

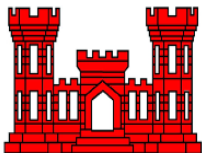
**FINAL ENVIRONMENTAL ASSESSMENT
AMITE RIVER AND TRIBUTARIES, LOUISIANA,
EAST BATON ROUGE PARISH WATERSHED
FLOOD RISK MANAGEMENT PROJECT**

**CLEARING AND SNAGGING OF LOWER JONES,
LOWER BAYOU FOUNTAIN AND LOWER WARD CREEKS
EAST BATON ROUGE PARISH, LOUISIANA**

EA #561



JUNE 2021



**U.S. Army Corps of Engineers
Mississippi Valley Division
Regional Planning and Environment Division South
New Orleans District**

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1. INTRODUCTION

The U.S. Army Corps of Engineers, Mississippi Valley Division (MVD), Regional Planning and Environment Division, South has prepared Environmental Assessment #561 (EA #561) titled “Amite River and Tributaries, Louisiana, East Baton Rouge Parish Watershed Flood Risk Management Project. Clearing and Snagging of Lower Jones, Lower Bayou Fountain and Lower Ward Creeks” in East Baton Rouge (EBR) Parish, Louisiana for the New Orleans District (CEMVN), to evaluate the potential impacts associated with the clearing and snagging of debris and vegetation for approximately 11.5 miles of stream channels in EBR Parish as a feature of the East Baton Rouge Parish Flood Risk Management Project.

The activities described in this EA #561 were previously studied in the February 1995 Amite River and Tributaries, Louisiana, East Baton Rouge Parish Watershed Flood Risk Management Project Environmental Impact Statement (EIS). Since the initial 1995 assessment, EBR Parish has experienced an increase in development and the area has transitioned from a rural setting with large amounts of undeveloped land, to a more densely populated urban setting containing subdivisions, buildings and roadways. EA #561 has been prepared to ensure that potential impacts from these changed conditions are considered. The primary objective of the authorized project is to reduce the risk of flood damages caused by rainfall flooding events. Upon completion of construction, the work in these waterways shall convey the equivalent of the flows as evaluated in 1995. The proposed work will convey the flows that are likely to occur during more frequent storm events, compared to the storm events that were considered in the original plan and addressed in the 1995 EIS.

All proposed work would be performed from within the channel. Barges and excavators would access the streams from temporary staging areas located at public access points. Approximately 111.8 acres of bottomland hardwood and approximately 155 acres of water bottoms would be permanently impacted by the proposed project’s clearing and snagging activities. Debris removed would be hauled by truck to the parish landfill.

EA #561 has been prepared in accordance with the National Environmental Policy Act of 1969 and the Council on Environmental Quality’s Regulations (40 CFR 1500-1508), as reflected in the US Army Corps of Engineers (USACE) Engineering Regulation ER 200-2-2. This EA #561 provides sufficient information on the potential adverse and beneficial environmental effects to allow the USACE Commander of CEMVN, to make an informed decision on the appropriateness of drafting an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

1.1 Project Name and Location

Project Name: Amite River and Tributaries, Louisiana, East Baton Rouge Watershed Flood Risk Management Project (Project).

Project Location: The project area is located in the lower portion of East Baton Rouge Parish, a parish located approximately 65 miles west of New Orleans, Louisiana.

The project areas are located in East Baton Rouge Parish, Louisiana. The entire parish encompasses 172,218 square miles of land and 455 square miles of water for a total size of 172,673 square miles. It includes the major cities of Baton Rouge (population: 440,059), Zachary (population: 17,949), Baker (population: 13,194), Greenwell Springs (population: 10,687), and Pride (population: 3,829). (www.census.gov, 8/6/2020)

The proposed project is similar to the 1984 Amite Rivers and Tributaries Flood Control Initial Evaluation Study by USACE; however, the project area has been limited to those areas that have been identified as impacted by backwater flooding which has the potential to increase localized flooding during heavy rainfall events.

1.2 Authority

The original Amite River and Tributaries, Louisiana, Flood Control Project was authorized by Congress in 1955 and completed by the Corps of Engineers in 1964. The project provided for enlargement of the Comite River from Cypress Bayou to its mouth, clearing and snagging the Amite River from the Comite River to Bayou Manchac, additional clearing and snagging in other portions of the Amite River Basin, and a diversion channel from the Amite River to Lake Maurepas through Blind River. A resolution adopted on April 14, 1967, by the United States Senate Committee on Public Works directed the Board of Engineers for Rivers and Harbors to review

"...whether the existing project should be modified [with] additional improvements for flood control and related purposes, on Amite River, Bayou Manchac, and Comite River, and their tributaries."

In response to that resolution, a Preliminary Evaluation Report was prepared by the Corps of Engineers in May 1972. Four reservoir plans, two diversion plans, and four channel improvement plans were evaluated. All plans were determined to be economically infeasible and the study was placed in an inactive status in February of 1974.

Following major floods in the area in 1973, 1977, 1979, and 1983, the Corps of Engineers prepared the 1984 Amite River and Tributaries Initial Evaluation Report on Flood Control under the authorizing resolution for the previous study. That study recommended further, detailed investigations and suggested separation of the Amite River and Tributaries study into four components: the East Baton Rouge Parish Study, the Comite River Diversion Study, the Livingston Parish Study, and the Ascension and Iberville Parishes study. The Corps completed the Comite River Diversion Study and has received authorization for construction of that project. The Corps completed the feasibility study for East Baton Rouge in February of 1995.

The Amite River and Tributaries, Louisiana, East Baton Rouge Parish Watershed Flood Risk Management Project within the Parish of East Baton Rouge, Louisiana was authorized by Section 101 (21) of the Water Resources Development Act of 1999, Public Law 106-53, as modified by Division D, Section 116 of the Consolidated Appropriations Resolution of 2003, Public Law 108-7, and Section 3074 of the Water Resources Development Act of 2007, Public Law 110-114.

The Bipartisan Budget Act of 2018, H. R. 1892—13, Title IV, Corps of Engineers—Civil, Department of the Army, Investigations, made funds available for the expenses related to the completion, or initiation and completion, of flood and storm damage reduction, including shore protection studies, which are currently authorized or which are authorized after the date of enactment of this act, to reduce risk from future floods and hurricanes.

The EBR Parish Flood Risk Management Project is eligible for this funding, based on the August 2016 flooding over southeast and south-central Louisiana

1.3 Non-Federal Sponsor

The non-federal sponsor (NFS) is the single entity referred to as “the City of Baton Rouge and the Parish of East Baton Rouge.” A Project Partnership Agreement was executed on November 7, 2019.

1.4 Purpose and Need for the Proposed Action

The purpose of the proposed action is to help reduce the risk of flood damages caused by out of bank flooding during heavy rainfall by the clearing and snagging of Lower Jones, Lower Bayou Fountain and Lower Ward Creeks, in East Baton Rouge Parish, Louisiana. The proposed action was originally part of the recommended plan in the 1995 Amite River and Tributaries, Louisiana, East Baton Rouge Parish Watershed Flood Risk Management Project EIS that proposed solutions to help reduce flood damages along the tributaries of the Amite and Comite rivers.

Numerous floods have occurred within the EBR Parish. The principle flood source in the parish is caused by excessive rainfall events which results in headwater and backwater overflow of the Amite River and Comite River and their tributary streams. Besides the flooding directly caused by the Amite and Comite rivers, the major tributaries that are affected by backwater include Jones Creek, Claycut Bayou, and Bayou Manchac. The backwater of Bayou Manchac, which forms the southern boundary of the parish, in turn affects Ward Creek and Bayou Fountain. Backwater from the Comite River also causes major flooding to its tributaries, which consist of Draughan Creek, Beaver Bayou, Shoe Creek, Blackwater Bayou, Hurricane Creek, and lower Cypress Bayou.

Since completion of the 1995 EIS, the existing conditions in the project area have changed significantly due to residential and commercial development (see section 3.1), thus warranting re-analysis. As the result of this development, the Project will convey flows arising from storm events that occur more frequently than the storm events that were originally considered in 1995.

This EA addresses the plans for clearing and snagging of Lower Bayou Fountain (LBF), Lower Jones Creek (LJC) and Lower Ward Creek (LWC).

An SEIS will be prepared to re-evaluate other portions of the project as further study of potential impacts is required to complete additional work within those other stream channels.

1.5 Prior NEPA Documents

Information and data on previous and existing EBR Parish projects were derived from the following reports, which are incorporated herein by reference:

EA #182 – Mississippi River Baton Rouge to the Gulf of Mexico, Louisiana, Channel Training, Soft Dike Demonstration Project, Additional Borrow Areas, East Baton Rouge Parish, Louisiana – Construction of a soft dike demonstration project at Red Eye Crossing within Mississippi River Mile 223.1 and 224.4, Above Head of Passes, Louisiana. FONSI: March 26, 1993.

EA #189 – Mississippi River Baton Rouge to the Gulf of Mexico, Louisiana, Channel Training, Soft Dike Demonstration Project, Additional Borrow Areas, East Baton Rouge Parish, Louisiana – Designated two additional borrow areas for construction of a soft dike demonstration project at Red Eye Crossing within Mississippi River Mile 223.1 and 224.4, Above Head of Passes, Louisiana. FONSI: June 3, 1993.

Amite River and Tributaries Louisiana, East Baton Rouge Watershed and Flood Control Projects, Feasibility Study and Environmental Impact Statement investigating the feasibility of providing flood protection for the residents in the Amite River Basin. February 1995.

EA #222 – Amite River and Tributaries Louisiana, Comite River Basin, Revision of Comite Diversion Authorized Plan – Implement Design Level refinements to an authorized diversion to reduce flooding in East Baton Rouge and Livingston Parishes. FONSI: December 18, 1995.

EA #222A – Supplemental EA, Lilly Bayou Control Structure, Phase 1, East Baton Rouge Parish, Louisiana – Increased the number of acres being impacted by construction of the Lilly Bayou Control Structure by 149, 127 of which were bottomland hardwood. FONSI: December 20, 2002.

EA #356 – Baker Canal Emergency Streambank Protection Project, Section 14, East Baton Rouge Parish, Louisiana – Stabilization of severely eroded segment of stream embankment along Baker Canal. FONSI: October 29, 2002.

EA #504 – Mississippi River and Tributaries Project, Mississippi River Levees, Duncan Point Seepage Control, East Baton Rouge Parish, Louisiana. Evaluate the potential impacts associated with the proposed construction of 1,600 feet of berm to control seepage landward of the mainline Mississippi River levee. FONSI: September 8, 2011.

EA #576, “Bipartisan Budget Act Construction Projects; West Shore Lake Pontchartrain, Comite River Diversion, and East Baton Rouge Flood Risk Management, BBA Construction Mitigation”. FONSI: April 12, 2020.

1.6 Public Concerns

The City of Baton Rouge and the inhabitants in the surrounding parish of EBR have expressed concerns about the future damages to residences and business as well as loss of economic revenue from potential flooding resulting from future rainfall events.

2. ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 Proposed Action

The proposed action consists of clearing and snagging a total of approximately 11.5 miles in the Lower Bayou Fountain (LBF), Lower Ward Creek (LWC) and Lower Jones Creek (LJC) stream channels in East Baton Rouge Parish, Louisiana (Figure 1, Appendix B).

Clearing and snagging for flood control consists of the removal of woody and herbaceous vegetation and debris from stream channels and banks to increase their hydraulic capacity. The action involves the removal of all obstructions from the channel (snagging) and the removal of all significant vegetation within a specified width on both sides of the channel (clearing). The purpose of the proposed modifications is to help reduce localized flooding caused by out of bank stages that occur during rainfall events.

Lower Bayou Fountain Improvements:

The proposed plan for LBF consists of clearing and snagging approximately 4.6 miles of channel (Figure 2, Appendix B). The proposed improvements would begin work would begin 1,700 feet west of I-10, and continue upstream to Burbank Drive and are designed to reduce flood damages in the immediate area caused by headwater flooding in the stream channel. It is anticipated stage lowerings of up to 1 foot would occur within the stream channel. A total of approximately 40.1 acres (33.27 average annual habitat units (AAHUs)) of existing bottomland hardwood (BLH) would be permanently impacted by the proposed action in LBF with approximately 37 acres (32.39 AAHUs) from clearing and snagging activities, approximately 1.52 acres (.42 AAHUs) from staging and approximately 1.6 acres (.46 AAHUs) from access points.

Staging areas:

There are two (2) temporary staging areas, totaling approximately 9 acres, associated with the LBF portion of the proposed action. LBF staging area #1 is approximately 4.3 acres and can be accessed directly from Burbank Drive (Figure 3, Appendix B). This previously developed area has been converted to open grassland and is surrounded by a chainlink fence. The southern portion of the staging area would be cleared for direct access to the creek, impacting approximately 1 acre (.28 AAHUs) of BLH. LBF staging Area #2 is approximately 4.7 acres and can be accessed directly from Highland Road (Figure 4, Appendix B). Access to LBF creek would be along the southern portion of the staging area. This area is located in an open area in the eastern end of the Highland Community Park, which is operated by the Recreation and Park Commission for the Parish of East Baton Rouge (BREC). An area along the southern portion of the staging area, located next to the creek, would be cleared for access directly to the creek, impacting approximately .52 acres (.14 AAHUs) of BLH.

Access:

The clearing and snagging activities in LBF would also require the construction and use of a temporary gravel access corridor, which would impact approximately 1.6 acres (.46 AAHUs) of BLH. The proposed access corridor is 50 feet wide and would be accessed directly from the channel (Figure 5, Appendix B). The corridor would be located on the right descending bank and is approximately 5,280 feet downstream of Burbank Drive. Additional clearing for the access corridor shall be limited to the minimum required for access from the channel. The temporary access corridor shall be returned to pre-construction condition or better upon completion of construction activities.

Lower Jones Creek Improvements:

The proposed plan for LJC consists of clearing and snagging approximately 3.3 miles of channel (Figure 6, Appendix B). Proposed modifications would begin at the point where the LJC branches off from the Amite River and continue upstream to O'Neal Lane and are designed to reduce flood damages in the immediate area caused by headwater flooding in the stream channel. It is anticipated stage lowerings of up to 4 feet would occur within the stream channel. A total of approximately 36 acres (27.23 AAHUs) of existing BLH would be permanently impacted by the proposed action in LJC with approximately 32 acres (26.30 AAHUs) from clearing and snagging activities and approximately 4 acres (.93 AAHUs) from staging.

Staging areas:

There are three (3) temporary staging areas, totaling approximately 4 acres in size, associated with the LJC portion of the proposed action. LJC staging area #1 is can be accessed directly from O'Neal Lane (Figure 7, Appendix B). The entire staging area would be cleared of all vegetation, which would impact approximately 2.0 acres (.38 AAHUs) of BLH.

LJC staging area #2 is approximately 1.0 acre of grassland, fringed with BLH, and is positioned along the edge of Jones Creek, on the western side of the Woodlake Drive Bridge (Figure 8, Appendix B). This staging area would be cleared of all vegetation, which would impact approximately 1.0 acre (.275 AAHUs) of BLH. The southern portion of the staging area, which runs alongside LJC and contains no vegetation, would be utilized as a direct access point to the channel.

LJC staging area #3 is approximately 1.0 acre in size, located on the eastern side of the Woodlake Drive Bridge (Figure 8, Appendix B). LJC staging area #3 would need to be cleared of all vegetation, including the section along the southern portion of the staging area which would be used for direct access to the channel. Clearing activities would impact approximately 1.0 acre (.275 AAHUs) of BLH.

Lower Ward Creek Improvements:

The proposed plan for LWC consists of clearing and snagging approximately 3.3 miles of channel (Figure 9, Appendix B). Proposed modifications begin 4,000 feet upstream of the mouth of Bayou Manchac and continue to 1,200 feet upstream of Pecue Lane and

are designed to reduce flood damages in the immediate area caused by headwater flooding in the stream channel. It is anticipated stage lowerings of up to 3 feet would occur within the stream channel. The proposed improvements would begin 4,000 feet upstream of Bayou Manchac and continue upstream stopping 1,200 feet upstream of Pecue Lane. A total of approximately 35.7 acres (24.83 AAHUs) of existing BLH would be permanently impacted by the proposed action in LWC with approximately 31 acres (23.71 AAHUs) from clearing and snagging activities, approximately 4.20 acres (1.02 AAHUs) from staging and approximately .50 acres (.10 AAHUs) from access points.

Staging areas:

There are four (4) temporary staging areas, totaling approximately 48.1 acres, associated with the LWC portion of the proposed action. LWC staging areas #1 and #2 are located on either side of the Pecue Lane Bridge. Staging area #1 measures approximately 3.0 acres and staging area #2 measures approximately 5.2 acres in size (Figure 10, Appendix B). Access directly to LWC would occur on the southern portion of both staging areas, impacting approximately .50 acres (.37 AAHUs) and .80 acres (.44 AAHUs) of BLH respectively.

Staging area #3 is approximately 29.8 acres and is located behind Pecue Properties, LLC, off LeCrete Lane (Figure 11, Appendix B). In order to access the staging area from LeCrete Lane, a 25 foot wide temporary gravel access corridor would be established along the southern portion of the staging area. Trees along the bank of the canal in the northern section of the staging area would be cleared for the purposes of direct equipment access and debris removal from the channel, impacting approximately 1.87 acres (.44 AAHUs) of BLH. In addition to being utilized for stockpiling of debris removed from the LWC stream channel, staging area #3 would also be used for the temporary storage of construction related equipment, materials, debris stockpiles, and office trailers. LWC staging area #3 would also include the temporary placement of stone gravel for parking, office pads, channel access points, and truck wash-down racks.

LWC staging area #4 is approximately 10.1 acres and can be accessed from Highland Road via a 100 foot access corridor located on the northwest side of the staging area or from Highway 61 via a 50 foot gravel access corridor located on the northeast side of the staging area (Figure 12, Appendix B). The northwest side of the staging area, which runs along the bank of LWC, would be cleared for direct access to the channel for the purposes of equipment access and debris removal, impacting approximately .66 acres (.21 AAHUs) of BLH.

Access:

The clear and snagging activities in LWC would also require the construction and use of a temporary gravel access corridor. The proposed access corridor is 50 feet wide (approximately 0.50 acres) and would be accessed directly from the channel. The corridor would be located on the right descending bank and is approximately 4,000 feet downstream of I-10 and approximately 2,100 feet upstream of Barringer Foreman Road (Figure 13, Appendix B). Additional clearing for the access corridor shall be limited to the

minimum required for access from the channel. The temporary access corridor shall be restored to pre-construction condition or better upon completion of construction activities.

ALL SITES:

The proposed action within all stream channels involves the clearing, felling, trimming, and cutting of trees and other vegetation, including downed timber, stumps, roots, brush, piling, riprap, abandoned structures, fencing, and similar debris, and their removal off site. Clearing and snagging activities are not expected to impair bank stability. Cleared trees shall be cut off no more than two (2) inches from the natural ground surface and shall be felled in such a manner as to avoid impacting bank stability and to avoid damage to trees to be left standing and to existing structures and installations and to those areas under construction. Vegetation to be removed shall consist of crops, grass, bushes, and weeds. Close growing grass and other vegetation shall be mowed and shall not exceed two (2) inches above natural ground surface. All stumps and exposed roots, over 1-1/2 inches in diameter, shall be cut to two (2) inches above the natural ground surface. Herbicide, in accordance with the manufacturer's label, shall be applied to the top surface of stumps that would remain in place to ensure re-sprouting does not occur.

Unless otherwise specified, all proposed work would be performed from within the channels, from top of bank to top of bank. The top of bank is described as the point where an abrupt change in slope is evident, which can vary between 90 feet and 120 feet wide (LBF), 100 feet and 160 feet wide (LJC) and 100 feet and 120 feet wide (LWC). However, if a tree not located in the clearing and snagging corridor has limbs which are growing down into the channel, thus interfering with work or impeding flow, those limbs would be removed (not the whole tree). All injuries to bark, trunk, limbs, and roots of trees, on top of bank, would be repaired with bituminous based paint (of standard manufacture) specially formulated for tree wounds and would be applied in accordance with manufactures specifications. Debris removed would be hauled by truck to the parish landfill. It is anticipated that the clearing and snagging work would be accomplished using chain saws, brush cutters, floating barges and excavators.

Work is expected to take approximately 410 days in LBF, 400 days in LJC, and 280 in LWC. In the event of a heavy rainfall event during construction, all equipment and personnel will be removed from any of the channels to prevent any impacts from their activities or loss of equipment or injury to personnel.

Across all three locations, a total of approximately 111.8 acres of BLH (85.33 AAHUs) and approximately 155 acres of water bottoms would be permanently impacted from the proposed clearing and snagging activities. All permanent impacts associated with the proposed actions will be mitigated and can be referenced in EA #576 which can be found on the New Orleans District website at

<https://www.mvn.usace.army.mil/Missions/Environmental/NEPA-Compliance-Documents/Bipartisan-Budget-Act-2018-BBA-18/West-Shore-Lake-Pontchartrain/>

All temporary modifications associated with the proposed actions (i.e. staging areas, access corridors, wash-down racks, parking, and office pads) shall be restored to pre-

construction conditions, to include seeding and fertilizing of all disturbed areas, upon completion of construction activities.

2.2 No-Action Alternative (Future without Project (FWOP))

NEPA requires that in analyzing alternatives to a proposed action, a federal agency must consider an alternative of “No Action.” The Future without Project (FWOP) conditions consider the proposed action would not be implemented and the predicted additional environmental gains (e.g. flood risk reduction) would not be achieved. The FWOP conditions would include lower tax revenues as property values decline due to higher risk of damage from flooding events over time. Higher risk of damage from flooding could manifest itself in higher premiums for flood insurance under FEMA’s National Flood Insurance Program: higher premiums are expected to increase the cost of property ownership and result in correspondingly lower market values.

Without implementation of the proposed action, other federal, state, local, and private restoration efforts may still occur within or near the proposed project area. If any future projects were implemented, it is expected they would only aid in improving risk reduction for localized flooding in the project area.

3 AFFECTED ENVIRONMENT

3.1 Description of the Study and Project Areas

Study Area

The study area is East Baton Rouge Parish, in the State of Louisiana (Figure 14, Appendix B). The parish falls across four (4) watersheds; the Amite River watershed, the Comite River watershed, the Colyell watershed and the Bayou Manchac watershed, all of which are within the central portion of the Amite River Basin. EBR Parish is bordered on three sides by these natural waterways. The Amite River marks the eastern boundary of the parish, and flows north to south, receiving all the water from Bayou Manchac and the Amite River watershed. The Mississippi River marks the western boundary and separates EBR Parish from West Baton Rouge Parish. Bayou Manchac, formerly a tributary of the Mississippi River, is the southern boundary and drains much of the southern part of the parish. The Comite River, the largest tributary of the Amite River, also runs along the eastern portion of the parish and empties into the Amite River just north of US Route 190 (Florida Boulevard).

EBR Parish has grown rapidly during the past 25 years with the population of the parish increasing from 398,661 in 1995 to 440,059 in 2019. Urbanization is evident throughout the parish and has led to drastic changes in land use patterns and impacted natural resources. Former rolling woodlands, bottomland hardwood forest, wetlands and small farms have been converted to a suburban setting of houses, shopping centers and small businesses. The north half of the parish shows substantial development west of the Comite River in the cities of Baker and Zachary with ongoing development in the Central area. West of the Comite River and north of the pocket development in Central, the parish

has substantial wetlands, forest, and cultivated land. To the south, EBR Parish contains development from the Mississippi River to the parish line in the east.

In the western region of the parish, closest to the Mississippi River, petrochemical plants, bulk cargo facilities, grain elevators and refineries have turned the banks of the Mississippi River into an industrial corridor from Baton Rouge to New Orleans. Flanking the plants are subdivisions and commercial developments covering areas that were once utilized for agriculture (Penland et al., 2002).

Project Areas

The three (3) project areas, LBF, LWC and LJC, which are addressed in this EA, are located in the southern portion of EBR Parish, south of Interstate 12. All three streams ultimately empty into the Amite River. Jones Creek flows directly into the Amite, while Ward Creek and Bayou Fountain flow into Bayou Manchac. Bayou Manchac flows into the Amite River. (Figure 1, Appendix B)

Bayou Fountain

Bayou Fountain is a 12.3 mile long channel that begins at the Baton Rouge Lakes, just outside of downtown Baton Rouge. Once connected to the Mississippi River, Bayou Fountain flows in a southeasterly direction between the natural levee of the Mississippi River to the west and the Pleistocene Terrace to the east, emptying onto Bayou Manchac. Clearing and snagging activities to improve flow and drainage is proposed for the lower 4.6 miles of the channel, which lies between Burbank Drive and Bayou Manchac.

Jones Creek

Jones Creek is a tributary of the Amite River and is located in the eastern and southeastern portion of EBR Parish. Major tributaries of Jones Creek include Jones Creek Tributary, Lively Bayou, Lively Bayou Tributary, and Weiner Creek. The drainage area of Jones Creek and its tributaries is about 26 square miles. Proposed modifications are to the lower portion of Jones Creek and consist of clearing and snagging approximately 3.3 miles of channel beginning at the mouth of the Amite River and continuing upstream to O'Neal Lane.

Ward Creek

Ward Creek is a major tributary of Bayou Manchac and is located in the central and southeastern portion of EBR Parish and flows in a southerly direction changing to a southeasterly direction as it approaches the corporate limits. It begins in the north central portion of Baton Rouge and flows in a southeasterly direction into Bayou Manchac. The drainage area of Ward Creek is about 45 square miles and it includes the tributaries of Dawson Creek, Bayou Duplantier, and North Branch of Ward Creek. Clearing and snagging activities to improve flow and drainage is proposed for the lower 3.3 miles of the channel, which lies between the mouth of the creek and Pecue Lane.

3.1.1 Climate

The climate in southeast Louisiana is influenced by the water surfaces of the numerous wetlands, rivers, lakes, and streams. Warm, moist southeasterly winds from the Gulf of Mexico prevail throughout most of the year, with occasional cool, dry fronts dominated by northeast high pressure systems. Average monthly temperatures vary from 51.2 °F in January to 82.0 °F in July. Winter nighttime lows below freezing are common, as are summer daytime highs in the mid-90s. Normal annual precipitation for the area is 61 inches, although for the period 1980 through 1991 rainfall averaged 64 inches a year. The wettest month is December with an average monthly normal rainfall of 6.14 inches. October is the driest month averaging 3.50 inches. High cumulative rainfall events (e.g., 6 inches or more in less than 72 hours) over large areas are caused under two typical scenarios: slow moving cold fronts encountering warm moist coastal air in late-winter or early spring; and slow moving tropical storms in summer or early fall. Snow is uncommon (Dance et al. 1968; NOAA 2015).

Hurricanes and tropical storms typically occur in the area between June and November. Summer thunderstorms are common, and tornadoes strike occasionally. These storms are of short duration and are quite variable in the amount and location of damage incurred. The occurrence of tropical depressions, tropical storms, and hurricanes bring heavy rains that last up to several days. These storms typically cause alterations to the hydrologic regimes causing damage and loss of property and contribute to coastal land loss.

3.1.2 Geology and Soils

Landforms in the area are reflective of over one million years of regional alluvial erosion-depositional cycles associated with Quaternary transgressive deltaic processes of lower Mississippi River. This alluvial system deposited continental loads of sediment—to thicknesses of hundreds of feet—during interglacial episodes, and then eroded stream valleys within these deposits by near similar depths during the glacial periods. This repetitive process produced a set of regional “stairsteps” that begins at its base with the current Holocene floodplain swamps and natural levees and proceeds up (generally northward) a series of older terraces. The overlying soils within the area closely parallel the geological formations and all soil types are alluvial in nature.

The southern portion of EBR Parish, which is where the proposed actions would occur, is within the Prairie Complex, a geological formation that reaches a thickness of 500 feet and is characterized by rolling hills that are dissected by various streams and drainages, (Autin et al 1991b:556).

The Prairie Complex and other Pleistocene Terrace formations developed between about 1.5 million and 13,000 years before present (B.P.) during Pleistocene interglacial periods, when the northern glaciers melted and sent huge volumes of water through the inland drainage system. The Pleistocene was characterized by several cooling and warming phases, each of which had its effect on the sedimentation rate of the Mississippi, and thus the topography of Baton Rouge. As glacial ice melted, sea levels rose. This increase in sea level gradually decreased the gradient of the Mississippi River, and thus, reduced its

rate of flow. At approximately 12,000 B.P. the Mississippi River increased in volume, but decreased in speed of flow, and began to meander (Autin et al. 1991b:561). During this period the river deposited the eroded Pleistocene terrace soils downstream and contributed to the creation of the alluvial plain. This floodplain can be identified by its fluvial, colluvial, and deltaic, deposits.

A complex network of local faults have been documented in the area and include the Denham Springs Fault, The Scotlandville Fault and the Baton Rouge Fault (Figure 12, Appendix B). The Baton Rouge Fault, which is located in the southern portion of the parish, serves as an important block to northward encroachment of saline groundwater into the important reservoirs of very high quality fresh groundwater. While these fault lines are noted as active, movement along the faults has not generally been traumatic and they have not been demonstrated to be seismic (LSU.edu). Rather, they have been shown to cause damage to roads, pavement, and building structures gradually, over periods of decades.

3.2 Relevant Resources

The resources described in this section are those recognized as significant by laws, executive orders (EOs), regulations, and other standards of federal, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public.

Table 1 provides summary information of the institutional, technical, and public importance of resources located in the EBR Parish project area. Table 2 contains a list of the relevant resources located in the project area and describes those resources that would be impacted, directly or indirectly, by construction.

Table 1: Relevant Resources and Their Institutional, Technical, and Public Importance

Resource	Institutionally Important	Technically Important	Publicly Important
Aquatic Resources	Fish and Wildlife Coordination Act of 1958, as amended; Clean Water Act of 1977, as amended; Coastal Zone Management Act of 1972, as amended; and the Estuary Protection Act of 1968	They are a critical element of many valuable freshwater and marine habitats; they are an indicator of the health of the various freshwater and marine habitats; and many species are important commercial resources.	The high priority that the public places on their esthetic, recreational, and commercial value.
Wetlands	Clean Water Act of 1977, as amended; Executive Order 11990 of 1977, Protection of Wetlands; Coastal Zone Management Act of 1972, as amended; and the Estuary Protection Act of 1968., EO 11988, and Fish and Wildlife Coordination Act.	They provide necessary habitat for various species of plants, fish, and wildlife; they serve as ground water recharge areas; they provide storage areas for storm and flood waters; they serve as natural water filtration areas; they provide protection from wave action, erosion, and storm damage; and they provide various consumptive and nonconsumptive recreational opportunities.	The high value the public places on the functions and values that wetlands provide. Environmental organizations and the public support the preservation of marshes.
Soils and Water Bottoms	Fish and Wildlife Coordination Act, Marine Protection, Research, and Sanctuaries Act of 1990	State and federal agencies recognize the value of water bottoms for the production of benthic organisms.	Environmental organizations and the public support the preservation of water quality and fishery resources.

Resource	Institutionally Important	Technically Important	Publicly Important
Essential Fish Habitat (EFH)	Magnuson-Stevens Fishery Conservation and Management Act of 1996, Public Law 104-297	Federal and state agencies recognize the value of EFH. The Act states, EFH is “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.”	Public places a high value on seafood and the recreational and commercial opportunities EFH provides.
Wildlife	Fish and Wildlife Coordination Act of 1958, as amended and the Migratory Bird Treaty Act of 1918	They are a critical element of many valuable aquatic and terrestrial habitats; they are an indicator of the health of various aquatic and terrestrial habitats; and many species are important commercial resources.	The high priority that the public places on their esthetic, recreational, and commercial value.
Threatened and Endangered Species	The Endangered Species Act of 1973, as amended; the Marine Mammal Protection Act of 1972; and the Bald Eagle Protection Act of 1940	USACE, USFWS, NMFS, NRCS, EPA, LDWF, and LDNR cooperate to protect these species. The status of such species provides an indication of the overall health of an ecosystem.	The public supports the preservation of rare or declining species and their habitats.
Cultural Resources	National Historic Preservation Act of 1966, as amended; the Native American Graves Protection and Repatriation Act of 1990; and the Archeological Resources Protection Act of 1979	State and federal agencies document and protect sites. Their association or linkage to past events, to historically important persons, and to design and construction values; and for their ability to yield important information about prehistory and history.	Preservation groups and private individuals support protection and enhancement of historical resources.
Recreation Resources	Federal Water Project Recreation Act of 1965 as amended and Land and Water Conservation Fund Act of 1965 as amended	Provide high economic value of the local, state, and national economies.	Public makes high demands on recreational areas. There is a high value that the public places on fishing, hunting, and boating, as measured by the large number of fishing and hunting licenses sold in Louisiana; and the large per-capita number of recreational boat registrations in Louisiana.
Aesthetics	USACE ER 1105-2-100, and National Environmental Policy Act of 1969, the Coastal Barrier Resources Act of 1990, Louisiana’s National and Scenic Rivers Act of 1988, and the National and Local Scenic Byway Program	Visual resources are technically important because of the high value placed on the preservation of unique, geological, botanical and cultural features that may be an asset to a study area.	Aesthetic resources are publically important in that environmental organizations and the public support the preservation of natural pleasing vistas.
Air Quality	Clean Air Act of 1963, Louisiana Environmental Quality Act of 1983	State and federal agencies recognize the status of ambient air quality in relation to the NAAQS.	Virtually all citizens express a desire for clean air.
Water Quality	Clean Water Act of 1977, Fish and Wildlife Coordination Act, Coastal Zone Mgt Act of 1972, and Louisiana State & Local Coastal Resources Act of 1978	USACE, USFWS, NMFS, NRCS, EPA, and State DNR and wildlife/fishery offices recognize value of fisheries and good water quality and the national and state standards established to assess water quality.	Environmental organizations and the public support the preservation of water quality and fishery resources and the desire for clean drinking water.
Noise	USACE ER 1105-2-100, and National Environmental Policy Act of 1969, Noise Control Act of 1972, Quiet Communities Act of 1978	Unwanted noise has an adverse effect on human beings and their environment, including land, structures, and domestic animals and can also disturb natural wildlife and ecological systems.	The EPA must promote an environment for all Americans free from noise that jeopardizes their health and welfare.
Environmental Justice	EO 12898 of 1994, DoD Strategy on Environmental Justice of 1995	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 of all people with respect to environmental and human health consequences of federal laws, regulations, policies, and actions.

Table 2: Relevant Resources In and Near the Project Area

Relevant Resource	Impacted	Not Impacted
Aquatic Resources	X	
Wetlands	X	
Soils and Water Bottoms	X	
Essential Fish Habitat		X
Wildlife	X	
Threatened and Endangered Species		X
Cultural		X
Recreational	X	
Visual (Aesthetics)	X	
Air Quality	X	
Water Quality	X	
Noise	X	
Environmental Justice		X
HTRW		X

3.2.1 Aquatic Resources

Existing Conditions

The value of the aquatic resources of Jones Creek, Ward Creek and Bayou Fountain are low quality due to the urban nature of the surrounding area. The channels of the area almost exclusively provide very poor habitat for fish except for those species that can survive in waters of very low dissolved oxygen. Water quality deteriorates as runoff from urban areas joins waters of the aquatic habitat. Habitat quality of the extreme lower portion of each of the streams is slightly better due to the backwater influence of the receiving stream. However, as a result of the overall degraded nature of the streams, aquatic habitat is considered to be poor.

3.2.2 Wetlands

Existing Conditions

Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas” (33 C.F.R. § 328.3[b]) (Regulatory Programs of the Corps of Engineers 1986).

Much of the project area once consisted almost entirely of bottomland hardwood deciduous forest, mixed hardwood forest, and cypress swamps. Past human interventions have significantly modified the vegetative communities within and around EBR Parish where the setting is now largely urban. The local hydrology has been altered through development activities which have fragmented and reduced large acreages of wetlands within the watersheds. Extensive portions of the land surface has been paved and developed, removing the native vegetation and replacing the remaining open areas

with ornamental flora. Many of the urban streams and canals have been channelized, making them straighter, deeper, and lined with concrete in order to accommodate increased runoff.

For example, BREC's Bluebonnet Swamp Nature Center, which is located 1.5 miles north of the LBF project area, lost 50% of its wetlands during the period 1941-2001. As a result, the 40-acre wetland has undergone increased sedimentation, resulting in lower water storage capacity and increased nearby flooding (Faulkner 2004).

3.2.3 Essential Fish Habitat

Existing Conditions

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), defines essential fish habitat (EFH) as “...*those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.*” In cooperation with the Gulf of Mexico Fisheries Management Council (GMFMC), EFH has been identified for hundreds of marine species managed in the southeast region. Also, highly migratory species, such as tunas, billfish, and sharks, are managed by the NOAA Fisheries Highly Migratory Species (HMS) Branch and have EFH designations in areas of the southeast as well.

The Magnuson-Stevens Act requires federal agencies to consult with NOAA Fisheries when their activities, including permits and licenses they issue, may adversely affect EFH and respond to recommendations for protecting and conserving EFH. At its most basic, an EFH consultation consists of a federal agency providing NOAA Fisheries with an EFH Assessment, and NOAA Fisheries responding with EFH Conservation Recommendations followed by the federal agency's response to NOAA Fisheries' recommendations.

There are no known federally managed species likely to occur in the proposed project areas, therefore an EFH consultation is not necessary. There will be no discussion of impacts to this resource in the Environmental Consequences section.

3.2.4 Wildlife

Existing Conditions

Louisiana serves as a permanent or temporary home to over 900 species of vertebrate animals and an unknown number of invertebrates (Lester et al. 2005). From its coastal marshes to its interior pine-dominated landscapes, the state offers habitat to a variety of wildlife in numbers seldom exceeded elsewhere. The abundance of individual species varies regionally and is influenced by prevailing environmental conditions (e.g., salinity regimes, water depth, tidal fluctuations, and vegetational communities). Natural and human-induced changes produce drastic changes in habitat and the species composition of animal communities using them (Chabreck 1988).

Biologically diverse as the area may be, many of the species and habitats critical to wildlife are declining. Research indicates that hunting data show that hunters are not the cause of this decline. Rather, habitat loss is the true source of the decline of these species and numerous nongame species (Lester et al. 2005). Factors that threaten habitat also influence populations of these declining species, and these threats must be addressed in order to stop the declines (Lester et al. 2005).

EBR Parish is home to a number of animals adapted to urban conditions, including raccoons (*Procyon lotor*), opossums (*Didelphis marsupialis*), nine-banded armadillos (*Dasypus novemcinctus*), coyotes (*Canis latrans*), white-tailed deer (*Odocoileus virginianus*), eastern gray squirrels (*Sciurus carolinensis*) and various species of snakes and turtles. Over 100 species of common birds are also present (LDWF 2011). Wooded lands along the channels provide habitat for several species of songbirds, as well as owls, squirrels, rabbits, and mink.

3.2.5 Threatened, Endangered and Protected Species

Existing Conditions

Within the State of Louisiana, there are 41 threatened and endangered (T&E) or at risk species (some with critical habitat) under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS). Of those 41 species, 3 occur in EBR Parish (Table 3).

While there have been no documented sightings on recent visits, T&E species that are known or believed to occur within the study area are the Inflated (Alabama) Heelsplitter (*Potamilus inflatus*), West Indian manatee (*Trichechus manatus*) and the Atlantic sturgeon (Gulf species) (*Acipenser oxyrinchus oxyrinchus*). A biological assessment of these species may be found in Appendix C. The only protected species that has the potential to occur in the project area is the bald eagle.

Table 3: T&E Species Occurring in East Baton Rouge Parish

Common Name	Scientific Name	Occurrence	Group	Status
West Indian Manatee	<i>Trichechus manatus</i>	Seasonal	Mammal	T
Atlantic Sturgeon	<i>Acipenser oxyrinchus oxyrinchus</i>	Known	Fish	T
Alabama Heelsplitter	<i>Potamilus inflatus</i>	Known	Mollusk	T

* <https://www.fws.gov/southeast/pdf/fact-sheet/louisiana-ecological-services-field-office-t-and-e-species.pdf> (accessed March 25, 2020)

T = Threatened; E = Endangered; CH = Critical habitat (includes those areas occupied by the species)

West Indian Manatee (*Trichechus manatus*)

West Indian Manatees are listed as threatened under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). They are large, elongated marine mammals, typically greyish in color, with paired flippers and a large, spoon-shaped tail. Manatees can reach lengths of over 14 feet and weights of over 3,000 pounds.

Manatees inhabit marine, brackish, and freshwater systems in coastal and riverine areas from Florida to the Greater Antilles and suitable habitats in Central and South America, however during the summer, manatees expand their range, and on rare occasions are seen as far north as Massachusetts on the Atlantic coast and as far west as Texas on the Gulf coast. Preferred habitats include areas near the shore featuring underwater vegetation like seagrass and eelgrass. They feed along grass bed margins with access to deep water channels.

The manatee has been observed in the coastal waters of Louisiana and occasionally enter Lakes Pontchartrain and Maurepas, and associated coastal waters and streams during the summer months (i.e., June through September). Manatee occurrences appear to be increasing, and they have been regularly reported in the Amite, Blind, Tchefuncte, and Tickfaw Rivers, and in canals within the adjacent coastal marshes of Louisiana.

While the manatee can be found in the EBR Parish study area, it is unlikely that they would be found in the project areas due to lack of vegetation for foraging and the shallow water depths in the area which would hinder movement.

Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*)

The Atlantic sturgeon (Gulf species) is an anadromous fish that was listed as threatened throughout its range on September 30, 1991. It has five rows of bony plates known as scutes that run along its body. The snout has four slender, soft tissue projections, called barbels, in front of its mouth and the tail is like a shark's where one side, or lobe, is larger than the other. Atlantic sturgeon are slow-growing and late-maturing, and have been recorded to reach up to 14 feet in length and up to 60 years of age.

Atlantic sturgeon live in all saltwater habitats, except during the winter when it is found in rivers that empty into the Gulf of Mexico. They are bottom feeders and primarily prey on insects, crustaceans, mollusks, annelids (worms), and small fishes. They are found from the Mississippi River delta east to Suwannee River, Florida. In Louisiana, most occurrence records have been in the Pearl, Bogue Chitto, and Tchefuncte Rivers. They are likely to be found also in any large river located within the Lake Pontchartrain drainage

Atlantic sturgeon adults and subadults typically spend the three to four of the coolest months of the year foraging in estuaries or Gulf of Mexico waters before migrating into coastal rivers to spawn and spend the warm summer months. This migration typically occurs from mid-February through April. Most adults arrive in the rivers when temperatures reach 70 degrees Fahrenheit and spend eight to nine months each year in the rivers before returning to estuaries or the Gulf of Mexico by the beginning of October.

On March 19, 2003, the FWS and the National Marine Fisheries Service (NMFS) published a final rule in the Federal Register (Volume 68, No. 53) designating critical habitat for the Gulf sturgeon in Louisiana, Mississippi, Alabama, and Florida.

The proposed project however, does not occur within an area that contains sturgeon nor would it impact designated sturgeon critical habitat.

Inflated (Alabama) Heelsplitter (*Potamilus inflatus*)

The inflated heelsplitter is a large freshwater mussel listed as threatened by the USFWS. It has an oval, compressed to moderately inflated, thin shell with a maximum length of 5 ½ inches. The heelsplitter is brown to black in color with pink to purple nacre. Young individuals may exhibit green rays in their coloring. This species prefers a soft, stable substrate in slow to moderate currents. It has been found in sand, mud, silt and sandy-gravel, but not in large or armored gravel. They are filter feeders that extract plankton and detritus by pumping water through their siphons.

Historically, the heelsplitter has been reported as occurring in the Tangipahoa River as well as the Amite River in Louisiana. It has not been reported as occurring in the Comite River. The range of the inflated heelsplitter consists of Alabama, Louisiana, and Mississippi. As with other mussel species, fish hosts are likely required. The species which may serve as hosts are unknown.

Conversion of habitat by impoundment, sand and gravel mining in the Amite River and, to a limited extent, by channel maintenance, has reduced the range of this species. It could be extirpated from the Amite River if sand and gravel mining activities continue to affect habitat quality in the stream channel to the degree that mussel beds are covered with dredge disposal. The occasional inflated heelsplitter that is taken by a dredge is probably of little consequence to the entire population of this species.

The section between the juncture of the Amite River and LJC to Woodlake Drive has been identified as habitat for the inflated heelsplitter. Potential impacts to the habitat are addressed in Section 4.

Species of Special Interest

Bald Eagle (*Haliaeetus leucocephalus*)

Although it was officially removed from the List of Endangered Species on August 8, 2007, the bald eagle is still protected under the Bald and Golden Eagle Protection Act (BGEA) and the Migratory Bird Treaty Act (MBTA). Major threats to this species include habitat alteration, human disturbance, and environmental contaminants (i.e., organochlorine pesticides and lead).

The bald eagle is a large bird of prey weighing between 8 and 14 pounds, with a wingspan between 5 and a half and 8 feet. Both male and female adult eagles have a dark brown body and wings, a white head and tail and a yellow beak. Juvenile bald eagles have mottled brown and white plumage, gradually acquiring their signature adult plumage by the age of five.

Bald eagles nest in Louisiana from October through mid-May in mature trees (e.g., bald cypress, sycamore, willow, etc.) near fresh to intermediate marshes or open water in the southeastern parishes. Nest sites typically include at least one perch with a clear view of the water or area where the eagles usually forage. Habitats suitable for use by the bald eagle are present throughout coastal Louisiana, and can be found in the project area.

Breeding bald eagles occupy “territories” that they will typically defend against intrusion by other eagles, and that they likely return to each year. Eagles exhibit nest site fidelity and will use a productive nest year after year adding new material to it each year. A pair of eagles may use a nest until the nest itself becomes so large that the tree can no longer support it. In such a case, the pair might build a nest in the same territory, nearby the previous nest. Potential nest trees within a nesting territory may, therefore, provide important alternative bald eagle nest sites. Bald eagles are vulnerable to disturbance during courtship, nest building, egg laying, incubation, and brooding. Disturbance during this critical period may lead to nest abandonment, cracked or unincubated eggs, and exposure of small young to the elements. Human activity near a nest late in the nesting cycle may also cause flightless birds to jump from the nest tree, thus reducing their chance of survival.

There were no nests observed during site visits performed in 2019 and in 2020 in the project area, however there may be nests present that were not visible from access points or are not currently listed in the database maintained by the Louisiana Department of Wildlife and Fisheries.

The USFWS developed the National Bald Eagle Management (NBEM) Guidelines to provide landowners, land managers, and others with information and recommendations to minimize potential project impacts to bald eagles, particularly where such impacts may constitute “disturbance,” which is prohibited by the BGEPA. A copy of the NBEM Guidelines is available at:

<http://www.fws.gov/southeast/es/baldeagle/NationalBaldEagleManagementGuidelines.pdf>.

Those guidelines recommend: (1) maintaining a specified distance between the activity and the nest (buffer area); (2) maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers); and (3) avoiding certain activities during the breeding season. On-site personnel should be informed of the possible presence of nesting bald eagles within the project boundary, and should identify, avoid, and immediately report any such nests to this office. If a bald eagle nest is discovered within or adjacent to the proposed project area, then an evaluation is required to determine whether the project is likely to disturb nesting bald eagles, which could be conducted on-line at: <http://www.fws.gov/southeast/es/baldeagle>. Following completion of the evaluation, additional consultation would be conducted, if necessary, to ensure compliance with the BGEPA.

3.2.6 Water and Sediment Quality

Existing Conditions

In general, water quality concerns are related to urbanization in the parts of the area where flood risk reduction measures are proposed. Water quality in the creeks and tributaries is influenced by non-point source agricultural runoff and by residential and commercial point sources. Urban storm water runoff is the largest contributor to degraded water quality in the creeks. Storm water discharges often result in greater magnitudes and frequencies of peak flows on impacted water bodies due to an increase in the

coefficient of runoff and a decrease in concentration time. During rain events, storm water can increase the chance of flooding and sediment loading in the Bayou Fountain, Jones and Ward creeks. Storm water discharge often contains contaminants, which could further impact water quality.

3.2.7 Cultural Resources

Existing Conditions

Background and literature review was conducted by CEMVN staff in June 2020 and September 2020. Historic properties in the project vicinity were identified based on a review of the National Register of Historic Places (NRHP) database, the Louisiana Cultural Resources Map, historic map research, and a review of cultural resources survey reports. The literature review revealed that there has been an extensive reconnaissance level cultural resources survey of the majority of the APE in 1997, 1998, and 2000 (Wells and Lee 1997; Roberts 1998; and Hinks et al.1990). These three reconnaissance level cultural resources surveys were done for the project. Subsequent to these survey efforts, there have been several more intensive survey efforts, which are detailed below. The staging areas were not subjected to any survey. CEMVN has currently (September 2020) contracted Coastal Environments, Inc. to conduct surveys at each of the staging and access areas, the results of which are forthcoming and will be utilized to define areas of avoidance or protection, based on previous consultation with the LA SHPO and appropriate federally-recognized tribes.

The project areas are presented individually below, reporting the historic properties in the vicinity of the channel clearing activity. CEMVN's research indicates there are no historic properties within the channel clearing portions of the projected Area of Potential Effects for the project (APE) (see below for specifics).

Lower Bayou Fountain

In the vicinity of this portion of the project, there were two reconnaissance surveys: Harlan and Smith 2008 surveyed 6.5 acres (2.6 ha) of a proposed housing development north of the bayou (LDOA Report # 22-3137) and Saltus and Green 2010 surveyed areas towards the west end of the project (LDOA Report #22-3547). Intensive surveys have been undertaken also in the vicinity of Bayou Fountain. Wells and Lee 1997 conducted an intensive cultural resources survey along a 2.6 mile long corridor 200 feet wide, that did not identify any significant cultural resources (Wells and Lee 1 SHPO report 22-2068). Those to the south of the bayou include a 12 acre (5 ha.) survey of the proposed Williams subdivision (McLaughlin 1993 LDOA report # 22-1733), an 87 acre (35 ha.) survey along Burbank Drive (Shuman and Shuman 2017 LDOA report # 22-5709), a 45 acre (18 ha.) residential complex on Burbank at Lee (Parish et al. 2011 LDOA report # 22-3862), another survey on Burbank totaling 33 acres (13 ha.) (Mendoza and Shuman 2018 LDOA report # 22-6034), and a 9,000 foot (2743 meter) long force main by Shuman and Taylor in 2010 (LDOA report # 3441). Intensive surveys on roads that cross Fountain Bayou were conducted on South Starling Lane and Burbank Drive by Shuman and Jones in 2007 (LDOA report # 22-2940). There are 17 archaeological sites within one mile of Bayou

Fountain (Table 2), but all of these sites are outside of the proposed project area and would be avoided by project related activities.

National Register properties within 1-mile of the APE (Table 4) from east to west are: Mount Hope Plantation House, Planter's Cabin, Joseph Petitpierre-Kleinpeter House, and Broussard House (Table 4). The Mount Hope Plantation House was constructed in the mid-nineteenth century. Galleries extend along three sides of this farm house and the few modifications are in keeping with the original style. Due to the expansion of suburbia along Highland road, the National Register boundaries were set close to the house to exclude modern out buildings. The Planter's Cabin is a one and a half story Creole structure built about 1810. Although it was moved a short distance in the 1940s, it retains original context of a bousillage cabin and is the better preserved of the two that remain in East Baton Rouge Parish regardless it was removed from listing on December 6, 2016. The Petitpierre House is a Creole plantation house that was built between 1800 and 1820. Even though it was moved 3.5 miles to the west in the 1980s it has undergone extensive renovation to emulate original style. The Broussard House was built in 1927; it is one and half stories with a winding staircase in the turret. There have been few alterations since original construction and was listed on the NRHP on July 10, 2003. None of the recorded historic structures are within the project footprint.

Table 4: LBF, Archeological Sites and Standing Structures within 1-mile of APE

Site Number/Address	Name or Site Type	NRHP Status
16EBR001		Undetermined
16EBR003	Mitchell village	Undetermined
16EBR004	Prehistoric cemetery Knox Place	Eligible
16EBR005		Undetermined
16EBR018		Undetermined
16EBR022	Prehistoric cemetery	Eligible
16EBR031		Undetermined
16EBR036		Undetermined
16EBR051	Lee Site	NRHP LISTED
16EBR065	Klein Peter-Knox house	Eligible
16EBR067	Sarah Peralta site	NRHP LISTED
16EBR077		Undetermined
16EBR089		Undetermined
16EBR100		Undetermined
16EBR190	Highland Cemetery	Eligible
16EBR196		Undetermined
16EBR198	Longwood Historic Cemetery	Eligible
16EBR202		Ineligible
16EBR216	Arlington Baptist Church (demolished)	Ineligible
cemetery	Laboring Society Cemetery	Eligible
4512 Highland Road	Broussard House -	report 22-1467
5544 Highland Road	Joseph Petitpierre-Kleinpeter House	Eligible
7815 Highland Road	Planter's Cabin	removed 12/6/2016
8151 Highland Road	Mount Hope Plantation House	Eligible

Additionally, a reconnaissance cultural resources assessment conducted throughout the APE (Hinks et al. 1990 LDOA Report # 22-1467) did not locate any archaeological sites, standing structures, or other historic properties in the APE. The two proposed staging areas will be investigated for the presence of cultural resources and the findings utilized to define areas of avoidance or protection, if necessary. This approach is based on previous consultation with the LA SHPO and appropriate Federally-recognized Tribes, see Environmental Commitments in Section 7.

Lower Jones Creek

In the vicinity of this portion of the project, Pye et al. 2016 (LDOA Report # 22-5907) conducted a survey that crossed Lively Bayou, Old Hammond Highway, and South Flannery Road. Intensive survey of two proposed drainage improvements by Roberts (1998, LDOA Report # 22-2197) included shovel testing and auger boring at 16EBR13 (discussed in the context of the APE) and 16EBR26. Additionally, a fragment of a mastodon tooth has been uncovered from the river bed near the Episcopal High School and recorded as site 16EBR200 (Table 5). The site is approximately 1.5 miles from the proposed project and would be avoided. Additionally, reconnaissance survey has also been undertaken on Weiner Creek (LDOA Report # 22-1467) from the Jones confluence eastward to Airline Highway (US 61). Also, all the recorded structures within 1-mile of the APE are of undetermined NRHP-eligibility, but would not be affected by the proposed project's affects.

Table 5: LJC, Archeological Site and Standing Structure within 1-mile of the APE

Site Number/Address	Name or Site Type	NRHP Status
16EBR013	Jones Creek Site	Not Eligible in Channel Area
16EBR026	Palmer site	Not Eligible in Channel Area
16EBR188		Undetermined
16EBR200	Mastodon Jones Creek bed	Undetermined
cemetery	Knox cemetery	Undetermined
17-01776/ Old Hammond Highway	LA 426 Lively Bayou Bridge, Historic Bridge built in 1958	Undetermined
17-01777/ Old Hammond Highway	LA 426 Jones Creek Bridge, Historic Bridge built in 1958	Undetermined
17-01778/ South Flannery Road	Lively Bayou Bridge, Historic Bridge built in 1965	Undetermined
17-01779/ 12380 Old Hammond Highway	House built ca. 1929	Undetermined
17-01780/ 2124 Elwick Drive	House built circa 1953-1963	Undetermined
17-01781/12451 Old Hammond Highway	House built ca. 1900-1925	Undetermined
17-01782/12923 Old Hammond Highway	built ca. 1953-1963 moved > 1939	Undetermined
17-01783/ 13035 Old Hammond Highway	House built circa 1950s	Undetermined
17-01784/13045 Old Hammond Highway	House built circa 1953-1963	Undetermined

17-01785/13279 Old Hammond Highway	House built circa 1950-1960	Undetermined
17-01786/14120 Old Hammond Highway	Used Auto Sales Lot circa 1945-1953	Undetermined
17-01787/ 14110 and 14130 Old Hammond Hwy.	Commercial Bldg. circa 1953-1963	Undetermined
17-01788/14142 Old Hammond Highway	House built circa 1953-1963	Undetermined
17-10789/ 14212 Old Hammond Highway	House built circa 1953-1963	Undetermined
17-01790/ 14216 Old Hammond Highway	House built circa 1953-1963	Undetermined
17-01791/ 14286 Old Hammond Highway	House built circa 1953-1963	Undetermined
17-01792/ 1180 South Flannery Road	Sherwood Church built ca. 1953-1970	Undetermined
17-01793/ 1240 South Flannery Road	House built circa 1950-1960	Undetermined
17-01794/ 1260 South Flannery Road	House built circa 1953-1963	Undetermined
17-01795/ 1280 Flannery Road	House built circa 1950-1960	Undetermined
17-02395/1359 Wellington Drive	House built 1969	Undetermined
17-02407/382 Ponderosa Drive	House built circa 1968	Undetermined
17-02414/ 867 Ponderosa Drive	House built circa 1963	Undetermined
17-02506/3612 Lake Lauberge Court	Weiner Creek structure	Undetermined

Reconnaissance survey has been undertaken throughout the entire Jones Creek reach of the APE (Hinks et al. 1990, LDOA Report # 22-1467) locating several archaeological sites (Table 5). Following the initial effort, CEMVN contracted Coastal Environments, Inc. (Roberts 1998, LDOA Report # 2197) to conduct an intensive phase I survey of two archaeological sites that were identified in/adjacent to the Jones Creek channel. One of these sites, the Jones Creek Site (16EB13), is located within the APE. While the site is currently listed as “undetermined” on the NRHP-database maintained by the Louisiana Division of Archaeology, CEMVN reviewed the findings in the report and continues to maintain the determination that the portions of the site within the channel/project area are Not Eligible for the National Register of Historic Places. This determination is based on a Phase II archaeological NRHP assessment from the 1990s that SHPO concurred with. Further, there is indications in the report that the LA SHPO concurred with that determination in 1998. The three proposed staging areas will be investigated for the presence of cultural resources and the findings utilized to define areas of avoidance or protection, based on previous consultation with the LA SHPO and appropriate Federally-recognized Tribes, see Environmental Commitments in Section 7.

Lower Ward Creek

In the vicinity of this portion of the project, intensive surveys have been conducted on highways that cross Ward Creek along Highland Road (Shuman and Jones 2007, LDOA Report # 22-2940), and a more extensive investigation along Pecue Lane and Interstate 10 (Parrish et al. 2015, LDOA Report # 22-5151). Intensive survey was undertaken also on I-10 across Ward Creek and Essen Lane by Atkins et al. 2018 (LDOA Report # 22-6013). Survey for a communication tower covered a small area (0.063 acres) on the North Branch of the creek (Spry 2010, LDOA Report # 22-3688).

There are nine recorded archaeological sites within 1-mile of Ward Creek (Table 6). Test excavations were conducted in 1996 at the Ward Creek Ridge site (16EBR77). That investigation was undertaken on a 1.2 acre (0.49 ha) part of the site to be impacted by borrow pits and outfall channels for the Mall of Louisiana expansion (Shuman, et al. 1996 LDOA Report # 22-2002). While that part of the site on the Mall of Louisiana property was deemed ineligible for the NRHP, much of the site has yet to be evaluated. Survey of the Picardy Avenue extension three years later produced artifacts at 16EBR77 (Kistler 1999, LDOA Report # 22-2233). That part of Picardy Avenue proposed for the center of 16EBR77 was shovel tested. Shovel tests recovered only historic artifacts with a single pre-contact flake recovered from the surface. All of these sites are outside of the proposed project area and would not be impacted by the proposed action.

Table 6: LWC, Archaeological Sites and Standing Structures within 1-mile of the APE

Site Number/Address	Name or Site Type	NRHP Status
16AN023		Undetermined
16EBR036		Undetermined
16EBR077		Undetermined
16EBR078		Undetermined
16EBR093		Undetermined
16EBR199	Bible and Little Misery cemetery	Undetermined
16EBR202		NRHP ineligible
16EBR212		Undetermined
16EBR213		Undetermined
17-01595/ 4912 Essen Lane	House built circa 1965	Undetermined
17-01596/4898 Essen Lane	Pump Station 58 built 1961	Undetermined
17-02363/8675 Sholar Drive	House built circa 1960-1970	Undetermined
17-02408/3911 Chelsea Drive	House built circa 1956	Undetermined
17-02409/3931 Chelsea Drive	House built circa 1969	Undetermined
17-02410/3954 Chelsea Drive	House built circa 1957	Undetermined
17-02415/ 9084 South Contour Dr	House built circa 1960	Undetermined
17-02506/ 3612 Lake Lauberge Ct	Weiner Creek structure	Undetermined
cemetery	Cann Cemetery	Undetermined

Throughout the Ward Creek reach APE a cultural resources reconnaissance survey was conducted (Hinks et al.1990, LDOA Report # 22-1467). No historic properties were recorded within the APE. The four proposed staging areas, as well as the one access area, will be investigated for the presence of cultural resources and the findings utilized to consult with the LA SHPO and appropriate federally-recognized tribes prior to release of the final EA and FONSI, see Environmental Commitments in Section 7.

In summary, a literature search for historic properties that includes the proposed action has been undertaken for Lower Bayou Fountain, Lower Jones Creek, and Lower Ward Creek and no NRHP-eligible historic properties were located within the current APE. Under the proposed undertaking, necessary cultural resource surveys of the proposed staging and access areas are being carried out. Aside from the staging and access areas, it is unlikely that any additional intact historic or pre-contact archaeological deposits or cultural resources are within the APE.

3.2.8 Recreational Resources

Existing Conditions

The study area is within Region 2 of the Louisiana Statewide Comprehensive Outdoor Recreation Plan (SCORP). East Baton Rouge Parish has approximately 179 parks and 10.35 square miles of park area according to the Recreation and Park Commission for the Parish of East Baton Rouge (BREC). These facilities are managed by BREC, whose mission is “to contribute to a healthier, more vibrant community by providing exceptional parks, open spaces and recreational experiences for all of East Baton Rouge Parish.” See Appendix G, Table G-1 for a listing of BREC parks and recreation facilities.

BREC’s Capital Area Pathways Project (CAPP) is an initiative to identify routes and build a network of connecting trails and greenways throughout East Baton Rouge Parish. (Figure G-1, Appendix G) The BREC Commission approved the Proposed Parish Trails Master Plan on October 22, 2015 which identifies trail corridors that provide access to BREC parks and other points of interest in the community. The Blueways trails effort, part of CAPP, provides paddling access to parish waterways. BREC’s first launch in 2017 provides access to Bayou Fountain at Highland Road Community Park. See Appendix G, for figures of existing and proposed BREC Blueways.

According to the United States Department of the Interior National Park Service Land & Water Conservation Fund (LWCF), over 60 recreation projects within East Baton Rouge Parish have received approximately \$3.8 million in support between 1965 and 2015. Section 6(f)(3) of the L&WCF Act assures that once an area has been funded with L&WCF assistance, it is continually maintained in public recreation use unless National Park Service (NPS) approves substitution property of reasonably equivalent usefulness and location and of at least equal fair market value. See Appendix G, Table G-2 for a listing of projects funded by the LWCF within the study area. Of particular note is Highland Road Community Park, which received \$211,053.56 from the LWCF in 1979.

“The Outdoor Industry Association reports that active outdoor recreation contributes \$12.2 billion annually in consumer spending to Louisiana’s economy and supports 103,000 jobs. These jobs generate \$3.4 billion in wages and salaries and produces \$893 million annually in state and local tax revenue. The U.S. Census Bureau reports that each year over 1.2 million people participate in hunting, fishing, and wildlife watching in Louisiana contributing \$2 billion to the state economy.” (www.lwcfcoalition.org: State Fact Sheets May 2019)

3.2.9 Visual Resources (Aesthetics)

Existing Conditions

East Baton Rouge Parish is almost entirely within the Baton Rouge Terrace ecoregion. This ecoregion encompasses East Baton Rouge Parish from the Mississippi River and extends eastward into Livingston Parish. Natural vegetation consists of upland hardwoods to the northwest, hardwood flatwoods and spruce pine-hardwood mixed forests across extensive broad flats, and many areas of bottomland hardwoods. Large

areas of the mixed pine-hardwood forest have now been cleared for pasture, cropland, and urban uses. Urban uses cover about fifty percent of the region. [Daigle, J.J., Griffith, G.E., Omernik, J.M., Faulkner, P.L., McCulloh, R.P., Handley, L.R., Smith, L.M., and Chapman, S.S., 2006, Ecoregions of Louisiana (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,000,000)]

Land use in the study area ranges from hardwood forest concentrations and undeveloped land primarily in the northern extents. More developed land uses have traditionally radiated eastward from the Mississippi River at downtown Baton Rouge and along Airline Highway and Florida Boulevard. The Parish is organized into distinct neighborhoods and districts connected by commercial corridors which eventually commence downtown at the River. "Traditional neighborhoods built before the 1950's feature a grid pattern of streets with small lots and have commercial and service uses integrated into the neighborhood fabric. Neighborhoods built in the 1960's have a discontinuous street pattern and are more auto-oriented, consisting of single-family homes on large lots, shopping centers and parks." (Future EBR Comprehensive Plan, Land Use Page 7, Adopted December 5, 2018) Major waterways in the study area include the Mississippi River, Comite River, Amite River, and Bayou Manchac.

The Great River Road National Scenic Byway provides the primary source of visual access on the West side of the project area and adjoining lands. The designation by the US Department of Transportation Federal Highway Administration recognizes archeological, cultural, natural, recreational and scenic qualities of River Road from Minnesota to Louisiana. Additionally, Louisiana Department of Wildlife and Fisheries (LDWF) Scenic Rivers Program preserves, protects, develops, reclaims, and enhances the wilderness qualities, scenic beauties, and ecological regimes of designated free-flowing Louisiana rivers, streams, bayous, and segments thereof. The Comite River in northcentral EBR Parish carries this Natural and Scenic River designation while Bayou Manchac along the southern boundary of EBR Parish, carries a Historic and Scenic River designation.

3.2.10 Air Quality

Existing Conditions

National air quality standards have been set by the Environmental Protection Agency (EPA) for six common pollutants (also referred to as criteria pollutants). Table 8 lists these pollutants which include ozone, particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. States are required by the law and regulations to report to the EPA annual emissions estimates for point sources (major industrial facilities) emitting greater than, or equal to, 100 tons per year of volatile organic compounds, nitrogen dioxide, sulfur dioxide, particulate matter less than 10 microns in size; 1,000 tons per year of carbon monoxide; or 5 tons per year of lead. Since ozone is not an emission, but the result of a photochemical reaction, states are required to report emissions of volatile organic compounds (VOC), which are compounds that lead to the formation of ozone. East Baton Rouge Parish is currently in attainment of all National Ambient Air Quality Standards (NAAQS), and operating under attainment status, therefore, a general

conformity determination is not necessary. This classification is the result of area-wide air quality modeling studies.

Table 7: Primary and Secondary NAAQS for the Six Contaminants Established by EPA

National Ambient Air Quality Standards [3][4]				
	Primary Standard		Secondary Standard	
Criteria Pollutant	Concentration Limit	Averaging Time	Concentration Limit	Averaging Time
Carbon monoxide	9 ppmv (10 mg/m³)	8-hour ⁽¹⁾	None	
	35 ppmv (40 mg/m³)	1-hour ⁽¹⁾		
Sulfur dioxide	0.03 ppmv (80 µg/m³)	Annual (arithmetic mean)	0.5 ppmv (1300 µg/m³)	3-hour ⁽¹⁾
	0.14 ppmv (365 µg/m³)	24-hour ⁽¹⁾		
Nitrogen dioxide	0.053 ppmv (100 µg/m³)	Annual (arithmetic mean)	Same as primary	
Ozone	0.075 ppmv (150 µg/m³)	8-hour ⁽²⁾	Same as primary	
	0.12 ppmv (235 µg/m³)	1-hour ⁽³⁾	Same as primary	
Lead	0.15 µg/m³	Rolling 3-month average	Same as primary	
	1.5 µg/m³	Quarterly average	Same as primary	
Particulate Matter (PM ₁₀)	150 µg/m³	24-hour ⁽⁴⁾	Same as primary	
Particulate Matter (PM _{2.5})	15 µg/m³	Annual ⁽⁵⁾ (arithmetic mean)	Same as primary	
	35 µg/m³	24-hour ⁽⁶⁾	Same as primary	

- (1) Not to be exceeded more than once per year.
- (2) The 3-year average of the fourth-highest daily maximum 8-hour average at each monitor within the area over each year must not exceed 0.075 ppmv.
- (3a) The expected number of days per calendar year with maximum hourly averages above 0.12 ppm must be equal to or less than 1.
- (3b) As of June 15, 2007, the U.S. EPA revoked the 1-hour ozone standard in all areas except for certain parts of 10 states.
- (4) Not to be exceeded more than once per year on average over 3 years.
- (5) The 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15 µg/m³.
- (6) The 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within the area must not exceed 35.5 µg/m³.

3.2.11 Noise

Existing Conditions

The Noise Control Act (42 U.S.C. §4901, et seq.) establishes a means for effective coordination of federal activities in noise control and to provide information to the public regarding the noise emissions. Noise, or unwanted sound, may be objectionable in terms of the nuisance, health, or well-being effects it may have upon humans and the human environment, as well as upon the animals and ecological systems in the natural environment (Kryter 1994). The intensity of sound is measured in units called decibels (dB). A-weighted decibels (dBA), are often used when describing sound level recommendations for healthy listening. While the dB scale is based only on sound intensity, the dBA scale is based on intensity and on how the human ear responds. The ambient dBA level in an urban residential community has been determined by the Environmental Protection Agency (EPA) to be 60. The ambient noise along a major traffic corridor would be higher, possibly to 70 dBA.

East Baton Rouge Parish has established criteria or standards for environmental noise and has enacted them as a City/Parish ordinance Section 12:100 which states “No person shall make or cause to be made any loud and raucous noise in the parish which is offensive to persons of ordinary sensibilities and which renders the enjoyment of life or property uncomfortable or interferes with public peace and comfort.”

Maximum permissible noise levels measured in dBA (decibels) are listed in Sec.12:100 of that ordinance for different zonings throughout the day. However, an exception to these prohibitions is allowed by Section 12:101, paragraph 9 which states “The creation of loud and raucous noise by construction work in or adjacent to a residential area other than between the hours of 7:00 a.m. and sunset on weekdays and Saturdays, except in the case of urgent necessity in the interest of public safety for which permission must be obtained from the director of public works.” Construction work" includes but is not limited to the erection, excavation, demolition, alteration, or repair of any building.

There are many different sources of noise throughout the project area including: operation of commercial and private vehicles, all-terrain vehicles; aircraft; operation of machinery and motors; and human industry-related noise (such as business operations). The noise levels in the affected area are typically low in subdivisions and in outlying areas and are higher in the proximity of major streets and highways.

3.2.12 Environmental Justice

Environmental justice (EJ) is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies. (<https://www.epa.gov/environmentaljustice/learn-about-environmental-justice>, accessed 10/16/2014).

The methodology, consistent with E.O. 12898, to accomplish this EJ analysis includes identifying populations that are exposed to high levels of environmental stressors and are low-income or minority populations within the project area using up-to-date economic statistics, aerial photographs, and U.S. Census Bureau 2013-2017 American Community Survey (ACS) estimates. EPA has developed a new EJ mapping and screening tool called EJSCREEN, which is based on nationally consistent data and an approach that combines environmental and demographic indicators in the form of EJ indexes. EJSCREEN relies on the 2014-2018 ACS 5-year summary file data. This information can help to highlight geographic areas and the extent to which they may be candidates for further review, including additional consideration, analysis or outreach. The tools also allow users to explore locations at a detailed geographic level, across broad areas or across the entire nation. Environmental indicators typically are direct or proxy estimates of risk, pollution levels or potential exposure (e.g., due to nearby facilities). Demographic indicators are often used as proxies for a community's health status and potential susceptibility to pollution. Environmental and demographic data and indicators may be viewed separately or in combination. See Appendix H for the environmental indicators for the communities impacted in study area by the federal action.

EPA selected the following environmental indicators for use in the 2019 version of EJSCREEN:

1. Air pollution
 - a. PM2.5 level in air.
 - b. Ozone level in air.
 - c. NATA air toxics:
 - i. Diesel particulate matter level in air.
 - ii. Air toxics cancer risk.
 - iii. Air toxics respiratory hazard index.
2. Traffic proximity and volume: Amount of vehicular traffic nearby, and distance from roads.
3. Lead paint indicator: Percentage of housing units built before 1960, as an indicator of potential exposure to lead.

4. Proximity to waste and hazardous chemical facilities or sites: Number of significant industrial facilities and/or hazardous waste sites nearby, and distance from those:
 - a. National Priorities List (NPL) sites.
 - b. Risk Management Plan (RMP) Facilities.
 - c. Hazardous waste Treatment, Storage and Disposal Facilities (TSDFs).
5. Wastewater discharge indicator: Proximity to toxicity-weighted wastewater discharges

If an EJ area's exposure to the environmental indicators listed above is above the 80th percentile in the state and the federal action exacerbates any of those environmental risks, a potential disproportionate impact may occur. Specifically, a disproportionate impact occurs when a proposed project impacts a much higher percentage of minority and low income populations than other communities located within the study area or when the benefits and impacts are not distributed between EJ and non EJ communities. The EJ study area includes communities in East Baton Rouge Parish.

Existing Conditions

EBR Parish, Louisiana is the study area for the flood risk management analysis. The parish is majority non-white with 53.5 percent of the parish population identifying as minority. The largest minority in the parish identifies as Black/African American. Minority and ethnicity are shown in the table below for four cities or towns. The communities that are assessed in this EJ evaluation are the City of Baton Rouge, Shenandoah Census Designated Place (CDP), Old Jefferson and Inniswold. The largest city in EBR Parish is the City of Baton Rouge which is home to just over half the parish population and over 50 percent of residents identify as a minority. Shenandoah, Inniswold and Old Jefferson are majority white. The Hispanic ethnicity is predominate in these communities and in the City of Baton Rouge, with between 1.9 and 5.2 percent of the population being of Hispanic ethnicity. Table 8 provides the census information for the parish, the City of Baton Rouge and smaller communities.

Table 8: Census Information

Location	Total Population	White	Black	Native American	Asian	Native Hawaiian	Some Other Race	Two or more Races	Minority	Hispanic
East Baton Rouge Parish	440,956	205,202	204,056	279	12,497	0	7,028	11,894	53.5%	5.2%
Baton Rouge (city)	221,606	84,217	122,315	246	6,966	0	3,522	4,340	62.0%	4.1%
Baker	13,557	1,988	11,386	0	38	20	58	67	85.3%	0.5%
Inniswold	6,777	5,641	876	0	243	0	0	17	16.8%	2.3%
Old Jefferson CDP*	8,065	4,976	2,320	0	372	0	0	397	38.3%	1.9%

*Census Designated Place

Source: U.S. Census Bureau, American Fact Finder, ACS 2014-2018.

While over 50 percent of parish residents identify as a minority and thus meeting or exceeding the criteria for an EJ community, nearly 17 percent of parish residents have incomes below poverty which does not meet the poverty EJ criteria of 20 percent or more living below poverty. Conversely, the City of Baton Rouge meets the EJ poverty criteria with 22 percent of residents having an annual income of \$25,100 or less for a family of four. The other towns shown in the table below have well under 20% of population living in poverty, which would not identify these locations as EJ communities. Table 9 provides information on communities in the study area.

Table 9: Communities Near Project Sites within Study Area

Location	Total Population*	Population having Income Below Poverty	Percent of Population Below Poverty
East Baton Rouge Parish	431,849	69,618	16.1%
Baton Rouge (city)	213,870	47,116	22.0%
Shenandoah CDP	20,192	396	9.6%
Inniswold	6,777	361	5.3%
Old Jefferson	8,065	492	6.1%

*For Whom Poverty Status is Known

Source: U.S. Census Bureau ACS 2014-2018

The Environmental Consequences section will present EJ communities that could be directly, indirectly and cumulatively impacted by the federal action. Mitigation measures should be developed specifically to address potential disproportionately high and adverse effects to minority and/or low-income communities, if they occur. When identifying and developing potential mitigation measures to address environmental justice concerns, members of the affected communities would be consulted. Enhanced public participation efforts would also be conducted to ensure that effective mitigation measures are identified and that the effects of any potential mitigation measures are fully analyzed and compared. Mitigation measures may include a variety of approaches for addressing potential effects and balancing the needs and concerns of the affected community with the requirements of the action or activity. If there are no high, adverse impacts or if there are high, adverse impacts that are not disproportionate, mitigation is not required.

4 ENVIRONMENTAL CONSEQUENCES

Environmental consequences, or impacts, are defined as any change to the environment whether adverse or beneficial, wholly or partially resulting from an activity, product or service. Effects can be direct, indirect, or cumulative and can be temporary (short-term) or permanent (long-term). Effects can vary in degree, ranging from only a slight discernable change to a drastic change in the environment. For this EA, short-term effects are defined as occurring during the construction phase. Long-term effects are caused by operations that would remain longer.

4.1 Impacts to Relevant Resources

This chapter of the EA provides a description of the potential impacts that could result from implementation of the proposed action as well as the potential impacts that could result should the no action alternative be implemented.

4.1.1 Aquatic Resources

Future Conditions with No Action

Under the No Action alternative, clearing and snagging of LBF, LJC and LWC would not occur. The surrounding residential subdivision, housing units and businesses could continue to experience occasional flooding during extremely heavy rainfall events. The aquatic resources of the area would continue to remain of low quality due to urban runoff and sedimentation being such a large portion of the flows.

Future Conditions with the Proposed Action

Generally, clearing and snagging of woody material from rivers and streams typically has negative direct and indirect impacts on aquatic resources as it removes foraging, reproductive, and sheltering habitat for fish and other aquatic resources. Downed trees and other woody material in streams and rivers provide habitat for fish and other aquatic organisms and also serves to dissipate energy and capture and retain sediment (Saldi-Caromile et al. 2004; Lassetre and Kondolf 2012). Clearing of trees from river banks can cause destabilization and erosion of sediments into the waterway, which may impair water quality.

Due to the low dissolved oxygen in the streams, there are no significant fishery resources present within the project areas, therefore implementation of the proposed actions would have no impacts on fishery resources. Proposed modifications would initially destroy any slow-moving and sessile organisms that may inhabit the creeks due to direct contact and localized turbidity. This impact would be short-lived as the clearing and snagging activities would increase hydraulic flow and capacity. It is likely that benthic organisms tolerant of low dissolved oxygen conditions would re-populate the cleared areas following completion of the proposed work, though their abundance may be affected by the removal of structure within the stream. Any fish species that may be found in the creeks would likely be sufficiently mobile to escape the draglines and other equipment and would presumably return once construction has been completed.

4.1.2 Wetlands (USFWS)

A preliminary assessment of existing vegetation was performed due to State restrictions enacted as a result of the 2020 COVID-19 pandemic. All portions of the project and staging areas are presumed to be forested communities and were assigned the highest quality rating (a Class 5 rating), which is defined as greater than 50% of overstory canopy consisting of mast or other edible-seed producing trees, and hard mast producers constituting more than 20% of the canopy. A physical field trip would need to be completed in order to determine a more

accurate count of impacts to wetlands resulting from the proposed action, however the Class 5 rating likely exceeds potential impacts to habitat within the project areas, therefore mitigation requirements could potentially be lower.

Future Conditions with No Action

Without implementation of the proposed action, there would be no direct impacts to wetland resources from clearing and snagging activities. Wetland species located along the banks of the LBF, LJC and LWC areas would continue to experience direct and indirect impacts from natural and anthropogenic factors. Periods of temporary inundation from bank overtopping caused by excessive rainfall and bank destabilization from erosional forces would continue to adversely impact these communities located near the creeks.

Future Conditions with the Proposed Action

With the proposed action, clearing and snagging activities would be performed in such a manner that would allow for more effective drainage during those high rainfall events that have the potential to cause flooding in the surrounding community. All activities would take place within the confines of the LBF, LJC and LWC streambeds, with no vegetation beyond the top of the bank being impacted, with the exception of those areas defined as access points and staging areas for the purpose of these activities.

Direct permanent impacts to approximately 111.8 acres (85.33 AAHUs) of existing BLH forest would occur as a result of clearing and snagging activities as well as clearing several locations along the 3 creeks for the purposes of access, equipment staging, and debris removal. Along LBF, approximately 40.1 acres (33.27 AAHUs) of existing BLH would be permanently impacted, along LJC approximately 36 acres (27.23 AAHUs) of existing BLH permanently impacted and along LWC approximately 35.7 acres (24.83 AAHUs) of existing BLH would be permanently impacted.

All impacts to wetlands would be offset through either the purchase of mitigation bank credits or the construction of new, restored or enhanced habitats to replace the lost habitats in accordance with the Clean Water Act, Section 404(b)(1) and the Water Resources Development Act of 1986, Section 906, as amended. Mitigation of wetlands identified in this document are addressed in EA #576, "Bipartisan Budget Act Construction Projects; West Shore Lake Pontchartrain, Comite River Diversion, and East Baton Rouge Flood Risk Management, BBA Construction Mitigation", which may be found at <https://www.mvn.usace.army.mil/Missions/Environmental/NEPA-Compliance-Documents/Bipartisan-Budget-Act-2018-BBA-18/West-Shore-Lake-Pontchartrain/>.

4.1.3 Wildlife

Future Conditions with No Action

Impacts to wildlife consist primarily of degradation of habitat quality and loss of habitat caused by residential and commercial development. Under the No Action alternative, the proposed clearing and snagging along the LBF, LJC and LWC areas would not occur.

Barring future development or restoration efforts by the NFS or other local entities, conditions in the area would continue to decline and local wildlife in the area would either continue to utilize the existing poor quality habitat, or cease to utilize the area at all.

Future Conditions with the Proposed Action

With implementation of the proposed action, no significant effects to wildlife would occur as the project is located in developed areas of EBR Parish. Any local wildlife utilizing the habitat lining the canal banks would be highly mobile and able to relocate to similar adjacent habitat during construction and return once construction activities are complete.

4.1.4 Threatened, Endangered and Protected Species

Future Conditions with No-Action

There would be no direct or indirect impacts to those previously listed threatened and endangered species as no construction activities would take place in the project areas.

Future Conditions with the Proposed Action

CEMVN has determined that the proposed action would have no effect to listed threatened or endangered species or their critical habitat in LBF and LWC as those project areas do not contain suitable habitat for listed species. A small segment of LJC, measuring 0.65 miles and located just east of Woodlake Drive, contains habitat that could be suitable for the inflated heelsplitter.

Clearing and snagging activities in the LJC project area would produce some erosion which would result in immediate increases in turbidity levels. During construction activities, these turbidity levels could become evident in the Amite where Jones Creek connects with the larger river. Once within the river, the flows of the Amite would rapidly move any remaining sediment introduced by Jones Creek. The transport capacity of the Amite River is more than adequate to move any introduced materials without any anticipated adverse effects such as quick release of particles from suspension in the river and, thus, possible suffocation to the heelsplitter. Additionally, during high flow events, the creeks and river normally transmit highly turbid water. The turbidity experienced from construction activities are not anticipated to be in excess to what these channels experience regularly. Once construction is complete and the creek bed stabilizes, turbidity levels would return to normal.

Coordination under Section 7 of the ESA has been completed with the USFWS with regards to the inflated heelsplitter. In a memo stamped August 11, 2020, the USFWS stated that “the project, as proposed, is not likely to adversely affect” federally-listed threatened or endangered species, or their critical habitat, under the jurisdiction of USFWS and no further consultation on the inflated heelsplitter is necessary unless 1) the scope or location of the proposed project changes in a manner that the potential effects to listed species exceed those discussed in the Biological Assessment; 2) new information reveals that the action may adversely affect listed species; or 3) a new species

is listed or critical habitat designated. This fulfills the requirements under Section 7(a)(2) of the Endangered Species Act.

4.1.5 Water and Sediment Quality

Future Conditions with No-Action

Under the No-Action alternative, USACE would not engage in clearing and snagging activities at any of the three creeks. Hence, existing water quality in the LBF, LJC and LWC areas would remain highly variable under the FWOP scenario, being affected by factors such as currents, runoff, storms, sediment transport, erosion, pollution levels, and water temperature.

Any potential future modifications performed in the streams by the NFS for the purpose of flood risk reduction or development, would temporarily degrade water quality in the immediate vicinity of construction activities.

Future Conditions with the Proposed Action

Approximately 155 acres of water bottoms would be permanently impacted from the proposed clearing and snagging activities. Water quality within and near the construction sites would be temporarily degraded during the proposed clearing and snagging activities. Turbidity would increase significantly above ambient conditions, which could also serve to further inhibit the already low concentration levels of dissolved oxygen. The clearing and snagging work could potentially re-suspend undesirable nutrients into the streams including, nitrogen and phosphorous as well as organic and inorganic contaminants (e.g., pesticides, methylmercury, selenium, hydrocarbons, fecal bacteria, etc.), should they be present. The turbidity levels and increased nutrient load could be evident even in the Amite River at some times. Once within the river, the flows of the Amite would rapidly move any remaining sediment introduced by Jones Creek as well as any sediment introduced by Ward Creek and Bayou Fountain via Bayou Manchac.

Removal of the riparian tree canopy would likely result in a temporary increase in water temperatures during summer months, however temperatures should regulate once the tree canopy returns. Possible long term impacts include recurring increased levels of turbidity and suspended sediments during rainfall events since clearing vegetation close to the surface exposes remaining deposits to lateral erosion from localized run-off.

To help avoid and minimize the proposed project's impacts to water quality, a Stormwater Pollution Prevention Plan (SWPPP), to include the use of best management practices (BMP's), would be completed before construction. Additionally, a Stormwater General Permit (LPDES General Permit) from the Louisiana Department of Environmental Quality (LDEQ) would also be completed before construction. The construction contractor would be required to obtain applicable permits and the USACE would ensure all applicable conditions and requirements are set forth in the issued permit and adhered to.

USACE applied for Water Quality Certification (WQC) of the proposed project from LDEQ on July 20, 2020. On July 30, 2020, the USACE received notice from the LDEQ that the proposed action would not violate water quality standards (Appendix E).

The project area is outside of the established coastal zone boundary which requires a Coastal Zone Consistency Determination, therefore it is not necessary to coordinate with the Louisiana Department of Natural Resources (LDNR) on this project.

4.1.6 Cultural Resources

Future Conditions with No Action

NEPA requires that in analyzing alternatives to a proposed action, a federal agency must consider an alternative of “No Action.” The No Action alternative evaluates the impacts associated with not implementing the proposed action and represents the FWOP condition against which alternatives considered in detail are compared. The FWOP provides a baseline essential for impact assessment and alternative analysis.

In the FWOP condition, the Proposed Action would not occur. Access, clearing and snagging, and other project related activities would not occur in the proposed action. Under the No Action, the activities described as part of the proposed action would not occur, therefore there would be no direct or indirect impacts to cultural resources.

Future Conditions with the Proposed Action

Based on the information in this EA and the application of avoidance measures, if necessary, CEMVN has determined that there would be “no historic properties affected”, as defined in 36 CFR 800.4 (d)(1). The identification process and avoidance condition are specific to the staging and access areas and were defined in consultation with the LA SHPO and Federally-recognized Tribes. The following avoidance/minimization condition is applied to the project:

- Should any archaeological deposits be located through the phase I survey effort, the delineated boundaries of the resource will either be avoided by not using that portion of the staging area, or timber matting will be used to avoid impacting the archaeological deposits.

In addition to the condition of avoidance/matting, this project will be subject to the standard change in scope of work, unexpected discovery, and unmarked human burial sites act provisions. Additional consultation with the LA SHPO and Federally-recognized Tribes would be conducted prior to resuming any construction related activities in the vicinity of an unavoided/matted and newly discovered cultural resource.

Consultation with the LA SHPO and Federally-recognized Tribes pursuant to Section 106 of the National Historic Preservation Act for the proposed action was initiated in letters dated October 9, 2020. The LA SHPO concurred with CEMVN’s determination via letter dated November 9, 2020. The MCN determined that the APE was outside of the Tribe’s area of interest and deferred to other Tribes (via email on October 20, 2020). The

remainder of the Federally-recognized Tribes did not respond within the regulatory timeframes provided for in 36 CFR 800 concluding Section 106 consultation with the condition of conducting a Phase I cultural resources survey and, if necessary, implementing avoidance measures, as specified in the consultation. See Environmental Commitments in Section 7.

4.1.7 Recreational Resources

Future Conditions with No-Action

With the No Action alternative, recreation resources, such as parks and trails within East Baton Rouge Parish, would continue to be at risk from high water events induced by rainfall events, particularly those nearer the immediate project areas. Recreational resources would continue to evolve from existing conditions as a result of both land use trends and natural processes over the course of time. Access to facilities could be impeded during high water events and facilities themselves could be compromised. The cost to maintain and repair compromised facilities would increase recreation budgets.

Future Conditions with the Proposed Action

The proposed clearing and snagging would temporarily impact BREC's Bayou Fountain Blueway and Highland Road Community Park in the project area. Staging Area #2 for LBF is approximately 4.7 acres of open area at Highland Road Community Park. This open area would be inaccessible to the public for the duration of construction activities. Existing trees on BREC property would have tree protection measures in place and the open area would be restored to preconstruction conditions at the end of construction activities. Other recreation facilities that share a border with LBF, LJC and LWC could see temporary impacts resulting from noise, dust or traffic associated with construction activities. These impacts would only be present during daylight hours during construction.

4.1.8 Visual Resources (Aesthetics)

Future Conditions with No-Action

With the no action alternative, visual resources in the project area would continue to be at risk from high water events induced by rainfall events. Visual access could decline. Relics of previous land uses, abandoned due to flood, would be aesthetically distressing in most cases (although some might be viewed as "ruins" and aesthetically pleasing). The continued flooding in East Baton Rouge Parish, particularly flooding nearer the immediate project areas, would probably be mainly viewed as displeasing by most observers.

Future Conditions with the Proposed Action

Clearing and snagging of woody material from rivers and streams typically has negative direct and indirect impacts on aesthetics as it removes natural and scenic properties intrinsic to waterways. However, due to the urban setting of these constricted waterways, access is limited and visibility remains low. Generally, immediate roadway crossings provide the primary public views into these regularly manipulated drainage corridors.

Potential impacts on aesthetics would be short-term and coincide with the duration of construction activities.

4.1.9 Air Quality

Future Conditions with No-Action

Under the No Action alternative, there would likely be no direct or indirect effects to air quality because construction of the proposed action would not occur, and the status of attainment of air quality for East Baton Rouge Parish is not anticipated to change from current conditions.

Future Conditions with the Proposed Action

This alternative potentially includes short-term impacts to air quality resulting from construction activities. Particulate emissions from the generation of fugitive dust during project construction would likely be increased temporarily in the immediate project vicinity. Other emission sources on site could include internal combustion engines from work vehicles, air compressors, or other types of construction equipment. These effects would be localized within the project area and would cease after construction.

EBR Parish is in attainment under the CAA and has no General Conformity obligations. To reduce potential short term effects to air quality from construction-related activities, BMPs would be used to reduce fugitive dust generation and diesel emissions. Emissions from the burning of fuel by internal combustion engines would temporarily increase the levels of some of the criteria pollutants, including CO₂, NO_x, O₃, and PM₁₀, and non-criteria pollutants such as VOCs. To reduce these emissions, running times for fuel-burning equipment should be kept to a minimum and engines should be properly maintained. However, these short term effects would not likely change the status of attainment of air quality for East Baton Rouge

The indirect effects to air quality of implementing the proposed action would be related to the emissions from transportation of personnel and equipment to and from the job site until the completion of construction.

4.1.10 Noise

Future Conditions with No-Action

Noise impacts would probably be similar to those under existing conditions. There would be no direct or indirect impacts since the proposed action would not be implemented. Future noise levels would likely continue to be dictated by normal daily activities in the area.

Future Conditions with the Proposed Action

Noise levels would temporarily increase in the area due to the operation of equipment and vehicles used during construction of the proposed action. Since the project areas are

highly developed, project noises would likely be heard by a large number of individuals both in commercial and residential areas, however the increased noise levels would only be present during daylight hours during construction. While noise impacts may cause a temporary inconvenience to residents and facilities in the immediate area, noise levels associated with construction activities would be temporary and monitored to ensure acceptable standards are maintained. No harmful decibel (dB) levels would occur to people living in nearby residences or businesses for the entire duration of the project. While the equipment (draglines and hauling trucks) that would be working on the clearing and snagging activities produce sound levels of between approximately 80 and 86 dB, buildings and trees in the project areas tend to restrict the effects of sound; therefore, construction noise may be muffled in some areas.

Noise levels associated with construction activities have the potential to temporarily impact wildlife that may be present in the area, but would not be significantly different from noise associated with other human activities that occur on a daily basis. After completion of the proposed action, noise levels would be expected to return to pre-action levels. Any future maintenance activities by the local sponsor could result in a slight increase in noise levels from equipment and associated activities, but any increase in noise levels associated with maintenance activities are anticipated to be lower and of shorter duration.

4.1.11 Environmental Justice

Environmental justice analyses identify and address, when appropriate, proportionately high and adverse impacts of federal agency actions on minority populations, low-income populations, and Tribal Nations. Public involvement during scoping meetings is described in the existing conditions section. Of primary concern is identifying high, adverse impacts and if they fall disproportionately on minority and/or low-income members of the community compared to the larger community and, if so, whether those community members are “disproportionately high and adversely” affected by the project. If disproportionately high and adverse impacts are evident, guidance from the NEPA Committee and Federal Interagency Working Group on Environmental Justice (EJ IWG 2016) and the U.S. Environmental Protection Agency (EPA 1998) advises federal agencies to initiate consideration of alternatives and mitigation actions in coordination with extensive community outreach. Consistent with E.O. 12898 and the Federal Interagency Working Group on Environmental Justice guidance (EJ IWG 2016), this section describes the approach taken to identify low-income and minority populations in the project area and evaluate environmental consequences of the proposed project with respect to these populations. The approach for evaluating impacts of the proposed Project on low-income and minority populations included the following steps:

1. **Refine the area of potential impacts.** The analysis identified relevant portions of the proposed project area where permanent and short term impacts of the project would occur based, in part, on other resource analyses, Socioeconomics, Noise and Air Quality. For all of the alternatives, the impact area is determined as that population living within 0.5 miles of the proposed project feature, i.e. a channel improvement. Normally, communities that are within 0.5 miles of the proposed site

may experience noise and truck traffic, for example, due to construction activities. Permanent impacts are also identified for the communities in the impact area. Each project site's impact area is assessed to determine if EJ communities may experience temporary or permanent direct or indirect impacts from construction of the alternative features. As discussed below, indirect impacts are primarily anticipated in portions of the study area and the project area.

2. **Identify low-income and minority populations** (CEQ 1997; EJ IWG 2016). U.S. Census data were used to identify low-income and minority populations. Census block group data is used to identify EJ communities around the project sites. U.S. Census Bureau Data, American Community Survey 2014-2018 is used to identify low-income and minority populations residing outside of incorporated places varied according to Census designation.

CEMVN conducted an EJ analysis focusing on the potential for disproportionately high and adverse impacts to minority and low-income populations during the construction and normal operation of the proposed channel improvements. A disproportionately high and adverse effect means the impact is appreciably more severe or greater in magnitude on minority or low-income populations than the adverse effect suffered by the non-minority or non-low-income populations after considering offsetting benefits. While the assessment identified the occurrence of environmental stressors on minority and low-income populations within the study area, no disproportionately high and adverse effects to environmental or human resources are evident within the project area.

Impacts of Considered Alternatives

Future Conditions with No Action

The FWOP conditions apply to when the proposed action would not be implemented and the predicted additional environmental gains (e.g. flood risk reduction) would not be achieved. The project area, including roads, would continue to experience occasional flooding during heavy rainfall events and roads would continue to experience flooding during high water events. There would be direct impacts on minority and/or low-income population groups under this alternative. Because this alternative fails to provide flood risk reduction, the actual and perceived risks to minority and/or low-income population groups under this alternative would be higher than under the proposed action alternative.

Indirect impacts under the No Action Alternative include a higher potential for permanent displacement of minority and/or low-income population groups as compared to the with-project alternative as residents may relocate to areas with higher levels of flood protection.

Cumulative impacts under the No Action Alternative include the potential for a steady decline in minority and/or low-income population groups and other groups as residents move to areas with lower flood risks as well as continued financial and emotional strain placed on these groups as they prepare for and recover from flood events.

Future Conditions with the Proposed Action

There are no direct long-term impacts to EJ communities from construction of the three channel improvements, access roads and staging areas. Direct temporary impacts may occur, for example, when the footprint of the structural alternative, the channel improvement, encroaches onto privately-owned land which may be acquired in order to construct the improvement. In this case, the channel improvement involves snagging and clearing of debris that is within the creek banklines. All of the channel improvements would take place within the channel. Access roads and staging areas will not directly impact housing or existing EJ communities.

Positive indirect impacts include a decrease in risk of damage from storm events for minority and/or low-income populations in the project area. Adverse, indirect impacts to EJ communities may occur when the construction activities, such as transportation, noise, dust and air quality impacts, affect nearby minority or low-income communities near the site.

Construction Related Impacts:

Adverse, temporary indirect impacts from construction activities, use of staging areas and access roads may be felt by surrounding communities, including noise, dust and increased truck traffic.

Indirect impacts may include effects on transportation routes, possibly causing minor delays, and would be temporary. If needed, several impact avoidance features would be included as integral components of the proposed action to minimize impacts to vehicular transportation. Specific routes would be designated for construction-related traffic to minimize residential disturbance and traffic congestion. USACE contracts would designate specific routes for construction-related traffic to avoid residential areas, to the maximum extent practicable, and staging areas for construction equipment and personnel would be located away from heavily populated areas. Streets that would serve construction-related traffic would be resurfaced, if needed and as appropriate, prior to initiation of construction activities, and maintenance of those streets would be provided during the project construction period. Appropriate detour signage would be placed in order to preserve access to local streets during construction activities. Off-street parking would be provided for construction workers, and shuttle vans would be used to transport construction workers to the work sites, if necessary. Streets that are damaged by any and all construction activities would be repaired.

Air quality indirect impacts to EJ communities are expected to be minor and short term. The three channel improvements potentially create short-term adverse impacts to air quality resulting from construction activities. Particulate emissions from the generation of fugitive dust during project construction would likely be increased temporarily in the immediate project vicinity. Other emission sources on site could include internal combustion engines from work vehicles, air compressors, or other types of construction equipment. It is also anticipated that the clearing and snagging work would be accomplished using chain saws, brush cutters, floating barges and excavators. These

effects would be localized within the project area and would cease after construction. The area would still be in attainment for air quality throughout the construction period.

Adverse impacts to EJ communities from channel improvement projects typically occur as a result of construction activities and are short-term. Positive long-term benefits of flood risk reduction would accrue to EJ and non EJ communities in the project area.

Lower Bayou Fountain Creek Channel Improvement:

There are no EJ communities within 0.5 miles of LBF channel improvement construction area, including the staging areas and access corridors. Only 12 percent of the population within 0.5 miles identifies as minority while 4 percent are low-income, both percentages well below the threshold criteria used to identify EJ communities. See Appendix H for EPA's EJSCREEN tool and demographic and environmental stressors data for the area within 0.5 miles of the channel improvement.

Lower Ward Creek Channel Improvement:

The community within 0.5 miles of the LWC channel improvement identifies as being 55 percent minority, which surpasses the minority criteria for an EJ community. The community, a subdivision just east of Pecue Lane, north of Ward Creek between Airline Highway and Interstate 10, though, is not low-income. See Appendix H for EPA's EJSCREEN tool and demographic and environmental stressors data for the area within 0.5 miles of the channel improvement. Temporary staging area #3 and #4 are near minority communities, one area just north of the staging area, along Quail Grove Avenue and the other community just across the creek and south of the staging area #4.

Impacts to the EJ communities from construction activities and the use of the temporary staging areas are not expected to be adverse or disproportionate since both EJ and non EJ communities would experience impacts from the construction activities and all communities in the study area would overall benefit from the project.

Lower Jones Creek Channel Improvement:

There are no EJ communities within 0.5 miles of the LJC channel improvement construction area nor adjacent to the staging areas. Only 33 percent of the population within 0.5 miles identifies as minority while less than 10 percent are low-income, both percentages well below the threshold criteria used to identify EJ communities. See Appendix H for EPA's EJSCREEN tool and demographic and environmental stressors data for the area within 0.5 miles of the channel improvement. There are no direct, high adverse disproportionate impacts to EJ communities within 0.5 miles of the construction activities associated with the three creek channel improvements.

5 CUMULATIVE IMPACTS ANALYSIS

The Council on Environmental Quality's (CEQ) regulations (40 CFR 1500-1508) implementing the procedural provisions of the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321 et seq.), define cumulative effects as "the impact

on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. (40 CFR 1508.7) Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.”

The population of EBR Parish has maintained a steady rate over the years with the exception of a sharp increase between 2005 and 2007, immediately following Hurricane Katrina. Since that time, the population has stabilized, marking only a 0.2% increase between 2010 and 2018. (US Census Bureau) It is possible that the parish would continue this trend into the foreseeable future. Cumulative impacts to environmental resources would continue to accumulate incrementally over time consistent with development, recreational use, and natural events that occur in the parish.

Without the implementation of the proposed action, it is possible that the area would continue to experience impacts, such as flooding, from natural events. Development and recreational use would continue to impact environmental resources.

The cumulative effect of the proposed action combined with all the other projects in the study area on human, economic, and community resources could be beneficial in EBR Parish due to the decreased risks of flood damage during a heavy rainfall event. Residences and businesses near the project areas could potentially experience temporary elevated noise levels and increased traffic at project ingress and egress points. The cumulative effects to air quality would be the combined emissions from the direct and indirect sources from construction activities associated with the proposed actions when added to other emissions sources within the region. Because of the relatively short duration of construction and the use of BMPs, the cumulative impacts of the proposed action on air quality would be minimal and temporary, and EBR Parish would remain in attainment of all NAAQS.

The cumulative construction impacts to water quality, namely turbidity caused by soil disturbance, would be additive to similar impacts caused by other flood risk reduction projects. These impacts would generally be localized to areas where construction would occur, are anticipated to be temporary, and would be expected to cease after completion of the clearing and snagging activities. The implementation of BMPs would aid in avoiding adverse cumulative impacts from construction activities.

6 HAZARDOUS, TOXIC AND RADIOACTIVE WASTE (HTRW)

The USACE is obligated under Engineer Regulation (ER) 1165-2-132 for the reasonable identification and evaluation of all Hazardous, Toxic, and Radioactive Waste (HTRW) contamination within the vicinity of proposed actions. ER 1165-2-132 provides that in the Planning, Engineering and Design (PED) Phase that, for proposed project in which the potential for HTRW problems has not been considered, an HTRW initial assessment, as appropriate for a reconnaissance study, should be conducted as a first priority. USACE HTRW policy is to avoid the use of project funds for HTRW removal and remediation

activities. If the initial assessment indicates the potential for HTRW, testing, as warranted, and analysis similar to a feasibility study should be conducted prior to proceeding with the project design. The NFS would be responsible for planning and accomplishing any HTRW response measures, and would not receive credit for the costs incurred.

The objective of the Phase I Environmental Site Assessment (ESA) is to identify, to the extent feasible pursuant to the process described herein, Recognized Environmental Conditions (RECs) in connection with a given property. Two ASTM E 1527-13 Phase I Environmental Site Assessments (ESAs) were performed for the proposed action.

Lower Bayou Fountain and Lower Ward Creek Investigations

A Phase I ESA was conducted on August 16, 2019 in conformance with the scope and limitations of ASTM Practice E 1527-13 for the LWC and LBF Flood Risk Management project sites. An ASTM E 1527-13 Phase I Environmental Site Assessment (ESA), HTRW 19-07 dated August 16, 2019, has been completed for the work area (Appendix F). A copy of the Phase I ESA will be maintained on file at CEMVN. An updated Phase I ESA was completed on September 10, 2020 to assess the potential for HTRW materials within the proposed project footprints for each of the work items included in the Environmental Assessment and the results of each are presented in an Update Memorandum. The updated Phase I ESA includes the following tasks: 1) the review of HTRW Phase I Environmental Database Review Corridor Reports and state and federal databases (e.g., Resource Conservation and Recovery Act Information, Toxic Release Inventory, Superfund Enterprise Management System, Assessment, Cleanup and Redevelopment Exchange System, and state databases on underground storage tanks and hazardous waste programs, etc.) to identify RECs, and 2) site reconnaissance to determine if RECs are within the work item right-of-way (ROW).

Personnel from CEMVN made field inspections of the LWC project area on January 14, 2019 and September 3, 2020. The LBF project area was visited on October 4, 2018 and September 3, 2020. The areas were inspected for the presence of pipes, containers, tanks or drums, ponds or lagoons, car bodies, tires, refrigerators, trash dumps, electrical equipment, oil drilling equipment, gas or oil wells, discoloration of vegetation or water sheens, discoloration of soils, out-of-place dirt mounds or depressions in the landscape, evidence of fire, stressed soils with lack of vegetation, animal remains, unusual animal behavior, biota indicative of a disturbed environment, and odors indicative of poor water quality or chemical presence. Several used tires were found within LWC near Essen Lane, LWC near Pecue Lane, and LBF near Highland Road and Siegen Lane. Within both LWC and LBF some areas along the bayous were found to be littered with household trash and debris: LWC and Burden Lane, LWC and Pecue Lane, LWC and Corporate Boulevard Drainage, LBF and Ben Hur Road, LBF and Grand Lake Drive, and LBF near Highland Road and Siegen Lane. Several plugged and abandoned oil/gas wells were identified in the vicinity of both the Ward Creek and Bayou Fountain project areas. Two natural gas pipelines were identified within the project areas. The wells and pipelines are not considered to be RECs, but caution will be exercised while working near these structures.

Lower Jones Creek Investigations

An ASTM E 1527-13 Phase I Environmental Site Assessment (ESA), HTRW 20-02 dated June 1, 2020, has been completed for the work area (Appendix F). A copy of the Phase I ESA will be maintained on file at CEMVN.

CEMVN made a field inspection on May 21, 2020 of the Lower Jones Creek project area. The area was inspected for the presence of pipes, containers, tanks or drums, ponds or lagoons, car bodies, tires, refrigerators, trash dumps, electrical equipment, oil drilling equipment, gas or oil wells, discoloration of vegetation or water sheens, discoloration of soils, out-of-place dirt mounds or depressions in the landscape, evidence of fire, stressed soils with lack of vegetation, animal remains, unusual animal behavior, biota indicative of a disturbed environment, and odors indicative of poor water quality or chemical presence. None of these indicators was found during the site visit. The wells and pipelines are not considered to be RECs, but caution will be exercised while working near these structures.

File Review

A review of government and commercial environmental databases, aerial photographs, and historical topographical maps revealed that two natural gas pipelines cross the Ward Creek and Bayou Fountain study areas. The review also revealed the presence of several plugged and abandoned oil/gas wells in the vicinity of the project areas. The records search also indicated 79 Resource Conservation and Recovery Act (RCRA) Generator sites, 5 landfill sites, 39 Underground Storage Tank sites, 13 Historic Auto Repair sites, and 3 Historical Cleaners sites within one mile of the project site. Several groundwater wells within one mile of the project site were also identified and listed in the database. None of the listed facilities are within the footprint of the proposed projects, and none of them are considered RECs; therefore, they are not expected to have any negative impacts on the projects.

Conclusion

A Phase I ESA was conducted in accordance with the scope and limitations of ASTM Practice E 1527-13 for the LBF, LJC and LWC Flood Risk Management project sites. An updated Phase I ESA was conducted for LBF LWC after the Phase I ESA was completed due to the Phase I ESA for both LWC and LBF being a year old. No RECs were identified at the project sites. There is a low probability of encountering HTRW during construction of the project, and no further investigation at the site is necessary. If the proposed project area changes the HTRW may need to be re-investigated.

7 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

There are many federal and state laws pertaining to the enhancement, management and protection of the environment. Federal projects must comply with applicable environmental laws, regulations, policies, rules and guidance. The proposed action has been coordinated with appropriate federal, state, and local agencies and businesses, organizations, and individuals through distribution of a draft copy of EA #561 for a 30-day public review and comment period from December 11, 2020 through January 10, 2021.

One comment was received from the Louisiana Department of Wildlife and Fisheries and another was received from the Iberville Parish Council. Both letters are included in Appendix I along with CEMVN's responses.

Clean Air Act of 1972

The Clean Air Act (CAA) sets goals and standards for the quality and purity of air. It requires the Environmental Protection Agency to set NAAQS for pollutants considered harmful to public health and the environment. The project area is in EBR Parish, which is currently in attainment of NAAQS. A general conformity determination is not required.

Clean Water Act of 1972 – Section 401

The Clean Water Act (CWA) sets and maintains goals and standards for water quality and purity. Section 401 requires a Water Quality Certification from the Louisiana Department of Environmental Quality (LDEQ) that a proposed project does not violate established effluent limitations and water quality standards. The application for the State Water Quality Certification was sent to the LDEQ on July 30, 2020 to ensure the proposed actions would not violate water quality standards as provided for in LAC 33:IX. The USACE received notice from the LDEQ that the proposed action would not violate water quality standards (Appendix E).

Coastal Zone Management Act of 1972

The Coastal Zone Management Act (CZMA) requires that "each federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs." The project areas are located outside of the boundaries identified in the CZMA for Louisiana, therefore a Coastal Zone Consistency Determination does not need to be completed.

Endangered Species Act of 1973

The Endangered Species Act (ESA) is designed to protect and recover threatened and endangered (T&E) species of fish, wildlife and plants. Due to the nature of the project area, only the Inflated (Alabama) Heelsplitter (*Potamilu inflatus*) is believed to occur within the vicinity of the project area. CEMVN initiated coordination with the USFWS on July 15, 2020. In their email dated August 11, 2020, the USFWS stated that "the project, as proposed, is not likely to adversely affect" federally-listed threatened or endangered species, or their critical habitat, under the jurisdiction of USFWS and no further consultation on the inflated heelsplitter is necessary unless 1) the scope or location of the proposed project changes in a manner that the potential effects to listed species exceed those discussed in the BA; 2) new information reveals that the action may adversely affect listed species; or 3) a new species is listed or critical habitat designated. This fulfills the requirements under Section 7(a)(2) of the Endangered Species Act. (Appendix E)

Fish and Wildlife Coordination Act of 1934

The Fish and Wildlife Coordination Act (FWCA) provides authority for the USFWS involvement in evaluating impacts to fish and wildlife from proposed water resource development projects. It requires that fish and wildlife resources receive equal consideration to other project features. It requires federal agencies that construct, license or permit water resource development projects to first consult with the USFWS, NMFS and state resource agencies regarding the impacts on fish and wildlife resources and measures to mitigate these impacts. Section 2(b) requires the USFWS to produce a Coordination Act Report (FWCAR) that details existing fish and wildlife resources in a project area, potential impacts due to a proposed project and recommendations for a project. A final CAR from USFWS was received on June 23, 2021 (Appendix E).

In their reply, the USFWS stated they would not object to the proposed project provided their recommendations that will help achieve fish and wildlife resource conservation, are incorporated into the proposed project. These recommendations are listed under Environmental Commitments.

Magnuson-Stevens Fisheries Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act, as amended, Public Law 104-208, addresses the authorized responsibilities for the protection of Essential Fish Habitat (EFH) by NMFS in association with regional fishery management councils. The NMFS has a “findings” with the CEMVN on the fulfillment of coordination requirements under provisions of the Magnuson-Stevens Fishery Conservation and Management Act. In those findings, the CEMVN and NMFS have agreed to complete EFH coordination requirements for federal civil works projects through the review and comment on National Environmental Policy Act documents prepared for those projects. There will be no impacts to EFH as there is no EFH in the project area. A draft of EA #561 was provided to the NMFS for review and comment during the public comment period from December 11, 2020 through January 10, 2021. There were no comments received.

Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act

The bald eagle was removed from the List of Endangered and Threatened Species in August 2007 but continues to be protected under the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act of 1918, as amended (MBTA). During nesting season, construction must take place outside of USFWS/LDWF buffer zones. A USACE Biologist and USFWS Biologist would survey for nesting birds. This would be done prior to the start of construction.

The general project area is known to be frequented by colonial nesting wading/water birds (e.g., herons, egrets, ibis, night-herons and roseate spoonbills), and the bald eagle (*Haliaeetus leucocephalus*). Based on review of existing data, site visits, and with the use of USFWS guidelines, CEMVN determined that implementation of the proposed action (proposed project) would have no effect on colonial nesting water/wading birds or shorebirds. USFWS has recommended CEMVN biologists inspect proposed work sites for the presence of undocumented colonial nesting colonies during the nesting season

(e.g. February through September depending on the species). If colonies exist, work should not be conducted within 1,000 feet of the colony during the nesting season.

On-site personnel should also be informed of the possible presence of nesting bald eagles and ospreys within the project boundary, and should identify, avoid, and immediately report any such nests to USFWS. If a bald eagle nest is located within 660 feet of the proposed activities, the Corps will complete an on-line evaluation (<http://www.fws.gov/southeast/birds/Eagle/tamain.html>) to determine if there are potential disturbances to nesting bald eagles and any protective measures necessary.

CEMVN biologists will survey the proposed project areas before construction to confirm no nesting activity is taking place or is likely to take place within or immediately adjacent to the project areas. If active nesting exists within 1,000 feet (water birds) or 660 feet (bald eagle) of construction activities then CEMVN, in coordination with USFWS, would develop specific measures to avoid adverse impacts to those species. A detailed nesting prevention plan may be necessary in order to deter birds from nesting within the aforementioned buffer zones of the Project footprint in order to avoid adverse impacts to these species. If a nesting prevention plan is necessary, it would be prepared in coordination with USFWS.

National Historic Preservation Act of 1966

Section 106 of the National Historic Preservation Act of 1966, as amended, requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The procedures in 36 CFR Part 800 define how federal agencies meet these statutory responsibilities. The Section 106 process seeks to accommodate historic preservation concerns with the needs of federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties, including the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) and any Tribe that attaches religious or cultural significance to historic properties that may be affected by an undertaking. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties.

CEMVN made a determination of “No Historic Properties Affected” and consulted with the LA SHPO and with federally-recognized tribes (the Alabama-Coushatta Tribe of Texas [ACTT], the Choctaw Nation of Oklahoma [CNO], the Coushatta Tribe of Louisiana [CT], the Chitimacha Tribe of Louisiana [CTL], the Jena Band of Choctaw Indians [JBCI], the Mississippi Band of Choctaw Indians [MBCI], the Muscogee (Creek) Nation [MCN], the Seminole Nation of Oklahoma [SNO], and the Tunica-Biloxi Tribe of Louisiana [TBTL]), via letter October 9, 2020. The LA SHPO concurred with CEMVN’s determination via letter dated November 9, 2020. The MCN determined that the APE was outside of the Tribe’s area of interest and deferred to other Tribes (via email on October 20, 2020). The remainder of the federally-recognized Tribes did not respond within the regulatory timeframes provided for in 36 CFR 800, concluding Section 106 consultation with the

condition of a Phase I cultural resources survey and, if necessary, implementing avoidance measures, as specified in the consultation.

E. O. 13175 Consultation and Coordination with Indian Tribal Governments

NEPA, Section 106 of the National Historic Preservation Act, EO 13175 (Consultation and Coordination with Indian Tribal Governments), the American Indian Religious Freedom Act, and related statutes and policies have a consultation component. In accordance with CEMVN's responsibilities under NEPA, Section 106, and EO 13175, CEMVN offered the federally-recognized Indian Tribes the opportunity to review and comment on the potential of the proposed action to significantly affect protected tribal resources, tribal rights, or Indian lands, through the Section 106 consultation process (see NHPA above discussion and Appendix E). CEMVN's analysis indicates that there are no tribal resources, tribal rights, or Indian lands in the project areas and therefore there would be no significant adverse effects on those resources. Additionally, no Federally-recognized Indian Tribes raised any of the three categories of protected resources during the consultation.

Environmental Commitments:

The following commitments are an integral part of the proposed action:

1. Land clearing associated with project features should be conducted during the fall and winter to minimize impacts to nesting migratory songbirds, when practicable.

Response: Acknowledged.

2. Important fish and wildlife habitat (emergent wetlands, forested wetlands, and non-wetland forest) should be conserved by avoiding and minimizing the acreage of those habitats directly impacted by project features.

Response: Acknowledged. Impacts have been minimized to the maximum extent practicable by restricting proposed work to within the confines of the channel.

3. Avoid impacts to threatened and endangered species, at risk species, and species of concern such as the bald eagle, and wading bird nesting colonies.

Response: Concur. There are no known threatened and endangered species occurring within the project area.

4. West Indian manatee conservation measures should be included in all contracts, plans, and specifications for in-water work in areas where the manatee may occur.

Response: Concur. West Indian manatee conservation language will be included in the contract, plans and specifications.

5. A survey should be conducted to determine if a bald eagle nest is present within or adjacent to the project area. If a bald eagle nest occurs within 660 feet of the proposed project area, then an evaluation must be performed to determine whether the project is likely to disturb nesting bald eagles. That evaluation may be conducted on-line at: <http://www.fws.gov/southeast/birds/Eagle/tamain.html>

Response: Concur. The area will be surveyed prior to the onset of construction. In the event of a previously unknown nest being discovered, an evaluation will be performed to determine if the project is likely to disturb nesting eagles.

6. To minimize disturbance to colonies containing nesting wading birds (i.e., herons, egrets, night-herons, ibis, and roseate spoonbills), anhingas, and/or cormorants, all activity occurring within 1,000 feet of a rookery should be restricted to the non-nesting period (i.e., September 1 through February 15, exact dates may vary within this window depending on species present). In addition, we recommend that on-site contract personnel be informed of the need to identify colonial nesting birds and their nests, and should avoid affecting them during the breeding season.

Response: Acknowledged. There are no known nesting bird colonies in the project area.

7. When applicable erosion control techniques should be implemented to reduce the amount of sedimentation and turbidity that will flow into the river during clearing activities.

Response: Acknowledged.

8. Any impacts to Essential Fishery Habitat should be discussed with the NMFS to determine if the project complies with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), Magnuson-Stevens Act; P.L. 104-297, as amended) and its implementing regulations.

Response: Concur. There is currently no known EFH in the project area. However, CEMVN will continue to coordinate with appropriate agencies to ensure avoidance and minimization of impacts.

9. The Service recommends that USACE contact the Service for additional consultation if: 1) the scope or location of the proposed project is changed significantly, 2) new information reveals that the action may affect listed species or designated critical habitat; 3) the action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. Additional consultation as a result of any of the above conditions or for changes not covered in this consultation should occur before changes are made and or finalized.

Response: Concur.

10. Compensation should be provided for any unavoidable losses of BLH habitat, caused (directly or indirectly) by project features. All mitigation should be developed/coordinated with the Service and other natural resource agencies.

Response: *Concur. Mitigation for impacts associated with the proposed action have been evaluated in the EA #576, Bipartisan Budget Act Construction Projects Westshore Lake Pontchartrain, Comite River Diversion and East Baton Rouge Flood Risk Management, BBA Construction Mitigation. FONSI signed April 13, 2020.*

11. Any proposed change in project features or plans should be coordinated in advance with the Service, LDWF and other resource agencies.

Response: *Concur. CEMVN will continue to coordinate with appropriate agencies to ensure avoidance and minimization of impacts.*

12. Temporary instream impacts will occur, LDWF has requested USACE to quantify and mitigate for these impacts. The Service recommends USACE coordinate with LDWF on streambank restoration measures.

Response: *Concur. CEMVN is currently working with LDWF with regards to instream impacts, Mitigation for impacts associated with the proposed action have been evaluated in the EA #576, Bipartisan Budget Act Construction Projects Westshore Lake Pontchartrain, Comite River Diversion and East Baton Rouge Flood Risk Management, BBA Construction Mitigation. FONSI signed April 13, 2020.*

13. As planning and impact assessments continue to be refined, assessment of those impacts and mitigation needs will need to be revised accordingly. Since impacts to bottomland hardwoods have been identified, and field work has not been permitted, re-assessment of the value of those areas and their mitigation needs will be quantified using the updated Wetland Value Assessment (WVA). Any proposed change in impacts, or plans should be coordinated in advance with the Service.

Response: *Concur. CEMVN will continue to coordinate with appropriate agencies to ensure avoidance and minimization of impacts.*

14. To the maximum extent possible when applicable, the Services suggests incorporating the Channel Obstruction Removal Guidelines (see Appendix B of draft CAR).

Response: *Acknowledged.*

15. Should any archaeological deposits be located through the phase I survey effort, the delineated boundaries of the resource will either be avoided by not using that portion of the staging area, or timber matting will be used to avoid impacting the archaeological deposits.

Response: Concur. CEMVN will continue to coordinate with the LA SHPO and Federally-recognized Tribes to ensure avoidance and minimization of impacts based on on-going Phase I archaeological surveys, per consultation. In accordance with NHPA guidance, and CEMVN's implementation of the stated condition, if any avoidance areas or matting needs are identified, these will be made part of the Plans and Specifications.

8 Public Involvement and Coordination

Public involvement is an important part of planning and decision-making. Agencies, non-governmental organizations, and citizens provided valuable input for the final recommendation. NEPA provides people, organizations, and governments the opportunity to review and comment on proposed major federal actions. Engaging and receiving input from the public, interested parties, stakeholders, government agencies, and nongovernmental organizations regarding the content of EA #561 in all stages is critical to achieving the USACE objective of enhancing trust and understanding with customers, stakeholders, teammates, and the public through strategic engagement and communication.

A Public Notice for a draft copy of EA #561 was published in the Baton Rouge and New Orleans Advocate for the 30-day comment period beginning December 11, 2020 and ending January 10, 2021. One comment was received from the Louisiana Department of Wildlife and Fisheries and another was received from the Iberville Parish Council. Both letters are included in Appendix I along with CEMVN's responses.

Preparation of EA #561 has been coordinated with appropriate federal, Tribal, state, and local interests, as well as environmental groups and other interested parties. The following agencies, as well as other interested parties, received copies of draft EA #561 and the draft FONSI:

U.S. Department of the Interior, Fish and Wildlife Service
U.S. Environmental Protection Agency, Region VI
U.S. Department of Commerce, National Marine Fisheries Service
U.S. Natural Resources Conservation Service, State Conservationist
Coastal Protection and Restoration Authority Board of Louisiana
Advisory Council on Historic Preservation
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

Federally Recognized Tribes
Alabama-Coushatta Tribe of Texas
Choctaw Nation of Oklahoma
Coushatta Tribe of Louisiana
Chitimacha Tribe of Louisiana

Jena Band of Choctaw Indians
Mississippi Band of Choctaw Indians
Muscogee (Creek) Nation
Seminole Nation of Oklahoma
Tunica-Biloxi Tribe of Louisiana

Louisiana Departments of Transportation and Development
City of Baton Rouge and the Parish of East Baton Rouge

8.1 Views of the Non-Federal Sponsor

The NFS (City of Baton Rouge and the Parish of East Baton Rouge) have been actively involved in all of the planning milestone meetings with the vertical team and weekly PDT meetings held from the beginning of the project. The NFS supports the proposed action and a Project Partnership Agreement was executed on November 7, 2019.

9 CONCLUSION

The proposed action involves the clearing and snagging of a total of approximately 11.5 miles of streambed across the Lower Bayou Fountain, Lower Ward Creek and Lower Jones Creek waterways in EBR Parish, Louisiana. The purpose of the proposed modifications is to help reduce localized flooding caused by out of bank stages that occur during heavy rain events.

Across all three locations, a total of approximately 111.8 acres of BLH (85.33 AAHUs) and 155 acres of water bottoms would be permanently impacted from the proposed clearing and snagging activities. Work is expected to take approximately 410 days in LBF, 400 days in LJC, and 280 in LWC. In the event of a heavy rainfall event during construction, all equipment and personnel will be removed from any of the channels to prevent any impacts from their activities or loss of equipment or injury to personnel. All permanent impacts associated with the proposed actions will be mitigated and can be referenced in EA #576 which can be found on the New Orleans District website at <https://www.mvn.usace.army.mil/Missions/Environmental/NEPA-Compliance-Documents/Bipartisan-Budget-Act-2018-BBA-18/West-Shore-Lake-Pontchartrain/>

This office has assessed the environmental impacts of the proposed action and has determined that the proposed action would have no significant adverse impact on the human and natural environment.

10 PREPARED BY

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