

Draft Supplemental Environmental Assessment

**City of New Orleans  
Youth Study Center Vicinity Streets/St.  
Bernard Area**

FEMA-1603-DR-LA

Orleans Parish, Louisiana

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**FEMA**

**U.S. Department of Homeland Security  
Federal Emergency Management Agency, Region VI**  
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## LIST OF ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effects
BFE	Base Flood Elevation
BMP	Best Management Practices
CDBG	Community Development Block Grant
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
C.F.R.	Code of Federal Regulations
CAA	Clean Air Act
CTR	In-house contract consultant
DFIRM	Digital Flood Insurance Rate Map
DHS	U.S. Department of Homeland Security
DoA	U.S. Department of the Army
EA	Environmental Assessment
EIS	Environmental Impact Statement
E.O.	Executive Order
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
GHG	Greenhouse gas
GPO	U.S. Government Printing Office
HUD	U.S. Department of Housing and Urban Development
IPCC	Intergovernmental Panel on Climate Change
LA GOHSEP	Louisiana Governor's Office of Homeland Security and Emergency Preparedness
LAC	Louisiana Administrative Code
LDEQ	Louisiana Department of Environmental Quality
LPDES	Louisiana Pollutant Discharge Elimination System
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NOMA	New Orleans Metropolitan Area
NRHP	National Register of Historic Places
PA	Public Assistance
PCB	Polychlorinated biphenyl
P.L.	Public Law
RCRA	Resource Conservation and Recovery Act
R.S.	Louisiana Revised Statutes
SARA	Superfund Amendments and Reauthorization Act
SEA	Supplemental Environmental Assessment
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Office/Officer
SOV	Solicitation of Views
TSCA	Toxic Substances Control Act

USACE	U.S. Army Corps of Engineers
U.S.C.	U.S. Code
USDHHS	U.S. Department of Health and Human Services
USDOC	U.S. Department of Commerce
USEPA	U.S. Environmental Protection Agency

## **1.0 INTRODUCTION**

### **1.1 Hurricane Katrina**

Hurricane Katrina made landfall on 29 August 2005, near the town of Buras, Louisiana, as a Category 3 storm with sustained winds of more than 125 miles per hour. The accompanying high winds, heavy rains, and flooding caused an accumulation of various types of debris on the streets and rights-of-way of New Orleans. Rain accumulation, in combination with debris blockage, saturated soils, and insufficient drainage, caused flooding and standing water in most of the parish/city. As a result of this event, the roadway system incurred considerable damage.

### **1.2 Project Authority**

President George W. Bush declared a major disaster for the State of Louisiana (FEMA-1603-DR-LA) on 29 August 2005, authorizing the U.S. Department of Homeland Security's (DHS) Federal Emergency Management Agency (FEMA) to provide federal assistance in designated areas of Louisiana. This assistance is pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), Public Law (P.L.) 93-288, as amended. Section 406 of the Stafford Act authorizes FEMA's Public Assistance (PA) Program to assist with funding the repair, restoration, reconstruction, or replacement of public facilities damaged as a result of the declared disaster.

In accordance with FEMA Instruction 108-1-1, a Draft Environmental Assessment (DEA) has been prepared pursuant to Section 102 of the National Environmental Policy Act (NEPA) of 1969, as implemented by the regulations promulgated by the President's Council on Environmental Quality (CEQ; 40 CFR Parts 1500-1508). (Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act 2005).

An Environmental Assessment (EA) including the project now under review was developed for the U.S. Department of Housing and Urban Development (HUD) as part of City of New Orleans' application for a Community Development Block Grant (CDBG). This EA concluded with a Finding of No Significant Impact (FONSI), dated 11 August 2015, which was affirmed by the State of Louisiana's Office of Community Development (OCD), the administrator of the requested HUD funds. Any federal agency may adopt another federal agency's EA, and is encouraged to do so, when such adoption would save time and money (40 C.F.R. §§ 1500.4[n], 1500.5[h], and 1506.3), providing the original document satisfies the adopting agency's NEPA requirements. The delegated HUD EA, which includes additional work not a part of the grant application to FEMA, is included as Appendix A to this document.

This draft Supplemental Environmental Assessment (SEA) also has been conducted in accordance with NEPA and the associated CEQ regulations, as well as FEMA's own regulations implementing NEPA, Floodplain Management and Protection of Wetlands 1980; and Environmental Considerations 1980). The purpose of this SEA is to analyze potential environmental impacts of the proposed project that were not considered previously. FEMA will use the findings in this SEA in order to determine whether a FONSI adopting HUD's EA is appropriate or whether preparation of an Environmental Impact Statement (EIS) is warranted.

### 1.3 Background

The City of New Orleans (CNO or Applicant) has requested, through the State of Louisiana Governor's Office of Homeland Security and Emergency Preparedness (LA GOHSEP), that FEMA provide disaster assistance consisting of federal grant funds in accordance with the provisions of the Stafford Act. FEMA has determined that CNO is eligible for federal disaster public assistance and that the streets proposed for reconstruction in the vicinity of the Applicant's Youth Study Center/St. Bernard Area qualify for repair as a critical or non-critical facility serving the needs of the general public.

The streets to be reconstructed are all located within the Youth Study Center/St. Bernard Area (*Figure 1*), New Orleans, Orleans Parish, Louisiana 70122, and consist of:

Segment 1: 3500-4100 blocks of Cadillac Street, between Interstate 610 and Harrison Avenue; approximate center of segment located at Latitude: 29.99648°, Longitude: 90.08185°;

Segment 2: 4000-4100 blocks of Davey Street, between Milton Street and Harrison Avenue; approximate center of segment located at Latitude: 29.99784°, Longitude: 90.08430°;

Segment 3: 3600-3700 blocks of Encampment Street, between Sere and Milton Streets; approximate center of segment located at Latitude: 29.99446°, Longitude: 90.08285°;

Segment 4: 1100-1200 blocks of Milton Street, between Davey and Cadillac Streets; approximate center of segment located at Latitude: 29.99548°, Longitude: 90.08329°.

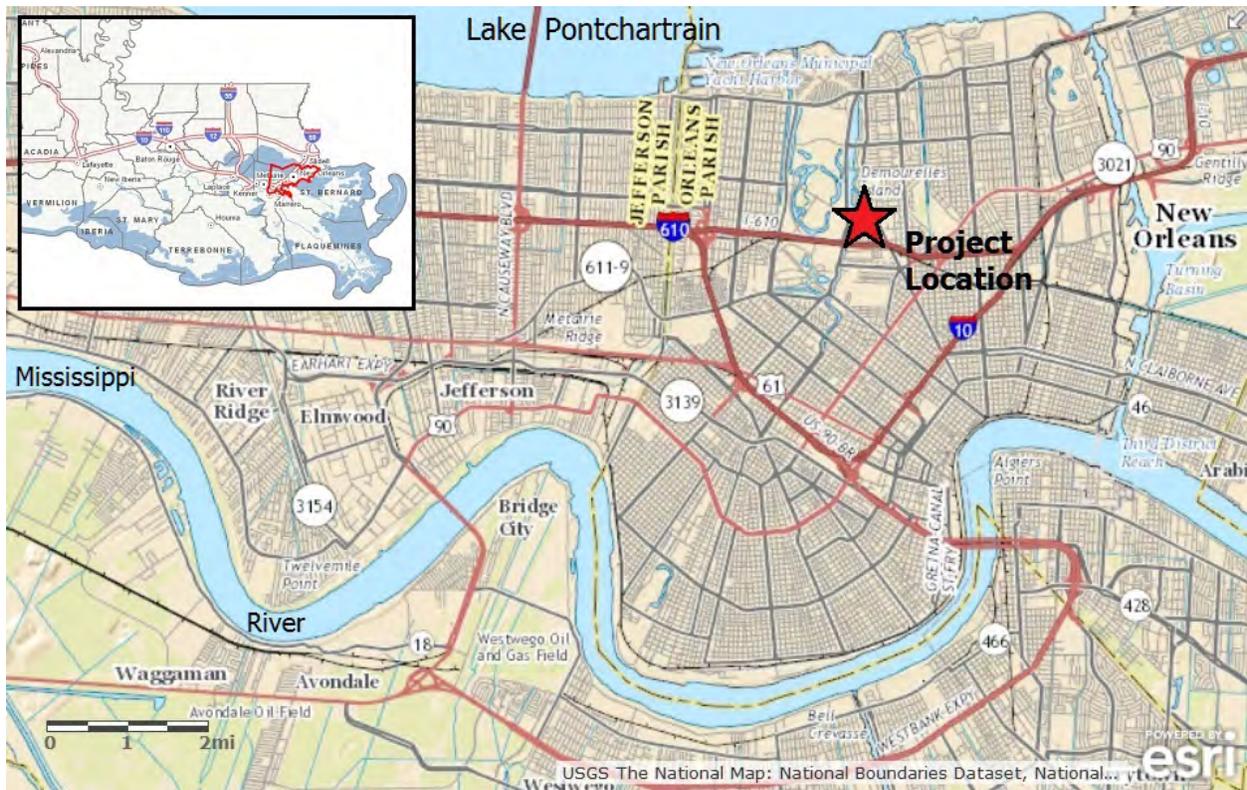


Figure 1 – Youth Study Center/St. Bernard project vicinity

## 2.0 PURPOSE AND NEED

The objective of FEMA’s PA Grant Program is to provide assistance to state, tribal, and local governments, as well as certain types of private non-profit organizations, such that communities can quickly respond to, recover from, and mitigate major disasters and emergencies. Prior to Hurricane Katrina, a major disaster, the project area (*Figure 2*) was served by four (4) primary residential streets. Although these roads were somewhat deteriorated before the storm, due to the hurricane’s negative influence, they have since worsened considerably. Restoration of facilities and services lost as a result of Hurricane Katrina in a manner that best serves the local community is needed for FEMA PA to achieve its objective.

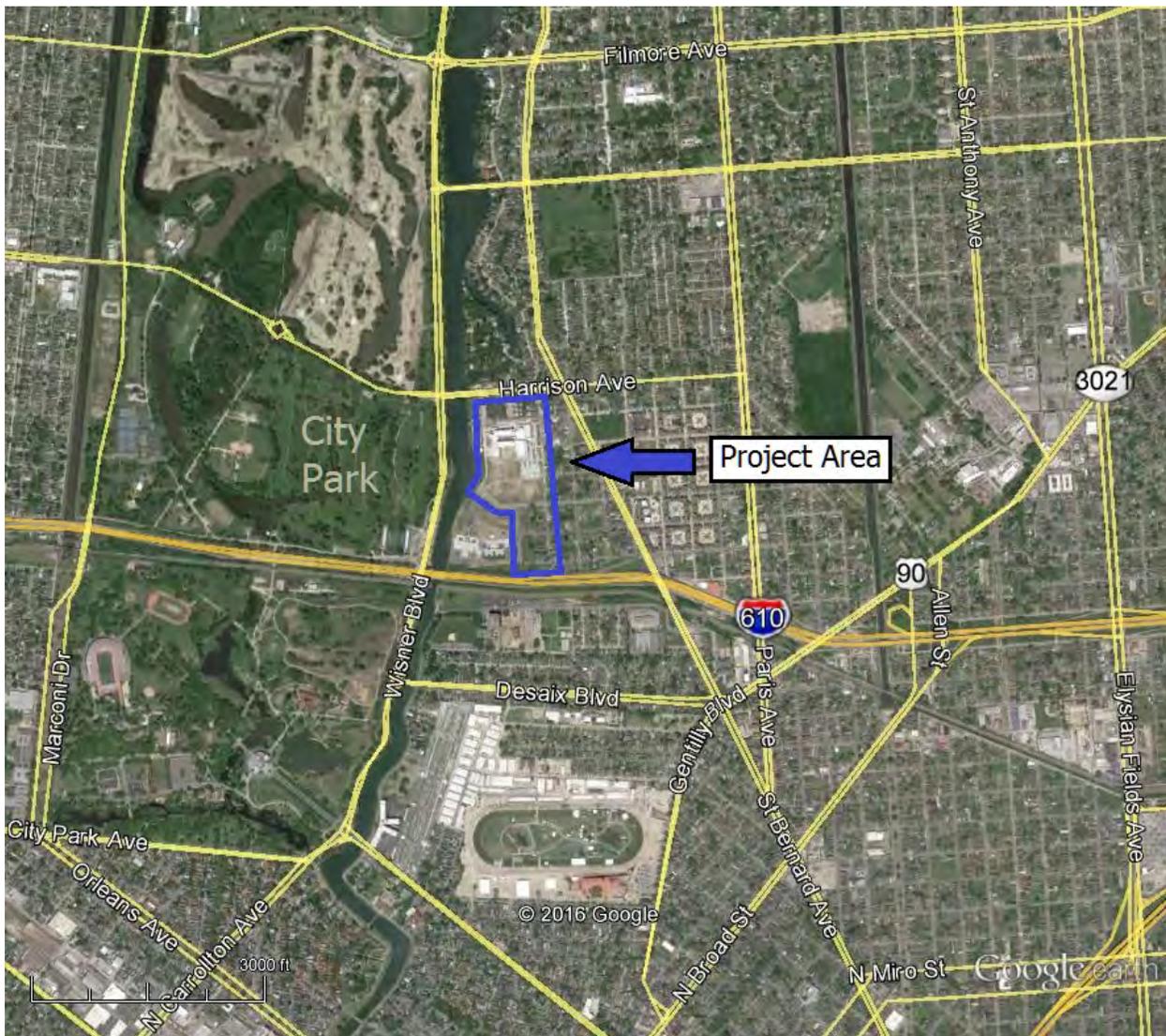


Figure 2 – Project area location (Google Earth 2016)

## **3.0 ALTERNATIVES**

### **3.1 Overview of Alternatives**

The NEPA process consists of an evaluation of the environmental effects of a federal action, including its alternatives. Three alternatives have been proposed and will be analyzed in this SEA, including 1) the “No Action” alternative, 2) Repair of Damaged Street Sections to Pre-Hurricane Condition, and 3) Complete Reconstruction and Upgrading of Affected Streets (Proposed Action). Although the three alternatives presented in HUD’s EA are described somewhat differently, they are similar in intent. Therefore, FEMA will consider the following:

### **3.2 Alternative 1 – No Action**

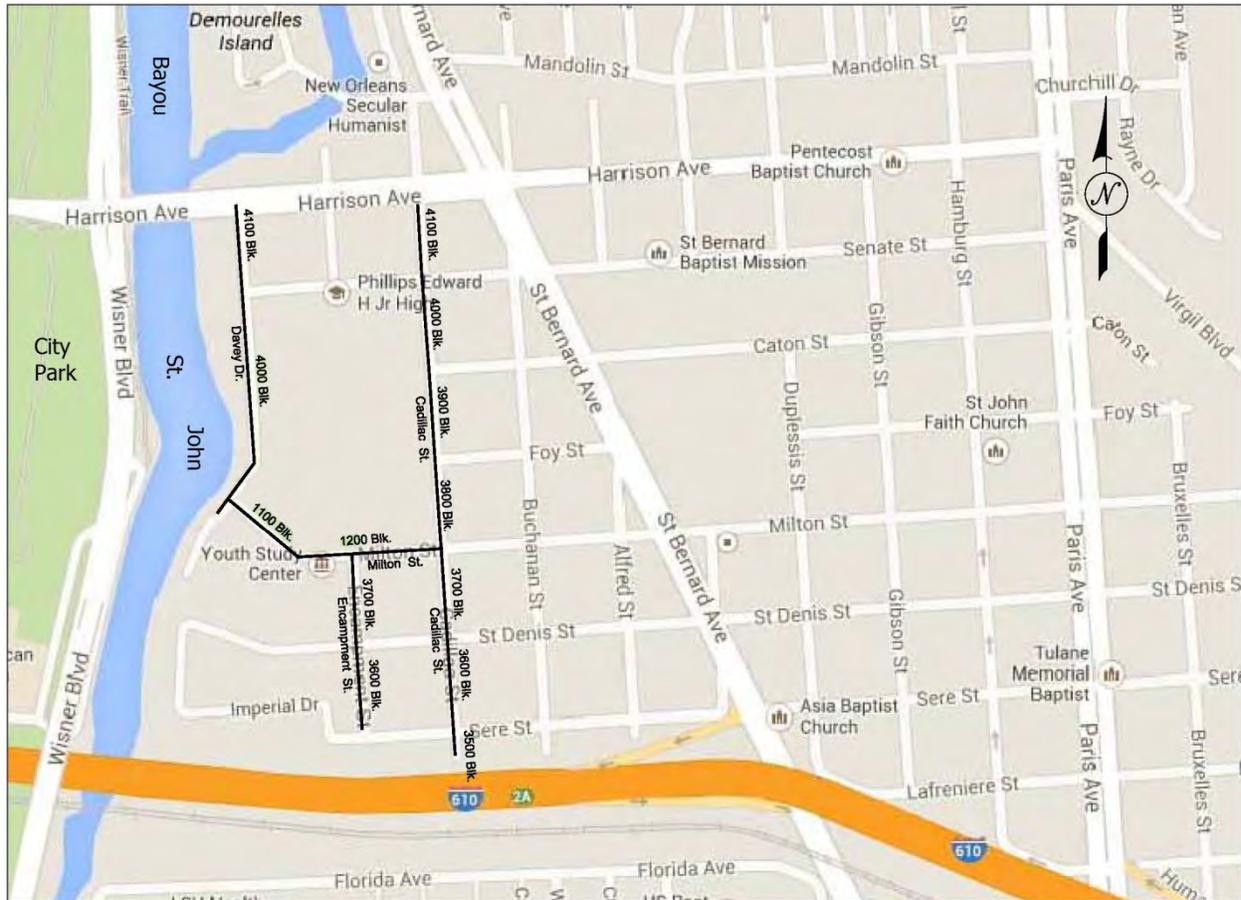
Under the “No Action” alternative, no repairs would be made to Cadillac, Davey, Encampment, and Milton Streets. The already deteriorated condition of these streets would continue to worsen, possibly causing damage to vehicles, impairing response times by emergency services, and eventually preventing homeowners from accessing their properties. In addition, the placement of accessible ramps at street corners in compliance with the Americans with Disabilities Act (ADA) would not be performed.

### **3.3 Alternative 2 – Repair of Damaged Street Sections to Pre-Hurricane Condition**

This alternative would entail restoring the street blocks currently under review to their pre-storm condition. Only those sections damaged as a direct result of the hurricane would be repaired, leaving any other deteriorated portions as is. The work would include in-kind resurfacing of the damaged street segments (either asphalt or concrete), repairs to driveways affected by the street resurfacing, repairs to sidewalks and curbs, and the installation of ADA-compliant ramps where they do not currently exist.

### **3.4 Alternative 3 – Complete Reconstruction and Upgrading of Affected Streets (Proposed Action)**

The Proposed Action Alternative would use eligible funding to reconstruct the blocks under consideration in their entirety (*Figure 3*). The planned work would involve the complete replacement of the streets down to the sub-grade, instead of simply repairing the FEMA-eligible sections, and would also include new curbs, as well as ADA-compliant ramps where they do not currently exist. As necessary, storm sewers, manholes, and drain lines would be adjusted, relocated, or removed. All work would occur within previously disturbed rights-of-way.



**Figure 3 – Street map showing blocks of streets to be reconstructed**

## 4.0 AFFECTED ENVIRONMENT AND ALTERNATIVES ANALYSIS

### 4.1 Physical Resources – Climate Change

#### 4.1.1 Regulatory Setting

Executive Order (E.O.) 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, signed on 5 October 2009, directs federal agencies to reduce GHG emissions and address climate change in NEPA analyses (U.S. President 2009). It expands upon the energy reduction and environmental performance requirements of E.O. 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, which it replaces.

A handful of important, non-condensable gases, plus water vapor, significantly contribute to the currently observed warming trend in world climate through the trapping of outbound radiation within the lower atmosphere (troposphere), a phenomenon commonly called the “greenhouse effect.” An increase in the atmospheric concentration of these greenhouse gases (GHGs), beginning with the onset of the Industrial Revolution, has resulted in a global temperature increase of approximately 1.5 °F since 1880 (IPCC 2014).

E.O. 13514 identifies numerous energy goals in several areas, including GHG management, management of sustainable buildings and communities, and fleet and transportation management. The GHGs covered by this E.O. are: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). These GHGs have varying heat-trapping abilities and atmospheric lifetimes (U.S. President 2009). In addition, on 23 January 2012, FEMA issued a written statement, FEMA Climate Change Adaptation Policy Statement (2011-OPPA-01), affirming the directive of E.O. 13514 and enacting as policy measures to “integrate climate change adaptation considerations” into its programs and operations (DHS 2012). Guidance by CEQ also addresses climate change considerations in NEPA evaluations (CEQ 2014).

E.O. 13653, *Preparing the United States for the Impacts of Climate Change*, was signed by President Obama on 1 November 2013 (U.S. President 2013). This E.O. was issued with the purpose of preparing “the Nation for the impacts of climate change by undertaking actions to enhance climate preparedness and resilience.” Its main focus is the fostering of cooperation among the federal government and other groups, including state and local governments, as well as tribal, private-sector, and non-profit entities, in order to achieve the E.O.’s stated purpose. Cooperation is to be facilitated through coordinated planning and the adaptation of federal programs to “help safeguard our economy, infrastructure, environment, and natural resources,” in addition to improving climate preparedness and resilience.

One of the specific requirements of E.O. 13653 is that all federal agencies “reform policies and Federal funding programs that may, perhaps unintentionally, increase the vulnerability of natural or built systems, economic sectors, natural resources, or communities to climate change related risks.” In response to this directive, FEMA has begun augmenting its flood risk information to reflect potential sea level rise, considering climate change in hazard mitigation planning, and affording grantees the opportunity to incorporate climate resilience measures in alternate projects (DHS 2013, 2014a).

#### **4.1.2 Existing Conditions**

At the writing of this SEA, the majority of the work area consists of existing soil/gravel, asphalt, or concrete paved streets. Adjacent rights-of-way consist primarily of mowed lawn grasses, although some small areas are overgrown with weeds and shrubs and others are covered with pavement for use as parking space. A few trees also exist within apparent rights-of way. Trees provide an important climate function by removing, or sequestering, CO<sub>2</sub> from the atmosphere for long durations. In addition, as part of their photosynthetic process, all plants remove CO<sub>2</sub> from the atmosphere during daylight hours. Areas currently with sparse or no vegetation, including the streets themselves, produce negligible GHG emissions, if any, but do not make a positive contribution to the removal of GHGs.

#### **4.1.3 Environmental Consequences**

##### **Alternative 1 – No Action**

The “No Action” alternative would involve no project and, therefore, would cause no short- or long-term increases or reductions in GHG emissions.

##### **Alternative 2 – Repair of Damaged Street Sections to Pre-Hurricane Condition**

Alternative 2 includes short-term GHG emissions that are likely to occur during site preparation and construction. On-site sources of these construction-related emissions would consist primarily of internal combustion engines from vehicles and heavy non-road equipment. The effects would be localized and of short duration, however, and could be reduced by keeping running times for fuel-burning equipment to a minimum and properly maintaining their engines. In addition, because trees provide an important climate function by removing CO<sub>2</sub> from the atmosphere, trees potentially could be planted at nearby locations as a mitigation measure.

In addition, in order to mitigate emissions from paving activities, the choice of asphalt for paved surfaces would result in the generation of only one-quarter ( $\frac{1}{4}$ ) of the GHG emissions expected for a comparable section of concrete pavement. Considering long-term maintenance requirements, over a 50-year life-cycle, asphalt pavement generates approximately one-third ( $\frac{1}{3}$ ) of the GHG emissions of reinforced concrete (Asphalt Pavement Alliance 2010, Chehovits and Galehouse 2010). If no changes are made to the current type of road surface, post-construction GHG emissions would not change appreciably from the present situation. With either material used, simply reducing vehicle transit times through better roads would decrease traffic-related GHG emissions.

Finally, in keeping with E.O. 13653’s mandate to “prepare the Nation for the impacts of climate change by undertaking actions to enhance climate preparedness and resilience,” the proposed project would occur within an area surrounded by hurricane protection and river levees. Although no coastal site is immune to the impacts of severe storms, the levee-protected location chosen for this alternative would help make it more resistant to future climate change impacts, such as sea level rise.

### **Alternative 3 – Complete Reconstruction and Upgrading of Affected Streets (Proposed Action)**

This alternative would include short-term increases in GHG emissions, especially CO<sub>2</sub>, from the burning of fossil fuels (diesel) by internal combustion engines during site preparation and construction. Under the Proposed Action Alternative, GHG emissions would be greater than those of Alternative 2 since a larger area would be impacted for a longer duration. As with Alternative 2, however, reductions could be made by substituting asphalt for concrete paving material and by keeping running times for fuel-burning equipment to a minimum and properly maintaining their engines. Reducing vehicle transit times through better roads also would decrease traffic-related GHG emissions. In addition, because trees provide an important climate function by removing CO<sub>2</sub> from the atmosphere, trees potentially could be planted at nearby locations as a mitigation measure.

#### **4.2 Water Resources – Floodplains**

##### **4.2.1 Regulatory Setting**

E.O. 11988, *Floodplain Management*, requires federal agencies to avoid direct or indirect support or development within or affecting the 1% annual chance Special Flood Hazard Area (SFHA) (i.e., the 100-year floodplain) or, for “Critical Actions,” within the 0.2% annual chance SFHA (i.e., the 500-year floodplain), whenever there is a practicable alternative (U.S. President 1977a). FEMA’s regulations for complying with E.O. 11988 are found at 44 C.F.R. Part 9, Floodplain Management and Protection of Wetlands (1980).

##### **4.2.2 Existing Conditions**

In July 2005, prior to Hurricane Katrina, FEMA initiated a series of flood insurance studies for many of Louisiana’s coastal parishes as part of the Flood Map Modernization Effort through FEMA’s National Flood Insurance Fund. These studies were necessary because the flood hazard and risk information shown on the effective Flood Insurance Rate Maps (FIRMs) was developed during the 1970s. Since that time, the physical terrain had changed considerably, including a significant loss of wetland areas. After Hurricanes Katrina and Rita (August and September 2005, respectively), FEMA expanded the scope of work to include all of coastal Louisiana. The magnitude of impacts caused by the two (2) hurricanes reinforced the urgency to obtain additional flood recovery data for the coastal zones of the state. More detailed analysis was possible because new data obtained after the hurricanes included information on levees and levee systems, new high-water marks, and new hurricane parameters.

Updated preliminary flood hazard maps from an intensive five-year mapping project guided by FEMA subsequently were provided to all Louisiana coastal parishes. These maps, released in early 2008, known as Preliminary Digital Flood Insurance Rate Maps (DFIRMs), were based on the most technically advanced flood insurance studies ever performed for Louisiana, followed by multiple levels of review. The DFIRMs provided communities with a more scientific approach to economic development, hazard mitigation planning, emergency response, and post-flood recovery.

The U.S. Army Corps of Engineers (USACE) is currently working on the new Hurricane and Storm Damage Risk Reduction System (HSDRRS) for the Greater New Orleans area. This 350-mile system of levees, floodwalls, surge barriers, and pump stations will reduce the flood risk

associated with future storm events. In September 2011, the USACE provided FEMA with assurances that the HSDRRS is capable of defending against a storm surge with a 1% annual chance of occurrence (DHS 2011). The areas protected include portions of St. Bernard, St. Charles, Jefferson, Orleans, and Plaquemines Parishes. Although the 100-year perimeter system is now complete, additional contracts for armoring and environmental mitigation are either ongoing or have not yet been awarded (DoA 2014). In November 2012, FEMA revised the 2008 preliminary DFIRMs within the HSDRRS to incorporate the reduced flood risk associated with the system improvements. The preliminary DFIRMs were subsequently revised in 2013 and 2014.

The 2014 DFIRMs, which became Effective on 30 September, 2016, are currently viewed as the best available flood risk data for Orleans Parish. In many areas, the flood risk has been significantly reduced due to heightened protection. No project should be built to a floodplain management standard that is less protective than what a community has adopted in local ordinances through its participation in the National Flood Insurance Program (NFIP) (DHS 2011). As a result of its new floodplain ordinance adopted May 2016, the New Orleans/Orleans Parish NFIP community uses these 2016 maps for floodplain management purposes (CNO 2016).

Orleans Parish enrolled in the NFIP on 3 August 1970. This project is within a levee-protected area of the 100-year floodplain. Effective DFIRM Panel 22071C0227F dated 30 September 2016 places most of the project in Flood Zone Shaded “X,” an area levee-protected from the base flood but subject to the 0.2% annual chance flood (based upon shallow ponding only). The remainder of the work would occur in Flood Zone AE EL -3.0 (*Figure 4*). Ground elevations within the area are approximately 1.5 to 3.5 feet below sea level (North American Vertical Datum of 1988). In compliance with E.O. 11988, an 8-step process was completed and documentation is attached in Appendix C.

#### **4.2.3 Environmental Consequences**

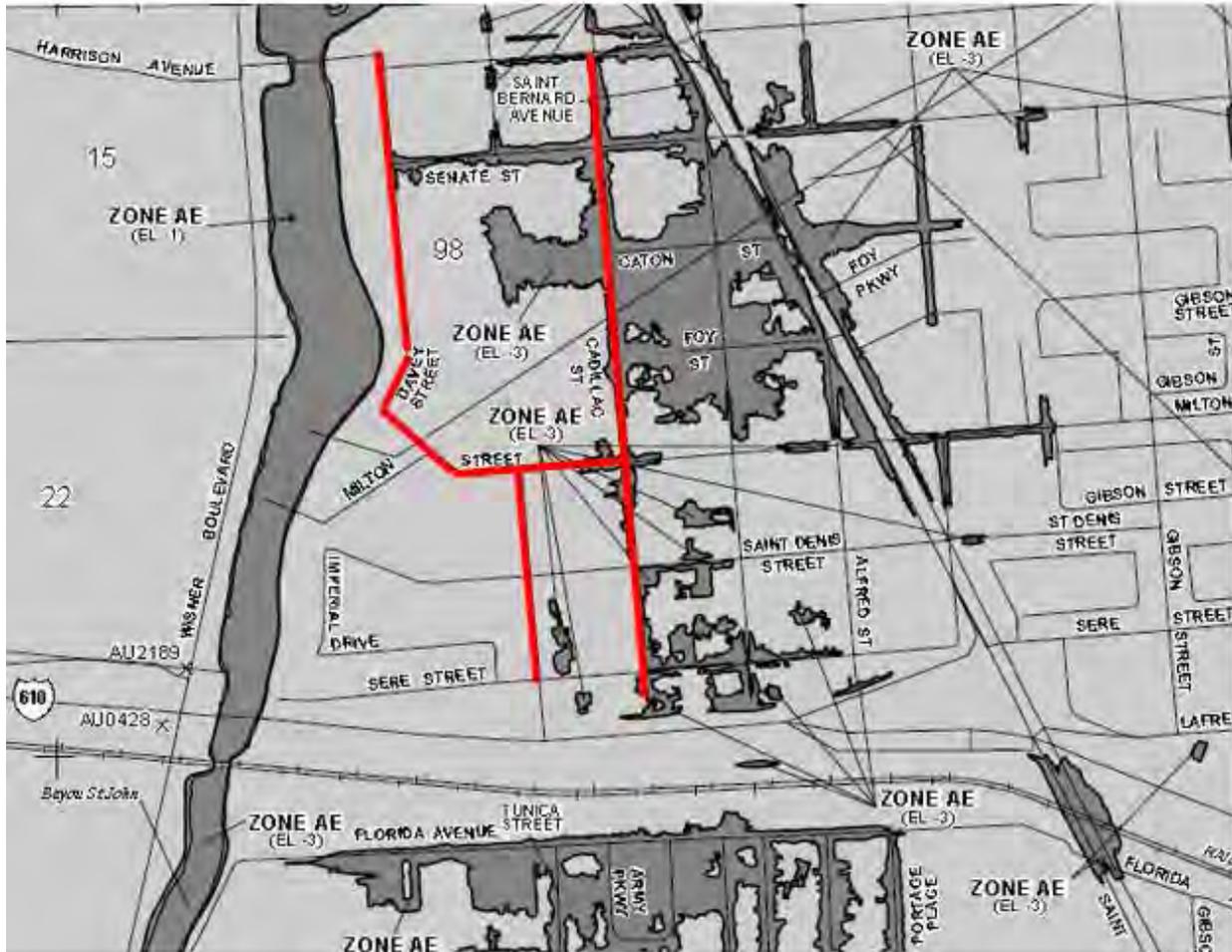
Practicable alternatives to locating the proposed action in the floodplain were identified and evaluated. Various practicability factors were considered including feasibility, social concerns, hazard reduction, mitigation costs, and environmental impacts.

##### **Alternative 1 – No Action**

Under the “No Action” alternative, there would be no repairs to the streets in the vicinity of the Youth Study Center/St. Bernard Area. This course would have no further adverse impacts on the floodplain, but would leave the damaged facilities and their environs in an unsafe condition, which would represent a safety hazard to the public and nearby properties.

##### **Alternative 2 – Repair of Damaged Street Sections to Pre-Hurricane Condition**

Alternative 2 was reviewed for possible impacts associated with occupancy or modification to a floodplain. This alternative would restore damaged infrastructure to its pre-storm condition.



**Figure 4 –Effective DFIRM Panel Number 22071C0227F (DHS 2016). Project vicinity labeled in red. The DFIRM became effective on 30 September, 2016.**

Due to the local topography and the previously developed character of the work area, impacts to the nature of the floodplain itself have been determined to be negligible. Repair of the existing streets would not affect the functions and values of the 100-year floodplain since they would not impede or redirect flood flows.

Per 44 C.F.R. § 9.11(d)(6), no project should be built to a floodplain management standard that is less protective than what the community has adopted in local ordinances through their participation in the NFIP. The Applicant would be required to coordinate with the local floodplain administrator regarding floodplain permit(s) prior to the start of any activities.

**Alternative 3 – Complete Reconstruction and Upgrading of Affected Streets (Proposed Action)**

The Proposed Action Alternative also was reviewed for possible impacts associated with occupancy or modification to a floodplain. Under this alternative, infrastructure would be reconstructed at its original location in substantially the same footprint, but include applicable codes and standards upgrades, as well as necessary adjustments and/or relocations of storm sewers, manholes, and drain lines in order to improve drainage. As with Alternative 2, due to the local

topography and the previously developed character of the proposed site, impacts to the nature of the floodplain itself have been determined to be negligible. The proposed reconstruction and upgrading of the streets likely would not affect the functions and values of the 100-year floodplain since the result would not impede or redirect flood flows.

Per 44 C.F.R. 9.11(d)(6), no project should be built to a floodplain management standard that is less protective than what the community has adopted in local ordinances through their participation in the NFIP. The Applicant would be required to coordinate with the local floodplain administrator regarding floodplain permit(s) prior to the start of any activities.

### **4.3 Cultural Resources**

#### **4.3.1 Regulatory Setting**

The consideration of impacts to historic and cultural resources is mandated under Section 101(b) 4 of the National Environmental Policy Act (NEPA) as implemented by 40 CFR Part 1501-1508. Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to take into account their effects on historic properties (i.e. historic and cultural resources, including American Indian Cultural Sites) and allow the Advisory Council on Historic Preservation an opportunity to comment. Additionally, it is policy of the Federal government to consult with Indian Tribal Governments and a Government-to-Government basis as required in Executive orders 13175. FEMA has chosen to address potential impacts to historic properties through the “Section 106 consultation process” of NHPA as implemented through 36 CFR Part 800.

In order to fulfill its Section 106 responsibilities, FEMA has initiated consultation on this project in accordance with the Statewide Programmatic Agreement (PA) dated August 17, 2009, and amended on July 22, 2011, between the Louisiana State Historic Preservation Officer (SHPO), the Louisiana Governor’s Office of Homeland Security and Emergency Preparedness (LA GOHSEP), the Alabama-Coushatta Tribe of Texas, the Caddo Nation, the Chitimacha Tribe of Louisiana, the Choctaw Nation of Oklahoma, the Coushatta Tribe of Louisiana, the Jena Band of Choctaw Indians, the Mississippi Band of Choctaw Indians, the Quapaw Tribe of Oklahoma, the Seminole Nation of Oklahoma, the Seminole Tribe of Florida, the Tunica-Biloxi Tribe of Louisiana, and the Advisory Council on Historic Preservation ([http://www.achp.gov/docs/fema\\_pa/LA%20PA%20executed.pdf](http://www.achp.gov/docs/fema_pa/LA%20PA%20executed.pdf)). The PA was created to streamline the Section 106 review process.

The “Section 106 process” outlined in the PA requires the identification of historic properties that may be affected by the proposed action or alternatives within the project’s area of potential effects (APE). Historic properties, defined in Section 101(a)(1)(A) of NHPA, include districts, sites (archaeological and religious/cultural), buildings, structures, and objects that are listed in or determined eligible for listing in the National Register of Historic Places (NRHP). Historic properties are identified by qualified agency representatives in consultation with interested parties. Below is a consideration of various alternatives and their effects on historic properties.

#### **4.3.2 Existing Conditions – Identification and Evaluation of Historic Properties**

On May 12, 2016, FEMA Historic Preservation Staff consulted the NRHP database, the Louisiana Cultural Resources Map, and project files and determined that the Undertaking is not located

within a listed or eligible National Register Historic District nor is it located within view-shed of a property individually listed in the NRHP. Upon consultation of data provided by SHPO on May 12, 2016, there are five recorded archaeological site within ½ mile of the archaeological APE: 16OR441, 16OR536, 16OR537, 16OR538, and 16OR539. 16OR441 is 20<sup>th</sup> century historic site that is ineligible for the NRHP. Sites 16OR536, 16OR537, 16OR538, and 16OR539 are NRHP unassessed sites within the demolished St. Bernard Housing area and contain late 19<sup>th</sup> /early 20<sup>th</sup> century residential material. None of these sites are within the APE and will not be affected by the current Undertaking.

### **4.3.3 Environmental Consequences**

#### **Alternative 1 – No Action**

This alternative does not include any FEMA undertaking; therefore FEMA has no further responsibilities under Section 106 of the NHPA.

#### **Alternative 2 – Repair of Damaged Street Sections to Pre-Hurricane Condition**

The proposed undertaking would utilize FEMA funding to repair damaged street sections to pre-hurricane condition. Based on research using the NRHP database, the Louisiana Cultural Resources Map on the Louisiana Division of Historic Preservation’s website, and agency files, FEMA has determined that the project area is not located within a listed National Register Historic District nor is it located within the view-shed of a property individually listed in the NRHP. The structures located within the project area were found to be less than 50 years of age and do not exhibit the significance to qualify for listing under Criterion Consideration G. FEMA determined that the scope of work meets the criteria in Appendix C: Programmatic Allowances, Item I, Sections A, C, and I, and Item III, Sections A, B, C, D, and E of FEMA’s Programmatic Agreement (PA) dated August 17, 2009 and amended on July 22, 2011. In accordance with this PA, FEMA is not required to determine the National Register eligibility of properties where work performed meets these allowances. The applicant must comply with the NHPA conditions set forth in this EA. (Louisiana Unmarked Human Burial Sites Preservation Act and Inadvertent Discovery Clause).

#### **Alternative 3 – Complete Reconstruction and Upgrading of Affected Streets (Proposed Action)**

The proposed undertaking would utilize FEMA funding to reconstruct and upgrade the affected streets. Based on research using the NRHP database, the Louisiana Cultural Resources Map on the Louisiana Division of Historic Preservation’s website, and agency files, FEMA has determined that the project area is not located within a listed National Register Historic District nor is it located within the view-shed of a property individually listed in the NRHP. The structures located within the project area were found to be less than 50 years of age and do not exhibit the significance to qualify for listing under Criterion Consideration G. FEMA determined that the scope of work meets the criteria in Appendix C: Programmatic Allowances, Item I, Sections A, C, and I, and Item III, Sections A, B, C, D, and E of FEMA’s Programmatic Agreement (PA) dated August 17, 2009 and amended on July 22, 2011. In accordance with this PA, FEMA is not required to determine the National Register eligibility of properties where work performed meets these allowances. The applicant must comply with the NHPA conditions set forth in this EA. (Louisiana Unmarked Human Burial Sites Preservation Act and Inadvertent Discovery Clause).

## **4.4 Socioeconomic Resources**

### **4.4.1 Environmental Justice**

#### ***4.4.1.1 Regulatory***

E.O. 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was signed on 11 February 1994 (U.S. President 1994). This E.O. directs federal agencies to make achieving environmental justice part of their missions by identifying and addressing, as appropriate, disproportionately high adverse human health, environmental, economic, and social effects of their programs, policies, and activities on minority and/or low-income populations.

#### ***4.4.1.2 Existing Conditions***

Information obtained from the U.S. Census Bureau (USDOC 2010), compiled and extrapolated by the U.S. Environmental Protection Agency (USEPA) and presented on its Enforcement and Compliance History website, indicates that the population within a three (3)-mile radius of the proposed project site is composed of 76.7% African-American, 14.8% White, and 8.5% other groups. Of these households, 37.7% have incomes less than \$25,000 per year, with approximately 42.9% of individuals existing below the poverty level. For the 5-year dataset 2010-2014, the U.S. Census Bureau's American Community Survey (USDOC 2014) estimated median household income over the preceding 12 months for New Orleans at \$36,964 (in 2014 inflation-adjusted dollars), with a margin of error of +/- \$767.

#### ***4.4.1.3 Environmental Consequences***

In compliance with E.O. 12898, the following key questions were addressed with regard to potential Environmental Justice concerns:

- Is there an impact caused by the proposed action? Yes
- Is the impact adverse? No (conditionally)
- Is the impact disproportionate? No
- Has an action been undertaken without considerable input by the affected low-income and/or minority community? No

#### **Alternative 1 – No Action**

The “No Action” alternative would not involve the implementation of a federal program, policy, or activity. Under this alternative, no repairs would be made to Cadillac, Davey, Encampment, and Milton Streets. The already deteriorated condition of these streets would continue to worsen, possibly causing damage to vehicles, impairing response times by emergency services, and eventually preventing homeowners from accessing their properties. Although the streets in question are currently passable, this alternative has the potential to permit disproportionately high adverse impacts to minority and/or low-income populations to occur in the future.

## **Alternative 2 – Repair of Damaged Street Sections to Pre-Hurricane Condition**

This alternative would involve repairing the street blocks currently under review to their pre-storm condition. Only those sections damaged as a direct result of the hurricane would be repaired, leaving any other deteriorated portions as is. Alternative 2 would meet minimum federal agency responsibilities under E.O. 12898 and would not result in adverse impacts to any population.

## **Alternative 3 – Complete Reconstruction and Upgrading of Affected Streets (Proposed Action)**

Under the Proposed Action Alternative, work would consist of completely reconstructing the streets down to the sub-grade, instead of simply repairing the FEMA-eligible sections. As necessary, storm sewers, manholes, and drain lines would be adjusted, relocated, or removed. Due to the likely presence of hazardous material under the existing roads, the proposed scope of work has the potential to create disproportionately high adverse impacts to minority and/or low-income populations unless precautions are taken (see Sections 4.4.2 and 4.4.3 for additional discussion). If the conditions and mitigation measures described in Section 7.0 are implemented, this alternative is unlikely to cause adverse impacts to any population.

### **4.4.2 Hazardous Material**

#### **4.4.2.1 Regulatory Setting**

The management of hazardous materials is regulated under various federal and state environmental and transportation laws and regulations, including but not limited to the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Toxic Substances Control Act (TSCA); the Emergency Planning and Community Right-to-Know provisions of the Superfund Amendments and Reauthorization Act (SARA); the Hazardous Materials Transportation Act; and the Louisiana Voluntary Investigation and Remedial Action statute. The purpose of the regulatory requirements set forth under these laws is to ensure the protection of human health and the environment through proper management (identification, use, storage, treatment, transport, and disposal) of these regulated materials. Some of the laws provide for the investigation and cleanup of sites already contaminated by releases of hazardous materials, wastes, or substances.

The TSCA (codified at 15 U.S.C. § 53), authorizes the USEPA to protect the public from “unreasonable risk of injury to health or the environment” by regulating the introduction, manufacture, importation, sale, use, and disposal of specific new or already existing chemicals. “New Chemicals” are defined as “any chemical substance which is not included in the chemical substance list compiled and published under [TSCA] § 8(b).” Existing chemicals include any chemical currently listed under § 8(b), including polychlorinated biphenyls (PCBs), asbestos, radon, lead-based paint, chlorofluorocarbons, dioxin, and hexavalent chromium.

TSCA Subchapter I, “Control of Toxic Substances” (§§ 2601-2629), regulates the disposal of PCB-containing products, sets limits for PCB levels present within the environment, and authorizes the remediation of sites contaminated with PCBs. Subchapter II, “Asbestos Hazard Emergency Response” (§§ 2641-2656), authorizes the USEPA to impose requirements for asbestos abatement in schools and requires accreditation of those who inspect asbestos-containing

materials. Subchapter IV, “Lead Exposure Reduction” (§§ 2681-2692), requires the USEPA to identify sources of lead contamination in the environment, to regulate the amounts of lead allowed in products, and to establish state programs that monitor and reduce lead exposure.

In addition, the USEPA regulates hazardous air pollutants, such as asbestos, under the “air toxics” provisions of the Clean Air Act. Section 112 of the CAA established the National Emission Standards for Hazardous Air Pollutants (NESHAP) and required the USEPA to develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health. Major health effects associated with asbestos include lung cancer, mesothelioma, and asbestosis (USEPA 2016a).

#### ***4.4.2.2 Existing Conditions***

Hazardous substances are defined as any solid, liquid, contained gaseous or semisolid waste, or any combination of wastes that pose either a substantial present or potential future hazard to human health and the environment. Improper management and disposal of hazardous substances can lead to contamination of groundwater and/or surface water, including drinking water supplies, and soils. Evaluations of hazardous substances and wastes must consider whether any hazardous material will be generated by a proposed activity and whether a hazardous material already exists at the site or in the general vicinity of the site that could adversely impact the community or site workers. Existing hazardous materials and waste concerns can impact future uses of a site.

USEPA and Louisiana Department of Environmental Quality (LDEQ) database searches for the proposed project vicinity revealed no known offsite hazardous waste or leaking underground storage tank sites in close proximity. No sites of concern outside the immediate project area were found within one-half (½) mile of the outer project boundary during a review of LDEQ’s Voluntary Remediation Program/Brownfields Initiative database, as well as its Electronic Document Management System (EDMS) database for other hazardous waste management and disposal, solid waste disposal, enforcement, or related activities. There are no recorded active oil or gas wells within one (1) mile of the project area. The project area itself does possess one (1) brownfield and three (3) sites with soil contamination that was previously remediated. A more in-depth discussion of these issues follows below (LDEQ 2016a, 2016c; USEPA 2016b, 2016c).

According to LDEQ’s EDMS database, substantial portions of properties adjacent to the streets proposed for repair have required remediation due to the presence of incinerator ash (likely bottom ash, or the material remaining after combustion) and contaminants contained therein. The main component of bottom ash is silica (roughly 50%), with lesser amounts of aluminum, calcium, and iron combined to produce silicate mineral compounds, plus oxides resistant to high temperatures. Bottom ash also generally includes various metals, including heavy metals, bound to these silicates and oxides, as well as incompletely-burned organic matter and traces of dioxins and polyaromatic hydrocarbons (PAHs) (Committee for Prevention and Precaution 2004). Incinerator ash has been utilized for road construction in Europe for a number of years and has been studied for such use in the U.S. (Allsop, Costner, and Johnston 2001; Committee for Prevention and Precaution 2004; An et al. 2014).

LDEQ-approved remedial actions for their project numbers AI 100204 (Phillips Waters site, or the entire parcel bounded by Davey, Senate, Cadillac, and Milton Streets), AI 164848 (1100 Milton

Street site, immediately south of Milton Street and west of Encampment Street), and AI 133236 (51 Imperial Drive site, immediately south of the 1100 Milton Street parcel above, extending to the shoreline of Bayou St. John; also corresponding to USEPA's Youth Study Center brownfield site) occurred on parcels adjacent to the project area. Figure 5 provides a graphic representation of the locations of these sites in relation to the streets proposed for repair/reconstruction.

Soil constituents of concern exceeding screening standards consisted of various metals (such as antimony, arsenic, lead, and zinc), as well as several PAHs, including benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene. According to historical aerial photography, portions of the streets to be reconstructed in the current request were originally laid after incinerator ash appears to have been spread over the area. There is a high likelihood that contamination is present beneath the currently paved surfaces.

#### ***4.4.2.3 Environmental Consequences***

##### **Alternative 1 – No Action**

The “No Action” alternative would not disturb any hazardous materials or create any additional hazards to human health.

##### **Alternative 2 – Repair of Damaged Street Sections to Pre-Hurricane Condition**

Because Alternative 2 would deal with surface repairs to Cadillac, Davey, Encampment, and Milton Streets, removal of paving material to a point deep enough to encounter potential hazardous material would not be expected. Should deeper excavation be necessary for repairs, however, any hazardous constituents encountered would require that appropriate measures for the proper assessment, remediation, and management of the contamination be initiated in accordance with applicable federal, state, and local rules and regulations. In addition, work under this alternative would require that best management practices (BMPs) be followed; appropriate measures to prevent, minimize, and control spills of hazardous materials taken; and any generated hazardous or non-hazardous wastes disposed of in accordance with applicable federal, state, and local requirements.



**Figure 5 – Annotated aerial photo showing previously remediated parcels adjacent to current project**

### **Alternative 3 – Complete Reconstruction and Upgrading of Affected Streets (Proposed Action)**

According to the detailed plans submitted by the Applicant, the Proposed Action Alternative would involve disturbance of potentially contaminated soil through actions including but not limited to compacting and shaping the subgrade, removal of culvert pipes, installation of new manholes, and removal of drain lines. In addition, culvert pipes and drain lines made of cement-asbestos material were used extensively in the mid- to late-20<sup>th</sup> Century. Disturbing or removing this type of pipe could potentially release friable asbestos into the air. As a result of these construction activities, nearby residents and schoolchildren, as well as City and contract construction workers, would face

potential health hazards due to exposure to contaminated soil and dust (see Section 4.4.3 for additional discussion).

On 7 June 2016, FEMA coordinated with the USEPA and LDEQ through a Solicitation of Views (SOV) (Appendix B). USEPA did not respond within the allotted 30-day time period; however, LDEQ replied to the SOV on 27 June 2016 (LDEQ 2016). Although LDEQ did not object to the project as proposed, it provided a number of comments, which have been incorporated into Section 7.0 of this SEA, as warranted. LDEQ noted that the project “will most likely encounter incinerator ash material which may have elevated concentrations of metals (especially lead) and PAHs.”

Any hazardous constituents encountered at the site during construction operations would require that appropriate measures for the proper assessment, remediation, and management of the contamination be initiated in accordance with applicable federal, state, and local rules and regulations. BMPs must be followed; appropriate measures to prevent, minimize, and control spills of hazardous materials taken; and any generated hazardous or non-hazardous wastes disposed of in accordance with applicable federal, state, and local requirements.

### **4.4.3 Public Health and Safety**

#### ***4.4.3.1 Background***

A considerable number of health and safety laws and regulations exist for a wide variety of activities; however, an exhaustive review of these various rules is beyond the scope of this SEA. Because HUD’s EA already addresses many important health and safety issues, only the issues surrounding likely contamination of the project site by hazardous materials will be discussed in this section.

In addition, the location of McDonough 35 Senior High School at 4000 Cadillac Street, between the sections of Davey and Cadillac Streets to be repaired/reconstructed, as well as the presence of other adjacent residences with children, triggers a consideration of E.O. 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. The Policy section of this E.O. acknowledges that “children may suffer disproportionately from environmental health risks and safety risks. These risks arise because: children’s neurological, immunological, digestive, and other bodily systems are still developing; [and] children eat more food, drink more fluids, and breathe more air in proportion to their body weight than adults.” Federal agencies are required to make identifying and assessing “environmental health risks and safety risks that may disproportionately affect children” a high priority (U.S. President 1997). As a result, extra precautions must be taken when work occurs where children may be near.

#### ***4.4.3.2 Existing Conditions***

Construction activities frequently involve the use of hazardous materials such as fuels, oils, solvents, cleaners, and degreasers. Culverts and pipes may contain asbestos or lead, which could present a risk to workers and nearby populations from dust and fume inhalation. Excavation, filling, saw-cutting, jack-hammering, and paving activities have the potential for the generation of large quantities of dust and asphalt emissions. Impacts would be especially adverse for sensitive subpopulations such as children, hospital patients, the elderly, and infirm.

Workers also may be exposed to environmental contamination beneath roadways due to the consequences of historical construction, land use, or waste management practices. Unanticipated conditions could exist whereby workers are directly exposed to hazardous substances, such as chemicals from a leaking underground storage tank or, as in the current case, from prior land disposal of incinerator ash.

Due to the time period in which the ash was disposed via spreading over the land surface of the project area (beginning before 1933 and continuing at least until 1945, possibly as late as 1952), the nature and origin of the ash cannot be determined with certainty. Incinerator ashes often contain elevated levels of soluble salts, heavy metals, dioxins, and PAHs (Allsop, Costner, and Johnston 2001; An et al. 2014). Because the adjacent properties have been remediated, the chemical composition of the ash on those parcels has been partially characterized. Soil constituents of concern exceeding LDEQ screening standards consisted of various metals (such as antimony, arsenic, lead, and zinc), as well as several PAHs, including benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene.

The health hazards from any potential contaminant depend primarily on the concentration and the degree/nature of exposure. In the current situation, the primary method of exposure would likely be from airborne dust particles suspended during earthwork and from contaminated runoff during rain events. Although both children and adults could come into contact with hazardous substances through either of these routes, the concentration of any individual contaminant within the generated dust or runoff is unknown and cannot currently be predicted. Thus, any definitive statements about hazards to public health cannot be made with certainty.

In lieu of assigning probabilities of potential effects for the constituents of concern, only general health risks from inhalation or dermal exposure to these contaminants can be provided. The actual potential for exposure to nearby residents and schoolchildren may be quite low.

Antimony – May cause minor eye or skin irritation and can aggravate existing chronic respiratory or cardiovascular diseases (USDHHS 1992).

Arsenic – A known carcinogen. Inhalation of high levels of inorganic arsenic can cause a sore throat and irritated lungs, with possible changes to the blood vessels of the skin. Longer exposure at lower concentrations also can lead to skin changes, as well as circulatory and peripheral nervous disorders. Arsenic can be passed from mother to child in breast milk. Direct dermal contact with high concentrations of inorganic arsenic compounds can cause the skin to become irritated; however, this contact is not likely to lead to any serious internal effects (USDHHS 2007a).

Lead – May be absorbed both through inhalation and dermal exposure, with inhalation as the most effective route. In the body, the main target is the central nervous system; however, children are most susceptible to adverse health effects, including consequences to mental and physical development, behavior, and intelligence. Lead can be present in breast milk. No safe level for lead has been determined (USDHHS 2007b).

Zinc – There are no significant health effects from inhalation or dermal contact, even at high doses of zinc (USDHHS 2005).

PAHs – PAHs are a class of chemicals formed as by-products of burning, including fossil fuels, cigarettes, and barbecue grills. Many are carcinogenic. They can be absorbed through inhalation and dermal contact. Long-term exposure can decrease respiratory function. Without repeated exposure, these chemicals are not stored in the body for long periods (i.e., are excreted within a few days) (USDHHS 1995).

#### **4.4.3.3 Environmental Consequences**

##### **Alternative 1 – No Action**

Under the “No Action” alternative there would be no repair/reconstruction of the streets, so no hazardous materials would be disturbed. Any unknown health or safety concerns would remain to be discovered.

##### **Alternative 2 – Repair of Damaged Street Sections to Pre-Hurricane Condition**

Because Alternative 2 would deal with surface repairs to Cadillac, Davey, Encampment, and Milton Streets, removal of paving material to a point deep enough to encounter potential hazardous material would not be expected. Should deeper excavation be necessary for repairs, however, any hazardous constituents encountered would require that appropriate measures for the proper assessment, remediation, and management of the contamination be initiated in accordance with applicable federal, state, and local rules and regulations. These measures would substantially reduce any potential for contaminants to cause negative health effects to construction workers, nearby residents, and schoolchildren.

Work under this alternative would require that BMPs be followed, including appropriate measures to prevent, minimize, and control spills of hazardous materials. In addition, in order to minimize the potential for inhalation exposure, the contractor would be responsible for using BMPs to reduce fugitive dust generation. For example, the contractor would be required to water down construction areas when necessary to minimize suspended particulate matter. Section 7.0 of this SEA includes additional conditions.

##### **Alternative 3 – Complete Reconstruction and Upgrading of Affected Streets (Proposed Action)**

The Proposed Action Alternative would involve disturbance of potentially contaminated soil through actions including but not limited to compacting and shaping the subgrade, removal of culvert pipes, installation of new manholes, and removal of drain lines. In addition, culvert pipes and drain lines made of cement-asbestos, which could potentially release friable asbestos into the air, also may be encountered. As a result of these construction activities, nearby residents and schoolchildren, as well as City and contract construction workers, would face potential health hazards due to exposure to unknown quantities of contaminated soil and dust. The McDonough 35 Senior High School is immediately adjacent to the work zone on two (2) sides and the Columbia Parc senior citizens’ housing community is three (3) blocks east of Cadillac Street.

Any hazardous constituents encountered at the site during construction operations would require that appropriate measures for the proper assessment, remediation, and management of the contamination be initiated in accordance with applicable federal, state, and local rules and regulations. In order to pursue work under this alternative, BMPs must be followed, including

appropriate measures to prevent, minimize, and control spills of hazardous materials. In addition, in order to minimize the potential for inhalation exposure, the contractor must use BMPs to reduce fugitive dust generation. For example, the contractor is required to water down construction areas when necessary to minimize suspended particulate matter. Contractors are required to follow, at a minimum, these BMPs during site work:

- implement erosion and sediment controls
- stabilize soils
- manage dewatering activities
- implement pollution prevention measures
- provide and maintain buffers around surface waters
- prohibit certain discharges, such as motor fuel and concrete washout
- utilize surface outlets for discharges from basins and impoundments

Section 7.0 of this SEA includes additional conditions.

## 5.0 CUMULATIVE IMPACTS

CEQ regulations state that the cumulative impact of a project represents 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 C.F.R. § 1508.7).

In its comprehensive guidance on cumulative impacts analysis under NEPA, CEQ notes that “the range of actions that must be considered includes not only the project proposal, but all connected and similar actions that could contribute to cumulative effects” (Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act 2005). The term, “similar actions,” may be defined as “reasonably foreseeable or proposed agency actions [having] similarities that provide a basis for evaluating the environmental consequences together, such as common timing or geography” (40 C.F.R. § 1508.25[a][3]).

Not all potential issues identified during cumulative effects scoping need be included in a SEA. Because some effects may be irrelevant or inconsequential to decisions about the proposed action and alternatives, the focus of the cumulative effects analysis should be narrowed to important issues of national, regional, or local significance. To assist agencies in this narrowing process, CEQ (2007) provides a list of several basic questions to be considered, including: (1) Is the proposed action one of several similar past, present, or future actions in the same geographic area?; (2) Do other activities (governmental or private) in the region have environmental effects similar to those of the proposed action?; (3) Have any recent or ongoing NEPA analyses of similar or nearby actions identified important adverse or beneficial cumulative effect issues?; and (4) Has the impact been historically significant, such that the importance of the resource is defined by past loss, past gain, or investments to restore resources?

It is normally insufficient when conducting a cumulative effects analysis to merely analyze effects within the immediate area of the proposed action. Geographic boundaries should be expanded for cumulative effects analysis and conducted on the scale of human communities, landscapes, watersheds, or airsheds. Temporal frames should be extended to encompass additional effects on the resources, ecosystems, and human communities of concern. A useful concept in determining appropriate geographic boundaries for a cumulative effects analysis is the project impact zone, that is, the area (and resources within that area) that could be affected by the proposed action. The area appropriate for analysis of cumulative effects will, in most instances, be a larger geographic area occupied by resources outside of the project impact zone (CEQ 2007).

The center of the proposed project site is located in the block between Cadillac, Milton, Davey, and Senate Streets in the San Bernard Area of New Orleans, near the southwestern corner of the 70122 zip code geographic region. FEMA has determined that the area within a 0.5-mile buffer around the overall site perimeter constitutes an appropriate project impact zone. Due to the site’s position near the zip code boundary, use of the territory contained within the 70122 zip code perimeter was not appropriate for a cumulative impact investigation of the proposed action and alternatives. Instead, a one (1)-mile radius buffer around the center of the project site was used for this analysis.

In accordance with NEPA, and to the extent reasonable and practical, this SEA considered the combined effects of the Proposed Action Alternative and other actions undertaken by FEMA, as well as actions by other public and private entities, that affect the environmental resources the proposed action also would affect, and occur within the considered geographic area and temporal frame(s).

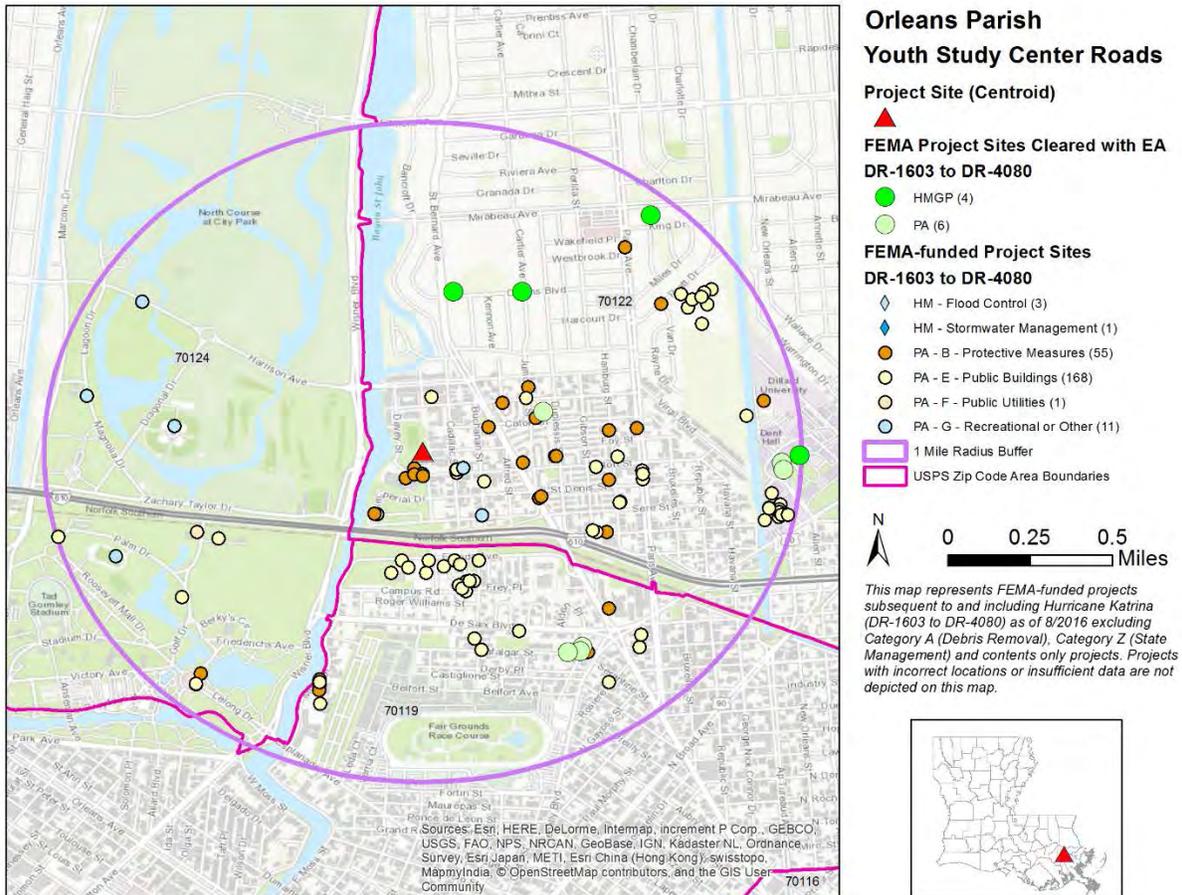
Specifically, a range of past, present, and reasonably foreseeable future actions undertaken by FEMA within the designated geographic boundary area were reviewed: (1) for similarities such as scope of work, common timing and geography; (2) to determine environmental effects similar to those of the proposed action, if any; and (3) to identify the potential for cumulative impacts. As part of the cumulative effects analysis, FEMA also reviewed known past, present, and reasonably foreseeable future projects of federal agencies and other parties identified within the designated geographic boundary. These reviews were performed in order to assess the effects of proposed, completed, and ongoing activities and to determine whether the incremental impact of the current proposed action, when combined with the effects of other past, present, and reasonably foreseeable future projects, are cumulatively considerable or significant.

From August 2005 continuing through July 2016, approximately four (4) FEMA hazard mitigation-program-funded projects and 235 PA-program-funded emergency protective measure and repair projects have occurred, are occurring, or are reasonably foreseen to occur to buildings, recreational and educational facilities, infrastructure, and watercourses within a one (1)-mile radius of the proposed project center (*Figure 6*). FEMA's Hazard Mitigation Program is authorized under § 404 of the Stafford Act and funds measures "which substantially reduce the risk of future damage, hardship, loss, or suffering in any area affected by a major disaster."

FEMA-funded PA activities are divided into seven (7) categories, four (4) of which are represented within the subject one (1)-mile radius: Category B – emergency protective measures, Category E – public buildings, Category F – public utilities, and Category G – recreational or other. The percentage for each type of project based on numbers is as follows: Hazard Mitigation – 1.7%, Category B – 23.0%, Category E – 70.3%, Category F – 0.5%, and Category G – 4.5%. All FEMA-funded actions are subjected to various levels of environmental review as a requirement for the receipt of federal funding. An applicant's failure to comply with any required environmental permitting or other condition is a serious deficiency which can result in the loss of federal assistance, including funding.

After the devastation of the 2005 hurricane season, the USACE, Mississippi Valley Division, New Orleans District was tasked with the planning, design, and construction of the 350-mile HSDRRS system of levees, floodwalls, surge barriers, and pump stations to "increase public safety and enable the physical and economic recovery of the area to occur through the reduction of storm damage risk to residences, businesses, and other infrastructure from hurricanes (100-year storm events) and other high-water events within the Greater New Orleans Metropolitan Area." HSDRRS is one of the largest civil works projects ever undertaken, at an estimated cost of \$14 billion (DoA 2013a). The infrastructure project currently under consideration is within the area protected by HSDRRS. In addition, there is one (1) major drainage feature within one (1) mile of the proposed project, namely, Bayou St. John (Waterbody ID# LA041301). It serves to remove excess water from the area more efficiently, providing a positive cumulative benefit by reducing flooding.

Table 1 below lists and briefly describes known present, past, and reasonably foreseeable infrastructure and recovery improvement projects within a one (1)-mile buffer around the center of the proposed project area, including activities identified by FEMA but not FEMA-funded, for which environmental assessments were performed and/or that may have the potential for cumulative impacts when combined with the effects of the present proposed action. The table also identifies the potential for these impacts and the rationale for that assessment.



**Figure 6 – FEMA-funded and other projects occurring within a one (1)-mile buffer around the proposed project area**

**Table 1 - Projects that May Have the Potential to Contribute to Cumulative Impacts**

<b>Project Name / Status</b>	<b>Lead Agency</b>	<b>Location</b>	<b>Description</b>	<b>Cumulative Impact</b>	<b>Rationale</b>
<b>Dillard University</b>	FEMA	2601 Gentilly Blvd. New Orleans, LA 70122	Repair, reconstruction, or consolidation of campus buildings and residences (retaining all original functions) at original or new locations near existing campus	None	Consolidation, restoration, or improvements to existing infrastructure or within previously disturbed areas; no impact on proposed action
<b>Dillard University Drainage Project</b>	FEMA	2601 Gentilly Blvd. New Orleans, LA 70122	Upgrades to surface and subsurface campus drainage system, linked to the London Avenue Canal	Negligible	Runoff from improved infrastructure will be confined to a different drainage basin; no impact on proposed action
<b>Hardin Elementary School</b>	FEMA	1700 Pratt Drive New Orleans, LA. 70122	Site work and installation of modular buildings for a temporary school campus (no longer present)	None	Temporary campus built within a previously disturbed, mowed athletic field; no impact on proposed action
<b>Langston Hughes Elementary School</b>	FEMA	3519 Trafalgar Street New Orleans, LA 70119	Demolition of all campus buildings and construction of a new high school in their place	None	Consolidation of existing infrastructure within a previously disturbed area; no impact on proposed action
<b>Louisiana State University Health Sciences Center – School of Dentistry</b>	FEMA	1100 Florida Avenue New Orleans, LA 70119	Repairs, renovations, replacements, mitigation, and improvements to multiple buildings and grounds on the university campus	Negligible	Restoration or improvements to existing infrastructure within previously disturbed areas; minimal impact on proposed action

<b>Project Name / Status</b>	<b>Lead Agency</b>	<b>Location</b>	<b>Description</b>	<b>Cumulative Impact</b>	<b>Rationale</b>
<b>McDonough 35 Senior High School</b>	FEMA	4000 Cadillac Street New Orleans, LA 70122	Demolition of two (2) adjacent school campuses and construction of a new senior high school in their place; remediation of surface soil contamination was included as part of the project	Negligible	Consolidation of existing infrastructure, including clean-up of soil contamination; positive effect on proposed action due to identification of a potential hazard
<b>Mirabeau Garden Stormwater Management and Flood Mitigation</b>	FEMA	A 25-acre tract within the Fillmore Neighborhood bounded by Mirabeau Ave. to the north, Cartier Ave. to the east, Owens Blvd. to the south and St. Bernard Ave. to west.	Construction of green infrastructure water management improvements on a formerly developed, but now abandoned, parcel	Negligible	Enhanced retention and detention capability will improve the overall drainage within the area; positive effect on proposed action
<b>Youth Study Center (also known as the Juvenile Justice Center)</b>	FEMA	1100 Milton Street New Orleans, LA 70122	Demolition of the original structure and reconstruction of a larger facility on an adjacent, previously-remediated, vacant tract to the south	Negligible	Relocation of and improvements to existing infrastructure; prior clean-up of soil contamination provided a benefit to proposed action due to identification of a potential hazard
<b>Columbia Parc (formerly St. Bernard) Housing Community</b>	HUD	1400 Milton Street New Orleans, LA 70122	Reconstruction of public housing for senior citizens at the original location	None	Restoration and improvements to existing infrastructure; no impact on proposed action
<b>SWBNO Pump Stations</b>	USACE	Throughout Orleans Parish	Pump station elevation	Negligible	Restoration and improvements to existing infrastructure; minimal impact on proposed action

Project Name / Status	Lead Agency	Location	Description	Cumulative Impact	Rationale
<p><b>Comprehensive Environmental Document, Phase I Study for HSDRRS (DoA 2013a)</b></p>	<p>USACE</p>	<p>217 miles of post-Katrina HSDRRS work located within the Greater New Orleans Metropolitan Area; the area within Lake Pontchartrain and Vicinity (LPV) and West Bank and Vicinity (WBV).</p>	<p>Evaluates the cumulative impacts associated with the implementation of the HSDRRS; describes cumulative impacts of HSDRRS construction completed as of July 2011; and incorporates information from Individual Environmental Reports (IERs) and supplemental IERs completed as of 15 November 2010</p>	<p>Less than significant</p>	<p>Adversely affected resources for the HSDRRS project (regional soils, habitat supporting wildlife, wetlands and jurisdictional bottomland hardwood resources) are significantly different from those in the currently proposed action. Through mitigation and compensation measures, the overall socioeconomic benefits are expected to outweigh the unavoidable natural resources impacts and, thus, would not impact the proposed action.</p>

<b>Project Name / Status</b>	<b>Lead Agency</b>	<b>Location</b>	<b>Description</b>	<b>Cumulative Impact</b>	<b>Rationale</b>
<b>Programmatic IER #36 – LPV Mitigation (DoA 2013b)</b>	USACE	Lake Pontchartrain Basin, between Interstate 12 and the Mississippi River	Evaluates the alternatives to compensate for unavoidable habitat losses resulting from construction of the LPV HSDRRS; identifies the Tentatively Selected Mitigation Plan Alternative for mitigating impacts to four habitat categories: wet and dry bottomland hardwood forests, swamps, and marshlands	Negligible	Impacts to resources are significantly different than those of the proposed action; minimal impact on proposed action
<b>Response to Hurricanes Katrina and Rita EA #433 and FONSI (DoA 2006a, 2006b)</b>	USACE	Orleans, St. Bernard, Jefferson, Plaquemines, St. Mary's, Terrebonne, and Lafourche Parishes	Evaluates emergency actions to unwater New Orleans Metropolitan Area; rehabilitate federally authorized levees, and restore non-federal levees and pump stations (Orleans, St. Bernard, Jefferson and Plaquemines Parishes); and flood flight operations (St. Mary's, Terrebonne, and Lafourche Parishes)	None	Adverse impacts to resources (wetlands) required compensatory mitigation and are significantly different from those in the currently proposed action; no similar resources associated with proposed action; no impact on proposed action

As identified in Table 1, the cumulative effect of these present, past, and reasonably foreseeable future undertakings is not anticipated to result in a significant impact to any resource. Each of the projects aims to restore the function of pre-existing infrastructure or make drainage improvements within an urban setting, with minimal impacts to the natural and human environment. Projects related to USACE efforts to improve the levee protection system of the Greater New Orleans Area will result in short- and long-term impacts to the human and natural environment; however, the protection the levees afford from flooding is viewed to be a net positive effect. To reduce the environmental impacts from levee construction, mitigation measures for impacted resources have been implemented where possible and where required (DoA 2013a).

## **6.0 AGENCY COORDINATION AND PUBLIC INVOLVEMENT**

A legal notice for the HUD Environmental Assessment was published in the *Times-Picayune*, the journal of record for Orleans Parish, on October 23, 2013 and comments on the EA were accepted until November 7, 2013.

The public is invited to comment on the proposed action. A legal notice will be published on Wednesday, 7 September, Friday, 9 September, and Sunday, 11 September 2016, in the *Times-Picayune*, the journal of record for Orleans Parish, as well as in *The Advocate – New Orleans Edition*, from Monday, 5 September through Friday, 9 September 2016. Additionally, the draft Supplemental Environmental Assessment will be made available for review at the New Orleans Public Library located at 219 Loyola Avenue, New Orleans, LA 70112. Further, there will be a 15-day comment period, beginning on Monday, 12 September, and concluding on Tuesday, 27 September 2016, at 4:00 p.m. The document also has been published on FEMA’s websites. A copy of the Public Notice is attached in Appendix D.

The state and federal agencies consulted were:

Louisiana Department of Environmental Quality

U.S. Environmental Protection Agency

## 7.0 CONDITIONS AND MITIGATION MEASURES

Construction of the proposed improvements at the proposed location was analyzed based on the studies, consultations, and reviews undertaken as reported in this SEA. The findings of this SEA conclude that no significant adverse impacts to geology, groundwater, floodplains, public health and safety, hazardous materials, socioeconomic resources, environmental justice, or cultural resources are anticipated from the proposed action at the proposed site under the Proposed Action Alternative.

During project construction, short-term impacts to soils, surface water, air quality, and noise are anticipated and conditions have been incorporated to mitigate and minimize the effects. Project short-term adverse impacts would be mitigated using BMPs, such as silt fences, proper vehicle and equipment maintenance, and appropriate signage. No long-term adverse impacts are anticipated from the proposed project. Therefore, FEMA finds the proposed action meets the requirements for a Finding of No Significant Impacts (FONSI) under NEPA and the preparation of an EIS will not be required.

Based upon the studies, reviews, and consultations undertaken in this SEA, several conditions must be met and mitigation measures taken by CNO prior to and during project implementation:

- This FONSI applies only to the FEMA-funded activity within the portion of the project area that has been specifically described and evaluated in the EA that was submitted as part of CNO's Community Development Block Grant application and that was approved by the U.S. Department of Housing and Urban Development (HUD). If there is a change in the scope of work, or if any other areas outside the project area described in CNO's EA will be impacted, the project must be re-evaluated for compliance with the National Environmental Policy Act and other applicable federal, state, and local environmental and historic preservation laws, regulations, and Executive Orders.
- The Applicant must follow all applicable local, state, and federal laws, regulations, and requirements and obtain/update and comply with all required permits and approvals prior to initiating work.
- Contractors are required to follow, at a minimum, these BMPs during site work:
  - implement erosion and sediment controls
  - stabilize soils
  - manage dewatering activities
  - implement pollution prevention measures
  - provide and maintain buffers around surface waters
  - prohibit certain discharges, such as motor fuel and concrete washout
  - utilize surface outlets for discharges from basins and impoundments
- The Louisiana Department of Environmental Quality (LDEQ) understands that the project will have an Environmental Assessment completed. In connection with the street rehabilitation project, construction activity will most likely encounter incinerator ash material which may have elevated concentrations of metals (especially lead) and polycyclic aromatic hydrocarbons (PAHs). This material typically looks like broken glass and other solid waste material. When

this material is removed during street reconstruction, it should be characterized and disposed in a permitted landfill.

- Project construction would involve the use of potentially hazardous materials (e.g., petroleum products, including but not limited to gasoline, diesel, brake and hydraulic fluid, cement, caustics, acids, solvents, paint, electronic components, pesticides, herbicides, fertilizers, and/or treated timber) and may result in the generation of small volumes of hazardous wastes. Appropriate measures to prevent, minimize, and control spills of hazardous materials must be taken and generated hazardous or non-hazardous wastes are required to be disposed of in accordance with applicable federal, state, and local regulations.
- If the project results in a discharge to waters of the state, a Louisiana Pollutant Discharge Elimination System (LPDES) permit may be required in accordance with the Clean Water Act and the Louisiana Clean Water Code. In order to minimize indirect impacts (erosion, sedimentation, dust, and other construction-related disturbances) to nearby waters of the U.S. and surrounding drainage areas, the contractor must ensure compliance with all local, state, and federal requirements related to sediment control, disposal of solid waste, control and containment of spills, and discharge of surface runoff and stormwater from the site. LDEQ has stormwater general permits for construction areas equal to or greater than one acre. It is recommended that you contact the LDEQ Water Permits Division at (225) 219-9371 to determine if your proposed project requires a permit. All documentation pertaining to these activities and Applicant compliance with any conditions should be forwarded to the State of Louisiana Governor's Office of Homeland Security and Emergency Preparedness (LA GOHSEP) and FEMA for inclusion in the permanent project files.
- Unusable equipment, debris, and material shall be disposed of in an approved manner and location. The Applicant must handle, manage, and dispose of petroleum products, hazardous materials, and/or toxic waste in accordance with all local, state, and federal agency requirements. All coordination pertaining to these activities should be documented and copies forwarded to the state and FEMA as part of the permanent project files.
- Should any solid or hazardous wastes, or soils and/or groundwater contaminated with hazardous constituents be encountered during execution of the project, notification to LDEQ's Single-Point-of-Contact (SPOC) at (225) 219-3640 is required. Appropriate measures for the proper assessment, remediation, management, and disposal of the contamination must be initiated in accordance with applicable federal, state, and local regulations. The contractor is required to take appropriate actions to prevent, minimize, and control the spill of hazardous materials at the proposed site. Additionally, precautions must be taken to protect workers from these hazardous constituents.
- All waste is to be transported by an entity maintaining a current "waste hauler permit" specifically for the waste being transported, as required by Louisiana Department of Transportation and Development and other regulations.
- Contractor and/or sub-contractors must properly handle, package, transport and dispose of hazardous materials and/or waste in accordance with all local, state, and federal regulations, laws, and ordinances, including all Occupational Safety and Health Administration (OSHA) worker exposure regulations covered within 29 C.F.R. Parts 1910 and 1926.

- When dealing with asbestos- or lead-containing materials during project activities, the contractor must comply with Louisiana Administrative Code (LAC) 33:III.Chapter 28, Lead-Based Paint Activities; LAC 33:III.Chapter 27, Asbestos-Containing Materials in Schools and State Buildings (includes all training and accreditation); and LAC 33:III.5151, Emission Standard for Asbestos for any renovations or demolitions.
- All precautions should be observed to protect the groundwater of the region.
- Construction traffic shall be closely monitored and controlled as appropriate. All construction activities shall be conducted in a safe manner in accordance with OSHA requirements.
- Per 44 C.F.R. § 9.11(d)(6), no project should be built to a floodplain management standard that is less protective than what the community has adopted in local ordinances through their participation in the National Flood Insurance Program. The Applicant is required to coordinate with the local floodplain administrator regarding floodplain permit(s) prior to the start of any activities. All coordination pertaining to these activities and Applicant compliance with any conditions should be documented and copies forwarded to LA GOHSEP and FEMA for inclusion in the permanent project files.
- Louisiana Unmarked Human Burial Sites Preservation Act: If human bone or unmarked grave(s) are present within the project area, compliance with the Louisiana Unmarked Human Burial Sites Preservation Act (R.S. 8:671 et seq.) is required. The Applicant shall notify the law enforcement agency of the jurisdiction where the remains are located within twenty-four (24) hours of the discovery. The Applicant shall also notify FEMA and the Louisiana Division of Archaeology at 225-342-8170 within seventy-two (72) hours of the discovery.
- Inadvertent Discovery Clause: If during the course of work, archaeological artifacts (prehistoric or historic) are discovered, the Applicant shall stop work in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the finds. The Applicant shall inform their Public Assistance (PA) contacts at FEMA, who will in turn contact FEMA Historic Preservation (HP) staff. The Applicant will not proceed with work until FEMA HP completes consultation with the SHPO, and others as appropriate.
- The following conditions, contained in the Applicant's environmental clearance letter dated 1 October 2015, shall be adhered to as a condition of this FONSI:
  - The project will disturb greater than one acre of ground. An LDEQ General Permit for Small Construction Activities (Master Permit Number LAR200000) will be required.
  - The project lies in an area of historic interest to the Choctaw Nation of Oklahoma. In the event that Native American artifacts or human remains are encountered, work in the immediate area of the discovery must be stopped and the tribe contacted immediately.
  - Local and state regulations must be adhered to during construction to control airborne particulate to avoid visibility impairments and to ensure air quality.

## **8.0 LIST OF PREPARERS**

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