation. Suspected causes for the impairment in the project area of Bayou Bienvenue are metals, mercury, organic enrichment/low dissolved oxygen, and pathogens (Louisiana Department of Environmental Quality [LDEQ] 2007). Bayou Dupre is listed as only partially supporting its use for primary and secondary recreational contact and its uses as an outstanding natural resource and fish and wildlife propagation are listed as "threatened" (LDEQ 2007). Jourda canal is a drainage ditch that feeds the St. Mary's Pump Station on the protected side of LPV 148. Caernarvon Canal comes to an end at hwy 39 and as result experiences low dissolved oxygen to anoxic conditions especially during the warmer summer months. Prior to HSDRRS construction there was a boat launch at the end of the canal, so boats traversing the waterway and rainfall enabled some circulation. Closure of the Caernarvon Canal for more than a year during HSDRRS construction of the sector gate occurred and water quality during this time was poor. The substrate within the bayous and canals in the project area has been recently disturbed by Hurricane Katrina, Hurricane Isaac, and HSDRRS construction. The bottom of both bayous and canal is nonvegetated, however the surface of the Caernarvon Canal does periodically get covered with floating water hyacinth (*Eichhornia crassipes*) and water ferns (*Salvinia sp.*).

The major source of freshwater into the area is from storm water runoff pumped out of the developed areas into the adjacent wetland areas. Regular pumping of storm water from the developed areas of St. Bernard Parish into the surrounding water bodies in response to rainfall events would continue. This pumping of such floodwaters into the adjacent water bodies continues to have a temporary impact on water quality and recreational use. The major source of saltwater is the Gulf of Mexico through Lake Borgne. Due to the influx of storm water, salinity levels in the area can fluctuate substantially, but for the most part the area is brackish to saline habitat. The numerous bayous and canals make the area an important recreational area in terms of fishing and other water related activities. The area also supports commercial fishing and shrimping activities.

No action Alternative

Direct Impacts to Bayous and Canals

Under the no action alternative, there would be no actions involving construction of a bridge across Bayou Bienvenue or the MRL tie-in, however the gravel road would be removed and turf grass would be planted to revegetate the protected side of levee/t-wall reaches LPV 145-149, so effects on Bayous Bienvenue and Dupre, and the Caernarvon Canal would not differ from those described in IERs 8, 9, and 10. Under the no-action alternative, the bayous and canals would remain relatively stable and continue to be tidally influence through the Gulf Intracoastal Waterway (GIWW), MRGO, Lake Borgne, and the Gulf of Mexico. The construction corridor has already been impacted by HSDRRS construction, and BMPs such as silt fences to minimize impacts for runoff and working within ROW would be implemented therefore, no additional wetland impacts are anticipated. The construction would disturb soils, which in turn, would increase the probability of sediment migration and impacts to water quality. Some temporary water quality impairments may occur if there is a major rain event during the construction efforts. Groundwater and scenic streams adjacent to the project study area would not be expected to have any adverse impacts associated with the no action. The Caernarvon Canal and remnant wetland area habitat on the protected side in the vicinity of LPV 149 could be inundated for storm events greater than 100 year.

Indirect Impacts to Bayous and Canals

Under the no action alternative, the construction corridor would include the 70 to 85 ft wide access road and laydown areas on the protected side of levee/t-wall reaches LPV 145-149. There is a small remnant wetland area that tends to pond approximately 600 ft from the southeast corner of the LPV 149 construction corridor, however, this area would be avoided during construction. Construction activities could potentially cause increased turbidity and sedimentation within the canal and nearby wetlands. Bayou Dupre or the Caernarvon Canal should not be indirectly impacted because no construction is proposed for those waterways, and construction-related runoff would be managed through implementation of best management practices (BMPs) and adherence to regulations governing stormwater runoff at construction sites (stormwater pollution prevention plan (SWPPP)), which would minimize the potential indirect impacts

Cumulative Impacts to Bayous and Canals

Potential cumulative impacts on bayou and canal resources from the no action alternative could involve the combined effects from construction on multiple reaches within the LPV Chalmette Loop project area (including IERs # 8, # 10, and # 11) as well as other HSDRRS projects throughout the New Orleans area. However, impacts of the no action alternative on bayous and canals or wetlands would be limited to temporary, construction-related impacts. The no action alternative would not be expected to further contribute to cumulative impacts on bayous, canals or wetlands in the project area than what was disclosed previously in IERs 8,9, and 10. A mitigation IER is in preparation to describe and mitigate for all of the HSDRRS wetland impacts.

Proposed Action Alternative

Direct Impacts to Bayous and Canals

The proposed action impacts would be similar but greater than the no action alternative. Access road and MRL tie-in construction activities, associated with the proposed action, would disturb soils, which in turn, would increase the probability of sediment migration. Some temporary water quality impairments may occur if there is a major rain event during the construction efforts. No construction would commence until a SWPPP is approved. SWPPP requirements include an outline of the storm water drainage system for each discharge point, actual and potential pollutant contact, and surface water locations. The SWPPP would also incorporate storm water management controls. Compliance with the General Storm Water Permit and the SWPPP would minimize potential impacts from construction activities to surface water quality. Construction equipment and operations may create miscellaneous operational pollution such as oil leaks, mud spatters, and discards from human activities. However, BMPs for construction site soil erosion would be implemented to prevent the migration of soils, oil and grease, and construction debris into the local stream networks. There are no known groundwater sources of potable water in St. Bernard Parish; therefore, the proposed action would not be expected to have any adverse effect on groundwater.

Implementation of the proposed action includes the construction a bridge across Bayou Bienvenue which could temporarily impact the stream habitat during the construction period (estimated to be approximately 18 months). Up to 2.6 acres of aquatic habitat in Bayou Bienvenue could be disrupted during the construction period and a much smaller portion (approximately 0.2 acre) of the channel would be permanently occupied by the bridge pivot pier. No cofferdam is anticipated for the bridge construction and flow should not be blocked or minimized, however, during brief periods the channel may be closed to navigation for construction and transportation of equipment from the north to south banks. The amount of aquatic habitat (deep or open water habitat in the bayous) that may be temporarily disturbed or permanently lost with this action represents a negligible amount of the total similar habitat within Louisiana (e.g., the Breton Sound Estuary is over 270,000 acres). The habitat adjacent to the project area has previously been disturbed for the construction of roads, industrial facilities, and wetland rehabilitation and HSDRRS projects. The presence of this existing development (roads, businesses, and water control structures) and ongoing management activities have degraded the value of

the wetland habitat in the project area. Therefore, this area does not represent a pristine or high quality example of wetland habitat.

The proposed bridge structure would be elevated and an only approximately 0.2 acres of the north bank/aquatic bottom would be replaced by the pivot pier, however this area is not vegetated. The bridge would be connected to the shoreline to the north and south with a approach ramps, but this action would impact the footprint of the previous temporary bridge which consists of an existing gravel rock roadway. The shading from the bridge could potentially affect submergent vegetation if any were present, however this bridge would be in the open the majority of the time and only closed for operation and maintenance events. Direct impacts to Bayou Bienvenue would be short-term, approximately 18 months in duration, with effects lasting up to several months after completion. Bayou Dupre, the Jourda or Caernarvon Canals should not be directly impacted because no construction is proposed for those waterways, and adherence to SWPPP regulations governing stormwater runoff at construction sites would minimize the potential impacts.

Indirect Impacts to Bayous and Canals

Under the proposed action, indirect impacts on bayous, canals and wetlands would be mainly localized and short-term, with effects potentially lasting up to several months after project completion. Bayou Dupre, the Jourda or Caernarvon Canals should not be indirectly impacted because no construction is proposed for those waterways, and construction-related runoff would be managed through implementation of BMPs and adherence to regulations governing stormwater runoff at construction sites (SWPPP), which would minimize the potential indirect impacts. Potential indirect impacts from the proposed action would primarily consist of effects from increased turbidity and sedimentation in the bayous, canals, and wetland areas adjacent to the project area or specifically in Bayou Bienvenue from construction related runoff. However, these impacts would be minimized with BMPs and adherence to regulations governing stormwater runoff at construction sites. The potential indirect adverse impacts from the proposed action would be minimized by the small area affected relative to the size of the CWA and the temporary nature of these impacts.

Approximately 0.6 acre of wetlands habitat is enclosed by the LPV 149 t-wall surrounding the Caernarvon Canal still exists in the project area. However, to further minimize impacts to the remaining wetlands within the site, this area would be avoided and all work would be within the vicinity of the existing protected side access road. As previously stated in IER #9 the proposed action could result in the loss of the enclosed wetland area through development of the land. This would be a long-term indirect impact. These wetlands are currently isolated (they do not have hydrologic connections with adjacent wetlands) and the wetland area is small and of low quality (i.e., mowed). The impacts for these wetlands were disclosed in IER #9 and a mitigation IER is in preparation.

Flooding caused by rainfall events in the vicinity of the LPV 149 and the potential for indirect impacts would be similar for the proposed action as described in IER #9 because

the elevation for the raise is the same +26 ft NAVD 88. These impacts include the increase of storm surge flooding in neighboring parishes. Storm surge modeling of the Caernarvon floodwall in its existing location was performed using the Advanced Circulation (ADCIRC) hydrodynamic model. Two situations were modeled: one with the current Federal levee system and heights in place (2007 situation), and one with the HSDRRS floodwall in place. Note that these modeling runs have been performed with the existing alignment of LPV 149. The effect of the small shift of the levee alignment to the west of the Caernarvon Canal is assessed through expert judgment herein.

Flooding caused by tropical storms is typically characterized by the inundation of land over very large distances (order of magnitude in miles). The change in levee or floodwall height could relieve storm surge flooding if a levee is lowered and, therefore, spread out the storm surge over a larger area creating only slight changes in water elevation (measured in inches). Equally, storm surge flooding could be increased if a levee is raised and thereby diminishes the spreading out effect and cause it to "pile up" in front of levees. Different levee heights for adjacent systems could relieve storm surge flooding in one area and simultaneously force more water into another area. Both processes were illustrated by the comparison of the 2007 ADCIRC grid (representing the pre-HSDRRS levee system) and the 2010 ADCIRC grid (HSDRRS levee elevations). The 1 percent levee height elevation for the LPV 149 project is +26 ft. The adjacent non-Federal levee in Plaquemines Parish has a maximum levee elevation of approximately +8 ft, which is lower than what would be required to provide risk reduction from a 1 percent exceedance storm surge event. The comparison between the 2007 and 2010 ADCIRC grids performed, showed changes in the 1 percent flood exceedance level on the order of a foot (0.7 ft to 0.9 ft) at the Plaquemines back levee due to increases in the LPV 148, St. Bernard levee heights.

Proposed construction for the MRL tie-in for would add height to the existing floodwall to approximately +26 ft and up to 100 ft upstream to the MRL within St. Bernard Parish. The dimensions of the proposed LPV 149 levee alignment change are very small when compared to the scale on which differences in levee elevations and storm surge are observed. Therefore, minimally-increased water levels (in addition to those caused by LPV 148 in Plaquemines Parish) would be expected from construction of MRL tie-in under the proposed action.

Cumulative Impacts to Bayous and Canals

The habitat adjacent to the project area has previously been disturbed by construction of the HSDRRS and also by recent hurricanes and storms. Construction of the HSDRRS included a temporary bridge across Bayou Bienvenue and the 70-85 ft access road, as well as the T-wall on top of the existing levees LPV 145-149 (as evaluated in IERs 8,9, and 10). New construction of the proposed action could increase the indirect impacts to aquatic habitat in the area by re-suspending sediment that has only had a short time to recover from the prior events. However, the protection provided from the HSDRRS as well as other restoration projects in the area could prevent the conversion of existing habitat to more saline water or deeper open water.

Potential cumulative impacts on bayous, canals and wetland resources from the proposed action would involve the combined effects from the multiple reaches within the LPV Chalmette Loop project area (including those projects described in IERs # 8, # 10, and # 11) as well as other HSDRRS projects throughout the New Orleans area. Also, repair work related to flooding from the recent Hurricane Isaac in Plaquemines Parish near the towns of Braithwaite and Scarsdale. The proposed action would not permanently impact any additional wetlands within the project area, and the initial wetland impacts disclosed in IERs 8, 9, and 10 are in the process of being mitigated in the near future. Cumulative impacts to Bayous and Canals would be similar to those previously described in IERs 8, 9, and 10.

3.2.3 Wildlife

Existing Conditions

The wildlife inhabiting the project area was originally described in IERs 8, 9, and 10 and is included in this section by reference. The diversity and abundance of wildlife is dependent on the quality and extent of suitable habitats available. Areas surrounding the project area include terrestrial wildlife habitat along the MRGO consists principally of swamp (BLH and shrub/scrub) as well as upland shrub/scrub and herbaceous communities on higher ground created by dredge spoils deposited during construction of the waterways and fill deposited during construction of the levees. The vegetation communities within the project area of LPV 144-149 include levees, floodwalls and a 70-85 ft wide gravel access road and consist mainly of planted grasses. The grass habitats along the levees are subject to periodic mowing and provide limited cover or other habitat components supportive of wildlife. The CWA adjacent to the project area is covered predominantly by brackish and saline marsh and open water, which provides habitat for aquatic and semi-aquatic wildlife, especially wading birds, waterbirds, and waterfowl and these are specifically described in IERs 8, 9, and 10. During HSDRRS construction, specific animals actually seen within the HSDRRS ROW and in the vicinity of the wildlife access gates or sector gate structures include a barn owl, deer, coyotes, alligators, and rabbits. See photos #1, 2, 3, and 4.

Photo 1. Barn owl near LPV 149

Photo 2. Deer near LPV 146.

Photo 3. Alligator on LPV 146 protected side.

Photo 4. Coyotes using wildlife gates on LPV 146.

Discussion of Impacts

No Action Alternative

Direct Impacts to Wildlife

Under the no action alternative, the current HSDRRS would remain however, no permanent bridge would be constructed across Bayou Bienvenue, and the existing 70-85 ft access road would be removed and returned to turf grass vegetation. During construction there would be increases in noise, traffic, and lighting levels would also temporarily affect wildlife species in the surrounding area potentially increasing stress to these species. Some smaller, less mobile wildlife, such as small mammals, amphibians and reptiles, would experience direct mortality during clearing and grading activities. Once complete the area would be provided the 100-year level of risk reduction; however temporary direct impacts, would occur during maintenance of LPV 144-149 mainly by mowing. Operations inspection could potentially impact some of the vegetation suffering stress or mortality if rutted or frequently inspected by driving over the same route especially after storm events. The existing ROW contains wildlife grazing habitat and construction to remove the access road as well as operation and maintenance of the HSDRRS would temporarily impact this turf habitat within the existing right-of-way of the project. Completing the construction by removing the existing access road would temporarily impact a total area of approximately 270.6 acres. Revegetating the area with turf grass would provide terrestrial habitat for wildlife. Lastly, remnant wildlife habitat on the protected side in the vicinity of LPV 149 could be inundated for storm events greater than 100 year.

Indirect Impacts to Wildlife

Potential indirect impacts on wildlife from the no action would involve the displacement of wildlife populations, predominantly birds or small mammals during construction and maintenance events. Because access to LPV 145 would be limited by barge/boat to get equipment to the site the wildlife access gates would be closed from the peak of hurricane season July through the end November for risk and reliability. Keeping these wildlife access gates closed during the peak of hurricane season impedes and restricts wildlife access to adjacent wetlands. For approximately 12 weeks terrestrial animals would not be able to cross the T-wall at these three crossings. This is a temporary impact as access would be available following the peak hurricane season when the gates would be reopened. However, no permanent or cumulative impacts are anticipated from this operational change. These gates would be opened during the winter months when storms are less frequent and during maintenance events.

Cumulative Impacts to Wildlife

Potential cumulative impacts on wildlife resources from the no action alternative would involve the combined effects from the multiple reaches within the LPV Chalmette Loop project area as well as other HSDRRS projects throughout the New Orleans area. Also, repair work and debris removal in the surrounding area related to flooding from the

recent Hurricane Isaac impacted wildlife habitat. Approximately 1,536 acres of terrestrial wildlife habitat was previously impacted to construct within the footprint of the Chalmette Loop HSDRRS as described in IERs 8, 9, and 10 was impacted and lost to wildlife such as small mammals, amphibians, reptiles, birds, and larger mammals. The no action alternative would not permanently impact any additional wildlife habitat than the within the project area, and would return the 70-85 ft wide gravel access road to turf grass which provide grazing habitat. Cumulative impacts to wildlife resources would be similar to those previously described in IERs 8, 9, and 10.

Proposed Action Alternative

Direct Impacts to Wildlife

Terrestrial wildlife habitat within the footprint of the proposed project consists mostly of turf grass and a 70-85 ft wide by 22.5 mile gravel road. Impacts would be similar but less than what was described in IERs 8, 9, and 10, however, during construction of the Bayou Bienvenue bridge, reduction to the 15 ft wide access road, and the MRL tie-in there would be increases in noise, traffic, and lighting levels would also temporarily affect wildlife species in the surrounding area potentially increasing stress to these species. Some smaller, less mobile wildlife, such as small mammals, amphibians and reptiles, would experience direct mortality during clearing and grading activities. Other wildlife, such as birds and larger mammals, would likely leave the immediate construction area, perhaps relocating to the nearby forested or marsh areas to the east of the proposed project area, which would provide suitable temporary habitat during construction.

Construction of the permanent bridge across Bayou Bienvenue would enable direct access to LPV 145 and quick closure of the wildlife access gates on this reach before storm events. Because of this accessibility these gates would then be open the majority of the time and only closed for storm events. These wildlife gates facilitate access for terrestrial animals to the flood and protected side of the LPV 145 levee/T-wall.

Indirect Impacts to Wildlife

Potential indirect impacts on wildlife from the proposed action would involve the displacement of wildlife populations, predominantly birds or small mammals, which utilize the expanses of turf grass in the immediate project area. Movement of the limited numbers of wildlife that currently inhabit the existing levee into nearby habitats in the CWA and would not be expected to put added pressure on these large terrestrial and aquatic habitats. Therefore, the small populations and actual habitat impacted as well as the amount of adjacent, extensive surrounding habitat would minimize the potential indirect impacts associated with the proposed action.

Cumulative Impacts to Wildlife

Potential cumulative impacts on wildlife within the project area from the proposed action would involve the combined effects from the multiple LPV reaches within the Chalmette

Loop HSDRRS as well as other HSDRRS projects throughout the area. The displacement of the majority of terrestrial wildlife would be temporary during construction activities and most displaced wildlife would return following project completion. Most of the upland habitat impacted is frequently mowed turf grass of the ROWs along the HSDRRS throughout the area.

The proposed action of building the Bayou Bienvenue bridge would allow quick operability of the wildlife access gates on LPV 145 so they could be kept open and only closed for storm events, thus facilitating the movement of terrestrial wildlife or aid in the movement of terrestrial wildlife through the wildlife openings . The extensive amount of available habitat adjacent to the proposed action would also minimize impacts by providing ample habitat to support terrestrial wildlife that might be displaced.

3.2.4 Threatened and Endangered Species

Existing Conditions

In accordance with the provisions of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 USC 1531 et seq.), the CEMVN requested information on protected, proposed, and candidate species and critical habitat that may occur in the vicinity of IERs #8, 9, and 10 from the USFWS. The USACE CEMVN, evaluated the potential impacts associated with the proposed projects in IER #8, 9, and 10 in St. Bernard and a portion of Plaquemines Parish, Louisiana and the discussion of existing conditions is incorporated by reference. The species listed as threatened or endangered for St. Bernard and Plaquemines Parish that have the potential to occur in the adjacent waterways within the project area include the threatened Gulf sturgeon (*Acipenser oxyrhynchus desotoi*), the endangered Kemp's ridley sea turtle (*Lepidochelys kempii*), the threatened loggerhead sea turtle (*Caretta caretta*), and the threatened green sea turtle (*Chelonia mydas*), and the West Indian manatee (*Trichechus manatus*). Although much of the HSDRRS construction is complete, some work on the 100-year HSDRRS is still ongoing. USFWS per letters December 6, 2007, January 30, 2007 (should have been 2009), and March 15, 2010 concurred that the original project features described in IERs 5-11 are "not likely to adversely affect" threatened and endangered species. CEMVN coordinated the proposed action for IERS #8,9,10.a in a letter dated September 20, 2012 and requested USFWS concurrence with our determination of "not likely to adversely affect". The USFWS reviewed the proposed action to see if it would affect any threatened and endangered (T&E) species under its jurisdiction, or their critical habitat. The USFWS concurred with the CEMVN in a fax letter dated September 21, 2012 that the proposed action would not have adverse impacts on T&E species under its jurisdiction (appendix D).

Discussion of Impacts

No Action

Direct, Indirect, and Cumulative Impacts to Threatened and Endangered Species

Under the no action alternative, there would be no Bayou Bienvenue bridge construction so there would be no work in waterways or aquatic habitat. Construction to remove the existing 22 mile access road would be on land within the existing right-of-way of the project, and no work would occur to raise the MRL tie-in. Construction activities may have a temporary impact on adjacent foraging habitat. Increases in noise, traffic, and lighting levels would also temporarily affect the foraging habits in the surrounding area and potentially increase stress to threatened and endangered species. Indirect construction-related impacts such as runoff would be managed through implementation of BMPs and adherence to regulations governing stormwater runoff at construction sites (SWPPP), which would minimize the potential indirect impacts. No direct, indirect or cumulative impacts greater than what was previously disclosed in IERs #8, 9, and 10 would be anticipated.

Proposed Action Alternative

Direct Impacts to Threatened and Endangered Species

The construction of the proposed action would not be likely to adversely affect federally or state listed threatened and endangered species or marine mammals. The USFWS responded to the endangered species coordination in a facsimile dated September 21, 2012 that the proposed action for IERS #8,9,10.a is not likely to adversely affect the West Indian manatee. As stated previously in IERs 8, 9, and 10 standard manatee protection measures would be followed in order to minimize the potential for construction activities to impact the manatee. These procedures have been recommended by the USFWS for use in situations where in-water construction activities potentially could occur where manatees may be present. These procedures include the following:

> All contract personnel associated with the project would be informed of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel would be responsible for observing water-related activities for the presence of manatees. Temporary signs would be posted prior to and during all construction or dredging activities to remind personnel to be observant for manatees during active construction/dredging operations or within vessel movement zones (i.e., the work area), and at least one sign would be placed where it is visible to the vessel operator. Siltation barriers, if used, would be made of material in which manatees could not become entangled and would be properly secured and monitored. If a manatee is sighted within 100 yards of the active work zone, special operating conditions would be implemented, including: moving equipment would not operate within 50 ft of a manatee; all vessels would operate at no wake/idle speeds within 100 yards of the work area; and siltation barriers, if used, would be re-secured and monitored. Once the manatee has left the 100-yard buffer zone around the work area of its own accord, special operating conditions would no longer be necessary, but careful observations would be resumed. Any manatee sighting would be immediately reported to the U.S. Fish and Wildlife Service (337/291-3100) and the LaDWF, LaNHP (225/765-2821). These procedures have been recommended by the USFWS (2009) and adopted by the USACE (2005) for use in situations where in-water construction activities potentially could occur when manatees may be present.

Assuming the above procedures for preventing disturbance or injury to manatees are employed, the potential for direct impacts during the period of construction of the proposed action at Bayou Bienvenue would be minimal and unlikely to adversely affect this species.

A no effect determination for the Gulf sturgeon and Kemp's ridley, green, and loggerhead sea turtles has been made for the proposed action for IERS #8,9,10.a. Factors evaluated for this determination include the following: the area impacted by this project is not designated critical habitat; the channel bottom where the proposed bridge pier would be installed consists of rock and riprap, so it doesn't contain an abundance of prey items (sturgeon prefer sandy bottom substrate, not rock and concrete); no dredging would occur as part of this project, nor would a cofferdam be installed, the majority of the construction would be on land and not in the water, and BMPs and a SWPPP would be implemented to minimize impacts to water quality in the project area; and the new bridge would be built directly adjacent to the temporary bridge site and has already been impacted. Sturgeon and sea turtles could potentially be present in the area, but likely would avoid the area during construction due to noise, lack of prey items, and the currently operating sector gate. During the long-term operation of the new bridge, sturgeon and sea turtles could avoid injury because the bridge is elevated and closures should not impede their ability to swim along Bayou Bienvenue. All other construction including the 15 ft wide by 22.5 mile access road and the MRL tie-in would involve construction on land and not impact threatened or endangered species or critical habitat. Construction activities may have a temporary impact on foraging habitat adjacent to the project area. Increases in noise, traffic, and lighting levels would also temporarily affect the manatee foraging habitat, however no submerged aquatic vegetation is present in the project area.

Indirect Impacts to Threatened and Endangered Species

Potential indirect impacts on federally or state listed threatened and endangered species from the proposed action could mainly consist of temporary effects from siltation and suspended sediment in adjacent water bodies and increased noise levels from construction activities. Effects from construction activities associated with the proposed action would be minimized by BMPs to control sediment transport, adherence to regulations governing stormwater runoff at construction sites, and the temporary nature of noise impacts. Given that future operation of the new bridge structure on Bayou Bienvenue would only be operated for operation and maintenance events, indirect impacts on endangered or threatened species from the proposed action would be minimal. Thus, indirect impacts on federally or state listed threatened and endangered species from the proposed action would be unlikely to have permanent adverse affects on these species.

Cumulative Impacts to Threatened and Endangered Species

Potential cumulative impacts on federally or state listed threatened and endangered species from the proposed action would involve the combined effects from the multiple

LPV reaches within the Chalmette Loop HSDRRS as well as other HSDRRS projects throughout the area. These species are mobile and would avoid project areas during the construction period, and the displaced individuals would return to the temporarily impacted areas following project completion. Neither manatees, Kemp's ridley, Loggerhead, or green sea turtles, nor Gulf sturgeon would be anticipated to utilize the land areas within the project ROW or the rock riprap portion of Bayou Bienvenue in the vicinity of the existing sector gate where construction activities would take place. Extensive more suitable similar aquatic and benthic habitat exists in areas adjacent to the project area where the manatee, Kemp's ridley, Loggerhead and green sea turtles, and Gulf sturgeon could forage or swim. Thus, cumulative impacts on federally or state listed threatened and endangered species from the proposed action would be unlikely to have permanent adverse effects on these species.

3.2.5 Air Quality

Existing Conditions

The Federal Clean Air Act (CAA) requires that all states comply with the National Ambient Air Quality Standards (NAAQS). NAAQS have been developed for seven pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2), and two forms of particulate matter (PM_{10} – particulate matter with a diameter of 10 micrometers or less; and $PM_{2.5}$ - particulate matter with a diameter of 2.5 micrometers or less).

When ambient air pollution parameters exceed NAAQS, the Federal and state government are responsible for implementing an air quality management plan. These areas of exceedence are called "non-attainment" and "air maintenance" zones. The state is responsible for preparing a State Implementation Plan (SIP) that designs a plan to "attain" ambient NAAQS. Federal actions occurring in the non-attainment zone must conform to the SIP and avoid impeding the state's efforts to achieve air quality goals. Orleans, St. Bernard, and Plaquemines Parish are classified as in attainment for all of the NAAQS (U.S. Environmental Protection Agency http://www.epa.gov/air/oaqps/greenbk/mapnpoll.html).

Throughout Orleans, St. Bernard, and Plaquemines Parish there are recovery efforts at work including continued debris removal, demolition of condemned homes and businesses, as well as construction activities associated with new development. There are also parish wide efforts including street, sewerage and water repairs and construction of school and government facilities. All of these recovery efforts add to the amount of dust emissions as well as construction equipment emissions within the parishes.

Discussion of Impacts

No Action Alternative

Direct, Indirect and Cumulative Impacts to Air Quality

Under the no action alternative, the current HSDRRS would continue to be constructed; this action would involve removal of the existing 22.5 construction access road. Therefore impacts would be similar to those previously described in IERs 8, 9, and 10, construction would occur within the existing right-of-way of the project. These construction activities would continue to cause temporary site specific construction

effects including exhaust and dust emissions. There would be no indirect impacts on air quality within the project area or the region from implementation of the no action alternative. All areas within the project site are designated as in attainment and once construction is completed no cumulative impacts to air quality are anticipated.

Proposed Action Alternative

Direct Impacts to Air Quality

Temporary and minor increases in air pollution could continue to occur as described in IERs 8, 9, and 10 from the use of construction equipment such as cranes, pile drivers, generators, excavators, bull dozers, and construction vehicle traffic. Combustible emissions from construction equipment would be expected to temporarily increase during the construction phase of the project. Particulate emissions (fugitive dust) would be generated by activities that disturb and suspend soils such as equipment operating on disturbed soils, bulldozing, compacting, truck dumping, and grading operations. Construction workers would temporarily increase the combustible emissions during their commute to and from work. The emissions from supply trucks and workers commuting to work would temporarily impact air quality in the vicinity of the project area. Operation of construction equipment and support vehicles would also generate VOCs, PM_{10}, $PM_{2.5}$, NOx, CO, O_3 and SOx emissions from diesel engine combustion.

During the construction of the proposed action, proper and routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within the design standards of all construction equipment. Dust suppression methods would be implemented to minimize fugitive dust emissions. Air emissions from the proposed action would be temporary and should not significantly impair air quality in the region. Due to the short duration of the construction project, any increases or impacts on ambient air quality would be expected to be short-term and minor and would not be expected to cause or contribute to a violation of Federal or state ambient air quality standards.

Indirect Impacts to Air Quality

There would be no adverse indirect impacts to air quality within the project area under the proposed action.

Cumulative Impacts to Air Quality

Construction activities associated with other HSDRRS projects would create dust emissions, but would use standard BMPs. The BMPs would include application of water to control dust and periodic wetting down of haul roads to aid in prevention of fugitive dust becoming airborne. Construction activities occurring during and within the vicinity of the project area, for the most part are complete. Therefore, cumulative impacts to air quality due to the proposed action and other construction activities within the area that would occur concurrently would be temporary. Incremental contribution to cumulative air quality impacts due to the proposed action would not be expected after the construction is complete.

3.2.6 Noise

Existing Conditions

Noise is generally described as unwanted sound, which can be based either on objective effects (*i.e.*, hearing loss, damage to structures, *etc*.) or subjective judgments (*e.g.*, community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as sound level. The threshold of human hearing is approximately 0 dB, and the threshold of discomfort or pain is around 120 dB.

Noise levels are computed over a 24-hour period and adjusted for nighttime annoyances to produce the day-night average sound level (DNL). DNL is the community noise metric recommended by the Environmental Protection Agency (EPA) and has been adopted by most Federal agencies (EPA 1974). A DNL of 65 dBA is the level most commonly used for noise planning purposes and represents a compromise between community impact and the need for activities like construction. Areas exposed to a DNL above 65 dBA are generally not considered suitable for residential use. A DNL of 55 dBA was identified by the EPA as a level below which there is no adverse impact (EPA 1974).

Noise levels surrounding the project corridor are variable depending on the time of day, location, and climatic conditions. The major noise sources within the area include construction related noise from ongoing recovery efforts as well as vehicular noise from the three major highways that cross the area, including Highway 46, Highway 47, and Highway 39. Other major noise sources include the Murphy and Exxon Mobile oil refineries and noise associated with shipping activity along the Mississippi River. The HSDRRS project is located well away from these developed areas and is directly surrounded by marsh and water.

Discussion of Impacts

No Action Alternative

Direct, Indirect and Cumulative Impacts to Noise

Under the no action alternative, the current HSDRRS would continue to be constructed; this action would involve removal of the existing 22.5 construction access road. Therefore impacts would be similar to those previously described in IERs 8, 9, and 10, construction would occur within the existing right-of-way of the project. Any noise receptors within 1,000 feet of the project corridor would experience temporary noise impacts associated with construction activities such as earth moving and vehicles. There would be no indirect or cumulative impacts on noise within the project area or the region from implementation of the no action alternative are anticipated.

Proposed Action Alternative

Direct Impacts to Noise

Direct impacts from the noise emission levels for construction equipment expected to be used during the proposed construction activities would be temporary and similar to those described for IERs 8,9, and 10. Construction activities, including pile driving, could take place a minimum of 12 hours per day, and possibly up to 18 hours per day for approximately 25 months. The anticipated noise levels would range from 76 dBA to 101 dBA. Assuming the worst case scenario of 101 dBA would be from pile driving in the vicinity of LPV 149, all other areas within 1,000 feet of the project corridor would experience noise levels exceeding 65 dBA. Construction noise levels would attenuate to 75 dBA at a distance of 350 feet from construction activities. Therefore, no additional

noise impacts associated with construction activities such as pile driving and vehicles would be anticipated with the proposed action.

Indirect Impacts to Noise

Indirect impacts from noise would have the potential to result in avoidance of the project area by wildlife, residents, and recreational and commercial fisherman. The long term exposure of residents in the immediate area from continuous increased noise levels could also lead to emotional or mental stress. While these indirect impacts may be adverse, they would only be temporary and cease once construction activities are completed.

Cumulative Impacts to Noise

Noise impacts associated with planned construction activities associated with proposed action as well as ongoing projects to improve the HSDRRS for Orleans, St. Bernard and Plaquemines Parish and other rebuilding and restoration following recent hurricanes would not likely cause noise levels in the project area to exceed the maximum levels of noise described under the direct impacts section. However, concurrent construction activities along with other projects in the area, would have the potential to extend the duration of elevated noise levels for residents living in the project area.

3.2.7 Transportation

Existing Conditions

The proposed project is located in the more rural areas of Orleans, St. Bernard, and the edge of Plaquemines Parishes, with the existing communities centered on the natural ridges of the Mississippi River. St. Bernard Highway (Highway 46) and Judge Perez Drive (Highway 39) are the major roadways through St. Bernard Parish running parallel to the river and connecting St. Bernard Parish to Orleans Parish. The main north/south roadway is Paris Road (Highway 47) that bisects the project area and connects to Interstate 510 in New Orleans East. Near the southern end of the project, Highway 46 turns east and parallels Bayou Road. These roadways would be utilized for transportation of supplies for the proposed action. HSDRRS construction work included gates at Highway 46, Bayou Road, and Highway 39 is for the most part complete. The urbanized areas of the parish located along the Mississippi River include Arabi, Chalmette, Meraux, and Violet. The other developed region in the project area is along Highway 46 and Bayou Road in eastern St. Bernard Parish and includes the communities of Poydras, Kenilworth, Verret, and Caernarvon. All of the major transportation routes in the project area are shown in figure 1.

Construction of the HSDRRS has been ongoing in the project area and traffic delay impacts related to current construction are part of the existing conditions. Most roadways throughout the parish experience a fairly good level of service (LOS) during a normal day with portions of Highway 46 and Highway 39 near the parish line seeing small delays and congestion during peak morning and evening travel times. The project area has a relatively large amount of truck traffic due to nearby shipping, manufacturing, and agricultural industries. Additionally, an increased level of truck traffic exists due to the on-going rebuilding efforts resulting from the nearby destruction caused by recent hurricanes. The only rail line in the project area parallels the Mississippi River and is located between the river and Highway 46.

Discussion of Impacts

No Action Alternative

Direct, Indirect and Cumulative Impacts to Transportation

Under the no action alternative, the current HSDRRS would continue to be constructed; this action would involve removal of the existing 22.5 construction access road. The no action alternative would temporarily impact traffic on highways and local roads within the vicinity of the project area from worker and truck traffic associated with construction activities. Therefore transportation impacts and traffic delays would be similar to those previously described in IERs 8, 9, and 10, construction would occur within the existing right-of-way of the project, however construction debris material related to the access road would be hauled off site for disposal. Because no construction should occur on the Bayou Bienvenue bridge or the MRL tie-in transportation impacts in these areas would be less than what is described for the proposed action. There would be no additional indirect or cumulative impacts on transportation within the project area or the region from implementation of the no action alternative are anticipated.

Proposed Action Alternative

Direct Impacts to Transportation

Additional traffic to the roadway network would occur for approximately 25 months and include the mobilization of construction equipment, construction workers traveling to and from construction sites, construction materials being shipped to construction sites, and construction related debris being removed from construction sites. Construction materials being shipped to construction sites would be the bulk of the additional traffic.

Truck access to the project sites would be via Interstate 10 to Interstate 510 to Highway 47 from the east as well as Interstate 10 to Highway 46 or Highway 39 from the west. Barges could also be used during construction and would access the project area via the MRGO from the Intracoastal Waterway. It is estimated that approximately two barges could be utilized to carry construction materials only to the Bayou Bienvenue bridge site, this should not increase traffic through the IHNC lock, the GIWW or the MRGO. On Bayou Bienvenue no channel or bank excavation would occur, nor would the channel flow be restricted or a cofferdam be constructed, so navigation impacts on Bayou Bienvenue would be minimal. During construction of the Bayou Bienvenue bridge temporary impacts could occur for short durations (approximately 30 minutes at a time) where traffic is impeded during mobilization of equipment and material to the opposite side of the bayou.

Concrete would likely be transported to the LPV 149 site via mixing truck and pumped on-site or a temporary concrete facility may be used on site within ROW. Steel sheet piling and H-piles would likely be shipped by truck. The bulk of the truck traffic would occur on Interstate 10, Interstate 510, Highway 47, Highway 46, Highway 39, and potentially along other local roads. Transport of approximately 143,168 cy of clay would require utilizing 24-32 cy trucks and entails approximately 4,474 to 5,965 trucks to haul the material. Granular Surfacing from stockpile area and placement of 31,630 cy entails approximately 1,317 to 1,500 trucks. Concrete of 780 cy would take approximately 78 trucks mainly to the LPV 149 Caernarvon site. To transport 19,000 cy of compact clay would require approximately 1,187 to 1,250 trucks. Stripped and Stockpiled stone would remain in site, and given the total distance of the project and pushed to the stockpile area. The majority of this hauling once materials are onsite would be within the 22.5 mile Chalmette Loop on the protected side.

Local streets would be used to access work sites from the arterials. The access roads (e.g., work site roads, staging areas) used by the trucks would have substantial changes in their LOS. It should be noted that without a detailed transportation routing plan, a more detailed impact evaluation to the LOS of minor highways and roads cannot be done, but will be addressed in more detail in the CED.

Indirect Impacts to Transportation

Heavy trucks would add to existing loading sources for pavement degradation. The additional trucks associated with the proposed action would contribute to additional wear-and-tear of pavement on the areas major routes and some local streets. However, construction has been ongoing in this area for several years.

Cumulative Impacts to Transportation

As discussed previously, additional wear-and-tear of pavement on roads within the project vicinity would occur due to increased truck traffic under the proposed action. Ongoing construction related to other reconstruction projects in the project vicinity as well as construction related to other projects would also contribute to the increase of truck traffic and would therefore increase wear-and-tear on the pavement of the roads. Cumulatively with the completion of the Bayou Bienvenue bridge and the 22.5 mile access road it would aid in operation and maintenance inspection of the Chalmette Loop and decrease the wear-and-tear on the existing levee. The bridge would be operable from both sides of Bayou Bienvenue but would remain in the open position and only operated for maintenance so no additional navigation transportation delays are anticipated. This bridge and access road will enable quick or expedited operation and closures of gate structures on the Chalemette Loop in advance of storms, thus decreasing transportation impacts for evacuations prior to storm events.

3.3 SOCIOECONOMIC RESOURCES

Introduction

The evaluation of socioeconomic impacts under the IERS #8,9,10.a is conducted as an extension to those already considered and reported in the previous IERs to which they correspond. Therefore, only impacts that may be found to be incremental to IERs #8, 9, and 10 are presented in this analysis.

Potential incremental socioeconomic impacts are evaluated in this IERS #8,9,10.a for two alternatives. The first is the proposed action. The proposed action is intended to provide ensure that the 100-year level of risk reduction would be more effectively maintained for Orleans, St. Bernard, and Plaquemines Parishes, Louisiana. Under this action, in general, a 15-foot wide permanent access road would be constructed on the protected side of the alignment within LPV reaches; a tie-in to the MRL would be constructed to a higher elevation of +26 feet; and a permanent swing span bridge would be constructed across Bayou Bienvenue. The second alternative is the no action alternative. Under the no action alternative, the Government-approved actions as described in IERs #8, 9 and 10 that have yet to be accomplished would pursued to completion.

Discussion of Impacts

The following section discusses the extent of the project impacts by the alternatives.

No Action Alternative

Direct, Indirect, and Cumulative Impacts to Socioeconomics

Under the no action alternative, construction activities would be represented by the proposed action under IERs #8, 9, and 10, except that the existing protected side road would be removed and remaining materials would not be stockpiled within the existing ROW, but rather disposed by transporting these materials to a dedicated landfill. As per the plans and specifications, the construction site would be restored to near natural conditions. As such, there are no significant incremental changes to the direct or cumulative socioeconomic impacts previously described in IERS #8,9,10a. However, indirect impacts would be more adverse relative to the proposed action since a less effective means to access levees and floodwalls would be relied upon to operate and maintain the storm damage risk reduction system, and the elevation of the floodwall tie-in would not be raised to what is currently determined to be the HSDRRS standard.

Proposed Action Alternative

Direct, Indirect, and Cumulative Impacts to Socioeconomics

The construction of a permanent 135 ft x 16 ft swing span bridge across Bayou Bienvenue is not expected to have additional significant direct socioeconomic impacts than those previously evaluated under IER #10. While this item of work is additional to that described in IER #10, the absence of population and infrastructure within the project footprint indicates that expected socioeconomic impacts are minimal or nonexistent. Indirect impacts may be significant, however, since the function of the swing bridge is to facilitate mobilization during storm events and to ensure the proper functioning of the regional storm surge risk reduction system. There are no incremental cumulative impacts from those described in IER #10.

Construction of a permanent gravel road along the protected side of the Chalmette Loop T-wall is not expected to have significant direct incremental socioeconomic impacts than previously evaluated under IER #10. There would be positive indirect impacts as the construction of the access road would enable inspection and maintenance of the Chalmette Loop Levee/T-walls as well as expedite operation for closure of the wildlife access gates prior to storm events and thereby more effectively provide risk reduction to the region. There are no incremental cumulative impacts from those described in IER #10.

Construction of the LPV 149 floodwall tie-in to a higher elevation is not expected to have significant direct incremental socioeconomic impacts than previously evaluated under IER #9. Indirect positive impacts are expected, however, since the tie-in would accomplish the intended HSDRSS design criteria, providing greater resiliency for the storm surge risk reduction system. There are no incremental cumulative impacts from those described in IER #9.

4. CUMULATIVE IMPACTS

Cumulative impacts for this IERS #8,9,10.a would be similar to those described in the original IERs #8, 9, and 10 and involves the combined effects from the multiple reaches within the LPV Chalmette Loop project area as well as other HSDRRS projects throughout the New Orleans area. Also, repair work related to flooding from the recent

Hurricane Isaac in Plaquemines Parish near the towns of Braithwaite and Scarsdale could cumulatively impact the area. Additional impacts would be those associated with construction of a bridge across Bayou Bienvenue, a 22.5 mile protected side access road, and the tie-in to the MRL. Approximately 270.6 acres the upland habitat that would be impacted and there would be no additional impact to prime and unique farmland. The upland habitat in this area consists of frequently mowed turf grass or gravel road within the existing protected side HSDRRS ROWs. Upland habitat impacts would be temporary and a majority of the upland habitat would be restored after construction activities are completed. This acreage of upland habitat impact is small when compared to the existing 37,120 acres of habitat in the surrounding St. Bernard Parish.

New construction of the proposed action could impact bayous, canals and aquatic habitat in the area by temporarily re-suspending sediment that has only had a short time to recover from the prior construction and storm events. The proposed action would not impact any additional wetlands within the project area, and the initial wetland impacts disclosed in IERs #8, 9, and 10 are in the process of being mitigated in the near future. The displacement of the majority of terrestrial wildlife would be temporary during construction activities and wildlife would return following construction completion. The Bayou Bienvenue bridge would allow quick operability of the wildlife access gates on LPV 145, thus facilitating the movement and access of terrestrial wildlife to ample available habitat on both the flood and protected side of the T-wall structure and minimizing cumulative population segregation impacts.

Threatened and endangered species in the surrounding area are mobile and would avoid project areas during the construction period, any displaced individuals would return to following project completion. Aquatic species such as manatees, Kemp's ridley, Loggerhead, or green sea turtles, or Gulf sturgeon are not anticipated to utilize the land areas within the project ROW or the rock riprap portion of Bayou Bienvenue in the vicinity of the proposed bridge construction. Therefore cumulative impacts on federally or state listed threatened and endangered species from the proposed action would be unlikely to have permanent adverse effects on these species. Temporary construction activities associated with other HSDRRS projects would create dust emissions, but would use standard BMPs to minimize cumulative impacts. Incremental contribution to cumulative air quality impacts due to the proposed action would not be expected after the construction is complete.

The overall area would benefit from the increased hurricane and storm damage risk reduction and reduced erosion impacts the completed HSDRRS would provide. As discussed previously, additional wear-and-tear of pavement on roads within the project vicinity would occur due to increased truck traffic under the proposed action. However, completion of the Bayou Bienvenue bridge and the 22.5 mile access road it would aid in operation and maintenance inspection of the Chalmette Loop and decrease the wear-and-tear on the existing levee, and no additional navigation transportation delays are anticipated. The bridge and access road will enable quick or expedited operation and closures of gate structures on the Chalemette Loop in advance of storms, thus decreasing transportation impacts for evacuations prior to storm events. Once construction is complete, there would be no additional cumulative adverse transportation, navigational or

socioeconomic impacts associated with the completed construction of the Bayou Bienvenue brige, 15 ft wide access road, or the MRL tie-in.

5. SELECTION RATIONALE

The proposed action consists of constructing a bridge across Bayou Bienvenue, converting an existing 50-80 ft wide by 22.5 mile long construction access road to a permanent 15 ft wide by 22.5 mile long access road, and raising the tie-in to the MRL to approximately +24 ft NAVD88. The proposed actions were selected because they provide increased access and availability to operate and maintain the existing 22.5 mile levee/T-wall that surrounds the Chalmette Loop which included 9 access gates, and enables quick access prior to and immediately after storm events. The completed HSDRRS provides adequate structural measures to meet the 100-year level of hurricane and storm damage risk reduction for St. Bernard Parish; does not disturb existing commercial, industrial, or public complexes; minimizes encroachment on existing infrastructure; and could be implemented within the time constraints and technology available; while minimizing impacts to natural resources including wetlands, fisheries, and threatened or endangered species.

The proposed actions were selected after thorough comparison with other alternatives. The comparison involved consideration of numerous criteria including schedule, cost, risk and reliability, constructability, natural environment, human environment, right-of-way and operation and maintenance. In each action, the non-Federal Sponsor's preference was also considered. Alternatives are constructible and could be completed in approximately 18 months. Construction of the proposed actions; rather the no action alternative reduces risk and reliability by enabling operation and maintenance of the St. Bernard Parish HSDRRS, improves response time in a storm event and provides 0.2% or 500- year event resiliency by preventing overflow at the LPV 149/MRL tie-in.. The proposed actions do not yield any additional wetland impacts and impacts areas within an already impacted construction footprint within the existing ROW boundary.

LPV 145a Bayou Bienvenue Swing Span Bridge: Construction of the swing span bridge across Bayou Bienvenue reduces risk by allowing quick access to the LPV 145 reach and enables operation and maintenance of the access gates in this reach prior to and shortly after storm events. Keeping these wildlife gates open prevents population isolation or segregation and reduces impacts to the natural environment.

LPV 145, 146, 148.02, and 149 Access Road: Construction of the 15 ft wide access road reduces future long term maintenance when compared to ruts in the base of the levee berm. The road improvements will be constructed within an already impacted construction footprint/ROW, provide permanent utility crossings and improved response time to close sector gates and access gates in a storm event. The no action alternative would remove the temporary mats protecting the utility crossings and presents additional

risk for damage to utilities, whereas the proposed action would reduce risk and provides protection to the existing utility crossings.

LPV 149 MRL Floodwall Tie-In: Construction of the MRL tie-in provides 0.2% or 500 year event resiliency by preventing overflow of storm surge. This construction would also have more beneficial impacts on population, land use, and employment due to heightened hurricane and storm damage risk reduction and construction-generated expenditures.

6. COORDINATION AND CONSULTATION

6.1 PUBLIC INVOLVEMENT

Extensive public involvement has been sought in preparing this IER. The projects analyzed in this IER were publicly disclosed and described in the Federal Register on 13 March 2007 and on the website www.nolaenvironmental.gov. Scoping for this project was initiated on 12 March 2007 through placing advertisements and public notices in USA Today and the New Orleans Times-Picayune. Nine public scoping meetings were held throughout the New Orleans metropolitan area to explain scope and process of the Alternative Arrangements for implementing NEPA between 27 March 2007 and 12 April 2007, after which a 30-day scoping period was open for public comment submission. Additionally, the CEMVN is hosting monthly public meetings to keep the stakeholders advised of project status. The public is able to provide verbal comments during the meetings and written comments after each meeting in person, by mail, and via www.nolaenvironmental.gov.

In public meetings held 12 June 2007, 27 July 2007, 21 August 2007, 24 October 2007, 1 November 2007, 17 January 2008, 17 April 2008, and 17 July 2008, 11 March 2009, and 11 May 2009 several public concerns were raised regarding flooding and tidal surge impacts on St. Bernard Parish from the MRGO, the IHNC, Lake Borgne, and Lake Pontchartrain near Seabrook. These concerns are discussed in section 1.6.

This draft IER will be distributed for a 30-day public review and comment period on January 14, 2013. Comments received during the public review and comment period from Federal and state resource agencies will be included in Appendix D. The CEMVN District Commander will review the public and agency comments, and interagency correspondence. The District Commander will then make a decision on the proposed action and it will be documented in an IER Decision Record.

6.2 AGENCY COORDINATION

Preparation of this IER has been coordinated with appropriate Congressional, Federal, state, and local interests, as well as environmental groups and other interested parties. An interagency environmental team was established for this project in which Federal and state agency staff played an integral part in the project planning and alternative analysis phases of the project (members of this team are listed in appendix C). This interagency environmental team was integrated with the CEMVN project delivery team to assist in the planning of this project and to complete a mitigation determination of the potential direct and indirect impacts of the proposed action. Monthly meetings with resource agencies were also

held concerning this and other IER projects. The following agencies, as well as other interested parties, received copies of the draft IER:

U.S. Department of the Interior, Fish and Wildlife Service
U.S. Department of the Interior, National Park Service
U.S. Environmental Protection Agency, Region VI
U.S. Department of Commerce, NOAA National Marine Fisheries Service
U.S. Natural Resources Conservation Service
Governor's Executive Assistant for Coastal Activities
Louisiana Department of Wildlife and Fisheries
Louisiana Department of Natural Resources, Coastal Management Division
Louisiana Department of Natural Resources, Coastal Restoration Division
Louisiana Department of Environmental Quality
Louisiana State Historic Preservation Officer

CEMVN coordinated the proposed action for IERS #8,9,10.a in a letter dated September 20, 2012 and requested USFWS concurrence with our determination of "not likely to adversely affect". The U.S. Fish and Wildlife Service (USFWS) reviewed the proposed action to see if it would affect any threatened and endangered species under its jurisdiction, or their critical habitat. The USFWS concurred with the CEMVN in a fax letter dated September 21, 2012 that the proposed action would not have adverse impacts on T&E species under its jurisdiction (appendix D). The USFWS draft CAR recommendations, and the CEMVN's response to them, are listed below:

Recommendation 1: To the greatest extent possible, situate flood protection features so that destruction of wetlands are avoided or minimized.

CEMVN Response 1: Concur; no additional wetlands would be impacted with the proposed action.

Recommendation 2: Further detailed planning of project features (e.g., Design Documentation Report, Engineering Documentation Report, Plans and Specifications, or other similar documents) should be coordinated with the Service, NMFS, LDWF, Environmental Protection Agency (EPA) and Louisiana Department of Natural Resources (LDNR). The Service shall be provided an opportunity to review and submit recommendations on all the work addressed in those reports.

CEMVN Response 2: Acknowledged.

Recommendation 3: If a proposed project feature is changed significantly we recommend that the Corps reinitiate coordination with this office to ensure that the proposed project would not adversely affect any federally listed threatened or endangered species or their habitat.

CEMVN Response 3: Concur.

Recommendation 4: The Bayou Dupre and Bayou Bienvenue floodgates should remain completely open except during storm events. Management of those structures should be developed in coordination with the Service, NMFS, LDWF, and LDNR.

CEMVN Response 4: The Bayou Dupre and Bayou Bienvenue floodgates are to be operated in accordance with the water control plan to be developed in coordination with USFWS, NMFS, LDWF, and LDNR.

Recommendation 5: Parts of Bayou Dupre and its tributaries are a Louisiana designated Natural Scenic River. If changes to the project are proposed, prior to initiating any of the proposed changes the LDWF Scenic Rivers Coordinator Keith Cascio should be contacted at (318) 343-4045.

CEMVN Response 5: Concur.

Recommendation 6: The final Comprehensive Environmental Document should include the gate operation plans for the wildlife openings in the IER 10 floodwall along with the notification requirement for their operation.

CEMVN Response 6: Concur.

Recommendation 7: The final Comprehensive Environmental Document should also disclose the permanent closure of the old Bayou Dupre and Bienvenue floodgates.

CEMVN Response 7: The final Comprehensive Environmental Document will address the water control plans for the new structures. Currently there are no plans for any permanent closures or removal of the old structures.

The Louisiana Department of Natural Resources (LDNR) reviewed the proposed action for IERS #8,9,10.a for consistency with the Louisiana Coastal Resource Program (LCRP). The proposed action was found to be consistent with the LCRP, as per a letter dated November 13, 2012 (reference number C20120320) (appendix D).

The Louisiana Department of Environmental Quality reviewed the proposed action and per email response dated October 1, 2012 “the previously issued Water Quality Certification (WQC's) are still valid and revised WQC's are not required for all three IERs”. The CEMVN received WQC for IERs #8/10 on February 8, 2009 (reference number WQC 081222-01/AI 162387/CER 20080001) and IER #9 on September 21, 2009 (reference number WQC 090708-02/AI 165754/CER 20090001) (appendix D).

Section 106 of the National Historic Preservation Act, as amended, requires consultation with the Louisiana State Historic Preservation Officer (SHPO) and Native American tribes. LASHPO reviewed the proposed action and determined that it would not adversely affect any cultural resources. The changes proposed by this supplemental IER do not change the footprints of actions coordinated for the original IERs. The actions proposed do not alter the coordinated disturbances other than in minor detail of final use. Therefore, no further coordination is required for this IER Supplement. Coordination was completed for IER #8 with response from SHPO on November 19, 2007 and by Mississippi Band of Choctaw on November 29, 2007. Coordination was completed for IER #9 with response from SHPO on December 7, 2007. Coordination was completed for IER #10 with response from SHPO on November 17, 2008 and November 26, 2008; from Caddo Nation of Oklahoma on October 14, 2008; from Seminole Nation of Oklahoma on October 24, 2008 and November 5, 2008; from Alabama Coushatta Tribe of Texas on November 4, 2008 and April 24, 2009; from Seminole Tribe of Florida on November 24, 2008 and April 27, 2009; and from Choctaw Nation of Oklahoma on November 12, 2008.

7. MITIGATION

Mitigation for unavoidable impacts to the human and natural environment described in this and other IERs will be addressed in separate mitigation IERs. No new wetland impacts are anticipated from the proposed action. The compensatory mitigation discussed in IERs #8, 9, and 10 remain valid. All mitigation activities would be consistent with standards and policies established in appropriate Federal and state laws and USACE policies and regulations. A forthcoming mitigation IER will implement compensatory mitigation as early as possible. All mitigation activities will be consistent with standards and policies established in the appropriate Federal and state laws, and USACE policies and regulations.

8. COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

Environmental compliance for the proposed action will be achieved upon coordination of this IERS with appropriate agencies, organizations, and individuals for their review and comments; USFWS confirmation that the proposed action would not be likely to adversely affect any T&E species, or completion of Endangered Species Act Section 7 consultation (appendix D); LDNR concurrence with the determination that the proposed action is consistent, to the maximum extent practicable, with the LCRP, as per a letter dated November 13, 2012 (appendix D); coordination with the LASHPO (appendix D); receipt and acceptance or resolution of all Fish and Wildlife Coordination Act recommendations (appendix D); and February 8, 2009 (reference number WQC 081222-01/AI 162387/CER 20080001) and September 21, 2009 (reference number WQC 090708-02/AI 165754/CER 20090001) and receipt and acceptance or resolution of all LDEQ comments on the water quality and air quality impact analysis documented in the IERS.

9. CONCLUSIONS

9.1 DRAFT DECISION

The proposed action would be instrumental in providing 100-year level of risk reduction for Orleans Parish, St. Bernard, and Plaquemines Parishes, Louisiana. The proposed action for LPV 144 includes construction of a 136 ft by 16 ft swing span bridge across Bayou Bienvenue, a 22.5 mile by 15 ft wide access road would be constructed on the protected side of the following reaches LPV 145, 146, 148, and 149, and a tie- in to the MRL would be constructed to elevation +26 ft NAVD88. With the completion of the proposed action the 100-year level of risk reduction for the Chalmette Loop area would be achieved. The CEMVN has assessed the environmental impacts of the proposed action and has determined that the proposed action would have the following impacts:

Upland Communities

LPV 145, LPV 146, LPV 148, LPV 149 construction activities would occur within the existing ROW along a previously disturbed and developed corridor. Upland habitat within the footprint of the proposed access road is approximately 270.6 acres of this the total area to be disturbed by excavation, grading, borrow, and fill is approximately 237.8 acres, would be temporarily lost to wildlife mainly during construction. There would be no additional impacts on prime and unique farmlands from the proposed action.

Bayous and Canals

LPV 144, LPV 145, LPV 146, LPV 148 and LPV 149 would stay within the existing ROW or a recently disturbed area, which would disturb soils, which in turn, would increase the probability of sediment migration. Some temporary water quality impairments may occur if there is a major rain event during the construction efforts, however, BMPs would be followed to minimize potential impacts. Construction a bridge across Bayou Bienvenue could temporarily impact the stream habitat for approximately 18 months. This action could disturb up to 2.6 acres of aquatic habitat in Bayou Bienvenue during construction and a much smaller portion (approximately 0.2 acre) of the channel would be permanently occupied by the bridge pivot pier. Bayou Dupre, the Jourda or Caernarvon Canals should not be directly impacted because no construction is proposed for those waterways, and adherence to SWPPP regulations governing stormwater runoff at construction sites would minimize the potential impacts.

Wildlife

LPV 144, LPV 145, LPV 146, LPV 148 and LPV 149 would stay within the existing ROW or an already disturbed area which consist of mainly turf grass. Terrestrial wildlife could be temporarily impacted by increases in noise, traffic, and lighting levels potentially increasing stress to these species. Smaller, less mobile wildlife, such as small mammals, amphibians and reptiles, would experience direct mortality during clearing and grading activities. Other wildlife, such as birds and larger mammals, would likely leave the immediate construction area and relocate to nearby forested or marsh areas, which would provide suitable temporary habitat during construction.
Construction of the permanent bridge across Bayou Bienvenue would enable direct access to LPV 145 and quick closure of the wildlife access gates on this reach before storm events. Because of this accessibility these gates would then be open the majority of the time and only closed for storm events. These wildlife gates facilitate access for terrestrial animals to the flood and protected side of the LPV 145 levee/T-wall.

Threatened and Endangered Species

LPV 144, LPV 145, LPV 146, LPV 148 and LPV 149 would not be likely to adversely affect federally or state listed threatened and endangered species, marine mammals, or migratory birds. Construction activities may have a temporary impact on adjacent foraging habitat and increases in noise.

Air Quality

LPV 144, LPV 145, LPV 146, LPV 148 and LPV 149 would cause temporary site specific construction effects including exhaust and dust emissions.

Noise

LPV 144, LPV 145, LPV 146, LPV 148 and LPV 149 would have temporary impacts to receptors within 1,000 feet of the project area during construction.

Transportation

LPV 144, LPV 145, LPV 146, LPV 148 and LPV 149 would temporarily impact traffic on highways and local roads within the vicinity of the project area from worker and truck traffic associated with construction activities.

Socioeconomic Resources

LPV 144, LPV 145, LPV 146, LPV 148 and LPV 149 would have beneficial impacts on population, land use, and employment due to heightened hurricane and storm damage risk reduction and construction-generated expenditures.

9.2 PREPARED BY

The point of contact for this IER is Laura Lee Wilkinson, Environmental Coordinator. Table 3 lists the preparers of relevant sections of this report. Ms. Wilkinson can be reached at U.S. Army Corps of Engineers, New Orleans District; Planning, Programs, and Project Management Division, CEMVN-PM; P.O. Box 60267; New Orleans, Louisiana 70160-0267.

Table 3: Individual Environmental Report Preparation Team

Report Section	Team Member
Environmental Project Manager	Laura Lee Wilkinson, USACE
Regional Planning Environmental Division South Technical Review	Sandra Stiles-Estis, USACE Christopher Koeppel, USACE
Project Manager	Chris Gilmore, USACE Tim Jarquin, USACE Contractor Clarice Sundeen, USACE Contractor
Proposed Action/Alternatives/ Important Resources	Laura Lee Wilkinson, USACE
Cultural, Aesthetic, Recreational Resources	Dr. Paul Hughbanks, USACE
Socioeconomics	Keven Lovetro, USACE
Internal Technical Review	Sandra Stiles-Estis, USACE
Technical Editor	Lee Walker, USACE Contractor

9.3 LITERATURE CITED

33 CFR 230. Code of Federal Regulations, Title 33, *Navigation and Navigable Waters*, Chapter II – "Corps of Engineers, Department of the Army, Department of Defense," Part 230, Procedures for Implementing NEPA.

40 CFR 1500-1508. Code of Federal Regulations, Title 40, *Protection of Environment*, Chapter V – "Council on Environmental Quality," Parts 1500-1508, National Environmental Policy Act.

Heinrich, P.V., 2005. "Review of the Engineering Geology of St. Bernard Parish, Louisiana." *Louisiana Geological Survey NewsInsights*. Vol. 15, no. 3, pg. 6-11. December. Accessed at http://www.scribd.com/doc/18650587/Engineering-Geology-of-St-Bernard-Parish-Louisiana on 2 September 2009.

Louisiana Department of Environmental Quality (LaDEQ); Louisiana Department of Natural Resources (LaDNR); Louisiana Department of Wildlife and Fisheries (LaDWF); Louisiana Oil Spill Coordinator's Office, Office of the Governor; National Oceanic and Atmospheric Administration (NOAA); and U.S. Department of the Interior. 2007. *The Louisiana Regional Restoration Planning Program, Final Regional Restoration Plan; Region 2.* January 2007. Available at http://losco.state.la.us/LOSCOuploads/Newsflash/FRRP_Region2.pdf.

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---. 2009a. Letter from J.F. Boggs, Acting Supervisor, Louisiana Field Office, Fish and Wildlife Service, Lafayette, Louisiana, to Colonel Alvin B. Lee, District Engineer, U.S. Army Corps of Engineers, New Orleans, Louisiana. Regarding supplement to USFWS August 18, 2009, and November 26, 2007, draft Fish and Wildlife Coordination Act Reports. 2 October.

---. 2009b. Letter from J.F. Boggs, Acting Supervisor, Louisiana Field Office, Fish and Wildlife Service, Lafayette, Louisiana, to Colonel M. McCormick, Hurricane Protection Office, U.S. Army Corps of Engineers, New Orleans, Louisiana. Regarding concurrence with CEMVN determination concerning threatened or endangered species for work proposed in IERs 5 – 11. 2 February (incorrectly dated 30 January 2007).

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Appendix A

List of Acronyms

ADCIRC	Advanced Circulation Hydrologic Model
BMP	best management practices
CAA	Clean Air Act
CAR	Coordination Act Report
CED	Comprehensive Environmental Document
CEMVN	Corps of Engineers, Mississippi Valley Division, New Orleans District
CEQ	Council on Environmental Quality
CFDC	Caernarvon Freshwater Diversion Canal
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Central Wetlands Area
CY	Cubic Yard
dB	Decibel
DoD	Department of Defense
DNL	Day-night Average Sound Level
EA	Environmental Assessment
EIS	Environmental Impact Statement
FR	Federal Register
ft	feet
GIWW	Gulf Intracoastal Waterway
HSDRRS	Hurricane and Storm Damage Risk Reduction System
HTRW	hazardous, toxic, and radioactive waste
I – 10	Interstate 10
IER	Individual Environmental Report
IERS	Individual Environmental Report Supplemental
IHNC	Inner Harbor Navigation Canal
LADOTD	Louisiana Department of Transportation and Development
LaDEQ	Louisiana Department of Environmental Quality
LaDNR	Louisiana Department of Natural Resources
LaDWF	Louisiana Department of Wildlife and Fisheries
LBBLD	Lake Borgne Basin Levee District
LOS	Level Of Service
LPV	Lake Pontchartrain and Vicinity
MRGO	Mississippi River Gulf Outlet
MRL	Mississippi River Levee
NAAQS	National Ambient Air Quality Standards
NAVD88	North American Vertical Datum of 1988
NEPA	National Environmental Policy Act
NO_2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
O_3	Ozone
OCPR	Office of Coastal Protection and Restoration

OMRR&R	operation, maintenance, repair, replacement, and rehabilitation
Pb	Lead
PL	Public Law
$PM_{2.5}$	Particulate Matter with a diameter of 2.5 micrometers or less
PM_{10}	Particulate Matter with a diameter of 10 micrometers or less
ROW	right-of-way
SAV	submerged aquatic vegetation
SHPO	Louisiana State Historic Preservation Office
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SWPPP	Stormwater Pollution Prevention Plan
T&E	Threatened and endangered
U.S.	United States
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	water quality certification

Appendix B

Public Comments

Appendix C

Members of Interagency Environmental Team

Kyle Balkum	Louisiana Dept. of Wildlife and Fisheries
Catherine Breaux	U.S. Fish and Wildlife Service
Keith Cascio	Louisiana Dept. of Wildlife and Fisheries
David Castellanos	U.S. Fish and Wildlife Service
Frank Cole	Louisiana Department of Natural Resources
John Ettinger	U.S. Environmental Protection Agency
Jeff Harris	Louisiana Department of Natural Resources
Richard Hartman	NOAA National Marine Fisheries Service
Christina Hunnicutt	U.S. Geologic Survey
Barbara Keeler	U.S. Environmental Protection Agency
Kirk Kilgen	Louisiana Department of Natural Resources
Tim Killeen	Louisiana Department of Natural Resources
Brian Lezina	Louisiana Dept. of Wildlife and Fisheries
Brian Marcks	Louisiana Department of Natural Resources
Dusty Pate	U.S. National Park Service
Jamie Phillippe	Louisiana Dept. of Environmental Quality
Manuel Ruiz	Louisiana Dept. of Wildlife and Fisheries
Angela Trahan	U.S. Fish and Wildlife Service
David Walther	U.S. Fish and Wildlife Service
Patrick Williams	NOAA National Marine Fisheries Service

Appendix D

Agency Coordination Documentation

United States Department of the Interior

FISH AND WILDLIFE SERVICE
646 Cajundome Blvd.
Suite 400
Lafayette, Louisiana 70506

December 14, 2012

Colonel Edward Fleming
District Commander
U.S. Army Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160-0267

Dear Colonel Fleming:

Please reference the Individual Environmental Reports (IER) 8, 9, and 10. Those IERs address impacts resulting from the construction of navigable floodgates, improved levees, and floodwalls as part of a hurricane protection system. That system will increase hurricane protection within the Greater New Orleans area, located in southeast Louisiana in St. Bernard and Orleans Parishes. Work associated with those IERs is being conducted in response to Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (Supplemental 4). That law authorized the Corps of Engineers (Corps) to upgrade two existing hurricane protection projects (i.e., Westbank and Vicinity of New Orleans and Lake Pontchartrain and Vicinity [LPV]) in the Greater New Orleans area to provide protection against a 100-year hurricane event. This report contains an analysis of the impacts on fish and wildlife resources that would result from further modification of those flood protection measures and provides recommendations to minimize and/or mitigate project impacts on those resources, if applicable.

This report addresses modifications to IER 8, 9 and 10 and incorporates and supplements our November 26, 2007, Draft Programmatic Fish and Wildlife Coordination Act Report for the IERs, as well as the final and any supplemental reports for IERs 8, 9, and 10. This report does constitute the report of the Secretary of the Interior as required by Section 2(b) of the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). This report has been provided to the Louisiana Department of Wildlife and Fisheries (LDWF) and the National Marine Fisheries Service (NMFS) and their comments have been incorporated into this report.

The study area is primarily located within the Mississippi River Deltaic Plain of the Lower Mississippi River Ecosystem. Higher elevations occur on the natural levees of the Mississippi River and its distributaries. Developed lands are primarily associated with natural levees, but extensive wetlands have been leveed and drained to accommodate residential, commercial, and agricultural development. Federal, State, and local levees have been installed for flood protection purposes, often with negative effects on adjacent wetlands. Navigation channels such as the Gulf Intracoastal Waterway and the Mississippi River – Gulf Outlet (MRGO) are also prominent landscape features, as are extensive oil and gas industry access channels and pipeline canals. Extensive wetlands and associated shallow open

waters dominate the landscape outside the flood control levees. Major water bodies include the Mississippi River which is located west of the project area and Lake Borgne which is located on the eastern edge of the project area.

Habitat types in the project area and vicinity include bottomland hardwoods (wet and non-wet), scrub-shrub, marsh, open water, and developed areas. Due to urban development, the MRGO and the local and Federal levee systems, the hydrology of much of the wetland habitat has been altered. Those factors have been in operation for many years and wetland loss and subsidence is evident throughout the area. Developed habitats in the study area include residential and commercial areas, as well as roads and existing levees. Those habitats do not support significant wildlife use. The Fish and Wildlife Service (Service) provided a November 2007, draft programmatic FWCA Report for all IERs that described fish and wildlife resources, their habitats, and factors affecting those resources within the study area. For brevity, that discussion is incorporated by reference herein.

IER 8:

This IER addresses improvements to the Bayou Dupre and Bayou Bienvenue floodgates located within the newly constructed IER 10 floodwall (Figure 1). That floodwall is constructed on the spoil disposal banks of the MRGO. Those spoil disposal banks and the levees on the Bayou La Loutre ridge have created a 40,000 acre impoundment within the project area. Tidal exchange and rainfall run-off must pass through either floodgate to leave the project area.

During Corps testing of the new IER 8 Bayou Dupre floodgate a problem was discovered and the structure had to be dewatered and repaired outside of the 2012 Hurricane Season. This work is anticipated to start in March 2013 and to be completed in 90 days. No flow through the structure will occur during construction; however the Bayou Bienvenue structure will remain operational. Reduced tidal exchange will temporarily impact the recruitment of estuarine and marine fishery species and could lead to extended flood durations for marshes in the impounded area. Those extended flood durations coupled with the reduced tidal exchange can create areas of low-dissolved oxygen which can adversely impact the production and vigor of marsh vegetation. Impacts resulting from the reduced cross-section were not quantified because of the complexity of tidal fluctuations and rainfall effects. Once construction is over the structure will be opened and pre-project tidal exchange would return. Any impacts to marsh vegetation are expected to eventually recover.

Additionally, IER 8 stated that the old Bayou Dupre floodgate would be de-authorized and left in the open position; however, at the request of the local sponsor and for safety/liability reasons the old Bayou Dupre gate would be removed and the floodwall extended to cover this portion of the structure. Benefits derived from making the old gate inoperable include reduced maintenance costs, eliminating theft opportunities and improved boater and pedestrian safety.

Figure 1: IER 8, 9, and 10

IER 9:

Most of the IER 9 boundary overlays the existing LPV east bank levee system on the southern side of St. Bernard Parish (Figure 1). The northern boundary of the study area is the north bank of the Caernarvon Canal and the adjacent IER 10 hurricane protection levee. The western project boundary is the Mississippi River and its adjacent levee. The eastern portion of the project area is where the levee alignment and floodgate crosses the Caernarvon Canal and its adjacent spoil disposal bank. The southern boundary parallels the northern spoil disposal bank of the Caernarvon Freshwater Diversion Outfall Canal.

At the time of IER 9 construction, the exact design of the transition between the floodwall and the Mississippi River Levee (MRL) had not yet been determined so the floodwall was stepped down from 26 feet North American Vertical Datum 1988 (all future elevations will be presented in this datum) to 19.96 feet to tie into the MRL. Further engineering analysis determined that in order to certify this floodwall additional work is required for the MRL tie-in. Construction for the MRL tie-in would involve raising the elevation of the floodwall to approximately +26 feet and continue the transition upstream on the MRL. Staging areas or temporary work area easements would be approximately 15 acres of maintained grass and gravel lots that were previously used as staging for construction of the

Caernarvon Floodwall.

IER 10:

The boundary of IER 10 also overlays the existing LPV east bank levee system on the east side of Orleans and St. Bernard Parishes (Figure 1). The eastern portion of the project area is bound by the western bank of the MRGO. The southeastern portion of IER 10 traverses the Bayou La Loutre ridge while the southern boundary parallels this ridge westward to the vicinity of the Mississippi River levee; stopping at the eastern boundary of IER 9. The northern boundary of the study area is the south bank of the Gulf Intracoastal Waterway (GIWW) and the MRGO which occupy the same channel. The western project area boundary is the Mississippi River

The existing spoil disposal banks for the GIWW, the MRGO and the Bayou La Loutre ridge on which the LPV levees are located have created an impoundment within the project area. Tidal exchange and rainfall run-off from higher elevation areas must pass through either the Bayou Dupre or the Bayou Bienvenue floodgates (IER 8) to leave the project area.

IER 10 proposed plan included construction of a T-wall on top of the existing levee and construction of a bridge over the T-wall to maintain the traffic flow on Highway 46. However, after evaluating additional factors, i.e., constructability safety, operability, scheduling, and cost analysis for gates, two 45-feet wide trolley gates were constructed across Highway 46. The proposed plan also included constructing two earthen ramps or gates per reach (i.e., reaches 145, 146 and 148.02) for wildlife access; however, three earthen ramps with roller gates were constructed (Figure 2). This was coordinated with the resource agencies on April 4, 2011. The action to temporarily close the gates was coordinated via a September 1, 2011, email to the Service; while we indicated that this change does not represent an ideal condition for wildlife, the need to ensure public safety during this period was recognized. As a means of documenting this change in the plan, the Service requested to be notified when those gates are opened and closed. The Corps informed the Service about the closure of the wildlife gates via email dated August 24, 2012, in preparation for Hurricane Isaac and indicated that they would remain closed for the duration of the 2012 hurricane season. The Corps intends to inform the Lake Borgne Basin Levee District (LBBLD) of our notification requirement for future gate operations.

IER 10 disclosed the impacts for constructing a temporary bridge across Bayou Bienvenue and indicated that after the majority of construction was completed this bridge would be removed. However, construction of a permanent 135 feet x 16 feet swing span bridge across Bayou Bienvenue is now being proposed to allow for access to the isolated reach of IER 10 (i.e., Reach 145). The proposed area of impact is approximately 2.6 acres, of which approximately 0.2 acres is in Bayou Bienvenue where water depths are estimated to be 0-6-feet; the remainder is areas previously impacted by flood protection construction. The bridge would be operable from both sides of Bayou Bienvenue, but would remain in the open position and only operated for maintenance. No channel or bank excavation would occur, nor would flow in Bayou Bienvenue be restricted. The majority of the swing span bridge assembly would be with the bridge in the open position adjacent to the north bank. However, navigation could be temporarily impeded for short durations (approximately 30 minutes at a time every

2 to 3 days) mainly during mobilization of equipment and material to the opposite side of the bayou.

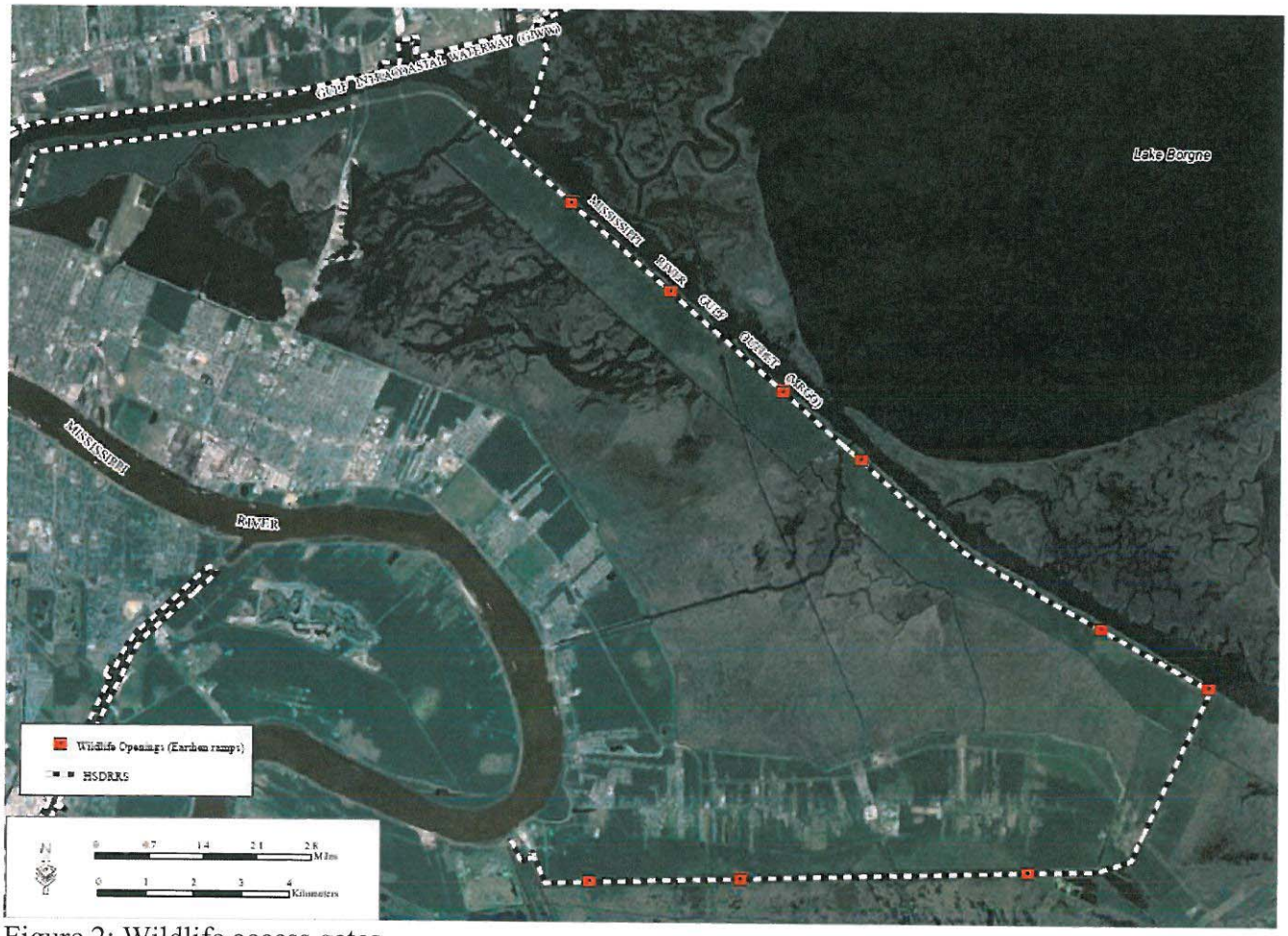

Figure 2: Wildlife access gates

Access Road; common to IERs 8, 9, and 10

A 22.5 mile long by approximately 85-feet wide (maximum width) temporary construction access gravel road currently exists on the protected side of IER 8, 9 and 10. A permanent gravel road would be reconstructed within the existing levee/t-wall right-of-way (ROW) along the protected side for inspection vehicles access and maintenance. The protected side access road would start at the Bayou Bienvenue Floodgate, head south along the MRGO past the Bayou Dupre Floodgate, then west to Verret at Highway 46 and continue to Caernarvon near the Mississippi River. Construction of the access road would enable inspection and maintenance as well as expedite operation of the wildlife access gates prior to storm events. Construction activities include degrading the existing haul road, stockpiling the gravel salvaged from the temporary haul road within the existing ROW and reusing it for construction of the permanent access road on the protected side of the floodwall

All of the above projects sites have been located in areas (i.e., levee ROW) that avoid impacts to

wetlands and minimize impacts to other habitats. Because pasture (i.e., levee) and open water habitats have a reduced value to fish and wildlife resources and are not a declining or limited habitat type, impacts associated with conversion of those habitats to open-water or levees were not quantified. Because no wetlands or bottomland hardwoods will be permanently impacted by the proposed plan no mitigation is necessary.

SERVICE POSITION AND RECOMMENDATIONS

The Service does not object to the construction of the proposed structures provided the following fish and wildlife conservation recommendations are implemented concurrently with project implementation:

1. To the greatest extent possible, further modifications to flood protection features should be designed and constructed so that destruction of wetlands are avoided or minimized.

2. Further detailed planning of project features (e.g., Design Documentation Report, Engineering Documentation Report, Plans and Specifications, or other similar documents) should be coordinated with the Service, NMFS, LDWF, Environmental Protection Agency (EPA) and Louisiana Department of Natural Resources (LDNR). The Service shall be provided an opportunity to review and submit recommendations on the all work addressed in those reports.

3. If a proposed project feature is changed significantly we recommend that the Corps reinitiate coordination with this office to ensure that the proposed project would not adversely affect any federally listed threatened or endangered species or their habitat.

4. The Bayou Dupre and Bayou Bienvenue floodgates should remain completely open except during storm events. Management of those structures should be developed in coordination with the Service, NMFS, LDWF, and LDNR.

5. Parts of Bayou Dupre and its tributaries are a Louisiana designated Natural and Scenic River. If changes to the project are proposed, prior to initiating any of the proposed changes the LDWF Scenic Rivers Coordinator Keith Cascio should be contacted at (318) 343-4045.

6. The final Comprehensive Environmental Document should include the gate operation plans for the wildlife openings in the IER 10 floodwall along with the notification requirement of their operation.

7. The final Comprehensive Environmental Document should also disclose the permanent closure of the old Bayou Dupre and Bienvenue floodgates.

If you or your staff have any questions or comments regarding this report or our recommendations please have them contact David Walther (337/291-3122) of this office.

Sincerely,

Jeffrey D. Weller
Supervisor
Louisiana Field Office

cc: EPA, Dallas, TX
NMFS, Baton Rouge, LA
LA Dept. of Wildlife and Fisheries, Baton Rouge, LA
LA Dept. of Natural Resources (CMD), Baton Rouge, LA
CPRA, Baton Rouge, LA

BOBBY JINDAL
GOVERNOR

STEPHEN CHUSTZ
INTERIM SECRETARY

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF COASTAL MANAGEMENT

November 13, 2012

Joan M. Exnicios
Chief, New Orleans Environmental Branch
Corps of Engineers- New Orleans District
P.O. Box 60267
New Orleans, LA 70160-0267

RE: **C20120320,** Coastal Zone Consistency
New Orleans District, Corps of Engineers
Direct Federal Action
Lake Pontchartrain and Vicinity, Hurricane Storm Damage Risk Reduction System; provide access for maintenance of the Bayou Dupre Control Structure, Caernarvon Floodwall and the Chalmette Loop in **Orleans, Plaquemines, and St. Bernard Parishes, Louisiana**

Dear Ms. Exnicios:

The above referenced project has been reviewed for consistency with the Louisiana Coastal Resources Program in accordance with Section 307 (c) of the Coastal Zone Management Act of 1972, as amended. The project, as proposed in this application, is consistent with the LCRP. If you have any questions concerning this determination please contact Brian Marcks of the Consistency Section at (225) 342-7939 or 1-800-267-4019.

Sincerely,

Keith Lovell

Keith Lovell
Acting Administrator
Interagency Affairs/Field Services Division

KOL/JDH/bgm

cc: Laura Lee Wilkinson, COE-NOD
Frank Cole, OCM FI
David Butler, LDWF
Charles Allen III, Orleans Parish
Albertine Kimble, Plaquemines Parish
William McCartney, St. Bernard Parish

Post Office Box 44487 • Baton Rouge, Louisiana 70804-4487
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DEPARTMENT OF THE ARMY
HURRICANE PROTECTION OFFICE, CORPS OF ENGINEERS
P. O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO ATTENTION OF

September 20, 2012

Regional Planning and
Environment Division South
New Orleans Environmental Branch

This project has been reviewed for effects to Federal trust resources under our jurisdiction and currently protected by the Endangered Species Act of 1973 (Act). The project, as proposed,
( ) Will have no effect on those resources
(X) Is not likely to adversely affect those resources.
This finding fulfills the requirements under Section 7(a)(2) of the Act.

Dick Watts 21 Sept 2012

Acting Supervisor
Louisiana Field Office
U.S. Fish and Wildlife Service

Date

Jeff Weller
Field Supervisor
U.S. Fish and Wildlife Service
646 Cajundome Blvd - Suite 400
Lafayette, LA 70506

Dear Mr. Weller:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) is preparing a Supplemental Individual Environmental Report (IER) #8/9/10.a entitled "Lake Pontchartrain and Vicinity (LPV), Chalmette Loop and Operations Disposal, Orleans, St. Bernard, and Plaquemines Parishes, Louisiana to evaluate potential impacts associated with a proposed design change to the original Chalmette Loop Levee project. The proposed modifications described in this supplement pertains to enabling operation and maintenance access for the LPV 185 – LPV 189 reaches and a tie-in to the Mississippi River Levee. The proposed modifications are necessary to provide 100-year level of Hurricane and Storm Damage Risk Reduction (HSDRRS) to reduce the likelihood of structural overtopping due to a 100-year hurricane, which has a 1 percent chance of happening in any given year.

This IER #8/9/10.a is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council of Environmental Quality's (CEQ) regulations (40 Code of Federal Regulations [CFR] 1500-1508), as reflected in the USACE Engineering Regulation (ER) 200-2-2. The preparation of an IER, in lieu of a traditional Environmental Assessment (EA) or an Environmental Impact Statement (EIS), is provided for in ER 200-2-2, Environmental Quality (33 CFR 230), Procedures for Implementing the NEPA and pursuant to the CEQ NEPA Implementation Regulations (40 CFR 1500-1508).

CEMVN biologists have determined that no significant impacts to Threatened and Endangered (T&E) species or their critical habitat occurred as a result of the Hurricane Katrina repair actions taken in 2005, 2006, and 2007. CEMVN Environmental staff has routinely and continue to coordinate with the U.S. Fish and Wildlife Service (USFWS) to ensure that no T&E species or their critical habitat are impacted as a result of the HSDRRS actions taken.

Although much of the HSDRRS construction is complete, some work on the 100-year HSDRRS is still ongoing. As work is proposed to continue with the proposed modifications, CEMVN would like to request that USFWS review the enclosed actions and provide

From: Jamie Phillippe
To: Wilkinson, Laura L MVN
Subject: RE: IERS 9/9 Water Quality Certification Application (UNCLASSIFIED)
Date: Monday, October 01, 2012 1:21:34 PM
Attachments: IERS 9-10 WQC signed 20 Aug 12.pdf

Laura Lee,

I've reviewed the minor modifications in the attachment for these three IER's.

The previously issued WQC's are still valid and revised WQC's are not required for all three IER's.

Thanks,
Jamie Phillippe
Louisiana Department of Environmental Quality
401 Water Quality Certifications

-----Original Message-----
From: Wilkinson, Laura L MVN [mailto:Laura.L.Wilkinson@usace.army.mil]
Sent: Monday, October 01, 2012 9:55 AM
To: Wilkinson, Laura L MVN; Jamie Phillippe
Subject: RE: IERS 9/9 Water Quality Certification Application (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Hi Jamie,
Attached is the original email and water quality certification that I sent. But after talking with you on the phone today it sounds like a modification to either IER #9 or IER #8/10 may not be required. Please reply back to this message to let me know. I am drafting a Supplemental IER #8,9,10.a to disclose the impacts for these design changes and hope to have it go out for public review in November 2012.
Sincerely,
Laura Lee Wilkinson
Biologist
CEMVN/MVK
PDN-UDP
504-862-1212

-----Original Message-----
From: Wilkinson, Laura L MVN
Sent: Monday, August 20, 2012 1:14 PM
To: 'Jamie Phillippe'
Subject: IERS 9/9 Water Quality Certification Application (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Hi Jamie,
I am putting a hard copy in the mail today, but attached is scan for some design changes to the Chalmette Loop Levee project covered originally by IERs 9 and 10. I am currently drafting a supplement for this proposed work IERS #9/10.
Thanks,
Laura Lee Wilkinson
Biologist
CEMVN/MVK
PDN-UDP

BOBBY JINDAL
GOVERNOR

HAROLD LEGGETT, PH.D.
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

FEB 0 8 2009

U.S. Army Corps of Engineers- New Orleans District
P.O. Box 60267
New Orleans, LA 70160-0267

Attention: Laura Lee Wilkinson

RE: Water Quality Certification (WQC 081222-01/AI 162387/CER 20080001)
Individual Environmental Report (IER) #8 (Bayou Dupre Control Structure)
Individual Environmental Report (IER) #10 (Chalmette Loop Levee)
Orleans & St. Bernard Parishes

Dear Ms. Wilkinson:

The Department has reviewed your application to install a control structure on Bayou Dupre at the MRGO & to construct a hurricane protection levee, in the vicinity of the east bank of metropolitan New Orleans between the Inner Harbor Navigation Canal and Caernarvon, Louisiana.

The requirements for Water Quality Certification have been met in accordance with LAC 33:IX.1507.A-E. Based on the information provided in your application, we have determined that the placement of the fill material will not violate the water quality standards of Louisiana provided for under LAC 33:IX.Chapter 11. Therefore, the Department has issued a Water Quality Certification.

Sincerely,

Thomas F. Harris
Administrator
Waste Permits Division

TFH/jjp

Post Office Box 4313 • Baton Rouge, Louisiana 70821-4313 • Phone 225-219-3181 • Fax 225-219-3309
www.deq.louisiana.gov

BOBBY JINDAL
GOVERNOR

HAROLD LEGGETT, PH.D.
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

SEP 2 1 2009

U.S. Army Corps of Engineers- New Orleans District
P.O. Box 60267
New Orleans, LA 70160-0267

Attention: Lee Walker

RE: Water Quality Certification (WQC 090708-02/AI 165754/CER 20090001)
Individual Environmental Report (IER) #9
Caernarvon Floodwall
Plaquemines & St. Bernard Parishes

Dear Ms. Walker:

The Department has reviewed your application for the construction of the Caernarvon Floodwall project (IER #9), in the vicinity of Braithwaite, Louisiana.

The requirements for Water Quality Certification have been met in accordance with LAC 33:IX.1507.A-E. Based on the information provided in your application, we have determined that the placement of the fill material will not violate the water quality standards of Louisiana provided for under LAC 33:IX.Chapter 11. Therefore, the Department has issued a Water Quality Certification.

Sincerely,

Melvin C. Mitchell, Sr.
Administrator
Water Permits Division

MCM/jjp

Post Office Box 4313 • Baton Rouge, Louisiana 70821-4313 • Phone 225-219-3181 • Fax 225-219-3309
www.deq.louisiana.gov

MITCHELL J. LANDRIEU
LIEUTENANT GOVERNOR

State of Louisiana
OFFICE OF THE LIEUTENANT GOVERNOR
DEPARTMENT OF CULTURE, RECREATION & TOURISM
OFFICE OF CULTURAL DEVELOPMENT
DIVISION OF ARCHAEOLOGY

ANGÈLE DAVIS
SECRETARY

PAM BREAUX
ASSISTANT SECRETARY

November 19, 2007

Ms. Elizabeth Wiggins
Environmental Planning and Compliance Branch
New Orleans District, Corps of Engineers
P.O. Box 60267
New Orleans, LA 70160-0267

Re: Review of CRM Management Summary (22-2994)
Phase IA Cultural Resources Records Review and Field Reconnaissance Performed for Lake Pontchartrain and Vicinity Project, Individual Environmental Report Area 8 (IER#8) St. Bernard and Orleans Parishes, Louisiana
R. Christopher Goodwin and Associates, Inc.

Dear Ms. Wiggins,

We are in receipt of your letter of October 15, 2007 transmitting a Management Summary from R. Christopher Goodwin and Associates, Inc. for the above-cited project. This management summary meets the basic guidelines for such documents set forth by the Louisiana Division of Archaeology.

We agree with the recommendations concerning cultural resources for the project area made by R. Christopher Goodwin and Associates, Inc. that no known historic properties will be affected by the proposed undertaking.

We look forward to reviewing the full reports for this and other Individual Environmental Report Areas. If you have any questions or comments concerning this project, please feel free to contact Dennis Jones at 225 342 8170 or djones@crt.state.la.us

P.O. BOX 44247 • BATON ROUGE, LOUISIANA 70804-4247 • PHONE (225) 342-8170 • FAX (225) 342-4480 • WWW.CRT.STATE.LA.US
AN EQUAL OPPORTUNITY EMPLOYER

Sincerely,

Pam Breaux

Pam Breaux
State Historic Preservation Officer

PB:DJ:s

C: Mr. Robert Lackowicz, Project Manager, R. Christopher Goodwin and Associates, Inc. (w/enclosures).

MITCHELL J. LANDRIEU
LIEUTENANT GOVERNOR

State of Louisiana
OFFICE OF THE LIEUTENANT GOVERNOR
DEPARTMENT OF CULTURE, RECREATION & TOURISM
OFFICE OF CULTURAL DEVELOPMENT
DIVISION OF ARCHAEOLOGY

ANGÈLE DAVIS
SECRETARY

PAM BREAUX
ASSISTANT SECRETARY

December 7, 2007

Ms. Elizabeth Wiggins
Environmental Planning and Compliance Branch
New Orleans District, Corps of Engineers
P.O. Box 60267
New Orleans, LA 70160-0267

Re: Review of CRM Management Summary (22-2995)
Phase IA Cultural Resources Records Review and Field Reconnaissance Performed for Lake Pontchartrain and Vicinity Project, Individual Environmental Report Area 9 (IER#9) St. Bernard and Plaquemines Parishes, Louisiana
R. Christopher Goodwin and Associates, Inc.

Dear Ms. Wiggins:

We are in receipt of your letter of October 29, 2007 transmitting a Management Summary from R. Christopher Goodwin and Associates, Inc. for the above-cited project. This management summary meets the basic guidelines for such documents set forth by the Louisiana Division of Archaeology.

We agree with the recommendations concerning cultural resources for the project area made by R. Christopher Goodwin and Associates, Inc. that no known historic properties will be affected by the proposed undertaking.

We look forward to reviewing the full reports for this and other Individual Environmental Report Areas (IERs). Technical comments of a minor nature are enclosed and should be considered with the submission of a draft report for all the IERs. If you have any questions or comments concerning this project, please feel free to contact Dennis Jones at 225 342 8170 or djones@crt.state.la.us

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AN EQUAL OPPORTUNITY EMPLOYER

Sincerely,

Pam Breaux

Pam Breaux
State Historic Preservation Officer

PB:DJ:s

C: Mr. Robert Lackowicz, Project Manager, R. Christopher Goodwin and Associates, Inc. (w/enclosures).

MITCHELL J. LANDRIEU
LIEUTENANT GOVERNOR

State of Louisiana
OFFICE OF THE LIEUTENANT GOVERNOR
DEPARTMENT OF CULTURE, RECREATION & TOURISM
OFFICE OF CULTURAL DEVELOPMENT
DIVISION OF ARCHAEOLOGY

PAM BREAUX
SECRETARY

November 17, 2008

Ms. Elizabeth Wiggins
Chief, Environmental Planning
and Compliance Branch
New Orleans District, Corps of Engineers
P.O. Box 60267
New Orleans, LA 70160-0267

Re: Management Summary of Phase I CRM Project
LA Division of Archaeology Report No. 22-3165
Management Summary: Phase I Cultural Resources Survey and Inventory Perform for Lake Pontchartrain and Vicinity Project, Individual Environmental Report Area 10 (IER#10), St. Bernard Parish, Louisiana
R. Christopher Goodwin and Associates, Inc.

Dear Ms. Wiggins:

We are in receipt of your letter of October 14, 2008, transmitting two copies of the above-cited management summary. We have completed our review and have the following comments to offer.

The management summary is essentially well written and has accounted for the presence of cultural resources within the project area. We concur with the findings presented in the draft report that the portion of the newly reported archaeological site, 16ST160 (Mexican and Gulf Line Railroad Embankment), within the project area is not eligible for the National Register of Historic Places (NRHP). We would like clarification, however, concerning the location of site 16SB161 within the project area. It was not defined or assessed for NRHP eligibility during the survey, but indications are that it is at least partially within the project area's boundaries.

Technical comments concerning minor items are included with this letter, as are photocopied pages of the report with other comments/corrections noted. Please address these as appropriate when preparing a draft report for this project. Also, submit two final copies of the site record forms for sites 16SB160 and 16SB161. Should you have any questions concerning our comments, do not hesitate to contact Dennis Jones in the Division of Archaeology at (225) 342-8170 or by email at djones@crt.state.la.us.

RECEIVED
11-20-08
KV

P.O. BOX 44247 • BATON ROUGE, LOUISIANA 70804-4247 • PHONE (225) 342-8170 • FAX (225) 342-4480 • WWW.CRT.STATE.LA.US
AN EQUAL OPPORTUNITY EMPLOYER

Sincerely,

Mr. Scott Hutcheson
State Historic Preservation Officer

SH:DJ:s

C: Mr. Nathanael Heller, R. Christopher Goodwin and Associates, Inc. (w/enclosures)