

ADDENDUM TO

DRAFT INDIVIDUAL ENVIRONMENTAL REPORT

SUPPLEMENTAL

GIWW, HARVEY, AND ALGIERS LEVEES AND FLOODWALLS

JEFFERSON, ORLEANS, AND PLAQUEMINES PARISHES, LOUISIANA

IER # 12



**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 Addendum to Draft Individual Environmental Report #12 Supplemental (IERS #12) to evaluate the potential construction impacts associated with the proposed project revisions to the original IER #12 GIWW, Harvey and Algiers Levees and Floodwalls project area. IERS 12 was released for a 30-day public review beginning September 3, 2010 until October 2, 2010. After the release of IERS 12, additional project changes were identified requiring further impact analysis.

The supplemental originally released in September 2010 addressed a proposal to utilize the Westbank Site N Borrow pit as an alternative disposal site for levee material that has been removed during the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee which are part of the Hurricane and Storm Damage Risk Reduction System (HSDRRS). After IER #12 was completed, the USACE identified Westbank Site N as an additional location within the project area that would provide a less costly means of disposal of unsuitable borrow material due to its shorter haul distance to the deposition site. Utilizing the Westbank Site N as a means of disposal would accommodate unsuitable material originally designated for the three previously excavated borrow pits at the corner of Walker and Barrier Roads (left unfilled at the request of Plaquemines Parish Government). The flocking of the birds to an unfilled excavated borrow pit, combined with the air traffic from the nearby Naval Air Station makes the filling of Westbank Site N a desirable solution. The proposed action is located within the IER #12 project area in Plaquemines Parish, LA (figure 1).

This Addendum to IERS 12 also addresses anticipated impacts associated with the construction of floodwalls and the relocation of the Barriere Golf Course access road in the vicinity of the Belle Chasse Tunnel, including proposed temporary closures of the tunnel. (See section 2.1.2.a. Amendment to Proposed Action; section 3.3.2: Impacts to Employment, Business and Industrial Activity; and section 3.3.4: Effects on Transportation.) Proposed design changes since the original IER #12 GIWW, Harvey and Algiers Levees and Floodwalls Jefferson, Orleans, and Plaquemines Parishes, Louisiana document (IER #12 section 2.3: Proposed Action, Detention Basin Improvements) would result in additional impacts not addressed in IER #12. Those modifications and anticipated impacts are discussed in this amendment. The proposed action and the area of impact are located within the IER #12 project area in Plaquemines Parish, LA.

The Harvey-Westwego, Gretna-Algiers, and Belle Chasse Interagency Performance Evaluation Task Force (IPET) polders are located within the Orleans, Jefferson and Plaquemines parishes. The total estimated population for these three parishes in 2006 was 687,261.

It is also important to note the presence of the U.S. Environmental Protection Agency (EPA) designated Bayou aux Carpes Clean Water Act (CWA) Section 404(c) area within this WBV project area (figure 2). These nationally significant wetlands are protected

under the Clean Water Act (CWA, 33 U.S.C. 1251 et seq) Section 404c, which authorizes the administrator of the EPA to deny or restrict the use of any defined area for specification as a disposal site, whenever the administrator determines, after notice and opportunity for public hearings, that the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas. All potential impacts to this unique environment associated with the proposed action are thoroughly explained in IER #12, sections 3.1.7, 3.2.2, 6, 7, and appendix K. There are no impacts to the Bayou aux Carpes area as a result of the proposed action in this supplemental and amendment.

This amendment to IERS #12 has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality's Regulations (CEQ) (40 CFR §1500-1508), as reflected in the USACE Engineering Regulation, ER 200-2-2. 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, Environmental Quality (33 CFR §230) Procedures for Implementing the NEPA and pursuant to the CEQ's NEPA Implementation Regulations (40 CFR §1506.11). Under the provisions of the CEQ NEPA regulations (40 CFR §1506.11), the CEMVN implemented NEPA Alternative Arrangements on 13 March 2007. The Alternative Arrangements were developed to evaluate Hurricane Storm Damage Risk Reduction projects in an expeditious manner, utilizing NEPA emergency procedures. The Alternative Arrangements were published on 13 March 2007 in FR 11337 and can be found at www.nolaenvironmental.gov, and are herein incorporated by reference.

The CEMVN implemented Alternative Arrangements on March 13, 2007 under the provisions of the Council on Environmental Quality Regulations for Implementing the NEPA (40 CFR §1506.11). This process was implemented in order to expeditiously complete environmental analysis for any changes to the authorized system and the 100-year level of the Hurricane and Storm Damage Risk Reduction System (HSDRRS), formerly known as the Hurricane Protection System (HPS) authorized and funded by Congress and the Administration. The term "100-year level of risk reduction," as it is used throughout this document, refers to a level risk reduction which reduces the risk of hurricane surge and wave driven flooding that the New Orleans Metropolitan area has a 1 percent chance of experiencing each year. The proposed actions are located in southeastern Louisiana and are part of the Federal effort to rebuild and complete construction of the HSDRRS in the New Orleans Metropolitan area as a result of Hurricanes Katrina and Rita.

On February 18, 2009, the CEMVN Commander signed the Decision Record for IER #12. IER #12 is incorporated by reference into this amended supplemental document. Copies of IER #12 and other supporting information are available upon request or at nolaenvironmental.gov. This supplemental document has been prepared to address proposed changes in the Government's approved plan.

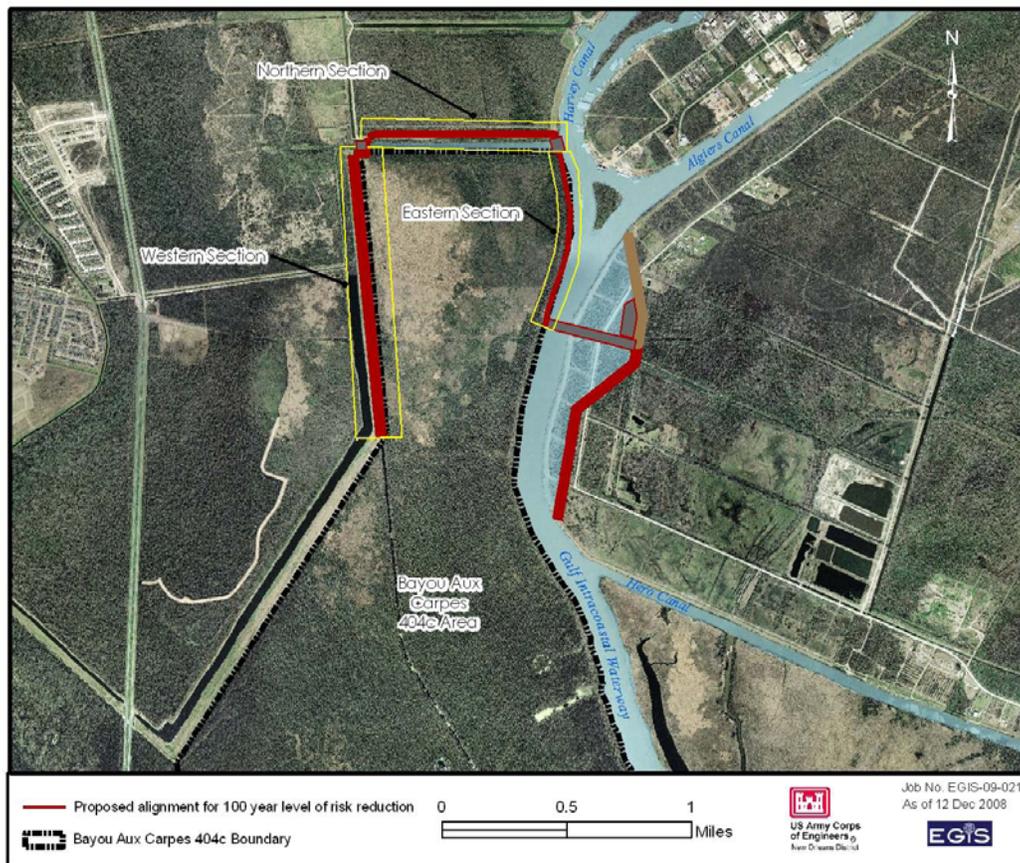


Figure 2: Bayou aux Carpes 404(c) Area

1.1 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 are discussed below:

- On 18 February 2009, the CEMVN Commander signed a Decision Record on IER #12 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 actions taken by the USACE as a result of providing 100-year level of risk reduction in the project area.
- On 3 February 2009, the CEMVN Commander signed a Decision Record on IER #25 entitled “Government Furnished Borrow Material, Orleans, Plaquemines and Jefferson Parishes, Louisiana.” The document was prepared to evaluate the potential impacts associated with the actions taken by the USACE as a result of excavating borrow areas for use in construction of the HSDRRS.
- On 21 January 2009, the CEMVN Commander signed a Decision Record on IER #17, entitled “Company Canal Floodwall, Jefferson Parish, Louisiana.” The

proposed action includes providing 100-year level of risk reduction in the project area.

- On 4 December 2009, the CEMVN Commander signed a Decision Record on IER #13, entitled “Hero Canal Levee and Eastern Tie-In, Plaquemines Parish, Louisiana.” The proposed action includes providing 100-year level of risk reduction in the project area.
- On 20 October 2008, the CEMVN Commander signed a Decision Record on IER #26 entitled “Pre-Approved Contractor Furnished Borrow Material #3, Jefferson, Plaquemines, and St. John the Baptist Parishes, Louisiana, and Hancock County, Mississippi.” 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 26 August 2008, the CEMVN Commander signed a Decision Record on IER #14, entitled “Westwego to Harvey, Levee Jefferson Parish, Louisiana.” The document was prepared to examine the potential environmental impacts associated with the proposed construction and maintenance of 100-year level of risk reduction along the WBV, Westwego to Harvey Levee project area.
- On 12 June 2008, the CEMVN Commander signed a Decision Record on IER #15, entitled “Lake Cataouatche Levee, Jefferson Parish, Louisiana.” The proposed action includes providing 100-year level of risk reduction in the project area.
- On 30 May 2008, the CEMVN Commander signed a Decision Record on IER #22 entitled “Government Furnished Borrow Material, Plaquemines and Jefferson Parishes, Louisiana.” The document was prepared to evaluate the potential impacts associated with the actions taken by the USACE as a result of excavating borrow areas for use in construction of the HSDRRS.
- On 6 May 2008, the CEMVN signed a Decision Record on IER #23 entitled “Pre-Approved Contractor Furnished Borrow Material #2, St. Bernard, St. Charles, Plaquemines Parishes, Louisiana, and Hancock County, Mississippi.” 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 21 February 2008, the CEMVN Commander signed a Decision Record on IER #18 entitled “Government Furnished Borrow Material, Jefferson, Orleans, Plaquemines, St. Charles, and St. Bernard Parishes, Louisiana.” The document was prepared to evaluate the potential impacts associated with the actions taken by the USACE as a result of excavating borrow areas for use in construction of the HSDRRS.
- On 14 February 2008, the CEMVN Commander signed a Decision Record on IER #19 entitled “Pre-Approved Contractor Furnished Borrow Material, Jefferson, Orleans, St. Bernard, Iberville, and Plaquemines Parishes, Louisiana, and Hancock County, Mississippi.” 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.

- In July 2006, the CEMVN Commander signed a Finding of No Significant Impact (FONSI) on EA #433 entitled, “USACE Response to Hurricanes Katrina & Rita in Louisiana.” The document was prepared to evaluate the potential impacts associated with the actions taken by the USACE as a result of Hurricanes Katrina and Rita.
- On 23 August 2005, the CEMVN Commander signed a FONSI on EA #422 entitled “Mississippi River Levees – West Bank Gaps, Concrete Slope Pavement Borrow Area Designation, St. Charles and Jefferson Parishes, Louisiana.” The report investigates the impacts of obtaining borrow material from various areas in Louisiana.
- On 22 February 2005, the CEMVN Commander signed a FONSI on EA #306A entitled “West Bank Hurricane Protection Project – East of the Harvey Canal, Floodwall Realignment and Change in Method of Sector Gate.” The report discusses the impacts related to the relocation of a proposed floodwall moved because of the aforementioned sector gate, as authorized by the LPV Project.
- On 5 May 2003, the CEMVN Commander signed a FONSI on EA #337 entitled “Algiers Canal Alternative Borrow Site.”
- On 19 June 2003, the CEMVN Commander signed a FONSI on EA #373 entitled “Lake Cataouatche Levee Enlargement.” The report discusses the impacts related to improvements to a levee from Bayou Segnette State Park to Lake Cataouatche.
- On 16 May 2002, the CEMVN Commander signed a FONSI on EA #306 entitled “West Bank Hurricane Protection Project - Harvey Canal Sector Gate Site Relocation and Construction Method Change.” The report discusses the impacts related to the relocation of a proposed sector gate within the Harvey Canal, as authorized by the LPV Project.
- On 30 August 2000, the CEMVN Commander signed a FONSI on EA #320 entitled “West Bank Hurricane Protection Features.” The report evaluates the impacts associated with borrow sources and construction options to complete the Westwego to Harvey Canal Hurricane Protection Project.
- On 18 August 1998, the CEMVN Commander signed a FONSI on EA #258 entitled “Mississippi River Levee Maintenance - Plaquemines West Bank Second Lift, Fort Jackson Borrow Site.”
- The final EIS for the WBV, East of Harvey Canal, Hurricane Protection Project was completed in August 1994. A Record of Decision (ROD) was signed by the CEMVN Commander in September 1998.

- The final EIS for the WBV, Lake Cataouatche, Hurricane Protection Project was completed. A ROD was signed by the CEMVN Commander in September 1998.
- In December 1996, the USACE completed a post-authorization change study entitled, “Westwego to Harvey Canal, Louisiana Hurricane Protection Project Lake Cataouatche Area, EIS.” The study investigated the feasibility of providing hurricane surge protection to that portion of the west bank of the Mississippi River in Jefferson Parish between Bayou Segnette and the St. Charles Parish line. A Standard Project Hurricane (SPH) level of risk reduction was recommended along the alignment followed by the existing non-Federal levee. The project was authorized by Section 101 (b) of the WRDA of 1996 (P.L. 104-303) subject to the completion of a final report of the Chief of Engineers, which was signed on 23 December 1996.
- On 12 January 1994, the CEMVN Commander signed a FONSI on EA #198 entitled, “West Bank of the Mississippi River in the Vicinity of New Orleans, LA, Hurricane Protection Project, Westwego to Harvey Canal, Jefferson Parish, Louisiana, Proposed Alternate Borrow Sources and Construction Options.” The report evaluates the impacts associated with borrow sources and construction options to complete the Westwego to Harvey Canal Hurricane Protection Levee.
- In August 1994, the CEMVN completed a feasibility report entitled “WBV (East of the Harvey Canal).” The study investigated the feasibility of providing hurricane surge protection to that portion of the west bank of metropolitan New Orleans from the Harvey Canal eastwards to the Mississippi River. The final report recommends that the existing West Bank Hurricane Project, Jefferson Parish, Louisiana, authorized by the WRDA of 1986 (P.L. 99-662), approved 17 November 1986, be modified to provide additional hurricane protection east of the Harvey Canal. The report also recommends that the level of risk reduction for the area east of the Algiers Canal deviate from the National Economic Development Plan’s level of risk reduction and provide protection for the SPH. The Division Engineer’s Notice was issued on 1 September 1994. The Chief of Engineer’s report was issued on 1 May 1995. Preconstruction, engineering, and design was initiated in late 1994 and is continuing. The WRDA of 1996 authorized the project.
- On 20 March 1992, the CEMVN Commander signed a FONSI on EA #165 entitled “Westwego to Harvey Canal Disposal Site.”
- In February 1992, the USACE completed a reconnaissance study entitled “West Bank Hurricane Protection, Lake Cataouatche, Louisiana.” The study investigated the feasibility of providing hurricane and storm damage risk reduction to that portion of the west bank of the Mississippi River in Jefferson Parish, between Bayou Segnette and the St. Charles Parish line. The study found a 100-year level of risk reduction to be economically justified based on constructing a combination levee/ sheet pile wall along the alignment followed by

the existing non-Federal levee. Due to potential impacts to the Westwego to Harvey Canal project, the study is proceeding as a post-authorization change.

- On 3 June 1991, the CEMVN Commander signed a FONSI on EA #136 entitled “West Bank Additional Borrow Site between Hwy 45 and Estelle PS.”
- On 15 March 1990, the CEMVN Commander signed a FONSI on EA #121 entitled “West Bank Westwego to Harvey Changes to EIS.” The report addresses the impacts associated with the use of borrow material from Fort Jackson for LPV construction. The material was used for constructing the second life for the Plaquemines West Bank levee upgrade, as part of LPV construction.
- SIR #29 entitled “LPV Hurricane Protection – South Point to GIWW Levee Enlargement” was signed by the CEMVN Commander on 12 June 1987. The report discusses the impacts associated with the enlargement of the GIWW.
- In December 1986, the USACE completed a Feasibility Report and EIS entitled, “West Bank of the Mississippi River in the Vicinity of New Orleans, LA.” The report investigates the feasibility of providing hurricane surge protection to that portion of the west bank of the Mississippi River in Jefferson Parish between the Harvey Canal and Westwego, and down to the vicinity of Crown Point, Louisiana. The report recommends implementing a plan that would provide SPH level of risk reduction to an area on the west bank between Westwego and the Harvey Canal north of Crown Point. The project was authorized by the WRDA of 1986 (P.L. 99-662). Construction of the project was initiated in early 1991.
- On 16 October 1985, the Environmental Protection Agency (EPA) signed a Final Determination concerning the Bayou aux Carpes Site in Jefferson Parish pursuant to Section 404(c) of the Clean Water Act (CWA). The authority for this determination was given to the Administrator of the EPA under the CWA (33 USC, 1251 et seq).

2. ALTERNATIVES

NEPA requires that in analyzing alternatives to a proposed action a Federal agency considers an alternative of “No Action.” 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. The CEMVN Project Delivery Team (PDT) considered a no action alternative and nonstructural measures, which are discussed in IER #12, sections 2.4.1 and 2.5.2, respectively.

2.1 DESCRIPTION OF THE ALTERNATIVES

The CEMVN action approved in IER #12, the Gulf Intracoastal Waterway West Closure Complex (WCC) alternative, signed by the CEMVN District Commander on 18 February

2009 will construct a streamlined surge barrier consisting of 3 miles of levees and floodwalls on the GIWW approximately one mile below the intersection of the Hero and Algiers Canals. The WCC will prevent storm surge from entering the Algiers and Hero Canals and will remove the 25 miles of levees and floodwalls along those canals from the primary line of defense. After the WCC construction is complete, those canals would serve as a rainwater detention basin when the WCC is closed during storm events. Because the aggregate pumping capacity of the interior drainage pumps, which pump water into the canals, exceeds that of the WCC, which will pump water out of the canals and into the GIWW, the water levels in the canals would be expected to rise when the WCC is closed during storm events. Accordingly, although the Hero and Algiers Canals levees and floodwalls would not be raised to the 100 year level of risk reduction, improvements to the levees and floodwalls along the canals are necessary to ensure that they are able to serve the important function within the Hurricane and Storm Damage Risk Reduction System (HSDRRS) as a rainwater detention basin. The improvements are designed to meet the Federal factors of safety as outlined in USACE standards. The proposed construction would be anticipated to begin in late November 2010 and may last up to one year.

At the time of the completion of the original IER #12 report, the USACE had identified two locations within the project area that would be suitable for the disposal of clean, cleared and grubbed material removed from the IER #12 project area. Disposal options are consistent, to the maximum extent practicable, with the Louisiana Coastal Resources Program, which requires that dredged material be used beneficially when practicable. Two sites were discussed with the Interagency Team and addressed in IER #12. These sites are approved for use under the “No Action” alternative.

Site 1 – The Jean Lafitte National Historical Park and Preserve

The approved action is for material dredged from the Algiers Canals to be utilized in a marsh restoration project in the Jean Lafitte National Historical Park and Preserve Lake Salvador “Geocrib” (JLNHPP) (figure 3). Approximately 700,000 cubic yards would be excavated from the Algiers Canal and barged to the site. A dredge and disposal plan can be found in its entirety in appendix L of IER #12. The plan has been coordinated with resource agencies and those resource agencies will continue to be involved as cost estimates and the results of any sediment tests become available. This disposal site is currently in use as the material is being successfully placed within the “Geocrib” area. In cooperation with the National Park Service (NPS), the newly created bankline will be armored with rock funded by the NPS upon completion of the bankline restoration and wetland creation project.

Site 2 – Walker Road Borrow Pits

The alternative of placement of dredged material in the Walker Road borrow sites would be done only as a convenience to the government if the preferred option, marsh creation in JLNHPP, is not practicable (figure 4). The placement of dredged material in the Walker Road borrow sites would not be considered backfilling of those sites. If dredged material is placed in the Walker Road borrow sites, the quantity of the material would be insufficient to refill those sites. Disposal of the material in either location would be

considered a project feature. The first option of placing the dredged material into the JLNHPP Lake Salvador “Geocrib” is preferred because it is a beneficial use site and the wetlands created with this material would be counted as mitigation for the HSDRRS projects.

Under the approved plan and as discussed in IER #12, approximately four million cubic yards of material would be removed during construction of the West Closure Complex eastern floodwall and road realignment, (figure 5) as well as the Hero Canal Levee. (figure 6) After being evaluated for suitability, this material would either be used as borrow for the HSDRRS project or deposited into the Walker Road borrow pits, which were identified as suitable sites for the disposal of material not used for borrow. The overburden material (i.e., roots, stumps, trees, etc.) would be mulched and used on site or hauled away to a landfill. Any road material (i.e., rock and earthen material) would be used within the project for construction.

Belle Chasse Tunnel

At the time the Decision Record for IER #12 was approved, the floodwall design for the area along the Algiers Canal at the Belle Chasse Tunnel did not require closure of the tunnel (figure 7). As a result of objections raised by the local government concerning the initial design footprint, a new design has been developed. The current proposed design would necessitate a series of temporary closures of the tunnel to allow construction of floodwalls on either side of the Algiers Canal. An access road to the Barriere Golf Course would also need to be relocated. The Louisiana Department of Transportation and Development (LADOTD) has been closely involved in the development of the new design and the coordination of the anticipated tunnel closures. Plaquemines Parish government has also been closely involved to ensure that the current proposed design will accommodate the Parish’s plan for construction of a new bridge to replace the existing LA 23 bridge. Both the LADOTD and Plaquemines Parish are partners in the project.

2.1.1 No Action

Under the No Action alternative, material dredged from the Algiers Canals will go to the JLNHPP “Geocrib” as beneficial dredge and material removed during the construction of the West Closure Complex eastern floodwall and road realignment, as well as the Hero Canal Levee construction sites, would be evaluated for borrow suitability. Suitable material would be utilized in the construction of the HSDRRS and that material found unsuitable to be used as borrow would be disposed of in the Walker Road borrow pit. The overburden material (i.e., roots, stumps, trees, etc.) would be mulched and used on site or hauled away to a landfill.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would

not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

Transportation impacts related to the construction of the HSDRRS have been analyzed in a report titled “Transportation Report for the Construction of the 100- year Hurricane and Storm Damage Risk Reduction System,” which was released in March, 2010 and is available on www.nolaenvironmental.gov.

2.1.2 Proposed Action

Utilizing the Westbank Site N Borrow pit as an alternative disposal site would provide additional locations for the deposition of material cleared and grubbed from existing levees. Under the proposed action, all borrow material suitable for use in the construction of the HSDRRS would be removed from the Westbank Site N area. The site would then be utilized for the deposition of clean, cleared and grubbed material removed during the construction of the West Closure Complex eastern floodwall and road realignment, as well as the Hero Canal Levee. Material dredged from the Algiers Canals would still go to the JLNHPP “Geocrib” as beneficial dredge as described in IER #12.

2.1.2.a. Amendment to Proposed Action – Floodwall and Road Construction around the Belle Chasse Tunnel

Construction of floodwalls within the Algiers Detention basin would require temporary closures of the Belle Chasse Tunnel on LA 23. As discussed in IER #12, T-Walls would be constructed along the Algiers Canal on either side of the tunnel together with five vehicular access gates across LA 23 (three on the East and two on the West) and two railroad access gates (one on each side). (IER #12 Section 2.3, Proposed Action). Since IER #12, the proposed design and alignment of the floodwalls around the Belle Chasse Tunnel have changed due to objections raised by local government to the original design. These design changes would require a series of temporary closures of the Belle Chasse Tunnel to allow construction of the floodwalls. Additionally, a new access road to the golf course would also be constructed as the new floodwall would prevent use of the existing access road. The new proposed design and alignment fall within the project right of way identified in IER #12.

The USACE proposes closing the Belle Chasse Tunnel for 3 weekend days over the course of 15 weekends in order to complete this risk reduction construction. This time period includes 1 full week (7 days) of 1 lane closure through the Belle Chasse Tunnel; the USACE proposes 3 additional potential weekend closures to allow for anticipated weather-related construction delays. The closure scenario proposed would be as follows:

15 Weekend Closures with 1 Full Week of 1 Lane Closure and 3 Potential Weekends for Weather Delays

1. Weekend 01 through Weekend 11 - (7:00 pm closure on Friday until 5:00 am opening on Monday*) All lanes of tunnel to be closed
2. Weekend 11 through Weekend 12 - (Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday) For 7 consecutive days, 1 lane through tunnel to be closed
3. Weekend 13 through Weekend 15 - (7:00 pm closure on Friday until 5:00 am opening on Monday*) All lanes of tunnel to be closed

* Due to weather delays or unforeseen circumstances beyond USACE control, the tunnel may be closed for additional periods of time beyond the proposed 15 weekends and/or for additional consecutive days beyond the proposed 3-day weekend closures and/or the one full week closure. Additionally, the week-long closure may occur earlier or later within the overall schedule for similar reasons.

1. Weather delay option - Weekend 16 through Weekend 18 - (7:00 pm on Friday until 5:00 am on Monday)

During the closure of both lanes of the tunnel, the adjacent LA 23 Bridge, which normally allows only north-bound motorists, would carry two-way traffic. Alternatively, motorists could use the Woodland Hwy Bridge on LA 406.

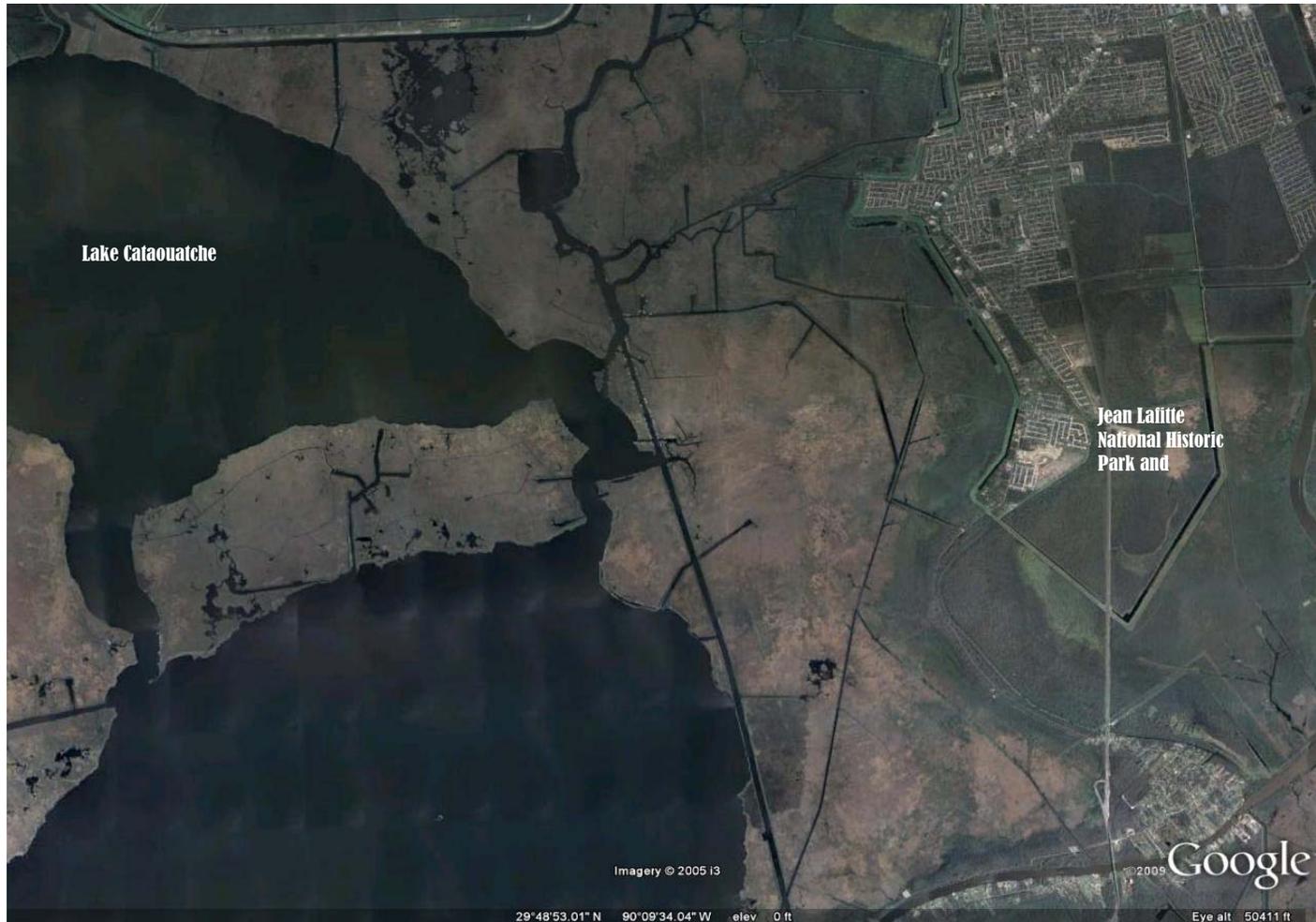
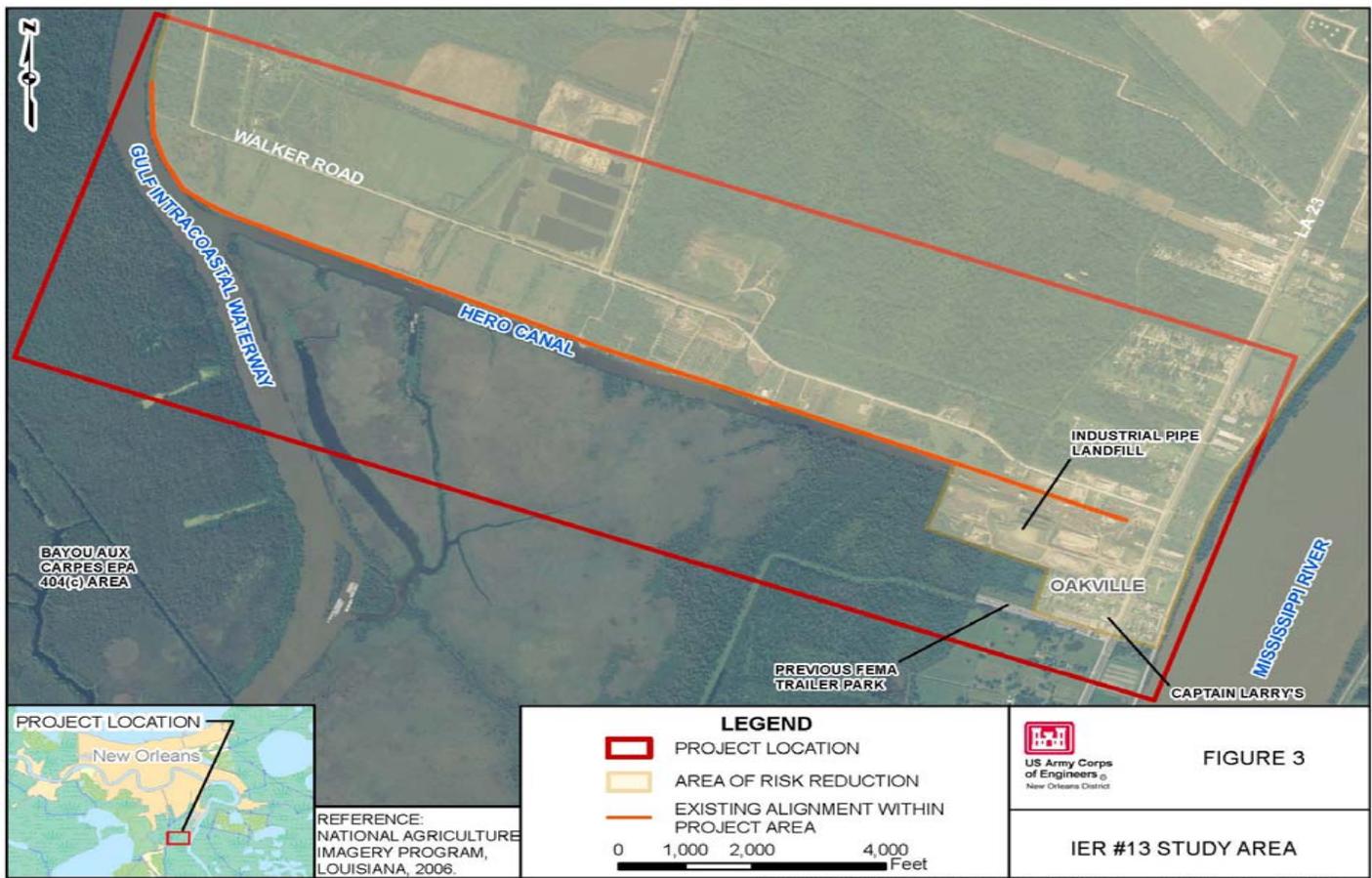


Figure 3: Jean Lafitte National Historical Park and Preserve



Figure 4: Walker Road Borrow Pits



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Figure 6: Hero Canal Levee Alignment



Figure 7: Belle Chasse Tunnel

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 ENVIRONMENTAL SETTING

The Belle Chasse Tunnel and the Westbank Site N area described in this report are located in Plaquemines Parish. The Westbank Site N area is bounded to the north by Lake Pontchartrain, to the west by the town of Waggaman, and to the south into Lake Cataouatche and eventually marsh. The area is bordered on three sides by an extensive marsh system that provides a barrier between residences and infrastructure within these parishes and the Gulf of Mexico. Hero Canal is located to the south of Westbank Site N and the Gulf Intracoastal Waterway is located to the west. Westbank Site N is adjacent and to the south of Walker Road and is accessible from it. The Belle Chasse Tunnel runs beneath the GIWW on LA 23.

The area around the Belle Chasse Tunnel is dominated by urban development protected by flood control measures that includes earthen levees, drainage canals, pumping stations, and navigation canal locks and dams. The Algiers Canal is part of the GIWW system. It provides a route for conveyance of goods and materials for local consumption and distribution. The areas immediately adjacent to the project are typified by industrial, residential, and open space usage. Large amounts of the developed property along the canal's frontage are in the industrial land-use category. The businesses located within this land use range from shipbuilding/restoration/transportation to automobile salvage and recycling centers.

IER #12, Gulf Intracoastal Waterway (GIWW) Harvey and Algiers Levees and Floodwalls, IER #13, Hero Canal and Eastern Tie In, and IER #22, Government Furnished Borrow Material #2, contain a complete discussion of the environmental setting for the project area and are incorporated by reference into this document. As such, no discussion of environmental setting is contained 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 alternatives. Direct impacts are those that are caused by the action taken and occur at the same time and place (40 CFR §1508.8(a)). Indirect impacts are those that are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable (40 CFR §1508.8(b)). Cumulative impacts are discussed in section 4. Except where specifically stated, the significant resource analysis contained in IER 12 GIWW, Harvey and Algiers Levees and Floodwalls Jefferson, Orleans, and Plaquemines Parishes, Louisiana document remains the same and is incorporated by reference herein.

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 1 shows those significant resources found within the project area, and notes whether they would be impacted by the proposed alternative.

Table 1: Significant Resources in the Project Area

SIGNIFICANT RESOURCES	Impacted	Not Impacted
Wetlands		X
Bayou aux Carpes CWA Section 404(c) Area		X
Upland Resources		X
Prime Farmland		X
T&E Species		X
Fisheries		X
Wildlife		X
Air Quality		X
Water Quality		X
Noise	X	
Aesthetics		X
Recreational Resources	X	
Cultural Resources		X
Socioeconomics	X	

3.2.1 Jurisdictional Wetlands

Existing Conditions

Jurisdictional wetlands are those that are regulated by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act. To qualify as jurisdictional wetlands, habitat must exhibit all three wetland characteristics: hydrology, hydrophytes, and hydric soils (US ACOE 1987). It is important to understand that some areas that function as wetlands ecologically, but exhibit only one or two of the three characteristics, do not currently qualify as Corps jurisdictional wetlands and thus activities in these wetlands are not regulated under the Section 404 program. Such wetlands, however, may perform valuable functions.

The jurisdictional wetland habitat types in the Westbank Site N area may include pasture wetlands and cypress swamps. The jurisdictional wetlands contain

hydrophytic vegetation, hydric soils, and hydrology indicators. Pasture wetlands are comprised of soft rushes, flat sedges, smartweed, alligator weed, and other wetland grasses. Cypress swamp areas are dominated by bald cypress and tupelo gum. The jurisdictional bottomland hardwood tree species include hackberry, Chinese tallow tree, pecan, American elm, live oak, water oak, green ash, bald cypress, black willow, box elder, and red maple.

There are jurisdictional wetlands in the vicinity of Westbank Site N. There are no jurisdictional wetlands in the vicinity of the Belle Chasse Tunnel.

Discussion of Direct, Indirect and Cumulative Impacts

No Action

Under the No action alternative, the Government-approved actions for the disposal of material, as described in IER #12 and IER #13, would be implemented and there would be no direct or indirect impacts to jurisdictional wetlands through CEMVN actions at the proposed Westbank Site N area. The material removed during the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee would be evaluated for borrow suitability. Suitable material would be utilized in the construction of the HSDRRS and that material found unsuitable to be used as borrow would be disposed of in the Walker Road borrow pit. The overburden material (i.e., roots, stumps, trees, etc.) would be mulched and used on site or hauled away to a landfill.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

Proposed Action

Under the proposed action, there would be no direct or indirect impact to jurisdictional wetlands at the proposed Westbank Site N area. All borrow material suitable for use in the construction of the HSDRRS would be removed from the Westbank Site N area. The site would then be utilized for the deposition of clean, cleared and grubbed material removed during the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee. During the excavation and the disposal processes, the jurisdictional wetlands would be avoided as described in IER #22.

No wetlands would be impacted under the proposed action alternative with respect to floodwall construction around the Belle Chasse Tunnel.

3.2.2 Non-Jurisdictional Bottomland Hardwood Forest

Existing Conditions

Non-jurisdictional Bottom Land Hardwood (BLH) forests are comprised of dominant species such as hackberry, Chinese tallow tree, pecan, American elm, live oak, water oak, green ash, bald cypress, black willow, box elder, and red maple. Some understory species include dewberry, lizard's tail, and poison ivy. A variety of birds utilize these hardwoods for nesting, breeding, brooding, and as perches. Hard mast (nuts) and soft mast (samaras, berries) provide a valuable nutritional food source for birds, mammals, and other wildlife species.

Non-jurisdictional BLH forests lack one or more of the following criteria to be considered a Clean Water Act Section 404 wetland: hydrophytic vegetation, hydric soils, and/or wetland hydrology (USACE 1987). Manmade ditches, canals, and/or pumping stations are present in the project areas, but no BLH exists within the either project area.

Discussion of Direct, Indirect and Cumulative Impacts

No Action

Under the No action alternative, the Government-approved actions, as described in IER #12 and IER #13, would be implemented and there would be no direct or indirect impacts to non-jurisdictional BLH through CEMVN actions at the proposed Westbank Site N area. The material removed during the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee would be evaluated for borrow suitability. Suitable material would be utilized in the construction of the HSDRRS and that material found unsuitable to be used as borrow would be disposed of in the Walker Road borrow pit. The overburden material (i.e., roots, stumps, trees, etc.) would be mulched and used on site or hauled away to a landfill.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

Proposed Action

Under the proposed action, there would be no direct or indirect impact to non-jurisdictional BLH at the proposed Westbank Site N area as there are no BLH located within the Westbank Site N area. All borrow material suitable for use in the construction of the HSDRRS would be removed from the Westbank Site N

area. The site would then be utilized for the deposition of clean, cleared and grubbed material removed during the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee.

No BLH would be impacted under the no action alternative with respect to floodwall construction around the Belle Chasse Tunnel and the Barriere Golf Course access road relocation.

3.2.3 Non-Wetland Resources/Upland Resources

Existing Conditions

The area around the Belle Chasse Tunnel is dominated by urban development protected by flood control measures that includes earthen levees, drainage canals, pumping stations, and navigation canal locks and dams. The Algiers Canal is part of the GIWW system. It provides a route for conveyance of goods and materials for local consumption and distribution. The areas immediately adjacent to the project are typified by industrial, residential, and open space usage. Large amounts of the developed property along the canal's frontage are in the industrial land-use category. The businesses located within this land use range from shipbuilding/restoration/transportation to automobile salvage and recycling centers.

Species identified in the non-wet pasture areas include Johnson grass, yellow bristle grass, annual sumpweed, arrow-leaf sida, vasey grass, Brazilian vervain, and eastern false-willow. The scrub/shrub areas are comprised of Chinese tallow tree, eastern false-willow, wax myrtle, giant ragweed, dew berry, elderberry, red mulberry, pepper vine, and dog-fennel.

The Westbank Site N area is approximately 76 acres of pasture land located next to the Hero Canal. (figure 8) The herbaceous layer is comprised of golden rod, dog fennel, arrow-leaf sida, and Johnson grass. This area is described in detail in IER #12.

Discussion of Direct, Indirect and Cumulative Impacts

No Action

Under the No action alternative, the Government-approved actions, as described in IER #12 and IER #13, would be implemented and there would be no direct or indirect impacts to Non-Wetland Resources/Upland Resources through CEMVN actions at the proposed Westbank Site N area. The material removed during the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee would be evaluated for borrow suitability. Suitable material would be utilized in the construction of the HSDRRS and that material found unsuitable to be used as borrow would be disposed of in the

Walker Road borrow pit. The overburden material (i.e., roots, stumps, trees, etc.) would be mulched and used on site or hauled away to a landfill.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

Proposed Action

With implementation of the proposed action, non-wetland resources/upland resources would be cleared and borrow excavated from Westbank Site N as outlined in IER #22. The thick scrub/shrub areas that provided cover for wildlife would be removed. All borrow material suitable for use in the construction of the HSDRRS would be removed from the Westbank Site N area. The site would then be utilized for the deposition of clean, cleared and grubbed material from the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee. The pasture areas would be allowed to revegetate naturally. Some scrub/shrub areas may redevelop around the borrow area perimeters in time.

There would be no direct or indirect impacts to non-wetland resources under the proposed action alternative with respect to floodwall construction around the Belle Chasse Tunnel and the Barriere Golf Course access road relocation. There would be direct impacts to upland resources located beneath the LA 23 bridge as a result of the Barriere Golf Course access road relocation (figure 9). These resources are primarily located within existing LADOTD and utility rights of way in an urban and developed area. The proposed design and alignment are within the project ROW identified in IER #12.

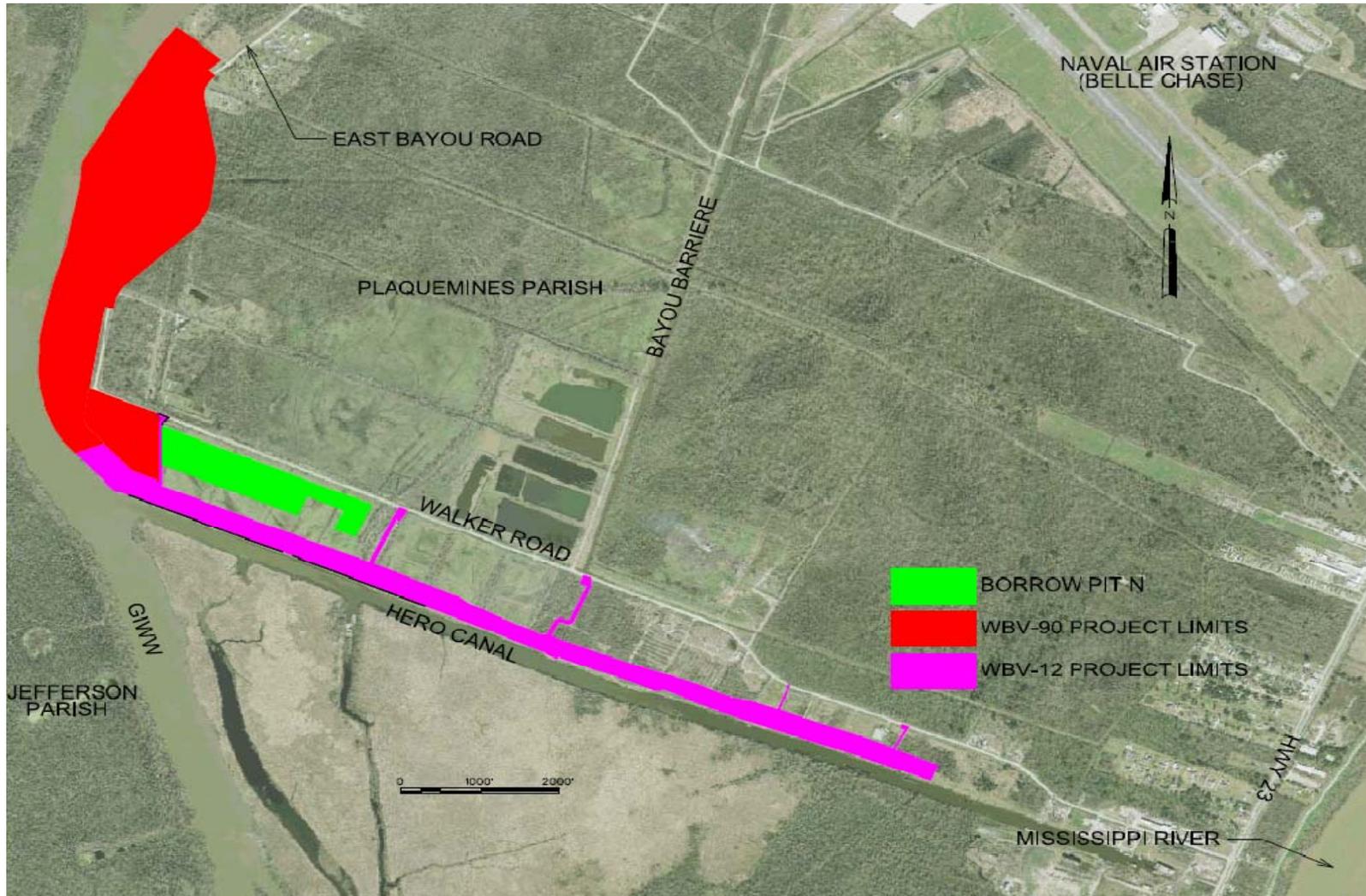
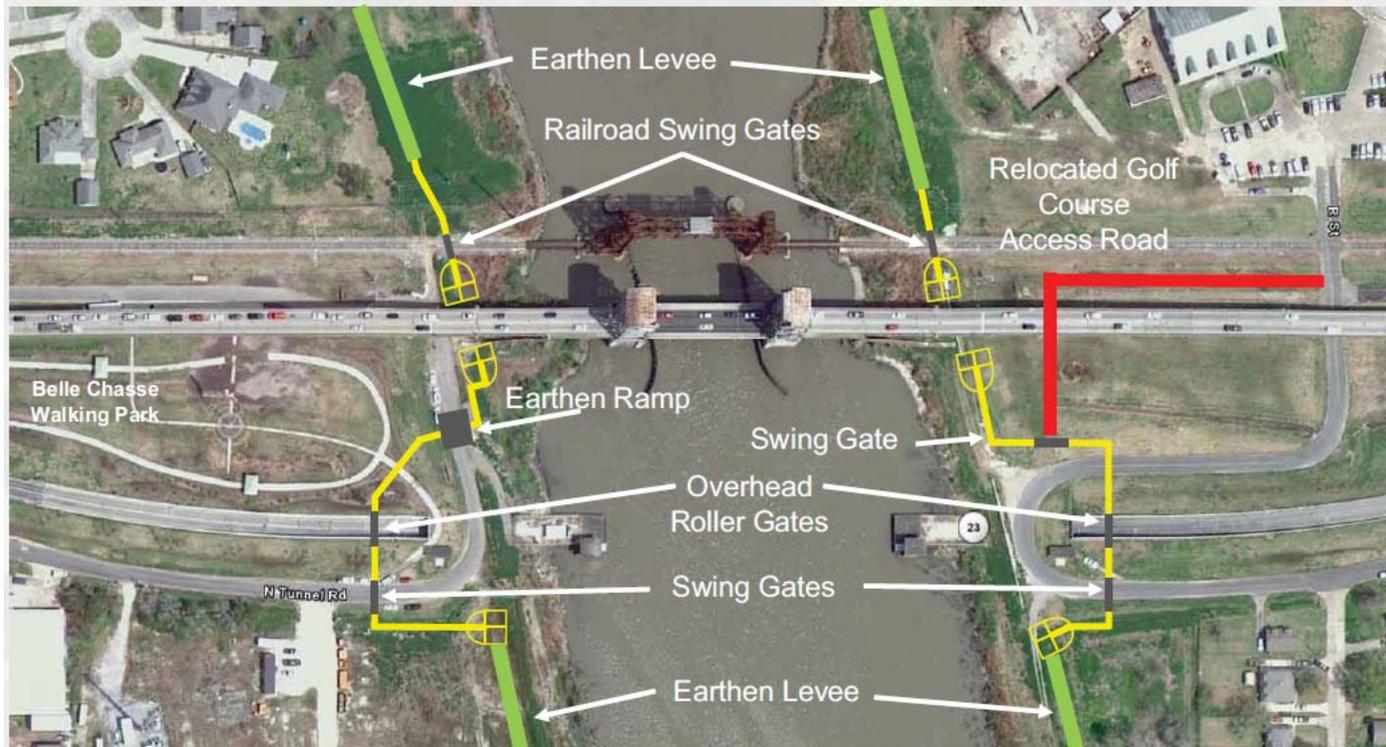


Figure 8: WBV 90 and WBV 12 Project Limits

Belle Chasse Tunnel Risk Reduction

Contract WBV 6.2



A floodwall, earthen ramp and 7 floodgates will be constructed around the Belle Chasse Tunnel.



Figure 9: Belle Chasse Tunnel Risk Reduction Proposed Action

3.2.4 Wildlife

Existing Conditions

The study area contains a great variety of mammals, birds, reptiles, and amphibians. Species inhabiting the area include nutria, muskrat, mink, otter, raccoon, white-tailed deer, skunks, rabbits, squirrels, armadillos, and a variety of smaller mammals. Wood ducks and some migratory waterfowl may be present during winter, especially in the proposed Westbank Site N and the Belle Chasse Tunnel project location due to the close proximity of the areas to the Mississippi River, which is a major flyway.

Non-game wading birds, shore birds, and sea birds including egrets, ibis, herons, sandpipers, willets, black-necked stilts, gulls, terns, skimmers, grebes, loons, cormorants, and white and brown pelicans are found in the project vicinity. Various raptors such as barred owls, red-shouldered hawks, northern harriers (marsh hawks), American kestrel, and red-tailed hawks may be present. Passerine birds in the areas include sparrows, vireos, warblers, mockingbirds, grackles, red-winged blackbirds, wrens, blue jays, cardinals, and crows. Many of these birds are present primarily during periods of spring and fall migrations. The areas may also provide habitat for the American alligator, salamanders, toads, frogs, turtles, and several species of poisonous and nonpoisonous snakes. The existing ditches, canals, marshes, and Mississippi River batture provide suitable breeding habitat for various species of mosquitoes.

The bald eagle is a raptor that is found in various areas throughout the United States and Canada as well as throughout the study area. Bald eagles are federally protected under the Bald Eagle Protection Act of 1940. The bald eagle feeds on fish, rabbits, waterfowl, seabirds, and carrion (Ehrlich et al. 1988). The main basis of the bald eagle diet is fish, but they will feed on other items such as birds and carrion depending upon availability of the various foods. Eagles require roosting and nesting habitat, which in Louisiana consists of large trees in fairly open stands (Anthony et al. 1982). Bald eagles nest in Louisiana from October through mid-May. Eagles typically nest in bald cypress trees near fresh to intermediate marshes or open water in the southeastern parishes.

The area around the Belle Chasse Tunnel is dominated by urban development protected by flood control measures that includes earthen levees, drainage canals, pumping stations, and navigation canal locks and dams. The Algiers Canal is part of the GIWW system. It provides a route for conveyance of goods and materials for local consumption and distribution. The areas immediately adjacent to the project are typified by industrial, residential, and open space usage. Large amounts of the developed property along the canal's frontage are in the industrial land-use category. The businesses located within this land use range from shipbuilding/restoration/transportation to automobile salvage and recycling centers.

Discussion of Direct, Indirect and Cumulative Impacts

No Action

Under the No action alternative, the Government-approved actions, as described in IER #12 and IER #13, would be implemented and there would be no direct or indirect impacts to wildlife through CEMVN actions at the proposed Westbank Site N area. The material removed during the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee would be evaluated for borrow suitability. Suitable material would be utilized in the construction of the HSDRRS and that material found unsuitable to be used as borrow would be disposed of in the Walker Road borrow pit. The overburden material (i.e., roots, stumps, trees, etc.) would be mulched and used on site or hauled away to a landfill.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

Proposed Action

With implementation of the Westbank Site N proposed action, wildlife would be displaced when the areas are cleared and excavated as outlined in IER #22. This displacement and loss of habitat should be temporary and would last the duration of project construction in the area. Once material from the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee is placed within Westbank Site N, the area would be allowed to revegetate naturally, which would allow the wildlife to return to the area. Once the area is filled in, there may be some differences in elevation resulting from placement of material and settlement; however this would match the natural surrounding landscape.

No wildlife would be impacted under the proposed action alternative with respect to floodwall construction around the Belle Chasse Tunnel and the Barriere Golf Course access road relocation.

3.2.5 Threatened and Endangered Species

Existing Conditions

There may be a presence of brown pelicans in the vicinity of the proposed Westbank Site N disposal area and the Belle Chasse Tunnel project area. The

brown pelican is a year-round resident that typically forages for and feeds on fish throughout the study area. In winter, spring, and summer, nests are built in mangrove trees or other shrubby vegetation, although occasional ground nesting may occur. Small coastal islands and sand bars are typically used as loafing areas and nocturnal roosting areas.

There have been no sightings of any T&E species in the Westbank Site N area or in the Belle Chasse Tunnel project area.

Discussion of Direct, Indirect and Cumulative Impacts

No Action

Under the No action alternative, the Government-approved actions, as described in IER #12 and IER #13, would be implemented and there would be no direct or indirect impacts to T&E species or their critical habitats through CEMVN actions at the proposed Westbank Site N area. The material removed during the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee would be evaluated for borrow suitability. Suitable material would be utilized in the construction of the HSDRRS and that material found unsuitable to be used as borrow would be disposed of in the Walker Road borrow pit. The overburden material (i.e., roots, stumps, trees, etc.) would be mulched and used on site or hauled away to a landfill.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

Proposed Action

With implementation of the proposed Westbank Site N action, there would not likely be any adverse affect on any T&E species or their critical habitats. There were no sightings of the brown pelican in the project area; however they may be present in the project vicinity. The USFWS concurred with the CEMVN on June 28, 2010, (appendix D) that the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee and disposal of clean, cleared and grubbed material from these activities into Westbank Site N would not be likely to adversely affect the brown pelican or any other T&E species, or their critical habitat.

No T&E species would be impacted under the proposed action alternative with respect to floodwall construction around the Belle Chasse Tunnel and the Barriere Golf Course access road relocation.

3.2.6 Cultural Resources

Existing Conditions

The Westbank Site N area is located partly within drained back swamps. While back swamps were utilized for resource extraction during both prehistoric and historic periods, there is little evidence of occupation in this habitat. Thus the likelihood for the presence of undiscovered cultural sites within these project areas remains low. Portions of the Westbank N Site lie within natural levees, a landform that served as a focus of prehistoric and historic occupation. Intensive subsurface testing of these project areas failed to identify cultural resources in the APEs (Nolan et al. 2007; Harlan and Nolan 2007).

The area around the Belle Chasse Tunnel is dominated by urban development protected by flood control measures that includes earthen levees, drainage canals, pumping stations, and navigation canal locks and dams. Earth Search, Inc. conducted an archaeological survey of a portion of the current project area located on the south bank of Bayou Barataria near the Hero Cutoff in 1999 (Lee et al. 2000). Despite intensive auger testing, no cultural deposits were identified. Earth Search, Inc. conducted another survey along a proposed right of way extension along Peters Road in 2004 (Stanton et al. 2004). This survey crossed the project area described in IER # 12 at Bayou Barataria and the GIWW. No archaeological sites or significant standing structures were recorded. No cultural resources were identified.

Discussion of Direct, Indirect and Cumulative Impacts

No Action

Under the Westbank Site N No action alternative, the Government-approved actions, as described in IER #12 and IER #13, would be implemented and there would be no direct or indirect impacts to Cultural Resources through CEMVN actions at the proposed Westbank Site N area. The material removed during the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee would be evaluated for borrow suitability. Suitable material would be utilized in the construction of the HSDRRS and that material found unsuitable to be used as borrow would be disposed of in the Walker Road borrow pit. The overburden material (i.e., roots, stumps, trees, etc.) would be mulched and used on site or hauled away to a landfill.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to

accommodate construction and the golf course access road would not need to be relocated.

Proposed Action

For cultural resources, coordination for the use of the Westbank Site N borrow area was found to have no impacts to cultural resources. This coordination includes use of the land not only for excavation of borrow as originally described, but also as an area for disposal of excess materials as currently described. The ROW for the proposed floodwalls and the Barriere Golf Course access road relocation was coordinated in the original IER #12 document.

The letter of agreement to CEMVN's conclusion of no impacts to cultural resources was signed by parties on the following dates:

SHPO: 12/26/07

Chitimacha 12/27/07

Mississippi Band of Choctaw: 1/15/08

Choctaw of Oklahoma: 12/5/07

All other consulted parties did not offer comment, and as per the National Historic Preservation Act, no comment after a period of 30 days is taken as agreement with the CEMVN conclusion.

3.2.7 Recreational Resources

Existing Conditions

Belle Chasse Walking Park, Bayou Barriere Golf Course, and the Gulf Intercoastal Waterway (GIWW) are within the project area.

Discussion of Direct, Indirect and Cumulative Impacts

No Action

Under the No Action alternative, Belle Chasse Walking Park would remain open and no impact would occur as a result of closure. Other impacts to recreation would not differ significantly from those described in IER #12 and IER #22.

Proposed Action

The Belle Chasse Walking Park would be temporarily closed during construction to ensure public safety. The closure is anticipated from approximately November 2010 through July 2011. Recreationists who use the park would be temporarily impacted during the closure. There are other parks approximately two miles from the project area including the Medal of Honor Park and a walking park on Wall Street. The current access road to Bayou Barriere Golf Course would be closed after completion of a new access road. Access to the golf course would be

available throughout the construction period. Although fishing and recreational boating are possible in the GIWW, such use is minimal given the industrial nature of the area and would not be expected to be greatly impacted. Indirect and Cumulative Impacts would not differ significantly from those described in IER #12 and IER #22.

3.2.8 Noise Quality

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

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 USEPA and has been adopted by most Federal agencies (USEPA, 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 consistently exposed to a DNL above 65 dBA are generally not considered suitable for residential use. A DNL of 55 dBA was identified by USEPA as a level below which there is no adverse impact (USEPA, 1974).

Noise ranging from about 10 dBA for the rustling of leaves to as much as 115 dBA (the upper limit for unprotected hearing exposure established by the Occupational Safety and Health Administration) is common in areas where there are sources of industrial operations, construction activities, and vehicular traffic.

Existing Conditions

Noise in the study area is sourced from various forms of traffic on LA 23, General De Gaulle Drive, Lapalco Boulevard, Engineers Road, Peters Road, and other local roads. Heavy equipment and manufacturing operations at the many industrial sites in the study area contribute to noise levels. Periodic high noise levels are generated and impact a large zone around the study area by aircraft as they approach and depart the U.S. Naval Air Station at Belle Chasse. Boat traffic on the GIWW, Algiers Canal, Harvey Canal and Hero Canal is another source of noise. Westbank Site N is located in a rural area near LA Highway 23. The closest residence is located approximately 2 miles from Westbank Site N.

The Belle Chasse Tunnel runs beneath the Algiers Canal on LA 23. Detailed discussions of noise in the project area can be found in IER #12, section 3.2.9; IER #13, section 3.2.11; and IER #22, section 3.2.10, which are incorporated by reference. Currently, sound levels would be expected to be moderate to heavy and

the primary producers of sound would be from vehicular and maritime traffic, people and industry. Local traffic may have short-term sound levels that are high.

Discussion of Direct, Indirect and Cumulative Impacts

No Action

Under the No action alternative, the Government approved actions, as described in IER #12 and IER #13, would be implemented and there would be no direct or indirect impacts to noise levels through CEMVN actions at the proposed Westbank Site N area. The material removed during the construction of the West Closure Complex eastern floodwall and road realignment, as discussed in IER #12, as well as the Hero Canal Levee, as discussed in IER #13, would be evaluated for borrow suitability. Suitable material would be utilized in the construction of the HSDRRS and that material found unsuitable to be used as borrow would be disposed of in the Walker Road borrow pit. The overburden material (i.e., roots, stumps, trees, etc.) would be mulched and used on site or hauled away to a landfill.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

Proposed Action

With implementation of the proposed Westbank Site N action, there would be an elevation of noise in the vicinity of the Westbank Site N area. The noise would be associated with construction equipment such as bulldozers, excavators, haul trucks, and/or chainsaws working on the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee and disposal of clean, cleared and grubbed material from these activities into Westbank Site N. The closest resident is located approximately 2 miles from the construction area and may experience temporary impacts from elevated noise levels. However, these impacts are expected to be minimal and constrained to construction hours.

With the proposed Belle Chasse Tunnel floodwall construction, construction would occur 24 hours a day during the construction period beginning approximately in November 2010 and potentially lasting for one year. Pile driving would only occur between the hours of 7:00 a.m. and 9:00 p.m. Temporary, direct noise impacts would occur during construction, and periodically thereafter for maintenance purposes.

Residential subdivisions are located adjacent (within one tenth of a mile with some residences as close as a few hundred feet) to the project area on either side of the Algiers Canal. Residents in these areas would experience significant direct noise impacts due to the proposed floodwall/levee and road construction with elevated noise levels from motors, pumps, generators, heavy equipment and pile driving. Residents living within 200 feet of the project area would be expected to experience construction sound levels above 65 dBA (table 3).

Using data from the Federal Highway Administration, Table 3 provides a listing of noise generating equipment typically used for construction of levees and floodwalls and Table 4 provides a comparison chart of common sounds and their associated decibel levels. Residents in the subdivisions located adjacent to the proposed construction could expect to experience noise levels that fall between the 200 ft and 1000 ft level, depending on each home's distance from the project area.

Table 2: FHWA noise levels at distance from the source (dBA)

Noise Generator	50 ft*	100 ft*	200 ft*	500 ft*	1000 ft*
Dump Truck	76	70	64	56	50
Backhoe	78	72	68	58	52
Front End Loader	79	73	67	59	53
Concrete Mixer	79	73	67	59	53
Crane	81	75	69	61	55
Bull Dozer	82	76	70	62	56
Auger Drill	84	78	72	64	58
Pile Driver	91	85	79	71	65

* Distance from receptor.

Source: FHWA 2007. The decibels (dBA) at 50 ft are measured; the others are model estimates.

Table 3: Common Sounds and their Decibel Levels

dB	Sound	dB	Sound
0	Softest sound a person can hear	95-110	Motorcycle
60	Normal conversation	110	Shouting in ear
70	Freeway traffic	110	Leaf blower
80	Ringing telephone	110	Car horn
85	Heavy traffic	117	Football game (stadium)
85	City traffic inside car	130	Stock car races
90	Truck	150	Firecracker
90	Shouted conversation	170	Shotgun

90	Train whistle at 500 ft	194	Loudest sound that can occur
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Source: FHWA 2007. The decibels (dBA) at 50 ft are measured; the others are model estimates.

3.2.9 Air Quality

Existing Conditions

As of 15 June 2005, the 1-hour ozone standard for the Greater New Orleans area (Orleans, Jefferson, St. Bernard, Plaquemines, and St. Charles Parishes) was revoked and replaced by an 8-hour standard. The New Orleans area is currently not subject to any conformity requirements of the Clean Air Act. In other words, these parishes are now in attainment of the 8-hour ozone standard and all other criteria pollutant National Ambient Air Quality Standards (NAAQS). The parishes listed previously are currently in attainment of all NAAQS. This classification is the result of area-wide air quality modeling studies.

Discussion of Direct, Indirect and Cumulative Impacts

No Action

Under the No action alternative, the Government-approved actions, as described in IER #12 and IER #13, would be implemented and there would be no direct or indirect impacts to air quality through CEMVN actions at the proposed Westbank Site N area. The material removed during the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee would be evaluated for borrow suitability. Suitable material would be utilized in the construction of the HSDRRS and that material found unsuitable to be used as borrow would be disposed of in the Walker Road borrow pit. The overburden material (i.e., roots, stumps, trees, etc.) would be mulched and used on site or hauled away to a landfill.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

Proposed Action

With implementation of the proposed action, there would be short duration of impacts to air quality that would result from the disposal of material into the Westbank Site N pit in Plaquemines Parish. These impacts would be controlled by implementing proper best management practices (BMP). Air quality impacts

would be limited to those produced by heavy equipment, and suspended dust particles could be generated by bulldozing, dumping, and grading operations. Operation of construction equipment and support vehicles would generate volatile organic compounds (VOCs), particulate matter (PM) 10, PM 2.5, nitrogen oxides (NO_x), carbon monoxide (CO), ozone (O₃) and sulfur oxides (SO_x) emissions from diesel engine combustion. The construction equipment and haul trucks should have catalytic converters and mufflers to reduce exhaust emissions.

Dust suppression methods would be implemented to minimize 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 disposal process, 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.

Under the proposed action for the Belle Chasse Tunnel, no permanent direct or indirect impacts would be expected although temporary air quality impacts would be anticipated. Portions of the study area south of the LA 23 bridge on the west bank of the Algiers Canal are heavily industrialized, as is the eastern bank of the Harvey Canal. Cranes, trucks, and other diesel equipment are constantly in use in much of the area. The anticipated addition of minor amounts of air pollutants from the construction of the proposed action would not measurably degrade ambient air quality. During the construction, proper and routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within the appropriate design standards. Dust suppression methods would be implemented to minimize fugitive dust emissions. Air emissions from the proposed action would be temporary and would not significantly impair air quality in the region.

3.2.10 Water Quality

Existing Conditions

Louisiana Department of Environmental Quality (LDEQ) regulates both point and nonpoint source pollution. The study area includes water quality resources such as wet bottomland hardwoods, cypress-tupelo swamps, an existing canal on the protected side of the existing levee, and borrow sites, including Westbank Site N, on the protected side of the existing Hero Canal levee. A detailed discussion of water quality in the project area can be found in IER #12, section 3.2.10, IER #13, section 3.2.10 and IER #22, section 3.2.12, which are incorporated by reference.

The area around the Belle Chasse Tunnel is dominated by urban development protected by flood control measures that includes earthen levees, drainage canals, pumping stations, and navigation canal locks and dams. The Algiers Canal is part of the GIWW system. It provides a route for conveyance of goods and materials for local consumption and distribution. A detailed discussion of water quality in the project area can be found in IER #12, section 3.2.10.

Discussion of Direct, Indirect and Cumulative Impacts

No Action

Under the No action alternative, the Government-approved actions, as described in IER #12 and IER #13, would be implemented and there would be no direct or indirect impacts to water quality through CEMVN actions at the proposed Westbank Site N area. The material removed during the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee would be evaluated for borrow suitability. Suitable material would be utilized in the construction of the HSDRRS and that material found unsuitable to be used as borrow would be disposed of in the Walker Road borrow pit. The overburden material (i.e., roots, stumps, trees, etc.) would be mulched and used on site or hauled away to a landfill.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

Proposed Action

The WBV-90 (IER #12) and WBV-12 (IER #13) projects plan to dispose of up to 600,000 cubic yards of material that is not suitable for levee construction, into the Westbank Site N borrow pit. Additionally, material excavated from the Westbank Site N that is unsuitable for use as levee material and the debris cleared and grubbed from the surface of Westbank Site N will be disposed of into Westbank Site N.

The CEMVN requires that construction BMPs be implemented and followed during the construction phase. Silt fencing and hay bales would be installed around the perimeter of the proposed borrow areas to control runoff. Despite the use of best management practices, (BMPs), with implementation of the proposed action, there could be some disturbances to water quality in the immediate vicinity of the proposed project area. The contractor would be required to secure all proper Federal, state, and local permits required for potentially impacting water quality.

To make optimal use of available material, excavation would begin at one end of the borrow area and be continuous across the width of the areas to the required borrow depths, to provide surface drainage to the low side of the borrow area as excavation proceeds. Excavation for semi-compacted fill would not be permitted in water nor shall excavated material be scraped, dragged, or otherwise moved

through water. In some cases, the borrow areas may need to be drained with the use of a sump pump.

Approximately 400,000 to 700,000 cubic yards will be excavated from Site N. Quantities vary due to variations in the material and its suitability for use as levee embankment material. Approximately 400,000 to 700,000 cubic yards is expected to be disposed of into Site N. This material will not be highly compacted or dried. The initial height of the material placed into the pit N is expected to be between 4' and 8' above existing ground. The final height of the material after settlement is expected to be between 2' and 5' above existing ground elevations. Site restoration would include grading the slopes.

Water quality impacts with respect to the Belle Chasse floodwall construction would not be expected to differ from those set forth in IER #12.

3.2.11 Aesthetic (Visual) Resources

Existing Conditions

The principal distinguishing visual characteristics of the Westbank Site N project area are its flat topography accentuated by the drainage canals that parcel land cleared for various uses. Land use includes the maritime related industry surrounding the Hero Canal and the borrow pits along Walker Road. Water resources consist of the GIWW, various fragmented bayous and ponds that appear to be water filled borrow areas.

In the Belle Chasse Tunnel project area, the project area's landscape is dominated by urban development protected by flood control measures that includes earthen levees, drainage canals, pumping stations, and navigation canal locks and dams. Also prevalent within the project area are maritime related industry and residential development occasionally broken up by undeveloped land and recreation venues. Moving North East, the Algiers Canal adjacent area begins as vacant land then transitions to a residential area until reaching the LA 23 Bridge; from there, a golf course is first encountered and then mostly vacant land with intermittent industrial/commercial, residential, and public uses until reaching the Algiers Lock.

Discussion of Direct, Indirect and Cumulative Impacts

No Action

Under the No action alternative, the Westbank Site N borrow pit would not be used for the disposal of material associated with 100-year level of flood risk reduction construction. The direct, indirect and cumulative impacts to visual resources would not differ from those described in IER #12 and IER #22.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN.

Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

Proposed Action

Under the proposed action, no foreseen direct, indirect or cumulative impacts to visual resources would occur at the proposed Westbank Site N borrow pit disposal area. The Westbank Site N borrow pit area is visually remote and lacks significant distinctive visual qualities. This material placed into Westbank Site N will not be highly compacted or dried. The initial height of the material is expected to be between 4' and 8' above existing ground. The final height of the material after settlement is expected to be between 2' and 5' above existing ground elevations. Site restoration would include grading the slopes and the entire area would be expected to revegetate.

In the Belle Chasse Tunnel project area, no foreseen direct, indirect or cumulative impacts to visual resources would occur. The vast majority of the footprint of disturbance necessary to construct the proposed action is in an area where flood protection measures, navigation-related channel improvements, and other and infrastructure projects including roads currently exist.

3.3 SOCIOECONOMIC RESOURCES

The focus of this section is to evaluate the relative socioeconomic impacts, if any, of construction activities associated with disposing of clean, cleared and grubbed material into the Westbank Site N borrow area and the construction of the floodwalls and road around the Belle Chasse Tunnel. This section also incorporates by reference the Socioeconomic Resource Section of IER #12 with additions to Section 3.3.2, Impacts to Employment, Business and Industrial Activity and Section 3.3.4, Effects on Transportation to address the potential impacts resulting from the closures of the Belle Chasse Tunnel associated with the proposed construction of the Algiers Detention Basin floodwalls outlined in IER #12.

Existing Conditions

The West Bank Vicinity amended supplemental proposed project area is located in the town of Belle Chase, Plaquemines Parish, Louisiana. The project area is located in census tract 503, block group 3, blocks 3002, 3003, 3031, 3032, 3033, and 3034. The nearest residential development is located in block 3003, which is approximately two miles away from the project site. According to the US Census, in 2000 the census tract area had a population of 2,878 and 1,040 housing units. Additionally, the Census block 3003 has a population estimate of 344 and has approximately 120 housing units. Currently, this is the best available data for the geographic region; preliminary 2010 Census data was not available at this time and will not be available until 2011 at the earliest.

This area of greater New Orleans within Plaquemines and Jefferson Parishes is a mixture of commercial, industrial, and general business development along with mixed residential development. The Harvey Canal and Algiers Canal are both part of the GIWW system. They provide a route for conveyance of goods and materials for local consumption and distribution. The areas immediately adjacent to the Belle Chasse Tunnel are typified by industrial, residential, and open space usage. Large amounts of the developed property along the canal's frontage are in the industrial land-use category. The businesses located within this land use range from shipbuilding/restoration/transportation to automobile salvage and recycling centers.

Approximately 9 miles of the levee system primarily along the east bank of the Harvey Canal and the west bank of the Algiers Canal lie within this land use. Along the north side of the Algiers Canal, industrial and commercial businesses occupy most of the land from LA 23 downstream to the GIWW. Approximately 22 firms occupy land adjacent to the canal, with docks and other marine facilities making use of the canal. Along the east side of the Harvey Canal from the Algiers Canal upstream to Lapalco Boulevard, 15 firms are located adjacent to the canal and have docks and other marine facilities making use of the canal. These businesses are on the flood side of the current HSDRRS protection.

The Westbank Site N area is located in a rural area adjacent to Walker Road which intersects Highway 23, a road segment that is used daily by large trucks hauling freight to and from Venice, Louisiana. Within the vicinity, the only commercial business is a shooting range. This commercial property lies on Walker Road and extends to East Bayou Road. There is public infrastructure supplying water and electricity within the area, both to the commercial property as well as to the residential area notated prior, but there are no other forms of public facilities or services within the affected area of the project site.

The primary transportation network in the project area consists of the following roadways: LA 406 utilizing the bridge over the Algiers Canal at the end of General de Gaulle Drive (Intracoastal Waterway Bridge); LA 23 utilizing the Belle Chasse Bridge and Tunnel over/under the Algiers Canal; Lapalco Boulevard and the Lapalco Bridge over the Harvey Canal. Local roads include Engineers Road and Barriere Road parallel and adjacent to the Algiers Canal; and Peters Road and Destrehan Avenue parallel to the Harvey Canal.

3.3.1 Displacement of Population and Housing

Discussion of Direct, Indirect, and Cumulative Impacts

The analysis for Displacement of Population and Housing from IER #12 is incorporated by reference. This section includes additional analysis to address impacts associated the proposed disposal and tunnel closure activities.

No Action

Under the no action alternative, there would not be any disposal activities in the proposed area, Westbank Site N. The disposal of materials would continue as described within IER

12 and IER 13. Consequently, socioeconomic impacts to the displacement of population and housing would be as described previously in IER 12 and IER 13.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

There would be no displacement of population or housing under the no action alternative. However, since this alternative fails to provide the level of risk reduction required by USACE design standards, the actual and perceived risks to population under this alternative would be higher than under the proposed alternative. Floods occurring under the no action alternative that would likely be avoided under the proposed alternative increase the potential for permanent displacement of population and housing.

Proposed Action

As the closest residential population is a distance of 2 miles from Westbank Site N, it would not be necessary to displace any of the surrounding population or housing as a result of the proposed action. Additionally, given the relatively small change in project size and scope of the construction activities that Westbank Site N represents, it is expected that there would be no incremental impacts to the displacement of population and housing resulting from the proposed action beyond what has been described within IER 12 and IER 13.

Although residential areas exist near the Belle Chasse Tunnel project area, construction impacts would be temporary and would not be anticipated to displace any population or housing.

3.3.2 Impacts to Employment, Business and Industry

Discussion of Direct, Indirect, and Cumulative Impacts

No Action

Under the no action alternative, there would not be any disposal activities in the proposed area, Westbank Site N. The disposal of materials would continue as described within IER 12 and IER 13. Consequently, socioeconomic impacts to employment, business and industry would be as described previously in IER 12 and IER 13.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would

not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

There would be no incremental direct impacts to business and industry under the no action alternative. However, under these conditions, the actual and perceived risks to businesses in the vicinity would be directly impacted. Costs associated with business development and sustainability would likewise be impacted. The lack of flood risk reduction could be a long term detriment to the economic vitality of the area to be protected.

Additionally, there may be moderate congestion-related impacts to businesses due to an increased presence of construction vehicles associated with already on-going and/or planned HSDRRS construction. Under the no action alternative, businesses along the Harvey and Algiers Canals that are outside of the current HSDRRS would experience continued risk of flooding.

Proposed Action

Under the proposed action alternative, there is only one business, the shooting range that could potentially be affected by disposal activities in the Westbank Site N. Westbank Site N is adjacent to two active borrow excavation sites. Given the limited business activity in combination with borrow activities already on-going and the proximity of Westbank Site N to the construction areas and the current borrow sites, this additional activity would have negligible socioeconomic impacts to employment, business and industry beyond what is described in IER 12 and IER 13.

Closure of the Belle Chasse Tunnel could cause temporary but significant congestion-related impacts as discussed in Section 3.3.4 Effects on Transportation. The area around the tunnel contains small businesses and restaurants located in mostly strip shopping centers (figure 10). Customers of these businesses could choose to avoid the area due to the traffic congestion resulting in potential, temporary business declines during periods of tunnel closure.

During the construction period, a portion of R Street, which runs above the exit of the Belle Chasse Tunnel on LA 23, would be permanently impacted. The portion of the road would be reconfigured to allow traffic to access the nearby Barriere Golf Course.

3.3.3 Availability of Public Facilities and Services

Discussion of Direct, Indirect, and Cumulative Impacts

The analysis for Availability of Public Facilities and Services from IER #12 is incorporated by reference. This section includes additional analysis to address impacts associated the proposed disposal and tunnel closure activities.

No Action

Under the no action alternative, there would not be any disposal activities in the proposed area, Westbank Site N. The disposal of materials would continue as described within IER 12 and IER 13. Consequently, socioeconomic impacts to public facilities and services would be as described previously in IER 12 and IER 13.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

There would be no direct impacts to the availability of public facilities and services under the no action alternative. However, under these conditions, the actual and perceived risks to public facilities in the vicinity would be directly impacted, and in the event of flooding, the costs of providing these services would likewise be impacted. The lack of enhanced flood risk reduction could be a long term detriment to the economic vitality of the area to be protected.

Proposed Action

Given the Westbank Site N construction description, it is not expected that there would be any disruption in the use of public facilities or services. Additionally, given the relatively small change in project size and scope of the construction activities that Westbank Site N represents, it is expected that there would be no incremental impacts to public facilities and services resulting from the proposed action beyond what has been described within IER 12 and IER 13.

The Belle Chasse Tunnel closures would affect traffic patterns in the area and would cause traffic congestion and delays as more particularly described in the Effects on Transportation analysis. Motorists and emergency vehicles would endure delays or need to take alternative routes during periods of closure.

There would be a direct impact to a public walking park located on the west side of the Belle Chasse Tunnel (figure 11). The park would be closed during the construction period, but would reopen once work on the Belle Chasse Tunnel has been completed. Access to the golf course would not be impaired.

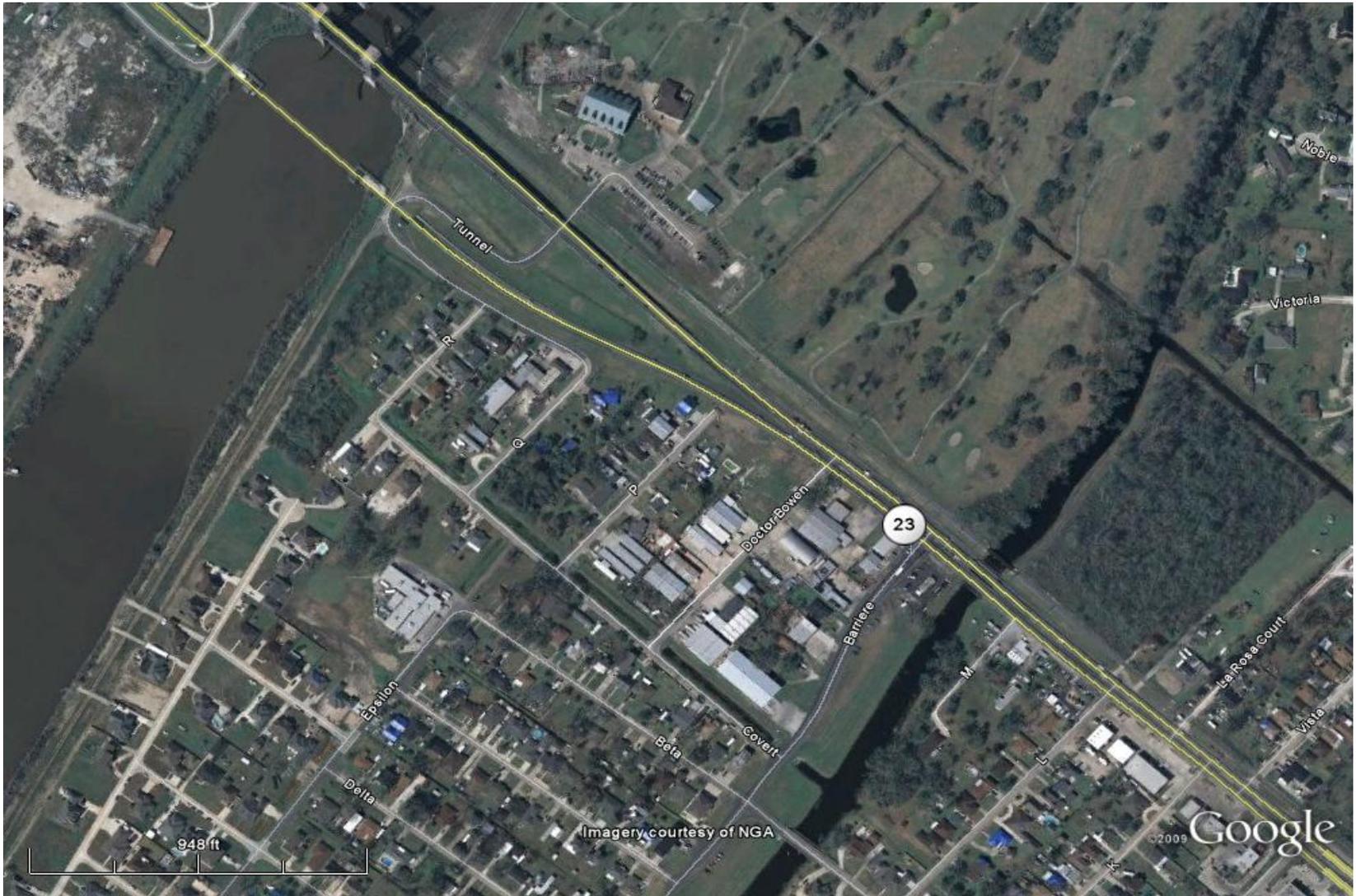


Figure 10: LA 23 Businesses

Belle Chasse Tunnel Risk Reduction

Staging Area

- Belle Chasse Walking Park will be closed throughout construction to ensure public safety
- A walking trail is available at Medal of Honor Park located on Barriere Rd



The Belle Chasse Walking Park will be closed through the duration of construction which is slated for approximately Dec. 2010 through Aug 2011.

* Schedules are approximate and are subject to change

Figure 11: Belle Chasse Walking Park

3.3.4 Effects on Transportation

Discussion of Direct, Indirect, and Cumulative Impacts

No Action

Under the no action alternative, there would not be any disposal activities in the proposed area, Westbank Site N. The disposal of materials would continue as described within IER 12 and IER 13. Consequently, socioeconomic impacts to transportation would be as described previously in IER 12 and IER 13.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

Under the no action alternative, there would be congestion related impacts to transportation due to an increased presence of construction vehicles in the vicinity associated with on-going and planned HSDRRS construction. Potentially affected roadways include Engineers Road, Concord Road, and Bayou Road, all on the east bank of the Harvey Canal near the confluence with the Algiers Canal and the GIWW. Additionally, there may be increased congestion on Peters Road and Lapalco Boulevard, Highway 23, Walker Road, Buccaneer Road, and East Bayou Road; as well as on General DeGaulle Drive, Highway 406, Barriere Road, and Destrehan Avenue. However, all congestion-related impacts would be temporary in nature.

Transportation impacts related to the construction of the HSDRRS have been analyzed in a report titled “Transportation Report for the Construction of the 100- year Hurricane and Storm Damage Risk Reduction System,” which was released in March, 2010 and is available on nolaenvironmental.gov.

Proposed Action

Under the proposed action alternative, the project plan is to dispose of up to 600,000 cubic yards of materials, not suitable for levee construction, into the Westbank Site N borrow pit. Westbank Site N is adjacent to two existing borrow excavation sites. Impacts to transportation would be limited to roads in the vicinity of the construction activity discussed in IER 12 and Westbank Site N (e.g., Bayou Road and possibly Walker Road). Given the location of Westbank Site N relative to the construction sites, these impacts would be expected to be minimal. Therefore, the additional disposal activity would have negligible socioeconomic impacts to transportation beyond what is described in IER 12 and IER 13.

Construction of a T-Wall along the GIWW within the Algiers Detention Basin would require temporary closures of the Belle Chasse Tunnel on LA 23. The Belle Chasse Tunnel, as measured in 2008, conveys over 29,000 vehicles on an average day. This average is computed over a year's time and weekend days are averaged in with weekdays, so there is no way to determine the volume differential between weekends and weekdays (figure 12). According to LADOTD, the difference is significant.

The proposed 15 three-day weekend closure pattern would begin at 7:00 p.m. on Fridays and end at 5:00 a.m. on Mondays. The proposed closure pattern would be as follows:

15 Weekend Closures with 1 Full Week of 1 Lane Closure and 3 Potential Additional Weekends for Weather Delays

1. Weekend 01 through Weekend 10 - (7:00 pm closure on Friday until 5:00 am opening on Monday*) All lanes of tunnel to be closed (figure 13)
2. Weekend 11 through Weekend 12 - (Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday) For 7 consecutive days, 1 lane through tunnel to be closed (figure 14)
3. Weekend 13 through Weekend 15 - (7:00 pm closure on Friday until 5:00 am opening on Monday*) All lanes of tunnel to be closed (figure 13)

* Due to weather delays or unforeseen circumstances beyond USACE control, the tunnel may be closed for an additional period of time beyond 15 weekends or for additional consecutive days beyond 3-day weekend closures.

1. Weather delay option - Weekend 16 through Weekend 18 - (7:00 pm on Friday until 5:00 am on Monday)

During the closure of both lanes of the tunnel, the adjacent LA 23 Bridge, which normally conveys only north-bound traffic, would carry two-way traffic. Alternatively, motorists could use the Woodland Hwy Bridge on LA 406.

According to the LADOTD, typical tunnel closures occurring on weekends, because of lower traffic counts, result in minimal traffic delays of about 5 minutes or less. However, tunnel closure during weekdays, with significantly higher counts, typically cause delays of 1 to 1.5 hours during peak traffic time. Non-peak weekday hours would result in traffic delays from 15 minutes to 30 minutes. One alternative route, which would avoid crossing the GIWW at Belle Chasse, would be to use General De Gaulle and LA 406, Woodland Hwy and Woodland Hwy Bridge which intersects LA 23 south of the Belle Chasse Tunnel (figure 15). This alternative route would be useful during a weekday closure but would result in increased traffic congestion on the alternative route itself. It would also add the wear and tear on this lesser used route. Increased traffic on this route would also add to the probability of more frequent traffic accidents.

An additional alternative route would include LA 3137 on the east bank of the Mississippi River and the Belle Chasse-Scarsdale Ferry, connecting with LA 23 south of the Belle Chasse Tunnel, near the Belle Chasse ferry landing. Use of this alternative would also increase traffic congestion on the ferry and possibly impact the ferry's operating schedule.

Belle Chasse Tunnel Risk Reduction

Current Traffic Patterns

- Coordinated closely with:
 - Louisiana Department of Transportation and Development
 - Plaquemines Parish
- Current north-south access
- Southbound Tunnel
- Northbound Belle Chasse Bridge

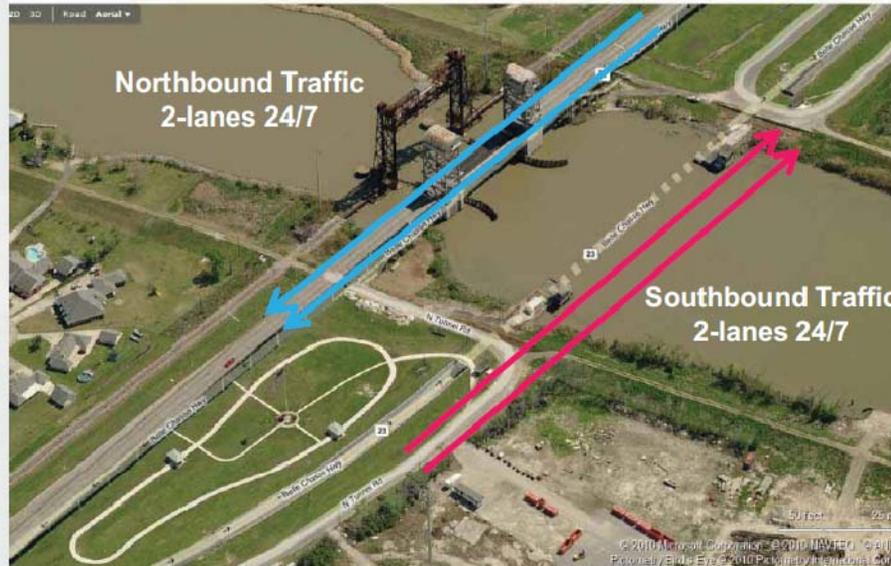
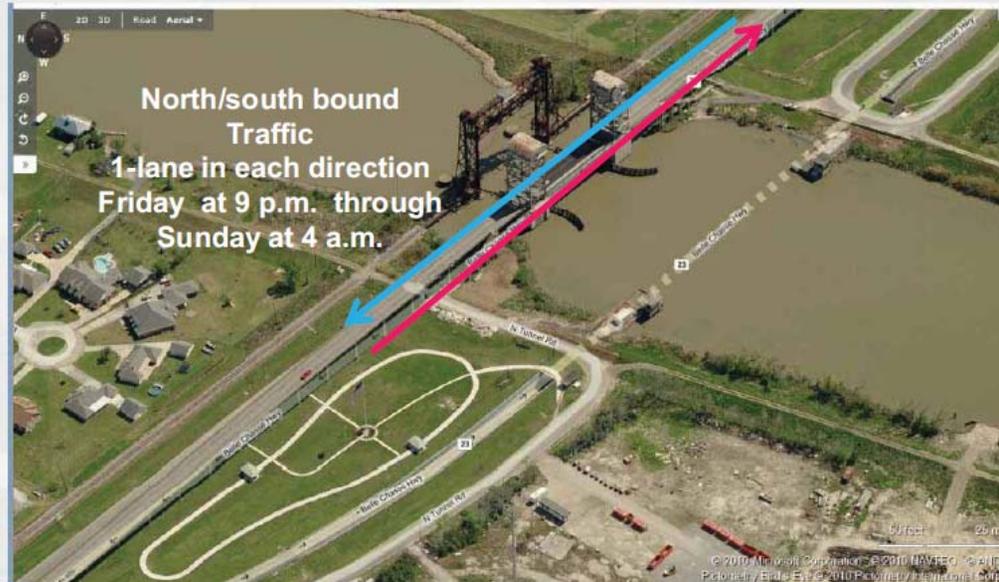


Figure 12: Belle Chasse Tunnel Traffic

Belle Chasse Tunnel Risk Reduction

Traffic Patterns During Construction Weekends 1 - 9, 12 - 15

- Approx 15 weekends from Feb. 2011 through Jun. 2011
- Tunnel closed during construction
- 24-hour operations
- No pile driving between 9 p.m. and 7 a.m.



Traffic impacts generated by construction of overhead roller gates at the Belle Chasse Tunnel will generate some traffic delays and detours similar to the monthly maintenance done by the Department of Transportation and Development.

* Schedules are approximate and are subject to change

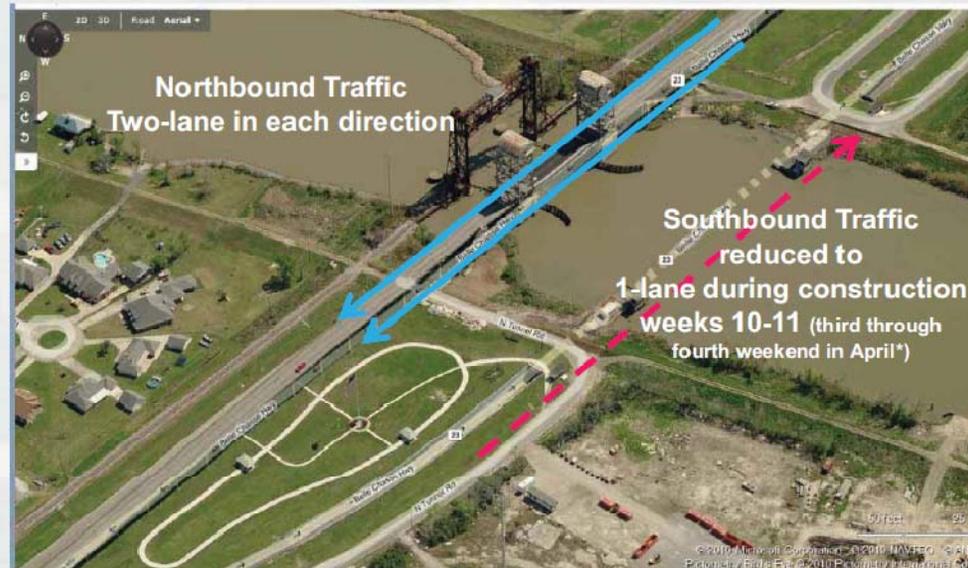


Figure 13: Traffic Patterns Weekends 1-11, 13-15

Belle Chasse Tunnel Risk Reduction

Traffic Patterns During Construction Weeks 10-11

- Single-lane of traffic through the tunnel
- Bridge in normal operation, two northbound lanes
- Single-lane access for approximately 11 days, from approximately third weekend of April through the fourth weekend of April



For 11 days, at approximately the end of April, access to the Belle Chasse Tunnel will be limited to a single-lane of traffic.

* Schedules are approximate and are subject to change



Figure 14: Belle Chasse Traffic Week/Weekend 12

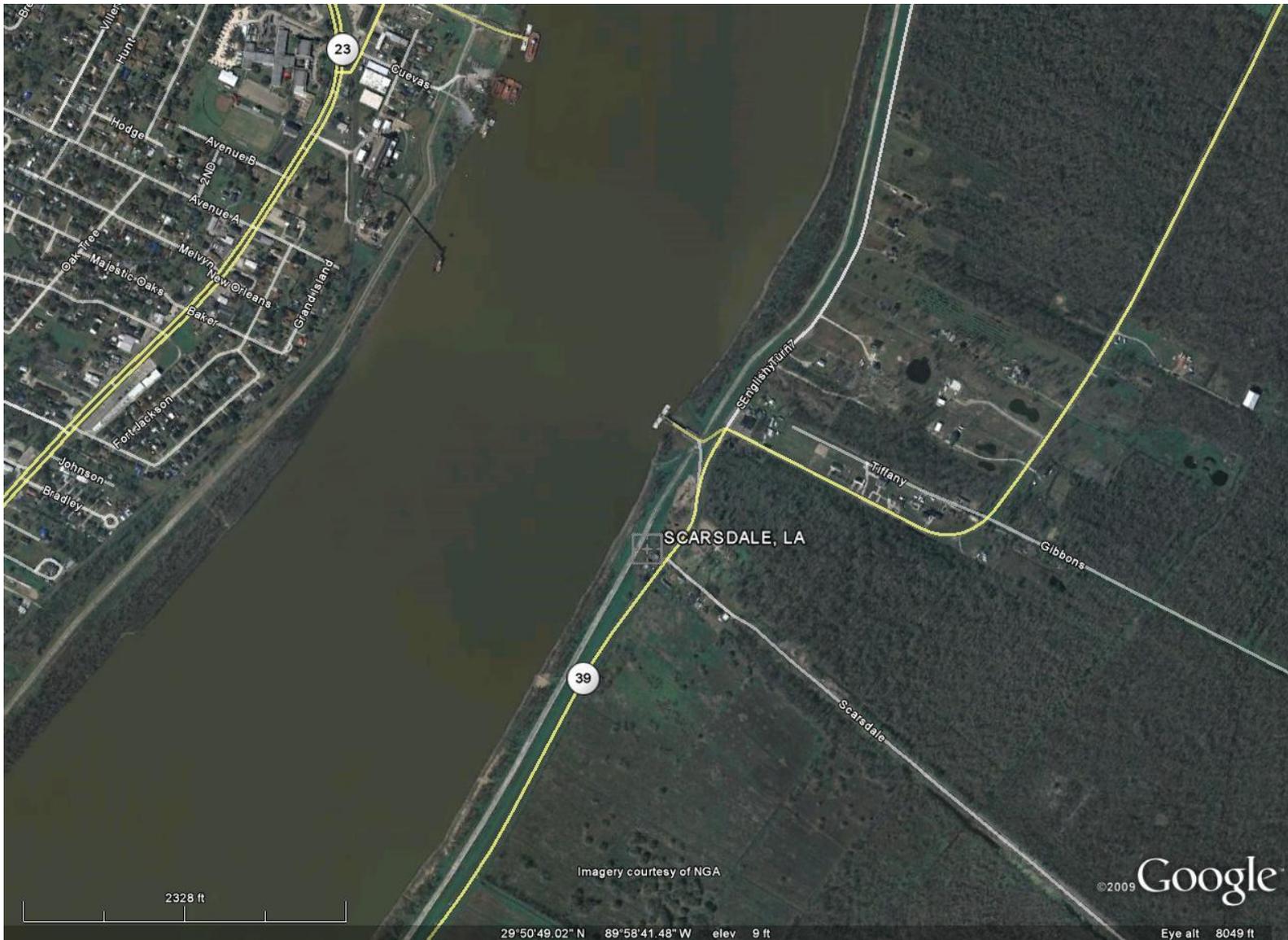


Figure 16: Belle Chasse-Scarsdale Ferry

3.3.5 Disruption of Community and Regional Growth

Discussion of Direct, Indirect, and Cumulative Impacts

The analysis for Disruption of Community and Regional Growth from IER #12 is incorporated by reference. This section includes additional analysis to address impacts associated the proposed disposal and tunnel closure activities.

No Action

Under the no action alternative, there would not be any disposal activities in the proposed area, Westbank Site N. The disposal of materials would continue as described within IER 12 and IER 13. Consequently, socioeconomic impacts to community and regional growth would be as described previously in IER 12 and IER 13.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

There would be no direct impacts to community and regional growth under the no action alternative. However, under these conditions, the actual and perceived risks to businesses and residences in the vicinity would be directly impacted, reducing the potential for community and regional growth. Costs associated with business and residential development and sustainability would likewise be impacted. The lack of enhanced flood risk reduction could be a long term detriment to the economic vitality of the area.

Proposed Action

As the closest residential population to Westbank Site N is a distance of 2 miles from the project site and because there would be no change in regional planning or zoning of land use within the community as a result of the use of Westbank Site N, it is expected that there would be no impacts to the community and regional growth resulting from the proposed action. Additionally, given the relatively small change in project size and scope of the construction activities that Westbank Site N represents, it is expected that there would be no incremental impacts to the community and regional growth resulting from the proposed action beyond what has been described within IER 12 and IER 13. Impacts associated with the potential Belle Chasse Tunnel floodwall construction and closures are anticipated to be the same as previously discussed in IER #12.

3.3.6 Impacts to Tax Revenues and Property Values

Discussion of Direct, Indirect, and Cumulative Impacts

The analysis for Impacts to Tax Revenues and Property Values from IER #12 is incorporated by reference. This section includes additional analysis to address impacts associated the proposed disposal and tunnel closure activities.

No Action

Under the no action alternative, there would not be any disposal activities in the proposed area, Westbank Site N. The disposal of materials would continue as described within IER 12 and IER 13. Consequently, socioeconomic impacts to tax revenues and property values would be as described previously in IER 12 and IER 13.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

There would be no direct impacts to tax revenues under the no action alternative. Under these conditions, the actual and perceived risks to businesses and residences in the vicinity would be directly impacted. Costs associated with business and residential development and sustainment could likewise be impacted. As a result, tax revenues may be affected by a relative decrease in development. The lack of enhanced flood protection could be a long term detriment to the economic vitality of the area to be protected.

Proposed Action

Under the proposed action, any effects resulting from construction activities would be temporary and as such would not have a significant impact in the long-term. Additionally, given the relatively small change in project size and scope of the construction activities that Westbank Site N represents, it is expected that there would be no incremental impacts to tax revenues or property values as result of the proposed action beyond what has been described within IER 12 and IER 13.

Potential avoidance of Hwy 23 and the small businesses located thereon in the area near the Belle Chasse Tunnel during periods of tunnel closure could result in temporary, minor decreases in sales tax revenue.

3.3.7 Changes in Community Cohesion

Discussion of Direct, Indirect, and Cumulative Impacts

The analysis for Changes in Community Cohesion from IER #12 is incorporated by reference. This section includes additional analysis to address impacts associated the proposed disposal and tunnel closure activities.

No Action

Under the no action alternative, there would not be any disposal activities in the proposed area, Westbank Site N. The disposal of materials would continue as described within IER 12 and IER 13. Consequently, socioeconomic impacts to community cohesion would be as described previously in IER 12 and IER 13.

Under the no action alternative, the floodwalls along either side of the Algiers Canal around the Belle Chasse Tunnel would not be constructed by the CEMVN. Because the current flood control structures within the Algiers Canal do not satisfy the required factors of safety and do not meet elevation requirements to allow the canal to function safely and effectively as a rainwater detention basin during storm events, the area would experience continued risk of levee failures and flooding. The Belle Chasse Tunnel would not need to be closed to accommodate construction and the golf course access road would not need to be relocated.

There would be no direct impacts to community cohesion under the no action alternative. However, under these conditions, the actual and perceived risks to businesses and residences in the vicinity would be directly impacted. Costs associated with business and residential development and sustainability would likewise be impacted. The lack of enhanced flood protection could be a long term detriment to the economic vitality of the area to be protected.

Additionally, an increased risk of flooding due to a lower level of risk reduction may have detrimental effects on community cohesion in the area.

Proposed Action

As the closest residential population is a distance of 2 miles from the Westbank Site N, no impacts would be expected to community cohesion as a result of the proposed action. Additionally, given the relatively small change in project size and scope that Westbank Site N represents, it is expected that there would be no incremental impacts to community cohesion resulting from the proposed action beyond what has been described within IER 12 and IER 13.

Impacts associated with the potential Belle Chasse Tunnel floodwall construction are anticipated to be the same as previously discussed in IER #12.

3.4 ENVIRONMENTAL JUSTICE

Environmental Justice (EJ) is institutionally significant because of Executive Order 12898 of 1994 (E.O. 12898) and the Department of Defense's Strategy on Environmental Justice of 1995, which direct Federal agencies to identify and address any disproportionately high adverse human health or environmental effects of Federal actions to minority and/or low-income populations. Minority populations are those persons who identify themselves as Black, Hispanic, Asian American, American Indian/Alaskan Native, and Pacific Islander. A minority population exists where the percentage of minorities in an affected area either exceeds 50 percent or is meaningfully greater than in

the general population. Low-income populations as of 2000 are those whose income is \$22,050.00 for a family of four and are identified using the Census Bureau's statistical poverty threshold. The Census Bureau defines a "poverty area" as a Census tract with 20 percent or more of its residents below the poverty threshold and an "extreme poverty area" as one with 40 percent or more below the poverty level. This is updated annually at <http://aspe.hhs.gov/poverty/09poverty.shtml>.

This resource is technically significant because the social and economic welfare of minority and low-income populations may be positively or disproportionately impacted by the proposed actions. This resource is publicly significant because of public concerns about the fair and equitable treatment (fair treatment and meaningful involvement) of all people with respect to environmental and human health consequences of federal laws, regulations, policies, and actions.

A potential disproportionate impact may occur when the percent minority (50 percent) and/or percent low-income (20 percent) population in an EJ study area are greater than those in the reference community. For purposes of this analysis, all Census Block Groups within a one mile radius of the project footprint are defined as the EJ study area. The HSDRRS project, of which this IER study area is a subset, is considered the reference community of comparison, whose population is therefore considered the EJ reference population for comparison purposes. Parish figures were used for unincorporated areas located within one mile of the proposed project footprint.

The methodology, consistent with E.O. 12898, to accomplish this Environmental Justice analysis includes, identifying low-income and minority populations within the proposed borrow project area using up-to-date economic statistics, aerial photographs, 2000 U.S. Census records, Environmental Systems Research Institute, Inc. (ESRI) estimates, as well as conducting community outreach activities such as public meetings. Despite the 2000 U.S. Census being nine years old, it serves as a logical baseline of information and is the primary deciding variable per data accuracy and reliability for the following reasons:

- Census 2000 data is the most accurate source of data available due to the sample size of the Census decennial surveys. With one of every six households surveyed, the margin of error is negligible.
- The Census reports data at a much smaller geographic level than other survey sources, providing a more defined and versatile option for data reporting.
- Census information sheds light upon the demographic and economic framework of the area pre-Hurricane Katrina. By accounting for the absent population, the analysis does not exclude potentially low income and minority families that wish to return home.

Due to the considerable impact of Hurricane Katrina upon the New Orleans metropolitan area, and the likely shift in demographics and income, the 2000 Census data are supplemented with more current data, including 2007 and 2008 estimates provided by

ESRI. The 2007 and 2008 estimates are utilized for reference purposes only to show changing trends in population since 2000.

Historic Conditions

The concept of “environmental justice” is rooted in Title VI of the Civil Rights Act of 1964, which prohibited discrimination based on race, color and national origin, and other nondiscrimination statutes as well as other statutes including the National Environmental Policy Act of 1969, the Uniform Relocations Assistance and Real Property Acquisition Policies Act of 1970, and 23 U.S.C Section 109 (h). In 1971, the Council on Environmental Quality’s (CEQ) annual report acknowledged racial discrimination adversely affects the environment of the urban poor. During the next ten years, activists maintained that toxic waste sites were disproportionately located in low-income and areas populated by “people of color.” By the early 1980s, the environmental justice movement had increased its visibility and broadened its support base (Commission for Environmental Equality 2009).

This led to the United Church of Christ (UCC) undertaking a nationwide study and publishing *Toxic Waste and Race in the United States* (UCC 1987). This eventually gained the attention of the federal government and in 1992 the U.S. Environmental Protection Agency’s (EPA’s) Office of Environmental Equity was established. In 1994, EJ was institutionalized within the federal government through Executive Order 12898 (EPA 1995a), which focused federal attention on human-health and environmental conditions in minority and low-income communities (EPA 1995a, 1995b, 1995c, 1995d). Executive Order 12898 requires greater public participation and access to environmental information in affected communities. The results of early efforts and research (UCC 1987) into EJ suggested that environmental amenities and toxic waste sites were not uniformly distributed among income groups, classes, or ethnic communities. Disparities of this nature may have been and continue to be the result of historical circumstances, lack of community participation, or simply inadequate or inappropriate oversight. Consequently, dialogue with some community groups were not conducted and their concerns not considered in the decision making process on local or federal actions.

Existing Conditions

According to the 2000 U.S. Census, and per requirements of Executive Order 12898 (E.O. 12898), it has been determined that the IER #12 Westbank Site N disposal area is not a minority community at 32.1 percent minority population and not a low-income area with 15.1 percent of its population below the poverty level. It is unlikely that the IER #12 Westbank Site N disposal area is an EJ area of concern.

In the Belle Chasse Tunnel project area, the levee on the south side of Algiers Canal runs through uninhabited area in its western half, along a residential area immediately west of Hwy. 23, and along a golf club and uninhabited area to the east of Hwy. 23. This residential area is not minority and/or low income in character, although a low income community is located within one mile (to the

East) of this section. It is unlikely that the Belle Chasse Tunnel floodwall construction project area is an EJ area of concern.

Discussion of Direct, Indirect and Cumulative Impacts

No-Action

Under the no action alternative, there would be no impacts to any minority and/or low-income communities as no minority and/or low-income communities have been identified in the study area. Therefore, no disproportionately high or adverse human health or environmental effects on minority or low-income populations would occur.

Proposed Action

Under the proposed action, there would be no impacts to any minority and/or low-income communities as no minority and/or low-income communities have been identified in the study area. Therefore, no disproportionately high or adverse human health or environmental effects on minority or low-income populations would occur.

3.5 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

Under ER 1165-2-132 the reasonable identification and evaluation of Hazardous, Toxic, and Radioactive Waste (HTRW) contamination within a proposed area of construction is required. ER 1165-2-132 identifies the CEMVN HTRW policy to avoid the use of project funds for HTRW removal and remediation activities. Costs for necessary special handling or remediation of wastes (e.g., Resource Conservation and Recovery Act [RCRA] regulated), pollutants and other contaminants, which are not regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), will be treated as project costs if the requirement is the result of a validly promulgated Federal, state or local regulation.

An ASTM E 1527-05 Phase I ESA entitled “Westbank N Borrow Area, Walker Road, Belle Chasse, Plaquemines Parish, Louisiana” submitted by Aerostar Environmental Services, Inc. on January 29, 2009 was completed for the proposed project area. A copy of the Phase I ESA referenced below will be maintained on file at the CEMVN office in New Orleans, and are incorporated herein by reference. Copies of the report are available by requesting them from the CEMVN, or accessing them at www.nolaenvironmental.gov.

Seven on-site concerns and two off-site concerns were found. Most of these would be unlikely to affect the proposed work site. However, an oil well was identified in the central portion of the site. This well should be avoided and marked on the plans as a “No Work Area”.

CEMVN personnel made a field inspection of Westbank Site N on 2 July 2010. No additional RECs or concerns were found, and no additional HTRW investigation is

needed, unless the project area changes. The Algiers Detention Basin, Belle Chasse Tunnel floodwall construction area was previously covered in the original IER #12 document under Section 3.5, Hazardous, Toxic and Radioactive Waste.

4. CUMULATIVE IMPACTS

NEPA requires a Federal agency to consider not only the direct and indirect impacts of a proposed action, but also the cumulative impacts of the action. A cumulative impact is defined as the “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR §1508.7).” Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. These actions include on- or off-site projects conducted by government agencies, businesses, or individuals that are within spatial or temporal boundaries of the actions considered in this IER Supplemental.

In addition to this IER, the CEMVN is preparing a draft Comprehensive Environmental Documents (CED) that will describe the work completed and the work remaining to be constructed. The purpose of the draft CED will be to document the work completed by the USACE on a system-wide scale. The draft CED will describe the integration of individual IERs into a systematic planning effort. Additionally, the draft CED will contain updated information for any IER that had incomplete or unavailable data at the time it was posted for public review. Overall cumulative impacts and future operations and maintenance requirements will also be included. The discussion provided below describes an overview of other actions, projects, and occurrences that may contribute to the cumulative impacts previously discussed.

At the time of the completion of IER #12, the USACE had identified two locations within the project area that would be suitable for the disposal of clean, cleared and grubbed material removed from the IER #12 project area. These two disposal options are consistent, to the maximum extent practicable, with the Louisiana Coastal Resources Program, which requires that dredged material be used beneficially when practicable. Two sites were discussed with the Interagency Team and are addressed in detail in IER #12. As construction on the IER #12 proposed actions progressed, a third site, Westbank Site N, was identified as a potential disposal site for clean material cleared and grubbed from the IER #12 project site.

At the time of the approval of the Decision Record for IER #12, 18 February 2009, 100% project design was not complete and the full extent of potential impacts on transportation were unknown. It was understood that large quantities of construction materials would be delivered to the project area, as well as to other ongoing 100-year level of risk reduction projects in the Greater New Orleans area. Since the 2009 approval of IER #12, a report titled “Transportation Report for the Construction of the 100- year Hurricane and Storm

Damage Risk Reduction System” was released in March, 2010 and is available on nolaenvironmental.gov.

There would be no adverse cumulative impacts on minority and/or low-income communities, as no such communities have been identified within the study area per 2000 U.S. Census information and requirements of E.O. 12898. Rather, the IER #12 Westbank Site N would contribute toward achieving and sustaining a coastal ecosystem that would support and protect the environment, local economy and culture of the region. Positive cumulative effects of implementing the proposed action would be the temporary expansion of the local economy by construction-related activities. Additionally, filling Westbank Site N would make available more land for economic use that would not be available if the pit were left filled with water. Anticipated cumulative impacts associated with the Belle Chasse Tunnel floodwall construction would be as previously described in IER #12.

Table 2 shows the cumulative compensatory mitigation that would be completed by the CEMVN. This table will be updated as potential impacts are assessed in forthcoming IERs.

Cumulative impacts for the actions considered in all of the IERs will be incorporated into the CED.

Table 4: HSDRRS Impacts and Compensatory Mitigation to be Completed

IER	Parish		Non-wet BLH	Non-wet BLH	BLH	BLH	Swamp	Swamp	Marsh	Marsh	EFH
			acres	AAHUs	acres	AAHUs	acres	AAHUs	acres	AAHUs	acres
1 LPV, La Branch Wetlands Levee	St. Charles	Protected Side	-	-	-	-	73.23	39.53	-	-	-
		Flood Side	-	-	-	-	38.48	29.73	-	-	
1 Supplemental LPV, La Branch Wetlands Levee	St. Charles	Protected Side	-	-	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	
2 LPV, West Return Floodwall	St. Charles, Jefferson	Protected Side	-	-	-	-	-	-	17.00	9.00	-
		Flood Side	-	-	-	-	-	-	17.00	9.00	
3 LPV, Jefferson Lakefront Levee	Jefferson	Protected Side	-	-	-	-	-	-	-	-	26.40
		Flood Side	-	-	-	-	-	-	-	-	
4 LPV, Orleans Lakefront Levee	Orleans	Protected Side	-	-	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	
5 LPV, Lakefront Pump Stations	Jefferson, Orleans	Protected Side	-	-	-	-	-	-	-	-	3.29
		Flood Side	-	-	-	-	-	-	-	-	
6 LPV, Citrus Lands Levee	Orleans	Protected Side	-	-	-	-	-	-	-	-	6.90
		Flood Side	-	-	-	-	-	-	4.00	-	
7 LPV, Lakefront Levee	Orleans	Protected Side	-	-	151.70	79.30	-	-	100.40	36.80	106.00
		Flood Side	-	-	30.00	11.90	-	-	70.00	37.20	
8 LPV, Bayou Dupre Control Structure	St. Bernard	Protected Side	-	-	-	-	-	-	-	-	0.30
		Flood Side	-	-	-	-	-	-	-	-	
10 LPV, Chalmette Loop	St. Bernard	Protected Side	-	-	38.32	16.44	-	-	106.55	57.31	95.00
		Flood Side	-	-	35.31	15.22	-	-	323.04	209.94	
11 Tier 2 Borgne TNC	Orleans, St. Bernard	Protected Side	-	-	-	-	-	-	-	-	-
		Flood Side	-	-	15.00	2.59	-	-	122.00	24.33	
12 GIWW, Harvey, Algiers	Jefferson, Orleans, Plaquemines	Protected Side	-	-	251.70	177.3	-	-	-	-	-
		Flood Side	-	-	2.30	1.90	74.90	38.50	-	-	
14 WBV, Westwego to	Jefferson	Protected Side	-	-	45.00	30.00	-	-	-	-	-
		Flood Side	-	-	45.50	18.58	29.75	17.02	-	-	
15 WBV, Lake Cataouatche Levee	Jefferson	Protected Side	-	-	23.50	6.13	-	-	-	-	-
		Flood Side	-	-	3.60	1.35	-	-	-	-	
16 WBV, Western Tie-in	Jefferson, St. Charles	Protected Side	-	-	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	137.80	66.30	
17 Company Canal Floodwall	Jefferson	Protected Side	-	-	5.50	2.69	-	-	-	-	-
		Flood Side	-	-	-	-	19.00	17.09	-	-	

IER	Parish		Non-wet BLH	Non-wet BLH	BLH	BLH	Swamp	Swamp	Marsh	Marsh	EFH
			<i>acres</i>	<i>AAHUs</i>	<i>acres</i>	<i>AAHUs</i>	<i>acres</i>	<i>AAHUs</i>	<i>acres</i>	<i>AAHUs</i>	<i>acres</i>
18 GFBM	Jefferson, Orleans, Plaquemines, St. Bernard, St. Charles	Protected Side	379.30	152.32	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
19 CFBM	Hancock County, MS; Iberville, Jefferson, Orleans, Plaquemines, St. Bernard	Protected Side	-	-	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
22 GFBM	Jefferson, Plaquemines	Protected Side	244.69	118.54	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
23 CFBM	Hancock County, MS; Plaquemines, St. Bernard, St. Charles	Protected Side	-	-	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
25 GFBM	Jefferson, Orleans, Plaquemines	Protected Side	933.00	284.00	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
26 CFBM	Jefferson, Plaquemines, St. John the Baptist; Hancock County, MS	Protected Side	-	-	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
28 GFBM	Jefferson, Plaquemines, St. Bernard	Protected Side	19.94	8.45	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
29 CFBM	Orleans, St. Tammany, St. John the Baptist	Protected Side	107.30	48.60	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
30 CFBM	St. Bernard and St. James; Hancock, MS	Protected Side	225.00	189.40	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
32 CFBM	Ascension, Orleans, Plaquemines, St. Charles	Protected Side	202.1	97.43	-	-	-	-	-	-	-
		Flood Side	-	-	-	-	-	-	-	-	-
Totals		Protected Side	2111.33	898.74	515.72	311.89	73.23	39.53	223.95	103.11	00.00
		Flood Side	-	-	131.71	51.54	162.13	102.34	673.84	346.77	230.99
		Both	2111.33	898.74	647.43	363.43	235.36	141.87	897.79	449.88	230.99

- Not applicable to the IER or number impacted is 0
GFBM: Government Furnished Borrow Material
CFBM: Contractor Furnished Borrow Material

5. SELECTION RATIONALE

The modifications proposed in this IER Supplemental were developed in order to provide an alternative location for the disposal of clean cleared and grubbed material that did not meet the specifications for the construction of the HSDRRS. After IER #12 was completed, the Westbank Site N borrow pit was proposed as an alternative disposal site due to its close proximity to the Gulf Intracoastal Waterway West Closure Complex surge barrier and the Hero Canal Levee alignment. Utilization of the Westbank Site N borrow pit as a disposal site could have beneficial impacts in the form of reduced truck traffic, noise and vibration, and vehicle and equipment emissions as well as a reduction in the wear of the transportation infrastructure including roads, bridges, and culverts. As such, it is environmentally preferable to the “no action” alternative.

Additionally, this amended IER Supplemental was developed to address the potential impacts to transportation, residents and businesses resulting from the floodwall construction around the Belle Chasse Tunnel associated with the Algiers Detention Basin risk reduction features outlined in IER #12.

At the time of the approval of the Decision Record for IER #12, 18 February 2009, 100% project design was not complete and the full extent of potential impacts on transportation were unknown. It was understood that large quantities of construction materials would be delivered to the project area, as well as to other ongoing 100-year level of risk reduction projects in the Greater New Orleans area. Since the 2009 approval of IER #12, a report titled “Transportation Report for the Construction of the 100- year Hurricane and Storm Damage Risk Reduction System” was released in March, 2010 and is available on nolaenvironmental.gov.

The CEQ regulations for implementing NEPA require that the Record of Decision (ROD) for an EIS specify "the alternative or alternatives which were considered to be environmentally preferable" (40 CFR §1505.2(b)). This alternative has generally been interpreted to be the alternative that would promote the national environmental policy as expressed in NEPA's Section 101 (CEQ's "Forty Most-Asked Questions," 46 Federal Register, 18026, March 23, 1981). Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources. The proposed action alternatives discussed herein are considered environmentally preferable.

6. COORDINATION AND CONSULTATION

6.1 PUBLIC INVOLVEMENT

Extensive public involvement has been sought in preparing this IER Supplemental. 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 the scope and process of the Alternative Arrangements for implementing NEPA between March 27 and April 12, 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.

On July 27, 2010, CEMVN hosted a public meeting in Belle Chasse in order to present the public with updates and the ongoing status of construction project in the area. The proposed construction of floodwalls around the Belle Chasse Tunnel and the closure of the Belle Chasse Tunnel were presented at that time. There were approximately 36 individuals in attendance and Power Point presentation of the meeting along with a summary of the discussion and the comments received may be found at www.nolaenvironmental.gov.

The draft IER Supplemental was sent out for public comment from September 3, 2010 until October 1, 2010 and there were two comments received during the initial review period. This amended draft IER Supplemental will also be distributed for a 30-day public review and comment period. A public meeting specific to the proposed action will be held during the review period for the purpose of answering questions and concerns regarding the proposed action. Any comments received during the initial comment period and during this second review period will be addressed at this time and all comments from both reviews, along with comments from the public meeting will be considered part of official record. After the 30-day comment period, and public meeting if requested, the CEMVN District Commander will review all comments received during the review period and make a determination if they rise to the level of being substantive in nature. If comments are not considered to be substantive, the District Commander will make a decision on the proposed action. This decision will be documented in an IER Decision Record. If a comment(s) is determined to be substantive in nature, an Addendum to the IER will be prepared and published for an additional 30-day public review and comment period. After the expiration of the public comment period the District Commander will make a decision on the proposed action. The decision will be documented in an IER Decision Record.

6.2 AGENCY COORDINATION

Preparation of this IER Supplemental 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 PDT 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, are receiving copies of this draft IER Supplemental:

- 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

The CEMVN received a draft programmatic Coordination Act Report from the USFWS dated July 24, 2010.

The U.S. Fish and Wildlife Service (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 letter dated June 28, 2010 that the proposed action would not have adverse impacts on T&E species under its jurisdiction. (Appendix D)

The USFWS had no recommendations on the proposed action

The Louisiana Department of Natural Resources (LDNR) reviewed the proposed action 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 August 6, 2010 (appendix D).

Section 106 of the National Historic Preservation Act, as amended, requires consultation with the Louisiana State Historic Preservation Officer (LASHPO) and Native American tribes. LASHPO reviewed the proposed action in IER #12, including the area containing Westbank Site N, and determined that it would not adversely affect any cultural resources. (Appendix D). Eleven federally recognized tribes that have an interest in the region were given the opportunity to review the proposed action. Three tribes, the Choctaw of Oklahoma, the Mississippi Band of Choctaw, and the Chitimacha tribe replied that they have no objection to the proposed action. (Appendix D)

Closures of the Belle Chasse Tunnel are being coordinated with the Louisiana Department of Transportation and Development. The design and alignment of the proposed floodwalls around the Belle Chasse Tunnel were closely coordinated with La. DOTD and Plaquemines Parish.

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. The CEMVN has partnered with Federal and state resource agencies to form an interagency mitigation team that is working to assess and verify these impacts, and to look for potential mitigation sites in the appropriate hydrologic basin. This effort is occurring concurrently with the IER planning process in an effort to complete mitigation work and construct mitigation projects expeditiously. As with the planning process of all other IERs, the public will have the opportunity to give input about the proposed work. These mitigation IERs will, as described in section 1 of this IER, be available for a 30-day public review and comment period.

No impacts have been identified that would require compensatory mitigation.

A complementary comprehensive mitigation IER or IERs will be prepared documenting and compiling these unavoidable impacts and those for all other proposed actions within the HSDRRS that are being analyzed through other IERs. Mitigation planning is being carried out for groups of IERs, rather than within each IER, so that large mitigation efforts could be taken rather than several smaller efforts, increasing the relative economic and ecological benefits of the mitigation effort.

This forthcoming mitigation IER will implement compensatory mitigation as early as possible. All mitigation activities will be consistent with standards and policies established in appropriate Federal and state laws, and USACE policies and regulations.

8. COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

Construction of the proposed action would not commence until the proposed action achieves environmental compliance with all applicable laws and regulations, as described below.

Environmental compliance for the proposed action will be achieved upon coordination of this IER with appropriate agencies, organizations, and individuals for their review and comments; USFWS and NMFS 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 (appendix D); coordination with the LASHPO (appendix D); receipt and acceptance or resolution of all Fish and Wildlife Coordination Act recommendations (appendix D); and receipt and acceptance or resolution of all LDEQ comments on the water quality and air quality impact analysis documented in the IER.

Consistency with Coastal Zone Management (CZM) Program. The CEMVN has determined that construction and maintenance of the proposed modifications to the 100-year level of risk reduction along the WBV, Westwego to Harvey Levee Project is consistent, to the maximum extent practicable, with the guidelines of the State of Louisiana's approved Coastal Zone Management Program. A modification to CZM consistency determination C20070509, was sent to LADNR dated June 21, 2010. The consistency determination concurrence was received from the LADNR on August 6, 2010.

Clean Water Act. The Clean Water Act (CWA; 33 U.S.C. 1251-1387; Act of June 30, 1972, as amended) is a very broad statute with the goal of maintaining and restoring waters of the United States. The CWA authorizes water quality and pollution research, provides grants for sewage treatment facilities, sets pollution discharge and water quality standards, addresses oil and hazardous substances liability, and establishes permit programs for water quality, point source pollutant discharges, ocean pollution discharges, and dredging or filling of wetlands. The intent of the CWA's §404 program and its §404(b)(1) "Guidelines" is to prevent destruction of aquatic ecosystems including wetlands, unless the action would not individually or cumulatively adversely affect the ecosystem.

Endangered Species Act. The Endangered Species Act (ESA; 16 U.S.C. 1531-1543; Pub. L. 93-205, as amended) was enacted in 1973 for the purpose of providing for the conservation of species which are in danger of extinction throughout all or a significant portion of their range. "Species" is defined by the ESA to mean either a species, a subspecies, or, for vertebrates (i.e., fish, reptiles, mammals, etc.) only, a distinct population. No threatened or endangered species or their critical habitat would be impacted by the proposed action. The USFWS concurred with our determination in their letter dated June 28, 2010.

Fish and Wildlife Coordination Act. The Fish and Wildlife Coordination Act (16 U.S.C. 661-666c; Act of March 10, 1934, as amended) requires that wildlife, including fish, receive equal consideration and be coordinated with other aspects of water resource development. This is accomplished by requiring consultation with the USFWS and NMFS whenever modifications are proposed to a body of water and a Federal permit or license is required. This consultation determines the possible harm to fish and wildlife resources, as well as the measures that are needed to prevent the damage to and loss of these resources and to develop and improve the resources, in connection with water resource development. NMFS submits comments and recommendations to Federal licensing and permitting agencies conducting construction projects on the potential harm to living marine resources caused by the proposed water development projects, and submits recommendations to prevent harm. The USFWS provided the "Draft Fish and Wildlife Coordination Act Report for the Individual Environmental Reports (IER), Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (Supplemental 4)" in November 2007. To fulfill the responsibilities of the Fish and Wildlife Coordination Act, the USFWS will provide a post-authorization final supplemental 2(b) report to the draft programmatic

report. A draft project-specific Coordination Act Report for the IER Supplemental was received from the USFWS by letter dated July 24, 2010.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act of 1918 (MBTA) is the domestic law that affirms, or implements, the United States' commitment to four international conventions with Canada, Japan, Mexico, and Russia for the protection of shared migratory bird resources. The MBTA governs the taking, killing, possessing, transporting, and importing of migratory birds, their eggs, parts, and nests. The take of all migratory birds is governed by the MBTA's regulation of taking migratory birds for educational, scientific, and recreational purposes and requiring harvest to be limited to levels that prevent over-utilization. Section 704 of the MBTA states that the Secretary of the Interior is authorized and directed to determine if, and by what means, the take of migratory birds should be allowed and to adopt suitable regulations permitting and governing take. The MBTA prohibits the take, possession, import, export, transport, sale, purchase, barter, or offer for sale, purchase or barter, of any migratory bird, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR §21.11). The USFWS addressed compliance with this Act in the "Draft Fish and Wildlife Coordination Act Report for the Individual Environmental Reports (IER), Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (Supplemental 4)" in November 2007. To fulfill the responsibilities of the Fish and Wildlife Coordination Act, the USFWS will provide a post-authorization final supplemental 2(b) report to the draft programmatic report.

National Environmental Policy Act. The National Environmental Policy Act (NEPA; 42 U.S.C. 4321-4347; Pub. L. 91-190, as amended) requires Federal agencies to analyze the potential effects of a proposed Federal action that would significantly affect historical, cultural, or natural aspects of the environment. It specifically requires agencies to use a systematic, interdisciplinary approach in planning and decision-making, to insure that environmental values may be given appropriate consideration, and to provide detailed statements on the environmental impacts of proposed actions including: (1) any adverse impacts; (2) alternatives to the proposed action; and (3) the relationship between short term uses and long-term productivity. The agencies use the results of this analysis in their decision-making process. The preparation of this IER Supplemental is a part of complying with NEPA.

National Historic Preservation Act. Congress established the most comprehensive national policy on historic preservation with the passage of the National Historic Preservation Act of 1966 (NHPA). In this Act, historic preservation was defined to include "the protection, rehabilitation, restoration and reconstruction of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, or culture." The Act led to the creation of the National Register of Historic Places, a file of cultural resources of national, regional, state, and local significance. The act also established the Advisory Council on Historic Preservation (the Council), an independent Federal agency responsible for administering the protective provisions of the act. The major provisions of the NHPA are Sections 106 and 110. Both sections aim to ensure that historic properties are appropriately considered in planning Federal initiatives

and actions. Section 106 is a specific, issue-related mandate to which Federal agencies must adhere. It is a reactive mechanism that is driven by a Federal action. Section 110, in contrast, sets out broad Federal agency responsibilities with respect to historic properties. It is a proactive mechanism with emphasis on ongoing management of historic preservation sites and activities at Federal facilities. Coordination of this project with SHPO fulfills the requirements to comply with the NHPA, and the SHPO letter dated November 28, 2007 concludes this process.

9. CONCLUSIONS

9.1 INTERIM DECISION

The proposed Westbank Site N action consists of removing all borrow material suitable for use in the construction of the HSDRRS from the Westbank Site N area. The site would then be utilized for the deposition of clean, cleared and grubbed material removed during the construction of the West Closure Complex eastern floodwall and road realignment as well as the Hero Canal Levee. The CEMVN has assessed the environmental impacts of the proposed action and has determined that the proposed action would have the following impacts:

- There would be no significant environmental impacts as a result of the proposed action.

The proposed construction of floodwalls within the Algiers Detention basin would require temporary closures of the Belle Chasse Tunnel on LA 23. As discussed in IER #12, T-Walls would be constructed along the Algiers Canal on either side of the tunnel together with five vehicular access gates across LA 23 (three on the East and two on the West) and two railroad access gates (one on each side). The USACE proposes closing the Belle Chasse Tunnel for 3 weekend days over the course of 15 weekends in order to complete this risk reduction construction. This time period includes 1 full week (7 days) of 1 lane closure through the Belle Chasse Tunnel; the USACE proposes 3 additional potential weekend closures to allow for anticipated weather-related construction delays. During the closure of both lanes of the tunnel, the adjacent LA 23 Bridge would carry two-way traffic. Alternatively, motorists could use the Woodland Hwy Bridge on LA 406. The CEMVN has assessed the environmental impacts of the proposed action and has determined that the proposed action would have the following impacts:

- Construction of the floodwalls on either side of the Algiers Canal in the vicinity of the Belle Chasse Tunnel would have moderate to significant noise impacts on residents living closest to the project area;
- Closure of the Belle Chasse Tunnel could cause temporary but significant congestion-related impacts as discussed in Section 3.3.4 Effects on Transportation. According to the LADOTD, typical tunnel closures occurring on weekends, because of lower traffic counts, result in minimal traffic delays of about 5 minutes or less. Residents may choose to use alternative routes that would avoid crossing the GIWW. The area around the tunnel contains small businesses and restaurants located in mostly strip shopping centers. Customers of

these businesses could choose to avoid the area due to the traffic congestion resulting in potential, temporary business declines during periods of tunnel closure.

- Closure of the walking park will temporarily displace visitors. The closure is scheduled from approximately November 2010 through July 2011.
- Relocation of the Barriere Golf Course access road could cause temporary congestion-related impacts as discussed in Section 3.3.4 Effects on Transportation. Current access to the golf course via R Street would not be removed until the new access road is in place.
- This alternative would provide protection to businesses along the east bank of the Harvey Canal that would be left out of protection under the no action alternative

9.2 PREPARED BY

The point of contact and responsible manager for the preparation of this IER Supplemental is Patricia S. Leroux, CEMVN. The address of the preparer is: 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 lists the preparers of the various sections and topics in this IERS.

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APPENDIX A: LIST OF ACRONYMS AND DEFINITIONS OF COMMON TERMS

AG	- Algiers Gate
CED	- Comprehensive Environmental Document
CEMVN	- United States Army Corps of Engineers, Mississippi Valley Division, CEMVN
CEQ	- Council on Environmental Quality
CERCLA	- Comprehensive Environmental Response, Compensation, and Liability Act
DNL	- Day-Night Sound Level
dBA	- Decibels
EA	- Environmental Assessment
EIS	- Environmental Impact Statement
EPA	- Environmental Protection Agency
ER	- Engineer Regulation
ESA	- Environmental Site Assessment
FONSI	Finding of No Significant Impact
FPPA	- Farmland Protection Policy Act
FWCA	- Fish and Wildlife Coordination Act
GIWW	- Gulf Intracoastal Waterway
HSDRRS	- Hurricane and Storm Damage Risk Reduction System
HTRW	- Hazardous, Toxic, and Radioactive Waste
IER	- Individual Environmental Report
LA	- Louisiana

LASHPO	- Louisiana State Historic Preservation Officer
LCRP	- Louisiana Coastal Resource Program
LDEQ	- Louisiana Department of Environmental Quality
LDNR	- Louisiana Department of Natural Resources
LNHP	- Louisiana Natural Heritage Program
LORR	- Level of risk reduction
LPV	- Lake Pontchartrain Vicinity
NAAQS	- National Ambient Air Quality Standards
NEPA	- National Environmental Policy Act
NAVD 88	- North American Vertical Datum of 1988
NMFS	- National Marine Fisheries Service
PDT	- Project Delivery Team
PM	- Particulate Matter
PPA	- Project Partnering Agreement
RCRA	- Resource Conservation and Recovery Act
REC	- Recognized Environmental Conditions
ROD	- Record of Decision
ROW	- Right-of-Way
SPH	- Standard Project Hurricane
GIWW A	- Gulf Intracoastal Waterway South Gate A
WCC	- Gulf Intracoastal Waterway West Closure Complex
T&E	- Threatened and Endangered
U.S.	- Unites States of America

USACE - United States Army Corps of Engineers
USDA - United States Department of Agriculture
USFWS - United States Fish and Wildlife Service
USHUD - United States Department of Housing and Urban Development
WBV - West Bank and Vicinity of New Orleans
WRDA - Water Resources Development Act

APPENDIX B: PUBLIC COMMENT AND RESPONSES SUMMARY

This section will be completed once the 30 day public comment period has ended

APPENDIX C: MEMBERS OF INTERAGENCY ENVIRONMENTAL TEAM

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APPENDIX D: INTERAGENCY CORRESPONDENCE