Draft Environmental Assessment
Rutherford Pier Relocation Project
City of Bay St. Louis

Hancock County, Mississippi
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U.S. Department of Homeland Security
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FEMA

This document was prepared for:
The City of Bay St. Louis
P.O. Box 2550
Bay St. Louis, Mississippi 39521

by:
BMI Environmental Services, LLC
521 34th Street
Gulfport, Mississippi 39560

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ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
BMP	Best Management Practice
BFE	Base Flood Elevation
BO	Biological Opinion
CAA	Clean Air Act
CBD	Central Business District
CDBG	Community Development Block Grant
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	Decibel
EA	Environmental Assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
HUD	Housing and Urban Development
MDAH	Mississippi Department of Archives and History
MDEQ	Mississippi Department of Environmental Quality
MDMR	Mississippi Department of Marine Resources
MLW	Mean Low Water
MsCIP	Mississippi Coastal Improvements Program
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO2	nitrogen dioxide
PDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O3	ozone
Pb	lead
PM2.5	particulate matter less than 2.5 microns
PM10	particulate matter less than 10 microns
SHPO	State Historic Preservation Officer
SO2	sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
THPO	Tribal Historic Preservation Officer
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VE	Coastal High Hazard Area with velocity hazard (wave action) where Base Flood Elevations have been determined
WOUS	Waters of the U. S.

1.0 INTRODUCTION

On August 29, 2005, Hurricane Katrina struck the Mississippi Gulf Coast, causing extensive damage. A Presidential Disaster Declaration, FEMA-1604-DR-MS, was subsequently signed for Katrina.

The City of Bay St. Louis has submitted an application for Federal Emergency Management Agency (FEMA) funding under FEMA's Public Assistance Program being administered in response to FEMA-1604-DR-MS. In accordance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 93-288, as amended, and implementing regulations at 44 Code of Federal Regulations (CFR) Part 206, FEMA is required to review the environmental effects of the proposed action prior to making a funding decision. This Environmental Assessment (EA) has been prepared in accordance with FEMA's National Environmental Policy Act (NEPA) regulations found in 44 CFR Part 10.

2.0 PURPOSE AND NEED

The Rutherford Pier, located along the shoreline of the Bay of St. Louis at the eastern terminus of Ulman Avenue, was completed in 2001 and served as an important public recreational pier for the City of Bay St. Louis (Figure 1 in Appendix A). The Rutherford Pier included fishing platforms, covered pavilions, and restroom facilities; and provided opportunities for fishing, bird watching, and access to the public beaches adjacent to the pier.

On August 29, 2005, Hurricane Katrina's storm surge destroyed the Rutherford Pier leaving the City of Bay St. Louis without a public pier in the area near the Central Business District (CBD). The closest public pier north of the CBD is the public pier at Dunbar Avenue which is approximately 2 miles north of the former Rutherford Pier site. The closest public pier south of the CBD is the public pier at Washington Avenue which is approximately 0.5 mile south of the former Rutherford Pier site. Both of these facilities were damaged during Hurricane Katrina but they are currently open for public use.

The purpose of the project is to re-construct the Rutherford Pier in a new location closer to the downtown area. The Rutherford Pier would be integrated into and become part of the proposed Bay St. Louis Municipal Harbor which will be constructed using United States Department of Housing and Urban Development (HUD) Community Development Block Grant (CDBG) funds. Combining the reconstruction of the Rutherford Pier with the development of the municipal harbor would allow the City of Bay St. Louis to develop a major multi-purpose waterfront access project that would incorporate fishing, public access, and boat docking activities in one strategic location. The City of Bay St. Louis believes that co-locating these projects in a place where the individual components of the projects (i.e. parking, restroom, vending, etc) can be shared will increase utilization, reduce overall maintenance, and enhance public use of the facilities.

The Rutherford Pier was a very popular fishing/recreation pier that was used extensively prior to Hurricane Katrina. There is a need to integrate the reconstruction of the Rutherford pier with the

proposed municipal harbor where both projects could benefit from proximity to each other and proximity to the downtown area of Bay St. Louis. Furthermore, the Rutherford Pier and the proposed municipal harbor would focus attention of the downtown area and would aid in the recovery and rebuilding of this once thriving area of the City of Bay St. Louis.

3.0 ALTERNATIVES

This section describes the alternatives that were considered in addressing the purpose and need stated in Section 2 above.

3.1 Alternatives Considered

Two action alternatives as well as the no action alternative were initially considered by the City of Bay St. Louis. One of the action alternatives was to rebuild the Rutherford Pier at its present location. The other action alternative was to relocate the former Rutherford Pier to the site of the proposed municipal harbor where it would be integrated into the overall design of the harbor. The former Rutherford Pier site would be abandoned and the area would be restored to its original condition.

3.2 Alternatives Eliminated from Further Consideration

The City of Bay St. Louis considered rebuilding the Rutherford Pier at its current location. Under this alternative, the remains of the Rutherford Pier would be removed and the concrete debris would be transported to the Square Hankerchief Key where it would be added to the existing material at the key. The pier would be reconstructed within the existing footprint and the parking area and restroom facilities on the east side of Beach Boulevard would be rebuilt in the same location as originally constructed. This alternative was eliminated from further consideration because it did not provide as many opportunities for public access and sharing of facilities such as parking and restrooms, and the associated cost savings, compared to relocation of the pier and combining it with the municipal harbor.

3.3 Alternative 1: No Action

Under the No Action Alternative, the Rutherford Pier would not be rebuilt and the recreational opportunities previously provided by the pier would be lost. The public would continue to use other facilities north or south of the present site.

3.4 Alternative 2: Relocate Rutherford Pier with Harbor (Proposed Action)

Under Alternative 2 (Proposed Action), the City of Bay St. Louis would utilize FEMA funds, in conjunction with CDBG funds, and other public funding sources, to relocate and reconstruct the Rutherford Pier in conjunction with the construction of proposed Bay St. Louis municipal harbor, which will be located between Demontluzin Avenue and the CSX Railroad Bridge. The relocated Rutherford Pier would be approximately 750 feet south of its original location. When completed, the municipal harbor and Rutherford Pier would allow the City of Bay Louis to operate the public access facility which would provide opportunities for recreational access to

the Bay of St. Louis and other coastal waters for boaters, fishermen, and the general public. The proposed Bay St. Louis Municipal Harbor Project includes the following FEMA-funded actions:

- Demolition of the remains of the Rutherford Pier (Mississippi Coastal General Permit # DMR-110217 issued December 9, 2010).
- Removal, transportation, and placement of the concrete demolition debris from the Rutherford Pier at the Square Hankerchief Key. Approximately 530 cubic yards of concrete rubble would be removed during the demolition of the pier and transported by barge to the Square Hankerchief Key where it would be added to the existing material which makes up the underwater key structure.
- The relocation and integration of the Rutherford Pier into the harbor project. The relocated Rutherford Pier would form the north wall of the proposed Harbor. When constructed it would be approximately 1,200 feet long by 10 feet wide, and include three (3) "T" head fishing piers with pavilions at the end of each "T", and a large pavilion at the end of the pier.
- Construction of a vinyl flow-through breakwater under the relocated Rutherford Pier to provide wave protection for the harbor basin. The flow-through breakwater would also serve to trap sediments that would otherwise be transported into the harbor where it would cause shoaling.
- The construction and installation of a portable comfort station at the western end of the relocated Rutherford Pier.

The City of Bay St. Louis will use funds provided by HUD-CDBG grants and the Mississippi Secretary of State Tidelands Trust Fund to undertake the specific actions for the proposed municipal harbor project. The Council on Environmental Quality (CEQ) regulations implementing NEPA direct federal agencies to avoid improper segmentation when analyzing environmental impacts, in particular with regard to connected actions (40 CFR 1508.25). The relocation and reconstruction of the Rutherford pier is an interdependent component of the proposed harbor project and would be constructed concurrently with the proposed harbor project. Therefore, the non-FEMA funded actions listed below will be analyzed in this EA as part of the proposed action alternative. The non-FEMA funded actions include:

- Dredging a 4,100 foot long by 150 foot wide entrance channel that will connect the harbor basin to the -8 foot contour in the Bay of St. Louis and dredging a 1,200 foot long by 850 foot wide harbor basin.
- Disposal of approximately 150,000 cubic yards of dredged material in selected disposal areas. Approximately 40,000 cubic yards of dredged material will be placed behind the proposed bulkhead retaining wall which will be constructed along the western edge of the basin. Approximately 100,000 cubic yards of dredged material will be placed within the permitted beach renourishment areas of the Hancock County Beach, and approximately 10,000 cubic yards of dredged material will be placed in the Mississippi Coastal

Improvements Program (MsCIP) designated beneficial use area in lower Hancock County near Point Clear where it will be used to provide substrate for marsh restoration.

- Construction of a 1,780 foot long by 13.5 feet wide concrete walkway/pier which will form the southern and eastern margins of the basin, construction of approximately 3,550 linear feet of wooden piers 10 feet wide, construction of approximately 4,049 liner feet of wooden piers 4 feet wide; construction of 13,290 square feet of decking, installations of 216 single pile mooring piles, installation of 10 single pile channel day markers; construction of a 100 foot long timber pile breakwater structure, and the construction of 5 elevated electrical platforms.
- Construction of 1,780 foot long flow-through breakwater under the proposed walkway/pier which forms the south and east walls of the basin and the construction of 985 feet of concrete bulkhead along the west wall of the basin.
- Installation of two (2) 10,000-gallon double-walled steel underground fuel storage tanks in the northwest corner of the basin, and the installation of a sewer pump out system adjacent to the fuel dock in the northwest corner of the basin.
- Filling of approximately 2,777 square feet of Waters of the U.S. (WOUS) and construction of a paved parking area between the proposed seawall currently being constructed as part of the MsCIP and the bulkhead which forms the western margin of the harbor basin; and excavation of approximately 12,817 square feet of beach area.
- Construction of a pedestrian/vehicle access ramp across the new seawall that was constructed by the U.S. Army Corps of Engineers (USACE) as part of the MsCIP) program to connect the paved parking area to Beach Boulevard.

4.0 AFFECTED ENVIRONMENT AND IMPACTS

The following table summarizes the potential impacts of the Proposed Action Alternative and conditions or mitigation measures to offset those impacts. Following the summary table, any areas where potential impacts were identified will be discussed in greater detail.

Table 1: Summary of Potential Impacts of the Proposed Action Alternative and Mitigation.

Affected Environment	Impacts	Mitigation
Geology and Soils	No long term impacts on geology or soils are anticipated. The existing beach and nearshore area is currently being modified by the USACE as part of a shoreline protection project which is funded by the MsCIP program. No impacts to	Erosion and sediment control Best Management Practices (BMPs) would be used during demolition and construction activities, to stabilize soils and prevent sediment from moving off-site. The selected contractor will be required to follow a comprehensive Storm Water Pollution Prevention Plan (SWPPP) and adhere to the terms and conditions of the National Pollutant Discharge

Affected Environment	Impacts	Mitigation
	farmland are anticipated. Construction of the parking area for the proposed municipal harbor will convert the sand beach to a paved parking area.	Elimination (NPDES) construction storm water permit.
Surface Water	Temporary impacts on surface waters in the Bay of St. Louis and the Mississippi Sound could occur during demolition of the former Rutherford Pier and during the harbor construction period. The demolition work and dredging could suspend sediments and increase turbidity. Disposal of dredged material at designated disposal site could also increase turbidity.	The applicant would implement appropriate BMPs including erosion and sediment controls, turbidity controls during demolition work and during the dredging and dredged material disposal operations. The City of Bay St. Louis will utilize non-stormwater controls such as spill prevention and waste management during construction. The applicant would adhere to conditions of existing Mississippi Department of Marine Resources (MDMR), Mississippi Department of Environmental Quality (MDEQ), , and USACE permits relative to demolition, disposal of demolition debris disposal, construction, dredging, dredged material disposal, and stormwater management.
Groundwater	No impacts on groundwater are anticipated.	None
Floodplains	No impacts on the floodplain are anticipated. The docks and piers of the Proposed Action are categorized by FEMA as functionally dependent facilities, which by definition would not require elevation to the BFE. The electrical system transformers for the piers would be constructed on platforms that meet the National Flood Insurance Program (NFIP) requirements and local ordinances. The restroom and harbor master building will be a portable building that will be removed in the event of a storm. The fuel tanks would be buried and anchored for protection during tidal storm surges.	None

Affected Environment	Impacts	Mitigation
Waters of the U.S. including Wetlands	Temporary impacts from sediment erosion during demolition of the former Rutherford Pier, dredging, dredged material disposal and construction could occur to WOUS. Impacts to WOUS from demolition of the former Rutherford Pier, debris disposal, dredging, dredged material disposal, construction of bulkheads, piers, decks, and platforms, filling 2,777 square feet of WOUS, and placement of dredged material on the Hancock County Sand Beach, behind the bulkhead, and at the MsCIP beneficial use site at Bayou Caddy are covered under USACE and MDMR permits and an MDEQ water quality certification.	Appropriate erosion and sediment control BMPs would be used during demolition and construction and immediately upon completion of construction, to stabilize soils and prevent sediment from moving off-site. The applicant will comply with conditions of all permits and certifications. The 2,777 square feet of fill impacts to WOUS would be mitigated by the removal of 12,817 square feet of fill from the sand beach currently being constructed by the USACE under MsCIP. The debris from the demolition of the former Rutherford Pier will improve habitat and substrate conditions and provide additional places for crustaceans and oysters to attach. The concrete rubble material will also provide habitat for small fish to feed and forage. Beneficial use of dredged material could increase substrate conditions and provide opportunities for the establishment of tidal marsh.
Transportation	Minor temporary increase in the construction traffic on roads in the immediate vicinity of the proposed project site during construction. Minor increase in traffic once the project is complete. The relocated Rutherford Pier and the new municipal harbor would attract users and traffic volumes in this part of the City would increase slightly.	Selected contractor will be required to develop a traffic safety plan and comply with all City requirements for moving construction vehicles and equipment to and from the site. Appropriate signage would be posted on affected roadways. The City of Bay St. Louis will incorporate appropriate signage and traffic controls to insure safe ingress and egress from the newly constructed harbor. Construction of the combined parking facility for the harbor and Rutherford Pier should increase public parking spaces in the downtown area.
Public Health and Safety	No impacts on public health are anticipated.	All construction activities would be performed in accordance with the standards specified in Occupational Safety and Health Administration regulations; appropriate signage and safety barriers will be in place prior to construction activities

Affected Environment	Impacts	Mitigation
Hazardous Materials	No impacts on hazardous materials or wastes are anticipated.	The contractor will be required to manage and dispose of any hazardous material generated or used during construction of this project. If the excavation and/or dredging activities expose or otherwise affect any previously unidentified hazardous wastes or materials, work will be stopped immediately. The City of Bay St. Louis in conjunction with the contractor would assess the condition, and the hazardous materials would be removed and disposed in accordance with applicable local, state, and federal regulations.
Socioeconomic Resources	No negative impacts on socioeconomic resources are anticipated. The proposed project will provide new jobs during construction as well as new jobs for marina service employees and vendors. The proposed municipal harbor will generate revenue from slip rental fees, fuel sales, and other fees related to boat storage. The proposed project will also provide opportunities for recreational access to the Bay of St. Louis and the Mississippi Sound, and it will provide an attractive waterfront feature for the city.	None
Environmental Justice	No disproportionately high or adverse effect on minority or low-income populations is anticipated. The proposed project would benefit all populations that utilize the Harbor by providing recreational activities and facilities.	None
Air Quality	Temporary impacts to air quality from fugitive dust during demolition, grading/fill operations, and construction; and emissions from fuel-burning internal combustion engines (e.g., heavy equipment and earthmoving machinery)	Construction contractors would be required to water down construction areas when necessary, fuel-burning equipment running times would be kept to a minimum and engines would be properly maintained.

Affected Environment	Impacts	Mitigation
	may occur. Minor increases in emissions from vehicles and boats at the harbor are anticipated.	
Noise	Temporary increases in noise levels are anticipated during the demolition of the Rutherford Pier and construction of the harbor.	Demolition and construction activities would take place during daylight hours and equipment and machinery utilized at the site would meet all local, state, and federal noise regulations.
Biological Resources	Demolition of the former Rutherford Pier, disposal of demolition debris, dredging, and dredged material disposal may impact non-mobile benthic organisms within the footprint of the construction areas, the dredging area, and the dredged material disposal area Demolition, dredging, and construction activities could increase in turbidity and affect movement and foraging activities for mobile marine species. Increased turbidity could reduce light penetration and a decrease in phytoplankton growth. Filling of the 2,777 square feet of WOUS will result in the loss of benthic habitat and associated loss of WOUS. Filling of the beach area for parking will cause a loss of designated critical habitat for the piping plover. Construction of the harbor basin and Rutherford Pier may increase possible impacts to the Gulf Sturgeon and endangered sea turtles.	To reduce impacts associated with demolition and dredging, the contractor will utilize appropriate BMPs, including erosion and sediment controls during construction activities. The contractor will also be required to conduct dredging operations in a way that would reduce turbidity. The City will comply with the conditions of the existing MDMR and USACE permits, and MDEQ water quality certification and MDEQ NPDES permit. The City will compensate for the loss of benthic habitat by excavating 12,817 square feet of fill from the sand beach currently being constructed by the USACE under MsCIP. In accordance with the piping plover BO prepared by the USFWS (USFWS, 2010), the City of Bay St. Louis will undertake reasonable and prudent measures as well as certain conservation measures to avoid impacts that could negatively impact the piping plover. The City will also implement reasonable and prudent measures as well as certain conservation measures outline in the BO prepared by the NMFS (NOAA, 2011) to avoid impacts that could negatively impact the Gulf Sturgeon and sea turtles. The debris from the demolition of the former Rutherford Pier will improve habitat and substrate conditions and provide additional places for crustaceans and oysters to attach. The concrete rubble material will also provide habitat for small fish to feed and forage. Beneficial use of dredged material could increase substrate conditions and provide opportunities for the establishment of tidal marsh.

Affected Environment	Impacts	Mitigation
Biological Resources (Cont.)	Impacts to benthic habitat, the loss of critical habitat for the piping plover, and the possible threats to the Gulf sturgeon and sea turtles are discussed in the permits issued by the USACE, the MDMR, and the MDEQ; and in the Biological Opinion (BO) issued by the U.S. Fish & Wildlife Service (USFWS) on October 19, 2010 and the BO issued by the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) on January 18, 2011.	
Cultural Resources	No impacts to archaeological or above-ground historic properties are anticipated.	None.

4.1 Geology and Soils

The project area is located within the East Gulf Flatwoods Major Land Resource Area (MLRA 152A) of the Atlantic and Gulf Coast Lowland Forest and Crop Region (NRCS, 2011). The region is mostly level to gently sloping land that includes the coastal plains and the Mississippi River Delta along the Gulf of Mexico. This East Gulf Flatwoods MLRA is a nearly level, low coastal plain crossed by many large streams and river systems. Elevation in this area ranges from sea level to 80 feet and local relief is generally 2 to 20 feet.

The USACE is currently constructing a new seawall/beach shoreline protection system for this area of Bay St. Louis. The project, which is being constructed as a shoreline protection project under the MsCIP program, involves the construction of a concrete seawall that will vary in height from 20 feet above sea level to approximately 5 feet above sea level. In addition to the seawall, the USACE will also construct a 150-foot-wide sand beach in front of the seawall. The project will begin at U.S. Highway 90 and extend south to the existing jetty at Washington Street and will convert the existing narrow sand and nearshore platform to a stabilize shoreline to a sand beach. Once constructed, the existing soils will be replaced with coarse grain sand material. The area behind the seawall will be filled to grade and compacted to provide a stable transition between the seawall and Beach Boulevard.

The Farmland Protection Policy Act (FPPA) states that federal agencies must "minimize the extent to which federal programs contribute to the unnecessary conversion of farmland to

nonagricultural use." For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land. The proposed site is within an area of Bay St. Louis that has been developed as urban land since the early 1900s. Also, the majority of the site is east of the beach/shoreline area which is classified as open water habitat. Based on this information, the proposed project site does not contain soils classified as prime or unique farmland and the FPPA does not apply.

No Action Alternative – Under the No Action Alternative, no impacts to geology or soils would occur.

Proposed Action Alternative – Under the Proposed Action Alternative, no impacts to geology would occur. Minor, temporary impacts to the newly constructed sand beach area at the Rutherford Pier and adjacent to the project area may occur during demolition and construction of the Proposed Action. Care would be taken to reduce erosion and minimize compaction of soil/sand during demolition of the Rutherford Pier. Appropriate erosion and sediment control BMPs would be used during demolition and construction, and immediately upon completion of construction, to stabilize soils and prevent sediment from moving off-site to the adjoining sand beach areas.

4.2 Water Resources

4.2.1 Surface Water

The proposed project site is located on the western shore of the Bay of St. Louis. The Bay of St. Louis is a shallow estuarine embayment off of the Mississippi Sound. The bay receives freshwater flow from the Jourdan River on the west side of the bay and DeLisle Bayou, the Wolf River, and Bayou Portage on the east side of the bay (Christmas, 1973). These areas range in depth from less than 1 foot at mean low water (mlw) to 8 feet at mlw. The Mississippi Sound is a shallow coastal lagoon approximately 80 miles long by approximately 9 miles wide which is separated from the Gulf of Mexico by a chain of sandy barrier islands (Christmas, 1973).

The Coastal Zone Management Act (CZMA) enables coastal states, including Mississippi, to designate state coastal zone boundaries and develop coastal management programs to improve protection of sensitive shoreline resources and guide sustainable use of coastal areas. According to the National Oceanic and Atmospheric Administration, the proposed project site is located within the Mississippi Coastal Zone.

The Clean Water Act (CWA), as amended in 1977, established the basic framework for regulating discharges of pollutants into WOUS. The National Pollutant Discharge Elimination System (NPDES) permitting program, administered by the State, addresses discharges of storm water from construction sites that disturb more than 1 acre. Preparation of a Stormwater Pollution Prevention Plan (SWPPP) is required as part of the permit.

Section 404 of the CWA, which regulates the development of wetlands, is jointly administered by the USACE and the EPA. The USACE is responsible for the day-to-day administration and permit review and EPA provides program oversight. MDEQ administers the CWA Section 401 Water Quality Certification Program, the focus of wetland regulation and protection programs at the state level. The federal Section 404 permit from the USACE is not issued until MDEQ gives a 401 certification. MDMR has joint jurisdiction over proposed wetland alteration in the coastal zone.

No Action Alternative – Under the No Action Alternative, no adverse impacts to surface water would occur.

Proposed Action Alternative – Under the Proposed Action Alternative, temporary impacts to surface waters in the Bay St. Louis and the Mississippi Sound could occur during the demolition of the former Rutherford Pier, dredging, and construction of the new Rutherford Pier and municipal harbor. The demolition activities, dredging, dredged material disposal, and construction of the piers, pilings, and bulkheads may cause suspension of sediments in the water column, soil erosion, and potential sedimentation of the Bay of St. Louis and the Mississippi Sound near Bayou Caddy. Other construction-related pollutants may be released into the Bay of St. Louis waters from accidental fuel spills or leaks, or from construction materials and construction wastes.

The applicant would obtain an NPDES construction stormwater permit prior to construction and prepare a comprehensive SWPPP. This SWPPP would describe appropriate BMPs, including erosion and sediment controls, turbidity controls during dredging and construction activities that would occur in water and non-storm water controls such as spill prevention and waste management to reduce impacts to surface water.

On April 21, 2010, the MDMR issued Permit Number DMR-100249 for the dredging of the harbor basin, dredged material disposal, and construction of bulkheads, flow-thru breakwater structures, piers, decks, and platforms. MDMR stated that the proposed project is consistent with the Mississippi Coastal Program, which was promulgated by the State under the provisions of the CZMA, provided the applicant complies with the permit conditions. Work authorized by this permit must be completed on or before April 21, 2015. On August 13, 2010, MDEQ issued a Section 401 water quality certification (WQC No. WQC22009091).

The MDMR issued Mississippi Regional General Permit Number DMR-110217 which authorized the demolition and disposal of demolition debris from the site at the Square Hankerchief Key. The permit was issued on December 9, 2010 and work under this permit must be completed before December 9, 2015.

On March 9, 2011, the USACE issued a CWA Section 404 and Rivers and Harbors Act Section 10 Permit No. SAM-2009-01763-MJF which authorized the dredging of the harbor basin, dredged material disposal, and the construction of bulkheads, flow-thru breakwater structures, piers, decks, pavilions, and platforms. Work authorized by this permit must be completed on or before February 23, 2016.

4.2.2 Floodplains

Executive Order (EO) 11988 (Floodplain Management) requires federal agencies to avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. FEMA uses Flood Insurance Rate Maps (FIRMs) to identify the regulatory 100-year floodplain for the National Flood Insurance Program. Consistent with EO 11988, the FIRM for this site was identified and examined during the preparation of this EA. The FIRM for this site is Community Panel Number 28045C0362D, October 16, 2009 (FEMA, 2009), and the FIRM indicates that the proposed project area is located within a FEMA flood zone VE. FEMA flood zone VE is a Coastal High Hazard Area or area subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action; and where Base Flood Elevations (BFEs) derived from detailed hydraulic analyses are shown. The BFEs beginning at the shoreline and proceeding west are 25 feet, 23 feet, and 21 feet respectively.

The USACE is currently constructing a concrete seawall and 150-foot-wide beach to provide shoreline protection for the beach area between U.S. Highway 90 and Washington Street. The top of the seawall will follow the existing elevation of the top of bank and vary from 5 feet to 20 feet high. The construction of the seawall and the sand beach will not require any changes to the FEMA flood zone classifications or the BFEs for this area of Bay St. Louis (Personal Communications, Josh Hayes, July 21, 2011).

No Action Alternative – Under the No Action Alternative, no impacts to the floodplain would occur.

Proposed Action Alternative – As indicated on the FIRM, the proposed project site is located in Zone VE, and within the 100-year floodplain. While the project is located within the 100-year floodplain, the project is not likely to impact coastal flooding. The construction of the parking lot for this project would raise the elevation of the land and could reduce the ability of the "floodplain" to absorb flood waters. Also, the impervious surface of the parking lot would generate additional stormwater compared to the pervious sand beach; however because of its coastal setting, the project area adjacent to the municipal harbor is not particularly susceptible to flooding impacts associated with heavy rains and stormwater runoff from the adjacent upland watershed. The project area is located on an open water estuarine system where flooding is more commonly associated with wind driven waves and tides. Given the large expanse of shoreline area and the relatively minor impacts the change in elevation would have on the shoreline area, impacts to the VE Zone would be imperceptible. Also, when compared to the amount of stormwater from the surrounding upland areas of the City of Bay St. Louis, and giving full consideration to the stormwater management features for this project, the increase in stormwater would be minor and would not contribute to coastal flooding problems.

The City of Bay St. Louis coordinated with the USACE during the development of the plans for the municipal harbor to insure that the proposed harbor project would not negatively impact any critical design features of the seawall or the 150-foot-wide beach.

In compliance with EO 11988, the Eight Step Decision Making Process for Floodplain Management for the Proposed Action has been completed and is provided in Appendix D. The City of Bay St. Louis coordinated with the City's floodplain manager and confirmed that the project would not require any changes in the flood zone or floodplain boundaries. The docks and piers of the Proposed Action are categorized by FEMA as functionally dependent facilities, which by definition would not require elevation to the BFE. The transformers and electrical system supporting the piers and slips would be constructed on platforms that meet the NFIP requirements and local ordinances. The restrooms and harbor master building will be a portable building that would be removed in the event of a storm. The fuel tanks would be buried and anchored for protection during tidal storm surges.

4.2.3 Waters of the U.S. including Wetlands

The USACE regulates the discharge of dredged or filled material into waters of the U.S., including wetlands, pursuant to Section 404 of the CWA. Additionally, Executive Order 11990 (Protection of Wetlands) requires federal agencies to avoid, to the extent possible, adverse impact of wetlands.

According to the National Wetlands Inventory Map, the municipal harbor will be located in an area that is currently mapped as estuarine, intertidal unconsolidated sandy shore and estuarine sub-tidal unconsolidated bottom wetlands (USFWS, 2011). No vegetated wetlands are located on or near the project site.

No Action Alternative – Under the No Action Alternative, no impacts on WOUS, including wetlands, would occur.

Proposed Action Alternative – Under the Proposed Action Alternative, temporary impacts to WOUS in the Bay St. Louis and the Mississippi Sound could occur from demolition of the former Rutherford Pier, debris disposal, dredging and dredged material disposal, construction of bulkheads, piers, and decks. During the construction period, the removal of former Rutherford Pier, dredging, dredged material disposal, and construction of the piers, pilings, and bulkheads that would cause suspension of sediments in the water column, soil erosion and potential sedimentation of the Bay of St. Louis and the Mississippi Sound near Bayou Caddy. Other construction-related pollutants could be released into the Mississippi Sound waters due to spills or leaks of fuels and other construction materials and wastes. The applicant would be required to submit a SWPPP and obtain an NPDES permit prior to construction. To reduce impacts to surface water, the applicant would implement appropriate BMPs, including erosion and sediment controls, turbidity controls during dredging and construction activities that would occur in water and non-storm water controls such as spill prevention and waste management.

Under the Proposed Action, the construction of the paved parking area would result in the permanent filling of approximately 2,777 square feet of WOUS. The City of Bay St. Louis proposes to compensate for the unavoidable loss of 2,777 square feet of fill impacts to WOUS by removing approximately 12,817 square feet of fill from the sand beach currently being constructed by the USACE under MsCIP. The placement of the demolition debris from the

demolition of the former Rutherford Pier at the Square Hankerchief would improve habitat and substrate conditions and provide additional places for crustaceans and oysters to attach. The concrete rubble material would also provide habitat for small fish to feed and forage. Long-term beneficial impacts would occur from the placement of approximately 5,000 cubic yards of dredged material at USACE beneficial use area east of Bayou Caddy in lower Hancock County. Placement of dredged material at the site would increase the elevation of the site and provide opportunities for the establishment of tidal marsh.

The impacts to WOUS were authorized by MDMR Permit Number DMR-100249, MSDEQ Water Quality Certification No. WQC22009091, and USACE CWA Section 404 and Rivers and Harbors Act Section 10 Permit No. SAM-2009-01763-MJF. The impacts to WOUS associated with the demolition of the Rutherford Pier were authorized by MDMR-issued Mississippi Regional General Permit Number DMR-110217. Copies of these project authorizations are provided in Appendix B.

4.3 Transportation

The proposed project site is located east of Beach Boulevard which is an improved two-lane roadway that runs north to south through the downtown area of Bay St. Louis. Access to the municipal harbor will be provided by a vehicular ramp that will lead from Beach Boulevard to the designated parking area. Parking for commercial properties in downtown Bay St. Louis is provided via street parking, individual parking lots for the respective businesses or the newly constructed municipal parking garage south of Court Street.

No Action Alternative - Under the No Action Alternative, there would be no changes to transportation.

Proposed Action Alternative – Under the Proposed Action Alternative, no significant adverse impacts on transportation, site access, or traffic levels are anticipated. There would be a minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed project site that could potentially result in a slower traffic flow for the duration of the construction phase. To mitigate potential delays, construction vehicles and equipment would be stored on site during project construction and appropriate signage would be posted on affected roadways. The construction contractor would be required to establish staging areas away from high traffic areas or within the limits of the project site. Once the relocated Rutherford Pier and the new municipal harbor are completed, there would be a slight increase traffic volumes in this part of the City. At the present time it is not anticipated that traffic lights will be required, nor are there any plans to include turn lanes to provide access to the relocated Rutherford Pier or the municipal harbor.

4.4 Environmental Justice

EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Socioeconomic and demographic data for the project site area were reviewed to determine if a disproportionate

number of minority or low-income persons have the potential to be adversely affected by the proposed project (U.S. Census Bureau, 2006). The project lies within the Block Group 5 of Census Tract 301, Hancock County, Mississippi. According to U.S. Census Bureau data for the 2000 Census, the total population for Hancock County was 42,967 with a minority population of 4,215 individuals (9.8%). According to U.S. Census Bureau data for the 2000 Census, the total population for of Census Tract 301 was 1433 with a minority population of 171 individuals (11.9 %).

No Action Alternative – Under the No Action Alternative, there would be no disproportionately high and adverse effects on minority or low-income populations. All populations could potentially be adversely affected by the loss of recreational activities if the Rutherford Pier is not reconstructed.

Proposed Action Alternative – Under the Proposed Action Alternative, there would be no disproportionately high adverse impacts on minority or low-income populations. Approximately 11.9% of the people in Block Group 1 of Census Tract 301 are minorities. While this percentage is slightly higher than the minority percentage in Hancock County (9.8%), it is not likely that the project would have an adverse impact on the minority population because implementation of the Proposed Action Alternative would benefit all populations by providing recreational activities and facilities at the proposed municipal harbor and Rutherford Pier.

4.5 Air Quality

The Clean Air Act (CAA) requires that states adopt ambient air quality standards. The standards have been established in order to protect the public from potentially harmful amounts of pollutants. Under the CAA, the U.S. Environmental Protection Agency (EPA) establishes primary and secondary air quality standards. Primary air quality standards protect the public health, including the health of "sensitive populations, such as people with asthma, children, and older adults." Secondary air quality standards protect public welfare by promoting ecosystems health, and preventing decreased visibility and damage to crops and buildings. EPA has set national ambient air quality standards (NAAQS) for the following six criteria pollutants: ozone (O3), particulate matter (PM2.5, PM10), nitrogen dioxide (NO2), carbon monoxide (CO), sulfur dioxide (SO2), and lead (Pb). According to MDEQ, the entire state of Mississippi is classified as in attainment, meaning that criteria air pollutants do not exceed the NAAQS (MDEQ, 2008).

No Action Alternative – Under the No Action Alternative, there would be no short- or long-term impacts on air quality because no construction would occur.

Proposed Action Alternative – Under the Proposed Action Alternative, temporary impacts on air quality would occur during the construction period. To reduce temporary impacts on air quality, the construction contractors would be required to water down construction areas when necessary. Emissions from fuel-burning internal combustion engines (e.g., heavy equipment and earthmoving machinery) could temporarily increase the levels of some of the criteria pollutants, including CO, NO2, O3, PM2.5 and PM10, and non-criteria pollutants such as Volatile Organic Compounds. To reduce the emission of criteria pollutants, fuel-burning equipment running times would be kept to a minimum and engines would be properly maintained.

Once the project is completed, there would be an increase in the number of vehicles accessing the relocated Rutherford Pier and the municipal harbor compared to existing conditions, which would result in long-term increased emissions. Also, various sized boats will be docked at the new harbor, which would cause increases in emissions from boat engines. Maintenance and repair activities would result in short-term increases in emissions from construction-related vehicles. The long-term and short-term localized increases in emissions would be negligible compared to existing conditions and therefore is not anticipated to adversely affect air quality.

4.6 Noise

Noise is generally defined as unwanted sound. Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. EPA guidelines, and those of many other federal agencies, indicate that noise levels of 55 dB outdoors and 45 dB indoors are identified as preventing activity interference and annoyance (EPA, 1974). The levels are not a single event, or "peak" levels. Instead, they represent averages of acoustic energy over periods of time such as 8 hours or 24 hours, and over long periods of time such as years. Noise levels for various areas are identified according to the use of the area. Levels of 45 dB are associated with indoor residential areas, hospitals and schools, whereas 55 dB is identified for certain outdoor areas where human activity takes place. The level of 70 dB is identified for all areas in order to prevent hearing loss.

Several sensitive receptors are located within 1 mile of the proposed project site. Schools located in close proximity to the site include Saint Stanislaus College Preparatory School, Our Lady Academy, Holy Trinity Catholic School, and Christ Episcopal Day School. Churches located in close proximity to the site include Our Lady of the Gulf Catholic Church, Main Street United Methodist Church, the First Baptist Church Main Street, and Christ Episcopal Church.

No Action Alternative – Under the No Action Alternative, no impacts on noise levels would occur because there would be no construction.

Proposed Action Alternative – Under the Proposed Action Alternative, temporary increases in noise levels are anticipated during the construction period, especially during piling placement, which is louder than normal construction noise. Construction would occur during daylight hours only to provide quiet hours during the night-time for local residents and people attending activities at the sensitive receptors. All of the construction noises would be of short duration, localized, and would not have a long term effect on the adjacent commercial properties or public facilities. Vehicle and boat docking activities at or near the beach/water interface, which is over 150 feet from Beach Boulevard, would result in increased noise levels at the project site; however, the impacts would be minor when compared to existing ambient noise levels within the downtown area. Also, noise levels associated with vehicle and boats will be of short duration and blocked by the newly constructed seawall which is approximately 10 feet higher than the parking area. Given these conditions, the noise levels would be only minimally perceptible at the waterfront. Neither the short durations of noise generated during construction nor the long term noise impacts from vehicular and boat traffic are anticipated to be significant.

4.7 Biological Resources

The proposed project site is located along the western shore of the Bay of St. Louis and adjacent to the City of Bay St. Louis downtown business area. Wildlife resources in the vicinity of the project site include shorebirds and wading birds and various species of terrestrial mammals. Common birds found in the area of the site include herons, egrets, terns, gulls, and black skimmers. The vegetation in the vicinity of the site is typical of a developed urban shoreline area.

Shallow estuarine water bottoms dominate the areas in the immediate vicinity of the project site. These areas range in depth from less than 1 foot at mlw to 8 feet at mlw, and contain a variety of aquatic species. The intertidal and sub-tidal bottoms are populated with benthic organisms commonly found on muddy-sand bottoms. The major fisheries of the project area include menhaden, mullet, croakers, shrimp, crab and oysters. These species and others common to the area are generally described as estuarine dependent species because they spend all or part of their lives in estuaries such as the Bay of St. Louis and the Mississippi Sound. According to information provided by the MDMR, there is a small oyster reef approximately 1,000 feet east of the entrance to the proposed harbor basin and channel.

The federally listed threatened and endangered species that may occur in Hancock County, Mississippi are shown in Table 2 (USFWS, 2010).

Table 2: List of Federally Threatened and Endangered Species, Hancock County, Mississippi.

Common Name	Scientific Name	Status
Louisiana quillwort	*Isoetes louisianensis*	Endangered
Leatherback sea turtle	*Dermochelys comacea*	Endangered
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered
West Indian manatee	*Trichechus manatus*	Endangered
Louisiana black bear	*Ursus americanus luteolus*	Threatened
Piping plover	*Charadrius melodus*	Threatened Critical Habitat
Gopher tortoise	*Gopherus polyphemus*	Threatened
Ringed map turtle	*Graptemys oculifera*	Threatened
Green sea turtle	*Chelonia mydas*	Threatened
Gulf sturgeon	*Acipenser oxyrhynchus desotoi*	Threatened Critical Habitat
Inflated heelsplitter	*Potamilus inflatus*	Threatened
Pearl darter	*Percina aurora (Pearl River System*	Candidate

The Mississippi Sound is listed as one of fourteen areas or units designated as critical habitat for the Gulf sturgeon (68 FR 13370, March 19, 2003); however, the critical habitat does not include the Bay of St. Louis. The sand beaches in the vicinity of the proposed project site are within a designated critical habitat for the piping plover (USFWS, 2001) and the beach shoreline provides some foraging, roosting, and sheltering habitat for plovers (BMI/ES, 2009).

The Magnuson-Stevens Fishery Conservation and Management Act of 1976 (Magnuson-Stevens Act, 16 U.S.C. 1801 et seq.), as amended, gives the United States exclusive management authority over fisheries, except for highly migratory species of tuna, within a fishery conservation zone of 5 to 322 kilometers (3 to 200 miles) offshore. The Magnuson-Stevens Act also mandates the identification of Essential Fish Habitat (EFH) for managed species. EFH is defined as the waters or substrate necessary for fish to spawn, breed, feed, or grow to maturity. The Gulf of Mexico Fishery Management Council identifies and describes EFH based on areas where various life stages of selected managed species commonly occur. Because these species collectively occur in all estuarine and marine habitats of the Gulf of Mexico, the entire Gulf is considered to be EFH. According to the National Oceanic and Atmospheric Administration's (NOAA) EFH Mapper, the Bay of St. Louis and the Mississippi Sound are designated as EFH for coastal pelagics (i.e. Spanish mackerel and blue fish), red drum, and various species of shrimp (NOAA, 2009). According to the NOAA EFH Mapper, the proposed project site does not include Habitat Areas of Particular Concern.

No Action Alternative – Under the No Action Alternative, there would be no impacts to biological resources or listed species because no construction would occur.

Proposed Action Alternative – Under the Proposed Action Alternative, disruption of the benthic environment during dredging would result in temporary impacts on species that are unable to swim away, and could also result in temporary adverse impacts on habitat quality due to turbidity during the construction period. To reduce impacts to the marine environment, the applicant would implement appropriate BMPs, including turbidity, erosion and sediment controls as needed during dredging and construction activities.

Construction of the harbor basin and relocated Rutherford Pier may increase possible threats to the Gulf Sturgeon and endangered sea turtles. The NMFS has issued a BO which outlines reasonable and prudent measures as well as certain conservation measures to minimize impacts to Gulf Sturgeon and sea turtles (NOAA, 2011). The City of Bay St. Louis has agreed to implement measures such as providing openings of sufficient size (16 inches) to allow for fish and turtle passage, providing informational signage to educate fisherman on proper procedures for minimizing adverse impacts to turtles, and conducting diver surveys to identify and remove monofilament line form pier pilings to reduce entanglement.

Construction of the parking area on the beach would result in the loss of 2.7 acres of sandy beach area that has been designated as critical habitat for the piping plover. The USFWS has issued a BO which outlines reasonable and prudent measures as well as certain conservation measures to minimize impacts to the piping plover (USFWS, 2010). In accordance with the piping plover BO prepared by the USFWS, the City of Bay St. Louis would undertake reasonable and prudent measures as well as certain conservation measures to avoid impacts that could adversely affect the piping plover. As mitigation for the loss of beach area, the City of Bay St. Louis has agreed to utilize dredged material along the Hancock County Beaches to enhance the critical habitat for shorebirds and would coordinate with the Hancock County Board of Supervisors to minimize mechanical cleaning of the dry sand portion of the beach to areas landward of the primary wrack (organic material). The City of Bay St. Louis has also agreed to manage trash on a routine basis

to avoid attracting shorebird predators to the area.

The Proposed Action is not expected to adversely impact any EFH or NMFS-managed species because the fish and other mobile marine organisms such as crabs and shrimp would be able to avoid the project area during dredging and should return once construction is completed. The dredging and placement of dredged material at the disposal in the beneficial use area may cause localized short-term increases in turbidity. The dredging activities would also cause a short-term loss in benthic organisms within the footprint of the dredging and dredged material disposal areas. Once the dredging and dredged material disposal activities have been completed, the benthic community would be expected to fully recover. Therefore, the Proposed Action is not expected to result in long-term adverse impacts to the existing benthic community in the Bay of St. Louis and the Mississippi Sound.

4.8 Socioeconomic Resources

As of the census of 2000, there were 8,209 people, 3,271 households, and 2,064 families residing in the City of Bay St. Louis (U.S. Census Bureau, 2006). The median income for a household in the city was $34,106, and the median income for a family was $41,957. Males had a median income of $32,261 versus $21,308 for females. The per capita income for the city was $18,483. 13.2% of the population and 10.0% of families were below the poverty line. Out of the total population, 17.2% of those under the age of 18 and 11.5% of those 65 and older were living below the poverty line. The City of Bay St. Louis has a total area of 16.9 square miles of which, 6.1 square miles of it is land and 10.7 square miles of it is water. The City of Bay St. Louis is served by the Bay St. Louis-Waveland School District which currently has one high school (Bay High School-Grades 9 through 12); one middle school (Bay-Waveland Middle School-Grades 6 through 8); three elementary schools (Second Street Elementary School-Grades 4 through 5, and North Bay Elementary School-Grades K through 3). Bay St. Louis is also home to St. Stanislaus College, a residency and day school for boys Grades 7 through 12, and Our Lady academy, a day school for girls Grades 7 through 12.

No Action Alternative - Under the No Action Alternative, there would be no benefits to socioeconomic resources. Adverse impacts to socioeconomic resources could occur from the loss of recreational opportunities, and therefore lost opportunities for recreation industry jobs, if the Rutherford Pier is not reconstructed. The No Action Alternative may also result in lost opportunities for jobs and revenue to the City of Bay St. Louis if the municipal harbor is not constructed.

Proposed Action Alternative - No adverse impacts on socioeconomic resources are anticipated with the Proposed Action. The proposed project would provide new jobs during construction as well as new jobs for marina service employees and vendors. The proposed municipal harbor will generate revenue from slip rental fees, fuel sales, and other fees related to boat storage. The proposed project would also provide opportunities for recreational access to the Bay of St. Louis and the Mississippi Sound, and it would provide an attractive waterfront feature for the city.

4.9 Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implemented by 36 CFR Part 800, outline the procedures for Federal agencies to follow to take into account the effect of their actions on historic properties. The NHPA also created the Advisory Council on Historic Preservation (ACHP), the Federal agency responsible for overseeing the Section 106 process and providing commentary on Federal activities, programs, and polices that affect historic properties. Historic properties are defined as archaeological sites, buildings, or other historic resource types listed in or eligible for listing in the National Register of Historic Places (NRHP).

Prior to the request for FEMA funding for the proposed replacement and relocation of Rutherford Pier, the City of Bay St. Louis, acting through its consultants, initiated coordination with the Mississippi Department of Archives and History (MDAH), which functions as the State Historic Preservation Office (SHPO), and the appropriate Tribal Historic Preservation Officers (THPOs), for the proposed municipal harbor project as part of the HUD environmental review process, the USACE permit process, and the USACE-MsCIP project process. A summary of prior Section 106 consultation by the City of Bay St. Louis and the USACE is provided in a letter dated May 19, 2011 (See Appendix B).

Nationwide Infrastructure Support Technical Assistance Consultants (NISTAC) was contracted to assist FEMA in the project's compliance with Section 106. FEMA and NISTAC utilized project information and prior studies performed for the proposed harbor project, MDAH site files, and online and published research. In addition, FEMA, acting through NISTAC, coordinated with the USACE Mobile District regarding the Bay St. Louis Seawall Project, which extends along the Beach Boulevard and the proposed harbor site. Based on that information, FEMA submitted a letter dated December 28, 2010 to MDAH requesting concurrence with their determination that a Phase I underwater archaeological survey was warranted. For above-ground resources, FEMA determined that based on the fact that the shoreline adjacent to the Old Bay St. Louis Historic District has traditionally been occupied by various types of buildings and structures, the proposed project would have no adverse effect on the Historic District. The SHPO concurred with FEMA's determinations in a response letter dated January 20, 2011.

On behalf of FEMA, NISTAC was contracted to complete a Phase I marine remote sensing survey for the entire Bay St. Louis Municipal Pier and Harbor Project area. The Area of Potential Effects (APE) for this project is approximately 118.34 acres, located east of North Beach Boulevard and bounded by the Chessie Seaboard Multiplier railroad bridge to the south and Demontluzin Street to the north. The project location fronts the Old Bay St. Louis Historic District, which was listed in the NRHP on July 8, 2010 as a result of post-Katrina re-evaluation.

Prior research and analysis suggested that there was a moderate probability to encounter a shipwreck in the survey area. Evidence for historic structures along the Bay St. Louis shoreline were also expected, particularly the remains of bridges, docks, and piers constructed and destroyed by the natural disasters over the years. The primary objectives of the study were to identify all submerged and visible watercraft, as well as any other maritime-related cultural

resources within the APE, and to provide any newly identified resources a preliminary assessment of eligibility for listing in the NRHP.

The marine remote sensing survey was conducted in March of 2011 along parallel track lines spaced at 50-foot intervals. The technical implementation of the survey utilized positioning (Hemisphere Crescent R130 DGPS), magnetic survey (Geometrics G882 marine magnetometer), side scan sonar (Marine Sonic Centurion 600-Kilohertz), echo sounding (Odom Hydrotrac digital fathometer) with data and positioning quality controlled with Hypack's survey software and remote sensing data field-analyzed utilizing the Hypack data review module and Golden Software's Surfer (Version 8).

Twenty-nine acoustic anomalies and 322 magnetic perturbations were recorded, from which 51 target clusters were identified. None of the 51 target clusters appear to have the potential to represent significant submerged cultural resources. They are instead consistent with debris from the destruction of Bay St. Louis's waterfront and piers, the former CSX railroad bridge, and the former Rutherford Pier. Four modern boats and several spans of a possible pipeline or cable were also identified. These spans should be avoided due to the potential hazard of an exposed pipeline or cable to people and the environment. No further work was recommended for this project area.

No Action Alternative -Under the No Action Alternative, no impacts on archaeological or cultural resources would occur because there would be no construction.

Proposed Action Alternative - Under the Proposed Action Alternative, no impacts to archaeological or above-ground historic properties are anticipated. FEMA transmitted the Phase I Marine Remote Sensing Survey Report for the Bay St. Louis Municipal Pier and Harbor Project to the SHPO and the Mississippi Band of Choctaw Indians on May 4, 2011 for comment and requested concurrence with FEMA's determination of no adverse effect on historic properties. In a letter dated May 27, 2011, the SHPO concurred with FEMA's determination of no adverse effect on historic properties (Appendix B). No response from Mississippi Band of Choctaw Indians has been received to date.

5.0 CUMULATIVE IMPACTS

According to CEQ regulations, cumulative impacts represent the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7)." In accordance with NEPA and to the extent reasonable and practical, this EA considered the combined effect of the Proposed Action Alternative and other actions occurring or proposed in the vicinity of the proposed project site.

Bay St. Louis and the entire Mississippi Gulf coast are undergoing recovery efforts after Hurricane Katrina caused extensive damages. The recovery efforts in Bay St. Louis include demolition, reconstruction, and new construction. The most notable project in the vicinity of the

proposed project area is the construction of a new seawall and beach area along the shoreline of the Bay of St. Louis. This project was initiated in January of 2011 by the USACE as part of the MsCIP program to restore and protect areas of coastal Mississippi in the aftermath of Hurricane Katrina. These projects could have a short term cumulative impacts on air quality in this area of Bay St. Louis. Air emissions from construction equipment and fugitive dust will increase during the construction phase of the projects but should decrease to background levels after construction. The construction activities may also increase the possibility of sediment run-off to the Bay of St. Louis and increase turbidity and suspend sediment during construction and dredging operations.

While the project will have some minor short term impacts, the overall long term cumulative impacts will be positive. The seawall and beach project will provide for greater protection of the shoreline, and enhance recreational potential in the downtown area of Bay St., Louis. The construction of the Rutherford Pier will provide recreational opportunities and enhance public access to the waters of Bay St. Louis. The proposed municipal harbor will provide docking space for boaters and increase access to Bay of St. Louis and the Mississippi Sound.

6.0 PUBLIC INVOLVEMENT

FEMA is the lead federal agency for conducting the NEPA compliance process for the Rutherford Pier Relocation Project in Bay St. Louis, Mississippi. It is the goal of the lead agency to expedite the preparation and review of NEPA documents and to be responsive to the needs of the community and the purpose and need of the proposed action while meeting the intent of NEPA and complying with all NEPA provisions.

The City of Bay St. Louis will notify the public of the availability of the Draft EA through publication of a public notice in a local newspaper. FEMA will conduct an expedited public comment period commencing on the initial date of publication of the public notice.

Because the Proposed Action is part of a larger project that will be financed using other federal funding sources, other NEPA documents have been prepared for the Bay St. Louis Municipal Harbor by HUD and USACE. The public has been notified of the HUD and USACE proposed actions and given an opportunity to provide comments during the preparation of those NEPA documents.

Finally, the public was notified of the City of Bay St. Louis's Proposed Action as part of the MDMR permit process, the MDEQ 401 Water Quality Certification process, and USACE Section 404/10 permit process. During the permit coordination process the public has been given an opportunity to participate in public meetings and Bay St. Louis City Council meetings (Appendix C).

7.0 AGENCY COORDINATION AND PERMITS

During the preparation of this EA, the USACE and HUD EAs, and during the MDMR, MDEQ, and USACE permit application processes, a number of federal, state, and local agencies were

consulted. Responses received to date are included in Appendix B. The list of the agencies and organizations consulted under the Proposed Action includes:

- U.S. Environmental Protection Agency, Region 4, Water Management Division
- U.S. Fish and Wildlife Service, Jackson Field Office
- National Marine Fisheries Service, Habitat Protection Division
- National Marine Fisheries Service, Protected Resources Division
- Mississippi Department of Archives and History
- Mississippi Band of Choctaw Indians Tribal Historic Preservation Officer
- Mississippi Department of Environmental Quality, Office of Pollution Control, Environmental Permits Division
- Mississippi Department of Marine Resources, Bureau of Wetlands Permitting

In accordance with applicable local, state, and federal regulations, the applicant would be responsible for acquiring any necessary permits prior to commencing construction at the proposed project site, and for ensuring that all existing permits are applicable for all actions and modifications to the project. The city of Bay St. Louis obtained permits from the MDMR, the MDEQ, and the USACE (See Appendix B). A list of the permits obtained to date is as follows:

- MDMR Permit No. DMR-100249 for dredging of the harbor, dredged material disposal, construction of bulkheads, piers, break waters, and channel; issued April 21, 2010; expires April 21, 2015.

- CZM Consistency Determination: Issued by the MSDMR, March 16, 2010 (MSDMR-100249).

- MDEQ CWA Section 401 Water Quality Certification (WQC No. WQC2009091) issued on August 13, 2010.

- MDMR Mississippi Regional General Permit Number DMR-110217 which authorizes the demolition and disposal of demolition debris from the site at the Square Hankerchief Key. Work under permit Number 110217 must be completed before December 9, 2015.

- USACE CWA Section 404 and Rivers and Harbors Act Section 10 Permit No. SAM-2006-2241-TMZ authorizing dredging of the harbor, dredged material disposal, construction of bulkheads, piers, break waters, and channel;

8.0 CONCLUSIONS

No impacts on geology, groundwater, floodplains, public health and safety, hazardous materials, environmental justice, and cultural resources are anticipated with the Proposed Action. During the construction period, short-term adverse impacts on soils, surface water, wetlands, transportation, air quality, noise, and biological resources are anticipated. The beneficial use of dredged material to create marsh would result in long-term beneficial impacts on wetlands within

Hancock County. Once the proposed project is completed, there may be a slight increase in noise and air quality. These impacts are considered minor in nature and should not cause any significant cumulative impacts to the area. The proposed action would have a beneficial impact on socioeconomic resources. The construction of this project would provide new jobs and increased revenues for the City of Bay St. Louis. The relocated Rutherford Pier would provide fishing opportunities and recreational access to the Bay of St. Louis. The proposed municipal harbor will provide boat docking facilities for approximately 208 boats and recreational opportunities for residents and visitors.

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10.0 LIST OF PREPARERS AND KEY CONTRIBUTORS

10.1 Preparers

Larry Lewis
Senior Environmental Scientist
BMI Environmental Services, LLC – Gulfport, MS

Kristyn Gunter
Environmental Scientist
BMI Environmental Services, LLC – Gulfport, MS

10.2 Key Contributors

Michael Grisham
FEMA Environmental Liaison Officer
Mississippi Recovery Office – Biloxi, MS

Paul Drummond
FEMA Deputy Environmental Liaison Officer
Mississippi Recovery Office – Biloxi, MS

Bill Mitchell, PE
Civil Engineer
Brown, Mithcell and Alexander

Jason Chiniche, PE
Civil Engineer
Brown, Mitchell and Alexander

10.3 Technical Review

Brian Mehok, CFM
Senior Environmental Specialist
NISTAC – Houston, TX

Suzanne Richert
Senior Environmental Scientist
NISTAC – Gaithersburg, MD

Linda Mackey
Architectural Historian
NISTAC – Gaithersburg, MD

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8-Step Planning Process for Floodplains and Wetlands

8-Step Planning Process for Floodplains and Wetlands
City of Bay St. Louis Proposed Municipal Harbor

Step 1: Determine whether the Proposed Action is located in a wetland and/or the 100-year floodplain, or whether it has the potential to affect or be affected by a floodplain or wetland.

Project Analysis: The City of Bay St. Louis is a participant in good standing with the NFIP. According to the FIRM for this site (Community Panel Number 28045C0362D, October 16, 2009) the proposed project area is located within FEMA flood zone VE. A FEMA flood zone VE is an area subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action; and where Base Flood Elevations (BFEs) derived from detailed hydraulic analyses are shown The BFE beginning at the shoreline and proceeding west are 25 feet, 23 feet, and 21 feet respectively. According to the National Wetlands Inventory Map, the Bay of St. Louis is considered estuarine and marine waters of the U.S. (USFWS, 2011). No vegetated wetlands are located on or near the project site.

Step 2: Notify public at earliest possible time of the intent to carry out an action in a floodplain or wetland, and involve the affected and interested public in the decision-making process.

Project Analysis: A notice will be published by the applicant in a newspaper of general circulation when the Draft EA is made available for public review.

Step 3: Identify and evaluate practicable alternatives to locating the Proposed Action in a floodplain or wetland.

Project Analysis: The Proposed Action is located within the 100-year floodplain. Two action alternatives as well as the no action alternative were considered initially by the City of Bay St. Louis. One of the action alternatives evaluated by the City was to rebuild the Rutherford Pier at its present location. The remains of the Rutherford Pier would be removed and the concrete debris would be transported to the Square Hankerchief Key where it would be added to the base material that forms the key. The pier would be reconstructed within the existing footprint and the parking area and restroom facilities on the east side of Beach Boulevard would be rebuilt in the same location as originally constructed. The other action alternative considered by the City was to relocate the Rutherford Pier to the site of the proposed harbor where it would be integrated into the overall design of the Harbor.

Because the action alternative which involved incorporating the Rutherford Pier into the Municipal Harbor provided more opportunities for public access, more opportunities to share facilities such as parking and restrooms, and cost savings related to shared features, the action alternative which involved rebuilding the Rutherford Pier at its present location was eliminated from further consideration.

Other than the No Action Alternative, there are no practicable alternatives for rebuilding the Rutherford Pier that would not involve impacts to the 100- year floodplain. Under the Proposed Action, the City of Bay St. Louis would utilize CDBG funds, in conjunction with FEMA funds, and other public funding sources, to relocate and reconstruct the Rutherford Pier in conjunction with the construction of their municipal harbor project. When completed, the municipal harbor, which will include the Rutherford Pier, will allow the City to operate the public facility which in turn will

provide opportunities for recreational access to boaters, fishermen, and the general public.

The relocated Rutherford Pier would be approximately 750 feet south of its original location. When completed, the municipal harbor and Rutherford Pier would allow the City of Bay Louis to operate the public access facility which would provide opportunities for recreational access to the Bay of St. Louis and other coastal waters for boaters, fishermen, and the general public. The proposed Bay St. Louis Municipal Harbor Project includes the following FEMA-funded actions:

- Demolition of the remains of the Rutherford Pier (Mississippi Coastal General Permit # DMR-110217 issued December 9, 2010).
- Removal, transportation, and placement of the concrete demolition debris from the Rutherford Pier at the Square Hankerchief Key. Approximately 530 cubic yards of concrete rubble would be removed during the demolition of the pier and transported by barge to the Square Hankerchief Key where it would be added to the existing material which makes up the underwater key structure.
- The relocation and integration of the Rutherford Pier into the harbor project. The relocated Rutherford Pier would form the north wall of the proposed Harbor. When constructed it would be approximately 1,200 feet long by 10 feet wide, and include three (3) "T" head fishing piers with pavilions at the end of each "T", and a large pavilion at the end of the pier.
- Construction of a vinyl flow-through breakwater under the relocated Rutherford Pier to provide wave protection for the harbor basin. The flow-through breakwater would also serve to trap sediments that would otherwise be transported into the harbor where it would cause shoaling.
- The construction and installation of a portable comfort station at the western end of the relocated Rutherford Pier.

The City of Bay St. Louis will use funds provided by HUD-CDBG grants and the Mississippi Secretary of State Tidelands Trust Fund to undertake the specific actions for the proposed municipal harbor project. The Council on Environmental Quality (CEQ) regulations implementing NEPA direct federal agencies to avoid improper segmentation when analyzing environmental impacts, in particular with regard to connected actions (40 CFR 1508.25). The relocation and reconstruction of the Rutherford pier is an interdependent component of the proposed harbor project and would be constructed concurrently with the proposed harbor project. Therefore, the non-FEMA funded actions listed below will be analyzed in this EA as part of the proposed action alternative. The non-FEMA funded actions include:

- Dredging a 4,100 foot long by 150 foot wide entrance channel that will connect the harbor basin to the -8 foot contour in the Bay of St. Louis and dredging a 1,200 foot long by 850 foot wide harbor basin.
- Disposal of approximately 150,000 cubic yards of dredged material in selected disposal areas. Approximately 40,000 cubic yards of dredged material will be placed behind the proposed bulkhead retaining wall which will be constructed along the western edge of the basin. Approximately 100,000 cubic yards of dredged material will be placed within the permitted beach renourishment areas of the Hancock County Beach, and approximately 10,000 cubic yards of dredged material will be placed in the Mississippi Coastal Improvements Program (MsCIP) designated beneficial use area in lower Hancock County near Point Clear where it will be used to provide substrate for marsh restoration.

- Construction of a 1,780 foot long by 13.5 feet wide concrete walkway/pier which will form the southern and eastern margins of the basin, construction of approximately 3,550 linear feet of wooden piers 10 feet wide, construction of approximately 4,049 liner feet of wooden piers 4 feet wide; construction of 13,290 square feet of decking, installations of 216 single pile mooring piles, installation of 10 single pile channel day markers; construction of a 100 foot long timber pile breakwater structure, and the construction of 5 elevated electrical platforms.
- Construction of 1,780 foot long flow-through breakwater under the proposed walkway/pier which forms the south and east walls of the basin and the construction of 985 feet of concrete bulkhead along the west wall of the basin.
- Installation of two (2) 10,000-gallon double-walled steel underground fuel storage tanks in the northwest corner of the basin, and the installation of a sewer pump out system adjacent to the fuel dock in the northwest corner of the basin.
- Filling of approximately 2,777 square feet of Waters of the U.S. (WOUS) and construction of a paved parking area between the proposed seawall currently being constructed as part of the MsCIP and the bulkhead which forms the western margin of the harbor basin; and excavation of approximately 12,817 square feet of beach area.
- Construction of a pedestrian/vehicle access ramp across the new seawall that was constructed by the U.S. Army Corps of Engineers (USACE) as part of the MsCIP) program to connect the paved parking area to Beach Boulevard.

The FEMA-funded actions for the project involve the demolition, relocation, and reconstruction of the Rutherford Pier from its original location at the end of Ulman Avenue to the site of the proposed municipal harbor location where the pier will be integrated into the municipal harbor project. The Rutherford Pier was destroyed by Hurricane Katrina and FEMA has agreed to allow the City of Bay St. Louis to relocate the Rutherford Pier to the site of the proposed Bay St. Louis Municipal Harbor. The specific FEMA-funded actions include:

- Demolition of the remains of the Rutherford Pier.
- Removal, transportation, and placement of the concrete demolition debris from the Rutherford Pier at the Square Hankerchief Key. Approximately 530 cubic yards of concrete rubble will be removed during the demolition of the pier and transported by barge to the Square Hankerchief Key where it will be added to the existing material which makes up the underwater key structure.
- The relocation and integration of the Rutherford Pier into the harbor project. The relocated Rutherford Pier will form the north wall of the proposed Harbor. When constructed it will be approximately 1,200 feet long by 10 feet wide, and include three (3) “T” head fishing piers with pavilions at the end of each “T”, and a large pavilion at the end of the pier.
- In conjunction with the reconstruction of the Rutherford Pier, the City of Bay St. Louis proposes to use FEMA funds to construct a vinyl flow-through breakwater under the relocated Rutherford Pier to provide wave protection for the basin. The flow-through breakwater will also serve to trap sediments that would otherwise be transported into the harbor where it would cause shoaling.
- The construction and installation of a portable comfort station at the western end of the relocated Rutherford Pier.

The development of the Bay St. Louis Municipal Harbor also includes actions that would not utilize FEMA Funds. The City of Bay St. Louis will use funds provided by HUD-CDBG grants and the Mississippi Secretary of State Tidelands Trust Fund to undertake the following specific actions for the proposed municipal harbor project:

- Dredging a 4,100 foot long by 150 foot wide entrance channel that will connect the harbor basin to the -8 foot contour in the Bay of St. Louis and dredging a 1,200 foot long by 850 foot wide harbor basin.
- Disposal of approximately 150,000 cubic yards of dredged material in selected disposal areas. Approximately 40,000 cubic yards of dredged material will be placed behind the proposed bulkhead retaining wall which will be constructed along the western edge of the basin. Approximately 100,000 cubic yards of dredged material will be placed within the permitted beach renourishment areas of the Hancock County Beach, and approximately 10,000 cubic yards of dredged material will be placed in the MsCIP designated beneficial use area in lower Hancock County near Point Clear where it will be used to provide substrate for marsh restoration.
- Construction of a 1,780 foot long by 13.5 feet wide concrete walkway/pier which will form the southern and eastern margins of the basin, construction of approximately 3,550 linear feet of wooden piers 10 feet wide, construction of approximately 4,049 liner feet of wooden piers 4 feet wide; construction of 13,290 square feet of decking, installations of 216 single pile mooring piles, installation of 10 single pile channel day markers; construction of a 100 foot long timber pile breakwater structure, and the construction of 5 elevated electrical platforms.
- Construction of 1,780 foot long flow-through breakwater under the proposed walkway/pier which forms the south and east walls of the basin and the construction of a 985 feet of concrete bulkhead along the west wall of the basin.
- Installation of two (2) 10,000-gallon double-walled steel underground fuel storage tanks in the northwest corner of the basin, and the installation of a sewer pump out system adjacent to the fuel dock in the northwest corner of the basin.
- Filling of approximately 2,777 square feet of Waters of the U.S. (WOUS) and construction of a paved parking area between the proposed seawall currently being constructed as part of the MsCIP and the bulkhead which forms the western margin of the harbor basin; and excavation of approximately 12,817 square feet of beach area.
- Construction of a pedestrian/vehicle access ramp that will connect the paved parking area to Beach Boulevard.

Step 4: Identify the full range of potential direct or indirect impacts associated with the occupancy or modification of floodplains and wetlands, and the potential direct and indirect support of floodplain and wetland development that could result from the Proposed Action.

Project Analysis: While the project is located within the 100-year floodplain, the project is not likely to impact coastal flooding. The construction of the parking lot for this project will raise the elevation of the land and theoretically reduce the ability of the "floodplain" to absorb flood waters. Also, the impervious surface of the parking lot will generate additional stormwater that may otherwise be absorbed by the pervious sand beach. Because of its coastal setting, the project area adjacent to the municipal harbor is not particularly susceptible to flooding impacts associated with heavy rains and stormwater runoff from the adjacent upland watershed.

The project area is located on an open water estuarine system where flooding is more commonly associated with wind driven waves and tides. Given the large expanse of shoreline area and the relatively minor impacts the change in elevation will have on the shoreline area, the impacts to the VE Zone will be imperceptible. Also, when compared to the amount of stormwater from the surrounding upland areas of the City of Bay St. Louis, and giving full consideration to the stormwater management features for this project, the increase in stormwater is relatively minor and should not contribute to any coastal flooding problems.

Step 5: Minimize the potential adverse impacts from work within floodplains and wetlands (identified under Step 4), restore and preserve the natural and beneficial values served by wetlands.

Project Analysis: Under the Proposed Action Alternative, the City of Bay St. Louis will construct a municipal harbor with flow through breakwater structures, piers, decks, and walkways, mooring piles, channel markers, sewer pump out facilities, fuel service and marine convenience store, and parking for the users and visitors. Dredging operations associated with the harbor will consist of dredging an area measuring 1,200 feet in length and 850 feet in width from an existing depth ranging from 0 to 6 feet below mean lower low water (mllw) to a proposed depth of 8 feet below mllw to create the harbor basin. An area measuring 4,100 feet in length and 150 feet in width is proposed to be dredged from an existing depth ranging from 6.5 to 8 feet below mllw to 8 feet below mllw for an access channel to the proposed harbor basin. The total volume of dredge material to be removed for the project is estimated to be approximately 150,000 cubic yards. Suitable dredge material will be designated for beneficial use while unsuitable material will be disposed of in an upland disposal area.

Structures proposed for the 208-slip harbor include: 3,550 linear feet of mainline piers measuring 10 feet in width, 4,049 linear feet of finger piers measuring 4 feet in width, 13,290 square feet of decking, 216 single-pile mooring piles, 10 single-pile channel daymarkers, 5 electrical platforms each measuring 10 feet in length and 10 feet in width, a concrete bulkhead 985 feet in length, a timber pile breakwater 100 feet in length, a concrete pier/walkway 1,780 feet in length and 12 feet in width and associated concrete breakwater 1,780 feet in length. In addition, the north boundary of the harbor will consist of a public pier measuring 1,200 feet in length and 10 feet in width with an attached 1,200 foot vinyl sheetpile flow-through breakwater. Accessory structures for this pier will include a terminal pavilion measuring 30 feet in length and 20 feet in width and three (3) fishing piers each measuring 40 feet in length and 10 feet in width with a terminal t-shaped pier measuring 30 feet in length and 10 feet in width. Total shading of all proposed structures is approximately 67,571 square feet.

The City of Bay St. Louis will implement BMPs for soil erosion prevention and containment during staging of equipment and project activities. Should project activities be delayed for 1 year or more after the date of this EA, coordination and project review by the appropriate regulating agencies must be reinitiated.

Step 6: Re-evaluate the Proposed Action to determine: 1) if it is still practicable in light of its exposure to flood hazards; 2) the extent to which it will aggravate the hazards to others; 3) its potential to disrupt floodplain and wetland values.

Project Analysis: The Proposed Action remains practicable based on the building standards and consolidation efficiencies.

Step 7: If the agency decides to take an action in a floodplain or wetland, prepare and provide the public with a finding and explanation of any final decision that the floodplain or wetland is the only practicable alternative. The explanation should include any relevant factors considered in the decision-making process.

Project Analysis: A Notice of Intent and Availability of the Draft EA for the project will be published informing the public of the City of Bay St. Louis' decision to proceed with the project. The Draft EA will include rationale for floodplain impacts; a description of all significant facts considered in making the determination; a list of the alternatives considered; a statement indicating whether the action conforms to State and local floodplain protection standards; a statement indicating how the action affects the floodplain; and a statement of how mitigation will be achieved.

Step 8: Review the implementation and post implementation phases of the Proposed Action to ensure that the requirements of the EOs are fully implemented. Oversight responsibility shall be integrated into existing processes.

Project Analysis: This step is integrated into the NEPA process and the City of Bay St. Louis' project management.