

Environmental Assessment

# Alternative Housing Pilot Program Jackson Barracks Site

Orleans Parish

FEMA-1603/1607-DR-LA

*November 2008*



**U.S. Department of Homeland Security**  
Federal Emergency Management Agency (FEMA)  
Louisiana Transitional Recovery Office – New Orleans, LA

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**FINDING OF NO SIGNIFICANT IMPACT**  
**Environmental Assessment**  
**Alternative Housing Pilot Program (AHPP) Permanent Housing**  
**Jackson Barracks Site, Orleans Parish, Louisiana**

Under the authority of Section 408 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), Federal Emergency Management Agency (FEMA) administers the Individual Assistance Program to provide temporary housing for disaster victims in affected areas whose homes are uninhabitable or destroyed. Although FEMA's traditional temporary housing options are sufficient to address the unmet housing needs of residents in most disasters; the catastrophic dimensions of Hurricanes Katrina and Rita challenged the efficacy of these traditional methods. Recognizing the extensive and complex housing challenges facing victims and communities as a result of Hurricanes Katrina and Rita, and acknowledging the limitations on FEMA's ordinary statutory authority to provide non-temporary housing solutions, Congress appropriated funds to the Department of Homeland Security (DHS) to support alternative housing pilot programs (Emergency Supplemental Appropriations Act, 2006, Public Law 109-234).

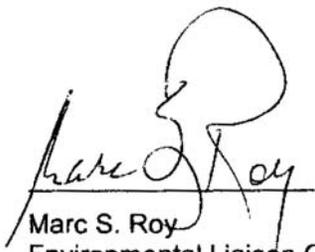
The Alternative Housing Pilot Program (AHPP) represents a one-time exception to FEMA's existing authority under the Stafford Act. The Stafford Act legally binds FEMA to a temporary housing mission, by providing an opportunity to explore, implement, and evaluate innovative approaches to housing solutions, and to address ongoing housing challenges created by the 2005 hurricane season in the states of the Gulf Coast region, including the State of Louisiana, especially the southernmost parishes. The Louisiana Recovery Authority (LRA) has applied for FEMA funding under the AHPP to provide both temporary and permanent housing solutions for eligible applicant families displaced by Hurricanes Katrina and Rita.

The Proposed Action Alternative consists of the construction of permanent AHPP housing on a previously developed portion (Area E) of Jackson Barracks, a National Guard installation. The Proposed Action includes the construction of 95 permanent AHPP housing units, consisting of 57 single-family residences (Louisiana Cottages) and 38 multi-family residences (Carpet Cottages). Both cottage types would be constructed on piers, and may require as much as 3 feet of fill. The project site would be cleared of all vegetation and debris and then grubbed. Contouring and grading would be done, if

necessary. Three interior green spaces would be constructed in the interior portion of the AHPP group housing development and would act as stormwater catchment basins as well. These catchment basins would require underground drainage piping to allow stormwater to flow to a nearby stormwater retention pond. The fenced stormwater retention pond would be located on the northernmost extent of Area E and would be approximately 2-3 feet in depth. Driveways, on-street parking, access roads and circulation roads would be constructed to facilitate transportation and parking for the AHPP cottages. The houses would tie into water and sewer infrastructure currently being constructed.

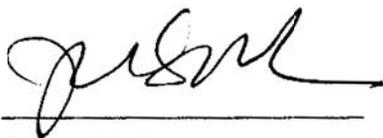
In accordance with the National Environmental Policy Act (NEPA) and 40 Code of Federal Regulations (CFR) 1500 *et. seq.*, 44 CFR 10 *et. seq.*, and DHS's Management Directive 5100.1, FEMA prepared a draft Environmental Assessment (EA) for the AHPP in Orleans Parish, Louisiana (November 2008) to evaluate the impacts of the one action alternative on the human environment. The EA also analyzed the impacts of taking no action, in compliance with NEPA. The final EA is available online at <http://www.fema.gov/plan/ehp/envdocuments/ea-region6.shtm> or by contacting the undersigned via fax at (504) 762-2670.

Based upon the information contained in the EA, the potential direct, indirect, and cumulative impacts resulting from implementation of the proposed action, and in accordance with FEMA's regulations in 44 CFR Part 10, a Finding of No Significant Impact (FONSI) is concluded. Therefore, an Environmental Impact Statement (EIS) process will not be required, based on the fact that there would be no long-term adverse direct, indirect, or cumulative impacts on the natural environment resulting from FEMA actions, as identified in the EA, taken to establish permanent housing under the AHPP.



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### List of Acronyms and Abbreviations

AADT	Average Annual Daily Traffic
ABFE	Advisory Base Flood Elevation
ACHP	Advisory Council on Historic Preservation
AHPP	Alternative Housing Pilot Program
BMP	Best management practice
CAA	Clean Air Act
Carpet Cottages	Permanent multi-family AHPP units
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon monoxide
CUP	Coastal Use Permit
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
dB	Decibel
dBA	“A-weighted” decibel scale
DFIRM	Digital flood insurance rate map
DHS	Department of Homeland Security
DNL	Day-night average sound level
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FWCA	Fish and Wildlife Coordination Act
GNOCDC	Greater New Orleans Community Data Center
GOHSEP	Governor’s Office of Homeland Security and Emergency Preparedness
GSRC	Gulf South Research Corporation
HEAG	Highest existing adjacent grade
HUD	U.S. Department of Housing and Urban Development
I	Interstate
IHNC	Inner Harbor Navigation Canal
Louisiana Cottages	Permanent single-family AHPP units
LA	Louisiana highway
La DOTD	Louisiana Department of Transportation
LCRP	Louisiana Coastal Resource Program
LDEQ	Louisiana Department of Environmental Quality
LDNR	Louisiana Department of Natural Resources
LOHSEP	Louisiana Office of Homeland Security and Emergency Preparedness
LRA	Louisiana Recovery Authority
MBTA	Migratory Bird Treaty Act

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MRI	Midwest Research Institute
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NO <sub>2</sub>	Nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOAA Fisheries	NOAA National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
O <sub>3</sub>	Ozone
PA	Programmatic Agreement
Pb	Lead
PCB	Polychlorinated biphenyls
PL	Public Law
PM-2.5	Particulate matter less than 2.5 micrometers
PM-10	Particulate matter less than 10 micrometers
POV	Personally owned vehicles
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SHPO	State Historic Preservation Officer
SO <sub>2</sub>	Sulfur dioxide
Stafford Act	Robert T. Stafford Disaster Relief and Emergency Assistance Act
State	State of Louisiana
SWPPP	Stormwater Pollution Prevention Plan
TSCA	Toxic Substances Control Act
U.S.	United States
US	U.S. highway
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WSRA	Wild and Scenic Rivers Act

***SECTION 1.0***  
***INTRODUCTION***



## 1.0 Introduction

The Department of Homeland Security's (DHS) Federal Emergency Management Agency (FEMA) is mandated by the United States (U.S.) Congress to administer Federal disaster assistance pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), Public Law (PL) 93-288, as amended. Under the authority of Section 408 of the Stafford Act, the Individual Assistance Program provides for temporary housing for disaster victims in the affected areas whose homes are uninhabitable or destroyed. This temporary housing is made available for an intermediate period (generally up to 18 months) that covers the gap between sheltering and securing permanent housing. FEMA typically addresses disaster-related housing requirements first with rental assistance and then a combination of mobile homes and manufactured homes. Mobile homes have been used principally for short-term housing needs and are placed on private sites while a homeowner's permanent residence is being repaired, or in group configurations to primarily support displaced residents. Manufactured homes have been used to meet both short- and long-term disaster housing needs and are typically placed on commercial pads or in group sites developed expressly for this purpose.

Hurricane Katrina spawned the largest natural disaster in our nation's history, decimating the housing stock in the Gulf Coast region, including the State of Louisiana and New Orleans, in particular. Hurricane Katrina made landfall just east of New Orleans, Louisiana, with the eye of the storm passing across Plaquemines Parish. The storm surge overtopped levees in St. Bernard and Orleans Parish east of the Inner Harbor Navigation Canal (IHNC). Failure of floodwalls along the 17<sup>th</sup> Street Canal and the London Avenue Canal caused extensive flooding of New Orleans west of the IHNC, and was responsible for flooding portions of Jefferson Parish, primarily south of the Metairie Ridge. A levee breach flooded the Lower Ninth Ward, the location of Jackson Barracks, a Louisiana National Guard installation, to depths of approximately 6 to 24 feet.

Hurricane Katrina forced most Orleans Parish residents from their homes, and the extent and duration of flooding made it unsafe for most residents to return to their homes in a timely manner. The damage associated with the flooding in Orleans Parish from Hurricane Katrina has been estimated to be between \$3 billion and \$5 billion (U.S. Army Corps of Engineers [USACE] 2007).

Although FEMA's traditional temporary housing options are sufficient to address the unmet housing needs of residents in most disasters; the catastrophic dimensions of Hurricanes Katrina and Rita challenged the efficacy of these traditional methods. These traditional methods are based on the statutory supposition that such assistance will generally not be required for more than 18 months. Some of those catastrophic dimensions included:

- A significant number of homes on private lots were completely destroyed;
- Complete neighborhoods were destroyed;
- Protracted community recovery timelines, with the likelihood that temporary housing may be required in some cases for extended periods;
- A shortage of resources for reconstruction of homes, uncertainty with respect to community and neighborhood recovery, labor shortages and other factors that limit the pace of recovery.

Recognizing the extensive and complex housing challenges facing victims and communities as a result of Hurricanes Katrina and Rita, and acknowledging the limitations on FEMA's ordinary statutory authority to provide long-term and permanent housing solutions, Congress appropriated funds to DHS to support alternative housing pilot programs (Emergency Supplemental Appropriations Act, 2006, PL 109-234). The Alternative Housing Pilot Program (AHPP) represents a one-time exception to FEMA's existing authority under the Stafford Act. The Stafford Act legally binds FEMA to a temporary housing mission, by providing an opportunity to explore, implement, and evaluate innovative approaches to housing solutions, and to address ongoing housing challenges created by the 2005 hurricane season in the states of the Gulf Coast region, including the State of Louisiana.

The Louisiana Recovery Authority (LRA), in conjunction with the State of Louisiana, has applied for FEMA funding under the AHPP to provide permanent housing solutions for eligible applicant families displaced by Hurricanes Katrina and Rita throughout the State of Louisiana, including the proposed Jackson Barracks project.

In accordance with the National Environmental Policy Act (NEPA), as implemented through 40 Code of Federal Regulations (CFR) 1500 *et. seq.*, 44 CFR 10 *et. seq.*, and DHS's Management Directive 5100.1, FEMA must fully understand and consider the environmental impacts of

actions proposed for Federal funding. The purpose of this Environmental Assessment (EA) is to analyze the potential impacts of the proposed AHPP project on the natural and human environment and to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

### **1.1 Project Location**

Jackson Barracks is a Louisiana Army National Guard installation located in the Lower Ninth Ward neighborhood of the City of New Orleans, Orleans Parish, Louisiana. The installation consists of approximately 100 acres and extends from the Mississippi River to approximately 1 mile north of St. Claude Avenue, between Delery Street and the St. Bernard Parish line (Appendix A, Figure 1).

Jackson Barracks is divided into five areas: A, B, C, D, and E, with Area A being nearest the Mississippi River and subsequent areas progressing northward away from the river. Hurricane Katrina severely damaged the majority of the Jackson Barracks installation. Prior to Hurricane Katrina, Jackson Barracks contained approximately 219 structures with associated roadways, military parking areas, privately owned vehicle parking areas, interior fencing, a brick perimeter fence, and all associated utilities.

The proposed project site is Area E. Area E is located south of Florida Avenue and east of Dubreuil Street and west of Angela Street (Appendix A, Figure 2). Area E consists of approximately 20 acres of land developed as a military base that was heavily damaged by floodwaters from Hurricane Katrina. Thirteen structures were located on the proposed project site (Area E) prior to Hurricane Katrina of which three were severely damaged and the remaining ten were moderately damaged (LAANG 2006). A previous EA provided the NEPA analysis for the demolition of the three severely damaged structures. The other ten structures are located in the southeastern portion of Area E.

### **1.2 Purpose and Need**

The purpose of this action is to provide alternative disaster housing within Jackson Barracks in Orleans Parish, Louisiana that includes long-term and permanent solutions. The need for this action is to address the housing shortages caused by the catastrophic effects of Hurricanes Katrina and Rita, and to move disaster victims from current temporary solutions (e.g., rental dwellings, manufactured housing, etc.) to permanent housing. At present time in Louisiana, 967

mobile homes, 6,112 manufactured housing, and 334 park model houses are still occupied by residents displaced by Hurricanes Katrina and Rita. An additional 4,225 people are currently receiving rental assistance.

### **1.3 Other NEPA Documents**

The site evaluation, document research, and agency information for this EA is incorporated by reference from a previous EA titled, *Demolition, Construction, and Realignment Activities Post Hurricane Katrina, Jackson Barracks, New Orleans, Louisiana*, dated May 2006 and prepared by the Louisiana National Guard (LAANG), hereafter called the 2006 LAANG EA (LAANG 2006).

### **1.4 Public Involvement**

Public involvement is being performed in compliance with NEPA, FEMA's regulations implementing NEPA at 44 CFR 10.9(c), and Executive Orders (EO) 12898, 11988, and 11990. An electronic version of this Draft EA will be provided to interested agencies prior to and during the public comment period. Agency coordination and consultation will be deemed complete at the end of the public comment period. All agency and public correspondence is provided in Appendix B.

A Public Notice was published in *The Times-Picayune* newspaper and is provided in Appendix B. The public comment period was from November 5, 2008 through November 15, 2008 and the Draft EA could be viewed and downloaded from FEMA's website at <http://www.fema.gov/plan/ehp/envdocuments/ea-region6.shtm> and was also available for public review at the New Orleans Public Library, 219 Loyola Avenue, New Orleans, Louisiana 70112, the Alvar Street Branch, 913 Alvar Street, New Orleans, Louisiana 70117, and the Martin Luther King Branch, 1611 Caffin Avenue, New Orleans, Louisiana 70117. If no substantive comments are received, the Draft EA will become final, a FONSI will be issued, and the initial Public Notice will also serve as the final Public Notice. Substantive comments will be addressed as appropriate in the Final EA.

During the public comment period, one comment was received from the USACE New Orleans District (USACE-MVN) regarding any proposed work within 1,500 feet of a federal flood control structure such as the Mississippi River levee. Although the southern end of Jackson Barracks starts at the Mississippi River levee, the proposed project site (Area E) is approximately 1.5

miles from the Mississippi River levee and approximately 1.3 miles from the Inner Harbor Navigation Canal (IHNC) levee. The northernmost portion of the project site is approximately 372 feet from the non Federal levee referred to as the 40 Arpent Levee. The Orleans Levee District maintains this levee and any work within 300 feet of this levee must be coordinated with the Orleans Levees District Office.

***SECTION 2.0***  
***ALTERNATIVES***



## **2.0 Alternatives**

Two alternatives were evaluated: the No Action Alternative, and the Proposed Action Alternative, which consists of the construction of permanent AHPP housing within Jackson Barracks, Orleans Parish, Louisiana (Area E). This section describes the two alternatives that the State of Louisiana (State) and FEMA propose to undertake in order to evaluate permanent AHPP housing to Louisiana residents displaced as a result of Hurricane Katrina and Rita within Orleans and surrounding parishes (program area) (Figure 1, Appendix A). The alternatives are described below.

### **2.1 Alternatives Evaluated**

#### **2.1.1 Alternative 1: No Action Alternative**

Inclusion of a No Action Alternative in the environmental analysis and documentation is required under NEPA and is defined as maintaining the *status quo*, with no FEMA funding for any alternative action. This alternative evaluates the effects of not providing eligible assistance for a specific action and provides a benchmark against which other alternatives may be evaluated.

Under the No Action Alternative, no AHPP housing would be provided for families displaced from their homes. Rental resources are very limited in the affected area, and people displaced by Hurricanes Katrina and Rita would remain in housing provided by family members or friends, in hotels, in temporary "dormitories" such as homeless shelters or churches, or in facilities damaged by the storm and determined structurally unsafe or unsanitary.

#### **2.1.2 Alternative 2: Proposed Action Alternative**

The Proposed Action Alternative consists of the construction of permanent AHPP housing on a portion of the Jackson Barracks installation which was previously developed (Area E). Area E is located south of Florida Avenue and east of Dubreuil Street and west of Angela Street (Appendix A, Figure 2). Ten structures remain in the southeast portion of Area E as maintenance facilities and would be fenced off from the AHPP housing development. The project site has existing infrastructure including electricity, domestic water, stormwater, sanitary sewer, and telecommunication systems along the servitude adjacent to Dubreuil Street. An electric substation already exists on the Jackson Barracks property.

The Proposed Action includes the construction of 95 permanent AHPP housing units, consisting of 57 single-family residences (Louisiana Cottages) and 38 multi-family residences (Carpet

Cottages). Appendix A, Figure 3 provides a conceptual layout of the project site. Both cottage types would be constructed on piers, and may require as much as 3 feet of fill. The project site would be cleared of all vegetation and debris and then grubbed. Contouring and grading would be done, if necessary. Three interior green spaces would be constructed in the interior portion of the AHPP group housing development and would act as stormwater catchment basins as well. These green spaces would require underground drainage piping to allow stormwater to flow to a nearby stormwater retention pond. The fenced stormwater retention pond would be located on the northernmost extent of Area E and would be approximately 2-3 feet in depth. Driveways, on-street parking, access roads and circulation roads would be constructed to facilitate transportation and parking for the AHPP cottages. The houses would tie into water and sewer infrastructure currently being constructed. The infrastructure project has already been addressed in the 2006 LAANG EA (LAANG 2006), which is incorporated herein by reference.

Within the proposed project site, six different sizes of Louisiana Cottages would be built and range in size from 684 square feet to 1,212.5 square feet of living area. The Louisiana Cottages would be built on piers to bring them up to the required elevation. Photograph 1, shows a typical Louisiana Cottage.



**Photograph 1. Typical Louisiana Cottage**

The Carpet Cottages would be grouped together to form four, 7-unit and 12-unit apartment-like complexes, scattered throughout the AHPP residential development. The Carpet Cottages would share a common wall and follow all applicable fire regulations.

Table 1 summarizes the potential impacts of the Proposed Action Alternative and conditions or mitigation measures to avoid or reduce those impacts. Following the summary table, Section 3 describes the resources and analyzes the potential impacts of the no action and proposed action alternatives.

## 2.2 Alternatives Considered but Eliminated from Further Detailed Analysis

One alternative site located in the Treme Neighborhood of New Orleans was considered but rejected because many of the lots did not have a clear title. No other feasible alternative sites were identified.

**Table 1. Summary of Impacts**

<b>Affected Environment</b>	<b>No Action Alternative</b>	<b>Proposed Action Alternative</b>
<b>Geology and Soils</b>	No impacts to geology, soils or prime or unique farmland are anticipated.	No impacts to geology; short-term impacts to soils during the construction period. A National Pollutant Elimination Discharge System (NPDES) permit and appropriate best management practices (BMP) would be implemented to minimize soil impacts.
<b>Air Quality</b>	No impacts to air quality are anticipated.	Temporary and minor impacts to air quality would occur during the construction period. To minimize these impacts all construction equipment will be properly maintained and dust suppression BMPs will be implemented.
<b>Water Quality</b>	No impacts to water quality are anticipated. FEMA is not required to comply with Clean Water Act (CWA), Coastal Zone Management Act (CZMA), or Wild and Scenic and River Act (WSRA).	Temporary and minor impacts from erosion and sedimentation to surface water are possible during construction activities. A Stormwater Pollution Prevention Plan (SWPPP), a NPDES will be required and appropriate BMPs would be implemented to minimize these impacts. Additionally a Coastal Use Permit (CUP) may be required.
<b>Floodplains</b>	No impacts to floodplains are anticipated.	All structures would be elevated so that the lowest floor is at or above the Advisory Base Flood Elevation (ABFE). FEMA would consult with the State and the City of New Orleans in an effort to identify additional proposed mitigation.
<b>Wetlands</b>	No impacts to wetlands are anticipated.	No impacts to wetlands are anticipated.
<b>Biological Resources</b>	No impacts to biological resources are anticipated.	No impacts to biological resources are anticipated.
<b>Cultural Resources</b>	No impacts to cultural resources are anticipated.	No impacts to cultural resources are anticipated.
<b>Socioeconomics</b>	Displaced residents would continue to utilize FEMA manufactured housing and mobile homes. Potential health effects could continue to affect displaced residents.	No adverse socioeconomic impacts are anticipated. Beneficial impacts from the FEMA AHPP housing development.
<b>Noise</b>	No impacts to noise are anticipated.	Temporary and intermittent impacts from increased noise would occur to nearby residences during the construction period. Construction would be limited to daylight hours 7:30am to 5:00pm Monday through Friday.

Table 1, continued

Affected Environment	No Action Alternative	Proposed Action Alternative
<b>Aesthetics</b>	No impacts to aesthetics are anticipated.	No significant impacts to aesthetics are anticipated as the AHPP development is on previously cleared, already disturbed land found within Jackson Barracks. In addition, the cottages are designed to mimic the architecture of the area.
<b>Hazardous Materials and Wastes</b>	No direct effects from hazardous materials and wastes are anticipated; however, indirect negative impacts to displaced residents from substandard housing could occur.	No impacts to hazardous materials or wastes are anticipated.
<b>Traffic and Transportation</b>	No impacts to traffic and transportation are expected.	Minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed project site. POVs from residents of 95 units would have permanent minimal impact to public roads.

**SECTION 3.0**  
***AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES,***  
***AND MITIGATION MEASURES***

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### **3.0 Affected Environment, Environmental Consequences, and Mitigation Measures**

The following subsections discuss the regulatory setting and the existing conditions for the following resource areas in Orleans Parish, Louisiana that may be impacted by the proposed action alternative and no action alternative considered.

- Geology and Soils
- Air Quality
- Water Quality
- Floodplains
- Wetlands
- Biological Resources
- Cultural Resources
- Socioeconomics
- Noise
- Aesthetics
- Hazardous Materials and Wastes
- Traffic and Transportation

#### **3.1 Geology and Soils**

##### **3.1.1 Affected Environment**

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

The Farmland Protection Policy Act (FPPA) requires Federal agencies to evaluate the effects (direct and indirect) of their activities before taking any action that could result in converting designated prime or unique farmland or farmland of statewide and local importance for nonagricultural purposes. If an action would adversely affect farmland preservation, alternative actions that could avoid or lessen adverse effects must be considered. Determination of the level of impact on prime and unique farmland or farmland of statewide and local importance is done by the lead Federal agency (proponent), which inventories farmlands affected by the proposed action and scores the land as part of an Farmland Conversion Impact Rating (AD 1006 Form), for each alternative. In consultation with the proponent, Natural Resources Conservation Service (NRCS) completes the AD 1006 Form and determines the level of consideration for protection of farmlands that needs to occur under the FPPA (NRCS 2008).

**Existing Conditions**

Louisiana is not considered seismically active although the State does experience periodic small earthquakes.

Soils are discussed in the 2006 LAANG EA and this information are incorporated herein by reference (LAANG 2006). In summary, there are two soil types within Jackson Barracks and include Sharkey silty clay loam and Commerce silty clay loam. These soils types are highly fertile, poorly to somewhat poorly drained and have very slow to moderately slow infiltration rates (LAANG 2006).

Prime or unique farmlands are discussed in the 2006 LAANG EA and are incorporated herein by reference (LAANG 2006). In summary, although the Sharkey silty clay loam and the Commerce silty clay loam are classified as prime farmland soils; prime or unique farmlands are not impacted by the proposed project due to the land's use as a military reservation. Public land is categorized as land not available to farming within National forests, National parks, military reservations, and state parks (LAANG 2006).

**3.1.2 Environmental Consequences and Mitigation Measures****No Action Alternative**

This alternative does not include any FEMA action. Therefore, FEMA would not be required to comply with the FPPA. Alternative 1 does not have the potential to affect geology, soils or prime or unique farmland.

**Proposed Action Alternative**

The proposed project would not impact regional geology or prime or unique farmland. Project site soils would be disturbed and there is a potential for localized increase in soil erosion during construction.

A National Pollutant Discharge Elimination System (NPDES) stormwater construction permit would be obtained by the construction contractor. The implementation of construction best management practices (BMP) would reduce sedimentation and wind erosion. A few examples of appropriate BMPs would be the use of silt fences/straw bales and the wetting of soils during construction. In addition, if fill is stored on site, the contractor would be required to cover it appropriately.

## 3.2 Air Quality

### 3.2.1 Affected Environment

#### Regulatory Setting

The U.S. Environmental Protection Agency (USEPA) established National Ambient Air Quality Standards (NAAQS) for specific pollutants. The NAAQS standards are classified as either "primary" or "secondary" standards. The major pollutants of concern, or criteria pollutants, are carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), Particulate Matter less than 10 microns (PM-10), Particulate Matter less than 2.5 microns (PM-2.5), and lead (Pb). NAAQS represent the maximum levels of background pollution that are considered safe, with an adequate margin of safety, to protect the public health and welfare. The NAAQS are included in Table 2.

**Table 2. National Ambient Air Quality Standards**

POLLUTANT	STANDARD VALUE	STANDARD TYPE
<b>Carbon Monoxide (CO)</b>		
8-hour average	9ppm (10mg/m <sup>3</sup> )	P
1-hour average	35ppm (40mg/m <sup>3</sup> )	P
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>		
Annual arithmetic mean	0.053ppm (100µg/m <sup>3</sup> )	P and S
<b>Ozone (O<sub>3</sub>)</b>		
8-hour average*	0.08ppm (157µg/m <sup>3</sup> )	P and S
1-hour average*	0.12ppm (235µg/m <sup>3</sup> )	P and S
<b>Lead (Pb)</b>		
Quarterly average	1.5µg/m <sup>3</sup>	P and S
<b>Particulate&lt;10 micrometers (PM-10)</b>		
Annual arithmetic mean	50µg/m <sup>3</sup>	P and S
24-hour average	150µg/m <sup>3</sup>	P and S
<b>Particulate&lt;2.5 micrometers (PM-2.5)</b>		
Annual arithmetic mean	15µg/m <sup>3</sup>	P and S
24-hour average	65µg/m <sup>3</sup>	P and S
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>		
Annual average mean	0.03ppm (80µg/m <sup>3</sup> )	P
24-hour average	0.14ppm (365µg/m <sup>3</sup> )	P
3-hour average	0.50ppm (1300µg/m <sup>3</sup> )	S

Legend: P= Primary S= Secondary

Source: USEPA 2006.

ppm = parts per million

mg/m<sup>3</sup> = milligrams per cubic meter of air

µg/m<sup>3</sup> = micrograms per cubic meter of air

\* Parenthetical value is an approximate equivalent concentration

Areas that do not meet these NAAQS standards are called non-attainment areas or maintenance areas; areas that meet both primary and secondary standards are known as

attainment areas. The Federal Conformity Final Rule (40 CFR Parts 51 and 93) specifies criteria or requirements for conformity determinations for Federal projects. The Federal Conformity Rule was first promulgated in 1993 by the USEPA, following the passage of Amendments to the Clean Air Act (CAA) in 1990. The rule mandates that a conformity analysis must be performed when a Federal action generates air pollutants in a region that has been designated a non-attainment or maintenance area for one or more NAAQS.

A conformity analysis is the process used to determine whether a Federal action meets the requirements of the general conformity rule. It requires the responsible Federal agency to evaluate the nature of the proposed action and associated air pollutant emissions, calculate emissions as a result of the proposed action, and mitigate emissions if *de minimis* thresholds are exceeded.

### **Existing Conditions**

Orleans Parish and adjacent St Bernard Parish are currently in attainment for all NAAQS (USEPA 2008).

### **3.2.2 Environmental Consequences and Mitigation Measures**

#### **No Action Alternative**

Under the No Action Alternative, traffic volumes and air quality would continue at current levels. No localized or regional effects to air quality are expected.

#### **Proposed Action Alternative**

Temporary and minor increases in air pollution will occur from the use of construction equipment (combustible emissions) and the disturbance of soils (fugitive dust) during construction of the new structures and access roads. Fugitive dust emissions were calculated using the emission factor of 0.19 ton per acre per month (Midwest Research Institute [MRI] 1996), which is a more current standard than the 1985 PM-10 emission factor of 1.2 tons per acre-month presented in AP- 42 Section 13 Miscellaneous Sources 13.2.3.3 (USEPA 2001).

USEPA's NONROAD Model (USEPA 2005a) was used, as recommended by USEPA's *Procedures Document for National Emission Inventory, Criteria Air Pollutants, 1985-1999* (USEPA 2001), to calculate emissions from construction equipment. Combustible emission calculations were made for standard construction equipment, such as bulldozers, excavators,

pole trucks, front-end loaders, backhoes, cranes, and dump trucks. Assumptions were made regarding the total number of days each piece of equipment will be used, and the number of hours per day each type of equipment would be used.

Construction workers would temporarily increase the combustible emissions in the airshed during their commute to and from the project area. Emissions from delivery trucks contribute to the overall air emission budget. Emissions from delivery trucks, construction worker commuters traveling to the job site were calculated using the USEPA MOBILE6.2 Model (USEPA 2005b, 2005c and 2005d).

The total air quality emissions were calculated for the construction activities occurring in Orleans Parish to compare to the General Conformity Rule. Summaries of the total emissions for the proposed action alternative are presented in Table 3. Details of the analyses are presented in Appendix C.

**Table 3. Total Air Emissions (tons/year) from Construction Activities in Orleans and St. Bernard Parishes vs. the *de minimus* Levels**

Pollutant	Total (tons/year)	<i>de minimus</i> Thresholds (tons/year)
CO	33.13	100
Volatile Organic Compounds (VOC)	7.50	100
Nitrous Oxides (NO <sub>x</sub> )	61.68	100
PM-10	28.07	100
PM-2.5	9.70	100
SO <sub>2</sub>	7.19	100

Source: 40 CFR 51.853 and GSRC model projections.

Note: Orleans Parish and St. Bernard Parish are in attainment for all NAAQS.

Several sources of air pollutants contribute to the over-all air impacts of the construction project.

The air results in Table 3 included emissions from:

1. Combustible engines of construction equipment
2. Construction workers commute to and from work
3. Supply trucks delivering materials to construction site
4. Fugitive dust from job site ground disturbances

As can be seen from the table above, the proposed construction activities do not exceed *de minimis* thresholds in Orleans Parish; thus, do not require a Conformity Determination. As there are no violations of air quality standards and no conflicts with the state implementation plans,

there would be no significant impacts to air quality from the implementation of the proposed action alternative.

During the construction of the proposed project, proper and routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within the design standards of all construction equipment. Dust suppression methods should be implemented to minimize fugitive dust. In particular, wetting solutions would be applied to construction area to minimize the emissions of fugitive dust. By using these BMPs, air emissions from the proposed action would be temporary and should not significantly impair air quality in the region.

### **3.3 Water Quality**

#### **3.3.1 Affected Environment**

##### **Regulatory Setting**

The Clean Water Act (CWA) establishes the basic structure for regulating pollutant discharges to navigable waters of the U.S. It sets forth procedures for effluent limitations, water quality standards and implementation plans, national performance standards, and point source (*e.g.*, municipal wastewater discharges) and nonpoint source programs (*e.g.*, stormwater). The CWA also establishes the NPDES under Section 402 and permits for dredged or fill material under Section 404 (USEPA 2008b).

The U.S. Army Corps of Engineers (USACE) is charged with regulating the disposal of dredged and fill materials under Section 404 of the CWA. A Section 404 permit from the USACE must be obtained for any dredge or fill activities within jurisdictional waters of the U.S. During the permit review process, the USACE determines the type of permit appropriate for the proposed action. Two types of permits are issued by the USACE: (1) General Permits, issued on a state, regional, and nationwide basis and covering a variety of activities, including minimal individual and cumulative adverse affects, and (2) Individual Permits, issued for a case-specific activity (USACE 1998).

Section 401 of the CWA specifies that states must certify that any activity subject to a permit issued by a Federal agency, such as a CWA Section 404 permit, meets all state water quality standards. Water quality certification is also necessary when a project qualifies for a General Permit, even if the activity does not need to be reported to the USACE (USEPA 2008b).

The Wild and Scenic Rivers Act (WSRA) preserves selected rivers in a free-flowing condition and protects their local environments. These rivers possess outstanding scenic, recreational, geologic, fish and wildlife, historic, or cultural values.

The Coastal Zone Management Act (CZMA) of 1972 authorizes the Coastal Zone Management Program (CZMP), which is a Federal-state partnership dedicated to comprehensive management of the nation's coastal resources. By making Federal funds available, the law encourages states to preserve, protect and, where possible, restore or enhance valuable natural coastal resources, such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs, as well as the fish and wildlife using those habitats. Any Federal or state agency whose activities directly affect the coastal zone must, to the maximum extent practicable, be consistent with approved state management programs.

The Louisiana Department of Natural Resources (LDNR) supervises CZMA activities within the Louisiana Coastal Zone, which include the parishes of Calcasieu, Cameron, Vermilion, St. Mary, St. Martin, Assumption, Terrebonne, Lafourche, St. Charles, St. John the Baptist, St. James, Livingston, Tangipahoa, St. Tammany, Orleans, Jefferson, St. Bernard, Plaquemines, St. John the Baptist, St. James, and St. Charles. Of these parishes seven lie completely within the coastal zone area and include Orleans, Jefferson, St. Bernard, Plaquemines, St. John the Baptist, St. James, and St. Charles. FEMA must conduct its activities in a manner consistent with the Federally-approved Louisiana Coastal Resource Program (LCRP). In addition, Orleans Parish has a local coastal management program.

### **3.3.2 Environmental Consequences and Mitigation Measures**

#### **No Action Alternative**

This alternative does not include any FEMA actions. Therefore, FEMA would not be required to comply with the CWA, CZMA, or WSRA. The No Action Alternative does not have the potential to affect water quality.

#### **Proposed Action Alternative**

Under this alternative, AHPP units would be placed on previously disturbed land on Area E, Jackson Barracks. Temporary and minor impacts to the downstream surface waters may occur during the construction activities due to soil erosion. Existing stormwater drains and within d

ditches located within or adjacent to the proposed project site would be removed and reconfigured, to provide improved drainage and accommodate unit placement.

Construction sites greater than 1 acre require a Stormwater Pollution Prevention Plan (SWPPP) as part of the NPDES permit process that identifies BMPs for protection of water quality within ephemeral and perennial streams. To reduce impacts to the downstream surface waters, the State would implement appropriate BMPs, such as installing silt fences and revegetating bare soils. The State would be required to obtain an approved SWPPP and NPDES permit prior to the start of construction. In addition, construction BMP would be utilized to minimize any sedimentation.

Project activities under this alternative are not anticipated to impact wild and scenic rivers. Orleans Parish is within the Louisiana Coastal Zone and a Coastal Use Permit (CUP) may be required or other authorization from LDNR.

### **3.4 Floodplains**

#### **3.4.1 Affected Environment**

##### **Regulatory Setting**

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. A floodplain is defined as the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, and including, at a minimum, that area subject to a 1 percent or greater chance of flooding in any given year. The critical action floodplain is defined as the 500-year floodplain (0.2 percent chance floodplain) (USEPA 1979). The 500-year floodplain as defined by 40 CFR 9 as an area, including the base floodplain, which is subject to inundation from a flood having a 0.2 percent chance of being equaled or exceeded in any given year.

Flood zones are land areas identified by FEMA that describe the land area in terms of its risk of flooding. A flood insurance rate map (FIRM) is a map created by the National Flood Insurance program (NFIP) for floodplain management and insurance purposes. Digital versions of these maps are called DFIRMs. A FIRM would generally show a community's Advisory Base Flood Elevation (ABFE), flood zones, and floodplain boundaries. However, maps are constantly being

updated due to changes in geography, construction and mitigation activities, and meteorological events (FEMA 2008).

EO 11988 requires that Federal agencies proposing activities in a 100-year floodplain must consider alternatives to avoid adverse effects and incompatible development in the floodplain. In accordance with 44 CFR Part 9, critical actions, such as the development of hazardous waste facilities, hospitals, or utility plants, must be undertaken outside of a 500-year floodplain. If no practicable alternatives exist to siting an action in the floodplain, the action must be designed to minimize potential harm to or within the floodplain. Furthermore, a notice must be publicly circulated explaining the action and the reasons for siting in the floodplain. When evaluating actions in the floodplain, FEMA applies the decision process described in 44 CFR Part 9, referred to as the Eight-Step Planning Process, to ensure that its actions are consistent with EO 11988. By its nature, the NEPA compliance process involves the same basic decision-making process as the Eight-Step Planning Process.

Appendix A, Figure 4 provides a FEMA 100-year floodplain map showing most of the area is of Area E is within the 100-year floodplain. The City of New Orleans Department of Safety and Permits was contacted to insure that the 1984 flood zone maps are still valid (McRainey 2007). FEMA requires that rebuilt communities adhere to the elevation requirements established by ABFE (FEMA 2007).

### **Existing Conditions**

The ABFE for the site is equal to the highest existing adjacent grade (HEAG) at the building site, which is +3 feet (FEMA 2006a). Thus, FEMA would require that the first floor of a building be elevated 3 feet above HEAG (Appendix A, Figure 5). Additionally, most of Area E is located in FEMA flood zone A2 (Appendix A, Figure 5). Zone A2 is defined as areas with a 1 percent annual chance of flooding. In most instances, base flood elevations derived from detailed analyses are shown at selected intervals within these zones (City of New Orleans 2007). No base flood elevations or depths are shown within these zones (City of New Orleans 2007). Due to the low elevations and extensive levee system within Orleans Parish and adjacent St Bernard Parish rainwater is carefully controlled through a series of pump stations. There are nine pump stations which operate in Orleans Parish and two pump stations which operate in the lower Ninth Ward. Direct surface water flow for the two pump stations in the Lower Ninth Ward is into the Industrial Canal and ultimately draining into Lake Pontchartrain.

### **3.4.2 Environmental Consequences and Mitigation Measures**

#### **No Action Alternative**

This Alternative does not include any FEMA actions. Therefore, FEMA would not be required to comply with EO 11998. The No Action Alternative does not have the potential to affect floodplains.

#### **Proposed Action Alternative**

The current ABFE of Area E of Jackson Barracks is 3 feet above HEAG. Thus, FEMA would require that the first floor of a building be elevated 3 feet above HEAG, to meet this requirement 3 feet of fill would be used for multi-family dwellings and single-family dwellings would be elevated 3 feet using piers. Adding 3 feet of fill to portions of the project site would have minimal impacts to the hydrology of the project site.

FEMA has gone through the Eight-Step Planning Process to ensure that its actions are consistent with EO 11988 within Orleans and St. Bernard Parishes. A notice was publicly circulated explaining the various FEMA actions and included housing alternatives and the reasons for siting in the floodplain. The public notice illustrating the Eight-Step Planning Process for floodplains in Orleans and St. Bernard Parishes can be found in Appendix B.

Additionally, the installation of stormwater system which includes catchbasins, associated piping, and a stormwater retention pond would reduce stormwater runoff from the introduction of fill material.

### **3.5 Wetlands**

#### **3.5.1 Affected Environment**

##### **Regulatory Setting**

EO 11990 (Protection of Wetlands) requires Federal agencies to follow avoidance, mitigation, and preservation procedures with public input before proposing new construction in wetlands. The implementation of EO 11990 is described in 44 CFR Part 9. As with EO 11988, the same Eight-Step Planning Process is used to evaluate the potential effects of an action on wetlands. As discussed in the CWA subsection above, formal legal protection of jurisdictional wetlands is promulgated through Section 404 of the CWA. A permit from the USACE may be required if an action has the potential to affect wetlands.

**Existing Conditions**

Wetlands are discussed in the 2006 LAANG EA and this information is incorporated herein by reference (LAANG 2006). In summary, during the site reconnaissance of the project site for the 2006 LAANG EA, no waters of the U.S. including wetlands were observed within the area (LAANG 2006). In addition, as documented in the 2006 LAANG EA, the USACE indicated that the property is not a wetland subject to Corps of Engineers jurisdiction and a permit under Section 404 of the CWA is not required for the distribution or redistribution of dredged or fill material on the Jackson Barracks site (LAANG 2006).

**3.5.2 Environmental Consequences and Mitigation Measures****No Action Alternative**

This alternative does not include any FEMA actions. Therefore, FEMA would not be required to comply with EO 11990. The No Action Alternative does not have the potential to affect wetlands or waters of the U.S.

**Proposed Action Alternative**

Under this alternative, AHPP units would be placed on previously disturbed area and therefore, this alternative is not anticipated to impacts wetlands or waters of the U.S.

**3.6 Biological Resources****3.6.1 Affected Environment****Regulatory Setting**

The Endangered Species Act (ESA) establishes a Federal program to conserve, protect, and restore threatened and endangered plants and animals and their habitats. Section 7 of the ESA mandates that all Federal agencies must ensure that any action authorized, funded, or implemented is not likely to jeopardize the continued existence of a threatened or endangered species or result in the destruction of critical habitat for these species. To accomplish this, Federal agencies must consult with the U.S. Fish and Wildlife Service (USFWS) or the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NOAA Fisheries) when taking action that has the potential to affect species listed as endangered or threatened or proposed for threatened or endangered listing.

The Migratory Bird Treaty Act (MBTA) makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird species listed in 50 CFR 10, including feathers or other parts, nests,

eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandoning eggs or young) may be considered take, and is potentially punishable by fines and/or imprisonment. If an action is determined to cause a potential take of migratory birds, as described above, then a consultation process with the USFWS needs to be initiated to determine measures to minimize or avoid these impacts. This consultation should start as an informal process.

The Magnuson-Stevens Fishery Conservation and Management Act (as amended), also known as the Sustainable Fisheries Act, requires all Federal agencies to consult with the NOAA Fisheries on activities or proposed activities authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat (EFH). The EFH provisions of the Sustainable Fisheries Act are designed to protect fisheries habitat from being lost due to disturbance and degradation.

### **Existing Conditions**

The project area is currently disturbed and there is limited vegetation on-site. Orleans Parish has 4 animal and plant species listed as Federally threatened or endangered. Appendix D provides a list of threatened and endangered species occurring in Orleans Parish (USFWS 2008).

### **3.6.2 Environmental Consequences and Mitigation Measures**

#### **No Action Alternative**

This alternative does not include any FEMA action. Therefore, FEMA would not be required to consult with USFWS, NOAA Fisheries, or LDWF to comply with the ESA, MBTA, Fish and Wildlife Coordination Act (FWCA), or the Sustainable Fisheries Act. Compliance with EO 13112 is also not required. The No Action Alternative does not have the potential to affect sensitive biological resources.

#### **Proposed Action Alternative**

In the proposed action, AHPP units would be installed on previously disturbed area within Jackson Barracks. In addition, there is no critical habitat within the project area nor is there any habitat to support any threatened and endangered species within the project area. Therefore, the proposed action would not have the potential to affect sensitive biological resources.

Construction on previously developed land would not impact habitats that could support migratory birds.

USFWS concurred with this determination in the 2006 LAANG EA in a letter dated April 18, 2006 which can be found in Appendix B.

### **3.7 Cultural Resources**

#### **3.7.1 Affected Environment**

##### **Regulatory Setting**

Section 106 of the National Historic Preservation Act (NHPA), as amended, and implemented by 36 CFR Part 800, requires Federal agencies to consider the effects of their actions on historic properties, and provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on Federal projects that would have an effect on historic properties prior to implementation. Historic properties are defined as archaeological sites, standing structures, or other historic resources listed in or eligible for listing in the National Register of Historic Places (NRHP).

The Section 106 process includes identifying significant historic properties and districts that may be affected by an action and mitigating adverse effects on properties listed, or eligible for listing, in the NRHP (36 CFR 60.4). FEMA, Louisiana State Historic Preservation Officer (SHPO), Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP), formally the Louisiana Office of Homeland Security and Emergency Preparedness (LOHSEP), and the ACHP have executed a Programmatic Agreement (PA) to streamline the Section 106 review process. A copy of the PA for Louisiana is provided on the FEMA website site at <http://www.fema.gov/plan/ehp/hp/programmatic.shtm>.

##### **Existing Conditions**

The proposed project area is outside of any historic districts established by the New Orleans Historic District Landmarks Commission. Additionally, cultural resources are discussed extensively in the 2006 LAANG EA and are incorporated herein by reference (LAANG 2006). In summary, 17 structures are on the NRHP, the majority of which are located in Area A. Based on background research, there is limited potential for archeological deposits to be present.

### **3.7.2 Environmental Consequences and Mitigation Measures**

#### **No Action Alternative**

This alternative does not include any FEMA undertaking. Therefore, no cultural resources review would be required of FEMA under Section 106 of the NHPA or the PA. Since FEMA does not participate in any activities under the No Action Alternative, it does not need to take into consideration individuals, local governments, or the State's actions on historic structures. Neither would FEMA need to take into consideration impacts to archaeological resources associated with built-environment resources, or coincidentally in proximity to such resources under the No Action Alternative.

#### **Proposed Action Alternative**

Projects activities may involve ground disturbing activities, including open works construction (*e.g.*, walls, columns, piers, piles, *etc.*), and the installation of utilities (*e.g.*, utility lines, septic systems, water wells, *etc.*). However, FEMA has previously determined that the proposed project site would not adversely affect historic resources and the Louisiana SHPO concurred on March 7, 2007. In addition, the placement of permanent AHPP units would not visually affect nearby historic properties or districts. The SHPO concurrence letter can be found in Appendix B.

### **3.8 Socioeconomics**

#### **3.8.1 Affected Environment**

##### **Regulatory Setting**

EO 12898 (Federal Actions to Address Environmental Justice in Minority and Low-Income Populations) requires Federal lead agencies to ensure rights established under Title VI of the Civil Rights Act of 1964 when analyzing environmental effects. FEMA and most Federal lead agencies determine impacts on low-income and minority communities as part of the NEPA compliance process. Agencies are required to identify and correct programs, policies, and activities that have disproportionately high and adverse human health or environmental effects on minority or low-income populations. EO 12898 also tasks Federal agencies with ensuring that public notifications regarding environmental issues are concise, understandable, and readily accessible.

EO 13045 (Protection of Children from Environmental Health Risks and Safety Risks) requires Federal agencies to identify and assess health risks and safety risks that may disproportionately

affect children. As with EO 12898, FEMA and most Federal lead agencies determine impacts on children as part of the NEPA compliance process.

### **Existing Conditions**

The project site is located in the City of New Orleans in Orleans Parish. The 2000 US Census population of New Orleans zip code 70117 (which surrounds the project site) consisted of 51,252 people and 22,469 housing units, and the median household income was estimated at about \$19,567. Approximately 34 percent of local families lived below the poverty level (Census 2000). This area of New Orleans was heavily impacted from Hurricane Katrina with widespread damage to housing and other infrastructure. Although an updated census of the 70117 zip code is not available, it is likely that the population is substantially reduced. Since Hurricane Katrina, the Greater New Orleans Community Data Center (GNOCDC) has been using U.S. Postal Service Delivery statistics to track repopulation in the greater New Orleans area. According to GNOCDC, 20,191 households were actively receiving mail in zip code 70117 in July 2005, prior to Hurricane Katrina. In May 2008, a total of 10,063 households were actively receiving mail in zip code 70117, representing approximately 50 percent of the July 2005 households (GNOCDC 2008).

The US Census population of Orleans Parish in 2000 was approximately 484,674. This population had dropped to an estimated 223,388 by 2006, largely as a result of Hurricane Katrina (US Census 2007). Public services have continued to return to the New Orleans area since Hurricane Katrina. As of February 2008, 63 private schools, 13 state-licensed hospitals, and 117 childcare centers were open in Orleans Parish, and 79 public schools were open in the City of New Orleans. Prior to Hurricane Katrina, 93 private schools, 23 state-licensed hospitals, and 275 childcare centers were open in Orleans Parish and 128 public schools were open in the City of New Orleans (Brookings Institution 2008).

With the establishment of the Jackson Barracks AHPP housing units, approximately 475 individuals would return to New Orleans from other areas in Louisiana. The project site is located within an urban area and is surrounded by existing residential areas. The AHPP housing units would tie into water and sewer infrastructure that is currently being constructed at the site. The construction of this infrastructure was addressed in the 2006 LAANG EA (LAANG 2006). Existing public services, such as schools, fire and police services, childcare, and medical services would be adequate for this influx of people. Minor beneficial economic impacts

are anticipated as new residents use local services and purchase materials from local businesses.

### **Environmental Justice**

EO 12898 requires that each Federal agency identify and address the effects of its programs, policies and activities on minority and low-income populations. The function of the EO is to avoid disproportionately high and adverse public health or environmental impacts to the target populations. Further, EO 12898 also tasks Federal agencies to ensure that public notifications regarding environmental issues are concise, understandable, and readily accessible.

At the time of the 2000 Census, the population of New Orleans zip code 70117 was approximately 89 percent African American and 9 percent Caucasian. Approximately 34 percent of families and 38 percent of individuals were living below the poverty level. In comparison to Orleans Parish, the 70117 zip code had a higher percentage of residents and families living below the poverty level. Compared to the state as a whole, the percentage of African Americans and other minority groups was higher in zip code 70117, as was the percentage of people and families living in poverty (Table 4) (Census 2000). Although the number of individuals living in the 70117 zip code has decreased substantially since Hurricane Katrina, the proportion of minority and low-income populations is anticipated to be similar to pre-Katrina conditions.

**Table 4. Minority and Low-Income Population Summary Statistics**

<b>Demographics</b>	<b>New Orleans Zip Code 70117</b>	<b>Orleans Parish</b>	<b>Louisiana</b>
Caucasian	9 percent	28 percent	64 percent
African American	89 percent	67 percent	33 percent
Other non-white	2 percent	5 percent	15 percent
Families below poverty level	34 percent	24 percent	16 percent

Source: US Census Bureau 2000

### **3.8.2 Environmental Consequences and Mitigation Measures**

#### **No Action Alternative**

Although there is no requirement for compliance with EOs 12898 and 13045 when there are no Federal actions, the No Action Alternative would likely result in disproportionate health and safety risks to low-income and minority persons and to children, as these groups will be most likely to be affected by the lack of permanent housing.

Displaced persons currently residing with family members or friends, in hotels, in temporary dormitories, or in structurally unsafe or unsanitary facilities would result in adverse socioeconomic and public safety impacts. The hosts would suffer the economic effects of these living arrangements from expending additional living expenses, such as food and increased utility use. In many cases, displaced residents would be subject to adverse financial impacts due to the relocations by being distant from their places of employment. Further, the hosts and displaced residents could endure emotional stress associated with the disruption of their normal lives. For persons who attempt to occupy structurally unsafe or unsanitary facilities, public safety associated with building collapse and transmission of disease is a high risk.

### **Proposed Action Alternative**

The proposed action is not expected to pose disproportionately high and adverse public health or environmental effects on minority or low-income populations. The availability of Federal assistance, including AHPP housing for displaced individuals, is consistent with EO 12898. All forms of FEMA disaster housing assistance are available to any affected household that meets the conditions of eligibility and demographics are not among the eligibility requirements.

The housing at Jackson Barracks would be offered to families and individuals regardless of their race or economic background who were displaced or impacted by Hurricane Katrina; however, due to the secure nature of its use as a military installation, the potential residents would have to be able to pass specific security clearances. This decision is outlined in the letter from the State to FEMA and is found in Appendix B. Therefore, it is anticipated that residents would be first responders, National Guard personnel, and other military individuals and their families. The specific demographics of the Jackson Barracks occupants are not available at this time because specific individuals or families are in the process of being identified for this area. However, the demographic makeup of the future residents is anticipated to be similar to the community as a whole. Furthermore, the availability of AHPP housing would result in a positive impact to displaced individuals regardless of their race or economic status.

## **3.9 Noise**

### **3.9.1 Affected Environment**

Noise is generally described as unwanted sound, which can be based either on objective effects (*i.e.*, hearing loss, damage to structures, *etc.*) or subjective judgments (*e.g.*, community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel

(dB). Sound on the decibel scale is referred to as sound level. The threshold of human hearing is approximately 0 dB, and the threshold of discomfort or pain is around 120 dB.

Noise levels occurring at night generally produce a greater annoyance than do the same levels occurring during the day. It is generally agreed that people perceive intrusive noise at night as being 10 dBA (A-weighted decibel is a measure of noise at a given, maximum level or constant state level) louder than the same level of intrusive noise during the day, at least in terms of its potential for causing community annoyance. This perception is largely because background environmental sound levels at night in most areas are also about 10 dBA lower than those during the day.

Acceptable noise levels have been established by the U.S. Department of Housing and Urban Development (HUD) for construction activities in residential areas (HUD 1984):

**Acceptable** (not exceeding 65 dBA) – The noise exposure may be of some concern but common building construction will make the indoor environment acceptable and the outdoor environment will be reasonably pleasant for recreation and play.

**Normally Unacceptable** (above 65 but not greater than 75 dBA) – The noise exposure is significantly more severe; barriers may be necessary between the site and prominent noise sources to make the outdoor environment acceptable; special building construction may be necessary to ensure that people indoors are sufficiently protected from outdoor noise.

**Unacceptable** (greater than 75 dBA) – The noise exposure at the site is so severe that the construction costs to make the indoor noise environment acceptable may be prohibitive and the outdoor environment would still be unacceptable.

As a general rule of thumb, noise generated by a stationary noise source, or “point source,” will decrease by approximately 6dBA over hard surfaces and 9dBA over soft surfaces for each doubling of the distance. For example, if a noise source produces a noise level of 85 dBA at a reference distance of 50 feet over a hard surface, then the noise level would be 79 dBA at a distance of 100 feet from the noise source, 73 dBA at a distance of 200 feet, and so on. To estimate the attenuation of the noise over a given distance the following relationship is utilized:

$$\text{Equation 1: } dBA_2 = dBA_1 - 20 \log^{(d_2/d_1)}$$

Where:

$dBA_2$  = dBA at distance 2 from source (predicted)

$dBA_1$  = dBA at distance 1 from source (measured)

$d_2$  = Distance to location 2 from the source

$d_1$  = Distance to location 1 from the source

Sensitive noise receptors (residential homes) are located to the east of the proposed project site on Angela Street and to the west on Dubreuil Street.

### 3.9.2 Environmental Consequences and Mitigation Measures

#### No Action Alternative

Under the No Action Alternative, noise levels would continue at current levels. No localized or regional effects to noise are expected.

#### Proposed Action Alternative

The installation of the new housing structures and access roads would require the use of common construction equipment. Table 5 describes noise emission levels for construction equipment which range from 76 dBA to 84 dBA at a distance of 50 feet (Federal Highway Administration [FHWA] 2007).

**Table 5. A-Weighted (dBA) Sound Levels of Construction Equipment and Modeled Attenuation at Various Distances<sup>1</sup>**

Noise Source	50 feet	100 feet	200 feet	500 feet	1000 feet
Backhoe	78	72	68	58	52
Crane	81	75	69	61	55
Dump truck	76	70	64	56	50
Excavator	81	75	69	61	55
Front end loader	79	73	67	59	53
Concrete mixer truck	79	73	67	59	53
Pneumatic tools	81	75	69	61	55
Auger drill rig	84	78	72	64	58
Bull dozer	82	76	70	62	56
Generator	81	75	69	61	55

Source: FHWA 2007 and GSRC

1. The dBA at 50 feet is a measured noise emission (FHWA 2007). The 100 to 1,000 foot results are modeled estimates.

Assuming the worst case scenario of 84 dBA, the noise model projected that noise levels of 84 dBA from a point source (*i.e.*, bull dozer) would have to travel 450 feet before the noise would be attenuated to an acceptable level of 65 dBA. To achieve an attenuation of 84 dBA to a normally unacceptable level of 75 dBA, the distance from the noise source to the receptor is 140 feet.

Figure 6 in Appendix A depicts the 20 acre construction area and the 65 dBA and 75 dBA construction noise contour. Assuming the construction activities are contained within the delineated construction area, several residential receptors may be exposed to noise emissions that are unacceptable and normally unacceptable. Table 6 contains the number of sensitive noise receptors located within the 65 dBA and 75 dBA noise contour created by the miscellaneous construction equipment.

**Table 6. Number of Sensitive Noise Receptors within the 65 and 75 dBA Noise Contours**

Type of Noise Receptor	Greater than 75 dBA	Greater than 65 dBA
Single family homes	50	175
Schools	1	0

Source: GSRC

The noise exposure count includes structures that are currently standing in 2008. Empty lots were not counted as sensitive noise receptors. Most of the residential homes exposed to noise emissions greater than 75 DNL occurred along Dubreuil Street and Angela Street. To minimize these impact potential, construction activities should be limited to daylight hours during the work week, between 7:00 am to 5:00 pm on Monday through Friday. Noise impacts should be minor if these timing restrictions are implemented near the residential neighborhoods. Noise generated by the construction of the proposed project would be intermittent and last for one year, after which, noise levels would return to ambient levels. Therefore, the noise impacts from construction activities would be considered insignificant.

### 3.10 Aesthetics

#### 3.10.1 Affected Environment

Actions that cause the permanent loss of the characteristics that make an area visually unique or sensitive would be considered to be detrimental to the surrounding area. The visual aesthetic of the proposed project area is dominated by the recently reconstructed buildings within Jackson Barracks surrounded by urban areas of the Lower Ninth Ward which sustained

devastating damage during Hurricane Katrina and many nearby homes are still boarded and are no longer lived in at this time. There are no sensitive sites or natural areas immediately adjacent to the project corridor.

### **3.10.2 Environmental Consequences and Mitigation Measures**

#### **No Action Alternative**

Under the No Action Alternative, aesthetics would not be affected as no AHPP units would be installed at Jackson Barracks.

#### **Proposed Action Alternative**

The AHPP cottages would be placed in the previously cleared, already disturbed land found within Jackson Barracks Area E. The cottages are designed to mimic the architecture of the area. No significant impacts to the aesthetics of the surrounding area are anticipated from the construction of the cottages.

### **3.11 Hazardous Materials and Toxic Wastes**

#### **3.11.1 Affected Environment**

##### **Regulatory Setting**

Hazardous wastes and materials are regulated in the U.S. under a variety of Federal and state laws. Federal laws and subsequent regulations governing the assessment, transportation, and disposal of hazardous wastes and materials include the Resource Conservation and Recovery Act (RCRA); the RCRA Hazardous and Solid Waste Amendments; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Solid Waste Act; the Toxic Substances Control Act (TSCA); and the CAA. RCRA is the Federal law that regulates hazardous waste from “cradle to grave,” that is, from the time the waste is generated through its management, storage, transport, treatment, and final disposal. USEPA is responsible for implementing this law and may delegate this responsibility to states to implement it. Louisiana has been delegated with this responsibility. RCRA also sets forth a framework for the management of non-hazardous wastes. The 1986 amendments to RCRA enable the USEPA through Louisiana Department of Environmental Quality (LDEQ) to address the environmental problems that can result from underground tanks storing petroleum and hazardous substances. RCRA focuses only on active and proposed facilities, and does not address abandoned or historical sites.

TSCA gives the USEPA the ability to track the approximately 75,000 industrial chemicals currently produced or imported into the U.S. The USEPA repeatedly screens these chemicals, and can require reporting or testing of those chemicals that may pose an environmental or human-health hazard. The USEPA may ban the manufacture and import of those chemicals that pose an unreasonable risk. TSCA supplements other Federal statutes, including CAA and the Toxic Release Inventory under the Emergency Planning and Community-Right-to-Know Act. TSCA includes regulations regarding asbestos and polychlorinated biphenyls (PCB). CERCLA and the Superfund Amendments and Reauthorization Act also known as SARA govern the process for identifying and prioritizing the cleanup of abandoned or other sites not regulated under RCRA that are contaminated by the release of hazardous materials. The USEPA was given power to seek out those parties responsible for any release and ensure their cooperation in the cleanup.

Superfund site identification, monitoring, and response activities in states are coordinated through the state environmental protection or waste management agencies. Section 112 of the CAA requires the USEPA to develop emission standards for hazardous air pollutants. In response to this section, the USEPA published a list of hazardous air pollutants and promulgated the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations. Because lead and asbestos present a substantial risk to human health as a result of air emissions from one or more source categories, they are considered hazardous air pollutants and, thus, hazardous materials. The Asbestos NESHAP (40 CFR 61, Subpart M) addresses milling, manufacturing, and fabricating operations, demolition and renovation activities, waste disposal issues, active and inactive waste disposal sites, and asbestos conversion processes.

### **Existing Conditions**

Louisiana has 10 National Priorities List (NPL) sites; however, Orleans Parish has only one active NPL site (USEPA 2008c). The NPL site is the Agricultural Street Landfill and it is approximately 2.41 miles to the northwest of Jackson Barracks. The EPA Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) ID is LAD98154486 (USEPA 2008c). Although the site is currently on the final NPL list, on August 5, 2008, the court entered into a consent decree with the City of New Orleans which protects the remedy and thereby, the public health, welfare, and the environment at the site by implementing the work and institutional controls described in the decree. Prior to this USEPA completed the

second 5-Year Review and its findings confirm the remedy is protective of human health and the environment.

### **3.11.2 Environmental Consequences and Mitigation Measures**

#### **No Action Alternative**

Although the No Action Alternative would not actively use hazardous materials or generate hazardous wastes, it may prolong the exposure of individuals to hazardous materials or wastes that may have been generated by Hurricane Katrina. Residents who find themselves without alternative housing may continue to live within an area contaminated by hazardous materials or wastes, such as petrochemicals (from ruptured storage tanks), air-borne asbestos (from damaged asbestos-containing materials), or lead-paint chips (from peeling painted surfaces). Further, temporary dormitories not typically used as shelters could contain lead-based paint or other sources of hazardous materials or wastes.

#### **Proposed Action Alternative**

Under this alternative, project activities are not anticipated to impact hazardous materials or wastes.

Ground disturbing activities could expose or otherwise affect subsurface hazardous wastes or materials; any hazardous materials discovered, generated, or used during construction would be disposed of and handled in accordance with applicable local, state, and Federal regulations.

### **3.12 Traffic and Transportation**

#### **3.12.1 Affected Environment**

Louisiana Department of Transportation and Development (LaDOTD) is responsible for the design, construction, and maintenance of the State highway system, as well as the portion of the Federal interstate highways within Louisiana's boundaries. Arterials, connectors, rural roads, and local roads are constructed and maintained by parish or city governments.

#### **Existing Conditions**

As shown below in Table 7, Orleans Parish has an extensive network of Federal (interstates [I] and US highways [US]) and state highways (LA) throughout the program area.

The State provides actual traffic counts along various highways for the year 2004, 2005 and 2006, depending on the parish. Traffic counts are given in units of Average Annual Daily Traffic (AADT). As shown below, in Orleans Parish the highest of the traffic counts on Federal highways was on the interstate system of I 10 and I 610 with counts ranging from 69, 691 to 128,072. On other Federal highways (US 61 and US 90) counts ranged from as low as 2,559 to as high as 101,366. State highway traffic counts ranged from 7,598 to 53,333 AADT (LaDOTD 2008).

**Table 7. Federal and State Major Highways with Traffic Counts within the Project Area**

Parish	Highways	AADT
Orleans	I 10	55,439 – 128,072
	I 510	23,969 – 31,498
	I 610	69,691 – 76,074
	US 61	36,136 – 38,394
	US 90	2,559 – 101,366
	LA 39	37,103 – 53,333
	LA 46	21,790 – 28,396
	LA 47	7,598 – 21,984

Source: LaDOT 2008

### 3.12.2 Environmental Consequences and Mitigation Measures

#### No Action Alternative

Under the No Action Alternative there would be no AHPP units constructed, and displaced residents would continue to utilize temporary housing. There would be no effect on traffic or transportation.

#### Proposed Action Alternative

Under this alternative, no significant adverse impacts to public roads, 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. Since the permanent housing would replace temporary housing, traffic volumes should return to pre-construction levels upon completion of construction.

*SECTION 4.0*  
*CUMULATIVE IMPACTS*



#### **4.0 Cumulative Impacts**

According to the Council on Environmental Quality (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 AHPP in Louisiana and other actions occurring or proposed in the vicinity of the proposed project sites.

The entire Louisiana Gulf Coast is undergoing recovery efforts after Hurricane Katrina caused extensive damages. The recovery efforts in the area include demolition, reconstruction, and new construction both within the private and non profit sector as well as projects by Federal and state agencies. These projects and the proposed AHPP actions may have impacts to the proposed project areas and their surroundings.

**SECTION 5.0**  
**LIST OF PREPARERS**



## **5.0 List of Preparers**

### **FEMA**

Cynthia Teeter, Deputy Environmental Liaison Officer

Jomar Maldonado, Acting Environmental Officer

### **GSRC**

Denise Rousseau Ford, Project Manager

Greg Lacy, Resource Section Preparer

Suna Knaus, Senior Reviewer

### **URS Corporation**

Brian Mehok, Environmental Coordinator and Reviewer

***SECTION 6.0***  
***REFERENCES***



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*APPENDIX A*  
*Figures*



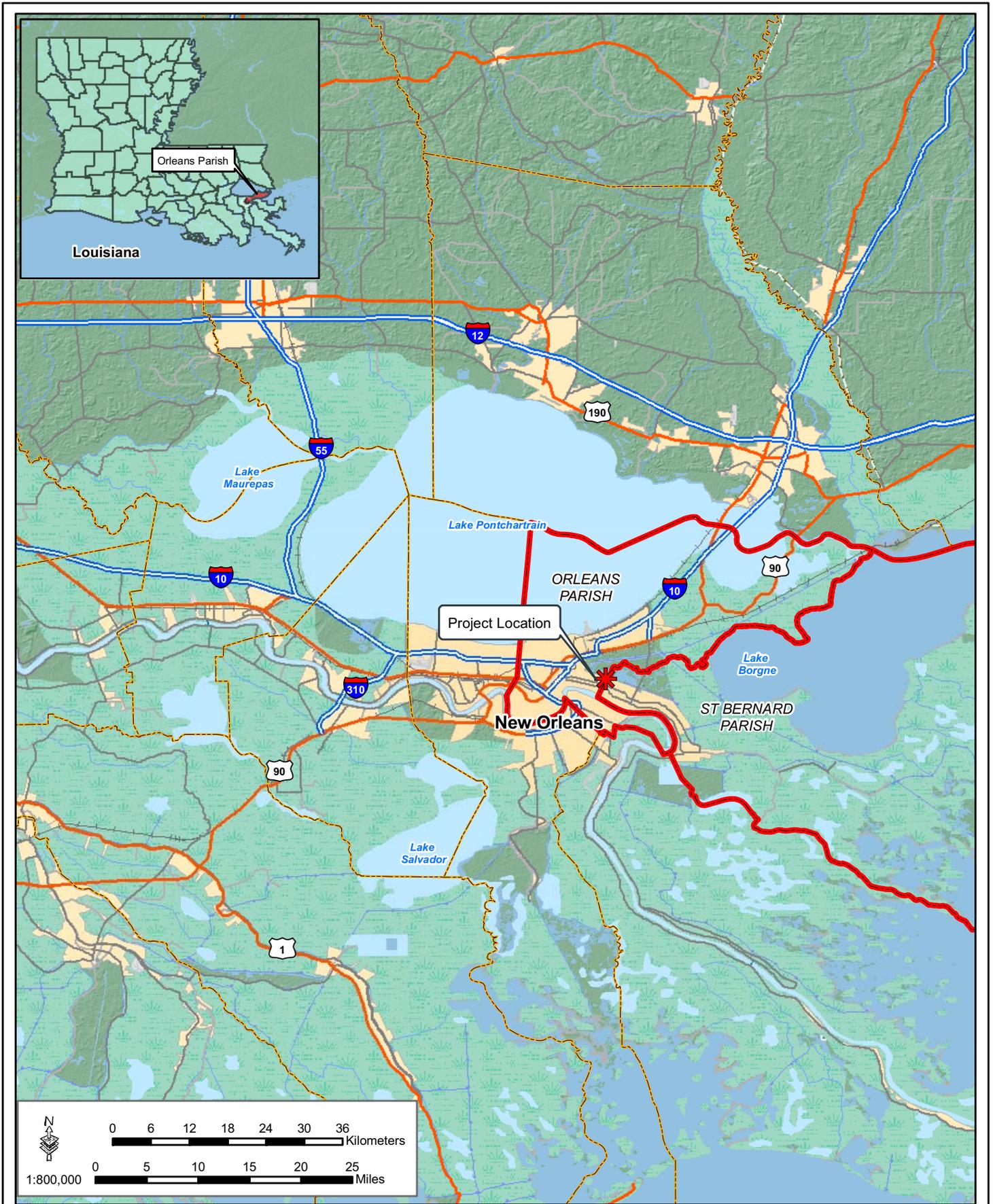


Figure 1: Vicinity Map



Figure 2: Project Location Map



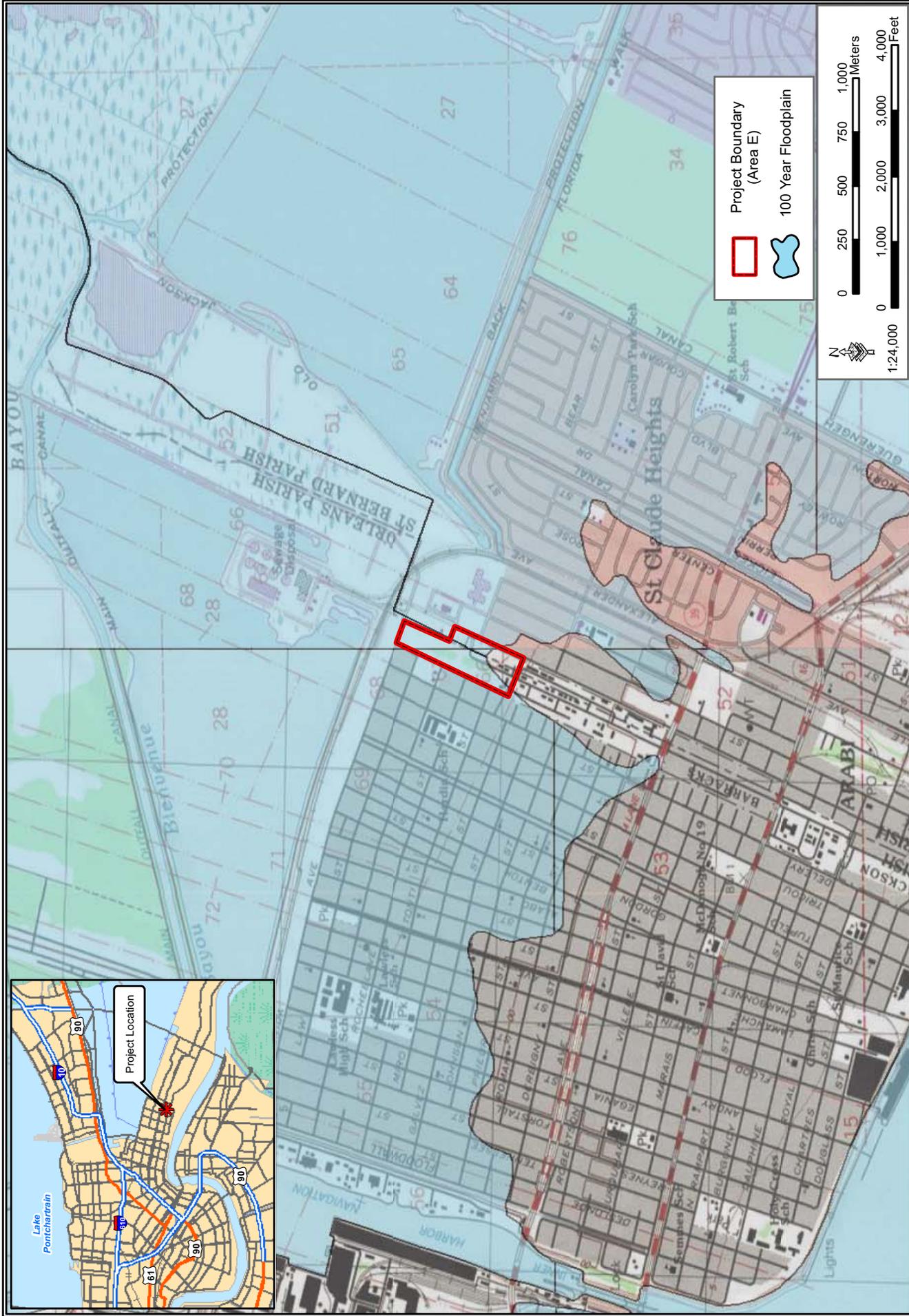


Figure 4: FEMA 100-year Floodplain Map

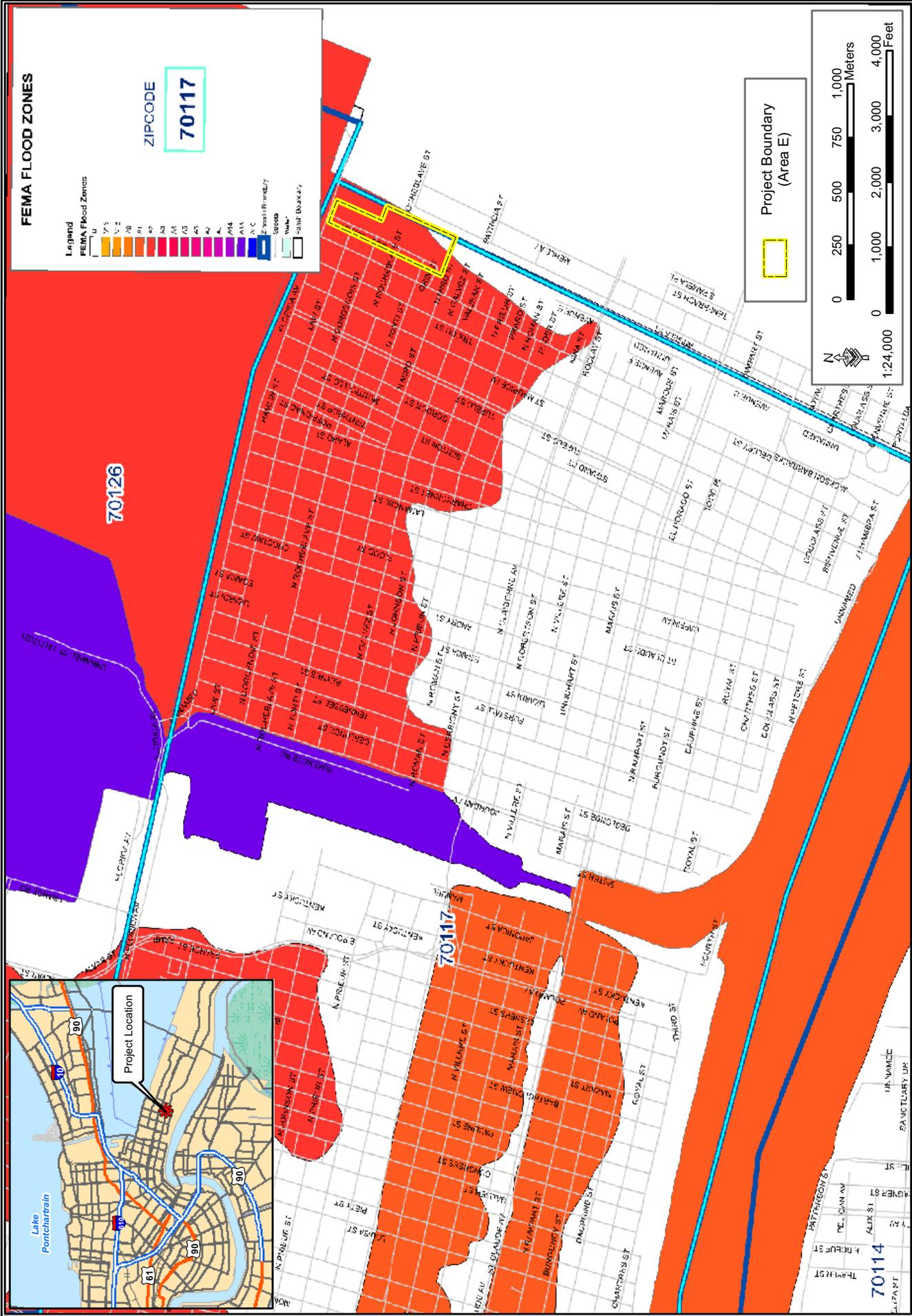


Figure 5: FEMA Floodzones in Project Area

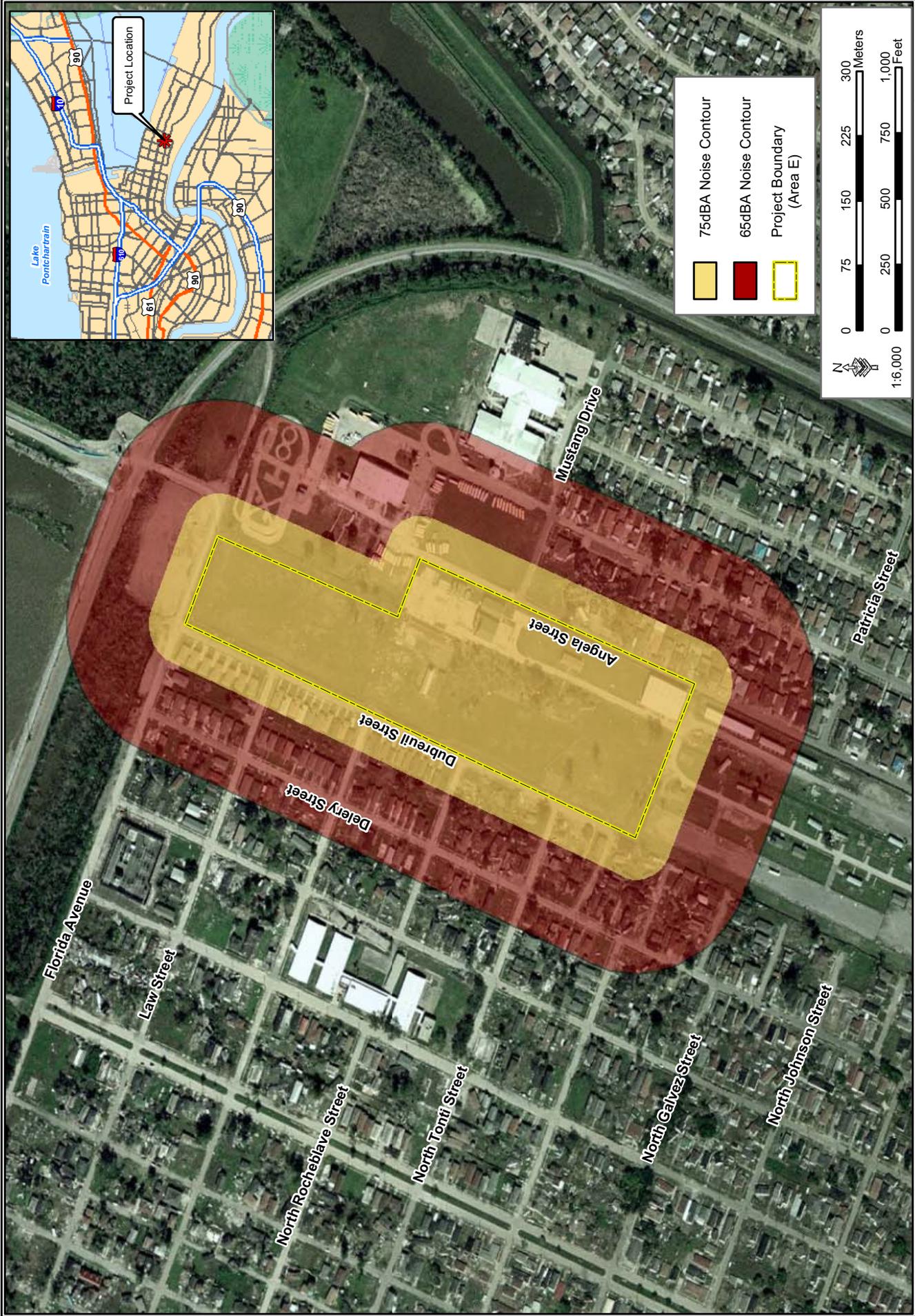


Figure 6: The 65dBA and 75dBA Noise Contour around Jackson Barracks Project Corridor

*APPENDIX B*  
*Correspondence*



November 4, 2008



**FEMA**

Tammy Mick  
U.S. Environmental Protection Agency  
[mick.tamara@epamail.epa.gov](mailto:mick.tamara@epamail.epa.gov)

RE: Draft Environmental Assessment for the Alternative Housing Pilot Program  
Jackson Barracks, Orleans Parish, Louisiana

Dear Ms. Mick:

As part of the National Environmental Policy Act of 1969 (NEPA) and its implementing regulations 40 Code of Federal Regulations (C.F.R.) Part 1500 and 44 C.F.R. Part 10, the Federal Emergency Management Association (FEMA) has prepared a draft Environmental Assessment (EA) to evaluate the environmental consequences of providing permanent housing to displaced residents of Louisiana, specifically Orleans Parish by the Alternative Housing Pilot Program (AHPP). Through FEMA funding, the Louisiana Recovery Authority (LRA) has applied for FEMA funding under the AHPP to provide both temporary and permanent housing solutions for eligible applicant families displaced by Hurricanes Katrina and Rita. This draft EA analyses the no action and the proposed action alternatives. The proposed action alternative consists of the construction of permanent AHPP housing on a previously developed portion (Area E) of Jackson Barracks, a National Guard installation in Orleans parish, Louisiana.

Recognizing the extensive and complex housing challenges facing victims and communities as a result of Hurricanes Katrina and Rita and acknowledging the limitations on FEMA ordinary statutory authority to provide non-temporary housing solutions, Congress appropriated funds to the Department of Homeland Security to support alternative housing pilot programs (Emergency Supplemental Appropriations Act, 2006, P.L. 109-234). The AHPP represents a one-time exception to FEMA's existing authority under the Stafford Act, which legally binds FEMA to a temporary housing mission reliant primarily on mobile homes and manufactured homes, by providing an opportunity to explore, implement, and evaluate innovative approaches to housing solutions, and to address ongoing housing challenges created by the 2005 hurricane season in the states of the Gulf Coast region, State of Louisiana, especially the southernmost parishes.

Based on the NEPA analysis, FEMA has determined that this draft EA and the associated draft Finding of No Significant Impact (FONSI) fully and accurately describes the impacts to the human and natural environment.

At this time, FEMA requests that your agency review the draft EA and draft FONSI and provide any comments to FEMA by November 15, 2008, via the contact information below. The draft EA may be viewed and downloaded from FEMA's website at <http://www.fema.gov/plan/ehp/envdocuments/ea-region6.shtm>. Any concerns or comments raised will be addressed in the EA, and formal consultation will allow for your review of the final document. Please send all comments to Cynthia Teeter by FAX: (504) 762-2670 or email at [Cynthia.Teeter@dhs.gov](mailto:Cynthia.Teeter@dhs.gov).

Sincerely,



Cynthia Teeter  
FEMA Deputy Environmental Liaison Officer  
FEMA/State Transitional Recovery Office  
1250 Poydras  
New Orleans, LA 70113

November 4, 2008



**FEMA**

Josh Marceaux  
U.S. Fish and Wildlife Services  
[Joshua\\_Marceaux@fws.gov](mailto:Joshua_Marceaux@fws.gov)

RE: Draft Environmental Assessment for the Alternative Housing Pilot Program  
Jackson Barracks, Orleans Parish, Louisiana

Dear Mr. Marceaux:

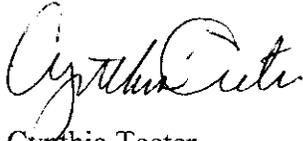
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Sincerely,



Cynthia Teeter  
FEMA Deputy Environmental Liaison Officer  
FEMA/State Transitional Recovery Office  
1250 Poydras  
New Orleans, LA 70113

November 4, 2008



**FEMA**

Jamie Phillippe  
Louisiana Department of Environmental Quality  
[Jamie.Phillippe@la.gov](mailto:Jamie.Phillippe@la.gov)

RE: Draft Environmental Assessment for the Alternative Housing Pilot Program  
Jackson Barracks, Orleans Parish, Louisiana

Dear Mr. Phillippe:

As part of the National Environmental Policy Act of 1969 (NEPA) and its implementing regulations 40 Code of Federal Regulations (C.F.R.) Part 1500 and 44 C.F.R. Part 10, the Federal Emergency Management Association (FEMA) has prepared a draft Environmental Assessment (EA) to evaluate the environmental consequences of providing permanent housing to displaced residents of Louisiana, specifically Orleans Parish by the Alternative Housing Pilot Program (AHPP). Through FEMA funding, the Louisiana Recovery Authority (LRA) has applied for FEMA funding under the AHPP to provide both temporary and permanent housing solutions for eligible applicant families displaced by Hurricanes Katrina and Rita. This draft EA analyses the no action and the proposed action alternatives. The proposed action alternative consists of the construction of permanent AHPP housing on a previously developed portion (Area E) of Jackson Barracks, a National Guard installation in Orleans parish, Louisiana.

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Sincerely,



Cynthia Teeter  
FEMA Deputy Environmental Liaison Officer  
FEMA/State Transitional Recovery Office  
1250 Poydras  
New Orleans, LA 70113

November 4, 2008



**FEMA**

Rocky Hinds  
Louisiana Department of Natural Resources, Coastal Management Division  
[rockyh@dnr.state.la.us](mailto:rockyh@dnr.state.la.us)

RE: Draft Environmental Assessment for the Alternative Housing Pilot Program  
Jackson Barracks, Orleans Parish, Louisiana

Dear Mr. Hinds:

As part of the National Environmental Policy Act of 1969 (NEPA) and its implementing regulations 40 Code of Federal Regulations (C.F.R.) Part 1500 and 44 C.F.R. Part 10, the Federal Emergency Management Association (FEMA) has prepared a draft Environmental Assessment (EA) to evaluate the environmental consequences of providing permanent housing to displaced residents of Louisiana, specifically Orleans Parish by the Alternative Housing Pilot Program (AHPP). Through FEMA funding, the Louisiana Recovery Authority (LRA) has applied for FEMA funding under the AHPP to provide both temporary and permanent housing solutions for eligible applicant families displaced by Hurricanes Katrina and Rita. This draft EA analyses the no action and the proposed action alternatives. The proposed action alternative consists of the construction of permanent AHPP housing on a previously developed portion (Area E) of Jackson Barracks, a National Guard installation in Orleans parish, Louisiana.

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Sincerely,



Cynthia Teeter  
FEMA Deputy Environmental Liaison Officer  
FEMA/State Transitional Recovery Office  
1250 Poydras  
New Orleans, LA 70113

November 4, 2008



Richard Hartman  
National Oceanic and Atmospheric Administration  
[Richard.Hartman@noaa.gov](mailto:Richard.Hartman@noaa.gov)

RE: Draft Environmental Assessment for the Alternative Housing Pilot Program  
Jackson Barracks, Orleans Parish, Louisiana

Dear Mr. Hartman:

As part of the National Environmental Policy Act of 1969 (NEPA) and its implementing regulations 40 Code of Federal Regulations (C.F.R.) Part 1500 and 44 C.F.R. Part 10, the Federal Emergency Management Association (FEMA) has prepared a draft Environmental Assessment (EA) to evaluate the environmental consequences of providing permanent housing to displaced residents of Louisiana, specifically Orleans Parish by the Alternative Housing Pilot Program (AHPP). Through FEMA funding, the Louisiana Recovery Authority (LRA) has applied for FEMA funding under the AHPP to provide both temporary and permanent housing solutions for eligible applicant families displaced by Hurricanes Katrina and Rita. This draft EA analyses the no action and the proposed action alternatives. The proposed action alternative consists of the construction of permanent AHPP housing on a previously developed portion (Area E) of Jackson Barracks, a National Guard installation in Orleans parish, Louisiana.

Recognizing the extensive and complex housing challenges facing victims and communities as a result of Hurricanes Katrina and Rita and acknowledging the limitations on FEMA ordinary statutory authority to provide non-temporary housing solutions, Congress appropriated funds to the Department of Homeland Security to support alternative housing pilot programs (Emergency Supplemental Appropriations Act, 2006, P.L. 109-234). The AHPP represents a one-time exception to FEMA's existing authority under the Stafford Act, which legally binds FEMA to a temporary housing mission reliant primarily on mobile homes and manufactured homes, by providing an opportunity to explore, implement, and evaluate innovative approaches to housing solutions, and to address ongoing housing challenges created by the 2005 hurricane season in the states of the Gulf Coast region, State of Louisiana, especially the southernmost parishes.

Based on the NEPA analysis, FEMA has determined that this draft EA and the associated draft Finding of No Significant Impact (FONSI) fully and accurately describes the impacts to the human and natural environment.

At this time, FEMA requests that your agency review the draft EA and draft FONSI and provide any comments to FEMA by November 15, 2008, via the contact information below. The draft EA may be viewed and downloaded from FEMA's website at <http://www.fema.gov/plan/ehp/envdocuments/ea-region6.shtm>. Any concerns or comments raised will be addressed in the EA, and formal consultation will allow for your review of the final document. Please send all comments to Cynthia Teeter by FAX: (504) 762-2670 or email at [Cynthia.Teeter@dhs.gov](mailto:Cynthia.Teeter@dhs.gov).

Sincerely,



Cynthia Teeter  
FEMA Deputy Environmental Liaison Officer  
FEMA/State Transitional Recovery Office  
1250 Poydras  
New Orleans, LA 70113

November 4, 2008



**FEMA**

Amy Powell  
U.S. Army Corps of Engineers, New Orleans District  
[Amy.E.Powell@mvn02.usace.army.mil](mailto:Amy.E.Powell@mvn02.usace.army.mil)

RE: Draft Environmental Assessment for the Alternative Housing Pilot Program  
Jackson Barracks, Orleans Parish, Louisiana

Dear Ms. Powell:

As part of the National Environmental Policy Act of 1969 (NEPA) and its implementing regulations 40 Code of Federal Regulations (C.F.R.) Part 1500 and 44 C.F.R. Part 10, the Federal Emergency Management Association (FEMA) has prepared a draft Environmental Assessment (EA) to evaluate the environmental consequences of providing permanent housing to displaced residents of Louisiana, specifically Orleans Parish by the Alternative Housing Pilot Program (AHPP). Through FEMA funding, the Louisiana Recovery Authority (LRA) has applied for FEMA funding under the AHPP to provide both temporary and permanent housing solutions for eligible applicant families displaced by Hurricanes Katrina and Rita. This draft EA analyses the no action and the proposed action alternatives. The proposed action alternative consists of the construction of permanent AHPP housing on a previously developed portion (Area E) of Jackson Barracks, a National Guard installation in Orleans parish, Louisiana.

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Sincerely,



Cynthia Teeter  
FEMA Deputy Environmental Liaison Officer  
FEMA/State Transitional Recovery Office  
1250 Poydras  
New Orleans, LA 70113

November 3, 2008



**FEMA**

New Orleans Public Library  
219 Loyola Avenue  
New Orleans, Louisiana 70112

RE: Draft Environmental Assessment for the Alternative Housing Pilot Program  
Jackson Barracks, Orleans Parish, Louisiana

Dear Librarian:

Federal Emergency Management Agency (FEMA) requests that your library make available to the public the enclosed, *Draft Environmental Assessment for the Alternative Housing Pilot Program, Jackson Barracks, Orleans Parish, Louisiana*, for a 10-day public review period. Please place a copy of this letter and the draft Environmental Assessment (EA) in a location that facilitates public review. The public comment period begins on November 5, 2008 and all comments must be received no later than November 15, 2008.

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I appreciate your assistance with our efforts to invite public involvement in our decision-making process.

Sincerely,



Cynthia Teeter  
FEMA Deputy Environmental Liaison Officer  
FEMA/State Transitional Recovery Office  
1250 Poydras  
New Orleans, LA 70113

November 3, 2008



**FEMA**

Martin Luther King Branch  
1611 Caffin Avenue  
New Orleans, Louisiana 70117

RE: Draft Environmental Assessment for the Alternative Housing Pilot Program  
Jackson Barracks, Orleans Parish, Louisiana

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Department of Homeland Security/FEMA  
Transitional Recovery Office  
1250 Poydras  
New Orleans, LA 70113

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Cynthia Teeter  
FEMA Deputy Environmental Liaison Officer  
FEMA/State Transitional Recovery Office  
1250 Poydras  
New Orleans, LA 70113

November 3, 2008



**FEMA**

Alvar Street Branch  
913 Alvar Street  
New Orleans, Louisiana 70117

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Jackson Barracks, Orleans Parish, Louisiana

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Sincerely,



Cynthia Teeter  
FEMA Deputy Environmental Liaison Officer  
FEMA/State Transitional Recovery Office  
1250 Poydras  
New Orleans, LA 70113



# Louisiana Housing Finance Agency

**KATHLEEN BABINEAUX BLANCO**  
GOVERNOR

**MILTON J. BAILEY**  
PRESIDENT

2415 QUAIL DRIVE  
BATON ROUGE, LOUISIANA 70808  
(225) 763-8700  
FAX (225) 763-8710  
TTY/TDD (225) 763-8762

November 2, 2007

Mr. Randall Kinder  
FEMA AHPP Program Officer  
U.S. Department of Homeland Security  
FEMA – Disaster Assistance Directorate  
500 C St. SW, Room 401  
Washington, D.C. 20472

Dear Mr. Kinder:

The Agency submits the following alternate award conditions request. This request concerns Article I2 Project Administration, specifically the section A and C. We are requesting the eligibility requirements, and the selection of residents be modified to meet certain requirements set out in Major General Hunt Downer's request to the Agency. Please find below selection criteria and additional information submitted by the State Military Department affecting the award conditions concerning Jackson Barracks.

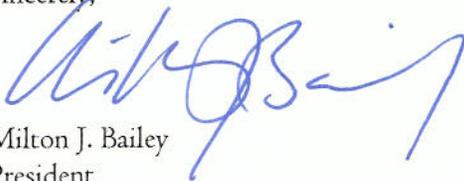
## PERMISSION FOR EXCLUSIVE USE

1. The State Military Department (SMD), Jackson Barracks, is a public entity providing services essential to the restoration of the hurricane-damaged areas it serves. Essential services include, but are not limited to, the Homeland Security and Emergency Response Services on a state and national level provided by SMD.
2. There is a compelling need to locate SMD employees, members, and their respective families at Jackson Barracks so that they may carry out their essential functions, including, but not limited to, first responder and Homeland Security functions with which they are charged.
3. The exclusivity is necessary for the Public Entity and its employees and/or members to provide essential services as directed by the Governor to meet Homeland Security Requirements and Emergency Response Missions.

4. Because of the Homeland Security Requirements, Emergency Response Mission, and sensitive operations equipment and infrastructure, having persons from outside the organization within and on the Jackson Barracks' premises is inconsistent with the effective and safe use of the site.
5. The security required at Jackson Barracks will be compromised by having persons coming and going freely.
6. Jackson Barracks and its operations present unacceptable dangers to persons not familiar with or trained to deal with its hazards and the site; and by its security requirements and mission, is not accessible to the general public.
7. The restrictions on access require credentialing; and then within the facility, controlled access to certain areas because of day-to-day operations, equipment and infrastructure.
8. As authorized by law, all persons and property within their control entering into, remaining on, and leaving the premises are subject to search.
9. Jackson Barracks, because of Homeland Security Requirements, and all persons on and/or entering its premises are subject to the elevations of security measures in compliance with U.S. Department of Homeland Security and Department of Defense threat levels thus further and /or preventing restricting movement of outside persons.

As the Agency feels the Jackson Barracks site is instrumental to the Alternative Housing Pilot Program and extremely vital to the rebuilding and repopulation effort for Orleans and St. Bernard Parishes, all efforts have been made to be as inclusive as logistically possible. The actual tenant pool will include members of the State Military Department and their families, State Employees, and individuals from the within the community with essential functions on Jackson Barracks.

Sincerely,



Milton J. Bailey  
President

Louisiana Housing Finance Agency

cc: Mr. Curtis Carleton  
Mr. David Garratt



# FEMA

U.S. Department of Homeland Security  
Federal Emergency Management Agency  
FEMA-1603/1607-DR-LA  
Algiers TRO  
1 Seine Ct., 6th Floor  
Algiers, LA 70114

February 6, 2007

Pam Breaux  
State Historic Preservation Officer  
Office of Culture, Recreation and Tourism  
Post Office Box 44247  
Baton Rouge LA 70804

RE: Archaeological Concerns in Areas B-E at Jackson Barracks

Dear Ms. Breaux:

A draft Phase I archaeological report entitled "Phase I Cultural Resources Survey of Jackson Barracks, Orleans Parish, Louisiana (16OR212)" was submitted to the State Historic Preservation Office (SHPO) by Earth Search, Inc. in August 2006. This report identified no archaeological loci that are eligible for listing in the National Register of Historic Places in Areas B, C, D and E at Jackson Barracks. Additionally, FEMA in consultation with the Native American Historic Initiative (NAHI) which represents the federally recognized tribes that have an interest in Jackson Barracks, determined in an e-mail dated August 1, 2006 that ground disturbing activities in Areas B, C, D and E would not affect sites of significance for the participating tribes. Based on the report findings and tribal agreement, FEMA feels that the majority of ground disturbing activities such as, but not limited to, demolition, construction, and utility work will have no effect on historic properties in these areas.

FEMA has one area of concern for ground disturbance in Area C immediately around the c. 1837 powder magazine. While no archaeological resources were identified in this area and we are therefore not concerned with an impact on these types of resources, FEMA is concerned that ground disturbing activities in the immediate vicinity of the structure may compromise the structural integrity of this building. Therefore we recommend that all ground disturbing activities taking place around this structure be conducted in a way so that impacts are avoided.

FEMA requests SHPO concurrence with the finding that "**No Historic Properties Are Affected**" by ground disturbing activities in Areas B, C, D and E at Jackson Barracks. Historic properties in Areas A1 and A2 will be addressed in a separate letter when eligibility determinations are complete. Your prompt review of this project is greatly appreciated. Should you need additional information please contact Katherine Zeringue, Historic Preservation Specialist/Archaeology Team Lead at (832) 851-3366.

Sincerely,

Jim Stark  
Director  
Louisiana Transitional Recovery Office  
FEMA-DR-1603-LA, FEMA-DR-1607-LA

Date: 3-7-07

No known archaeological sites or historic properties will be affected by this undertaking. This effect determination could change should new information come to our attention.

Pam Breaux: Pam Breaux  
State Historic Preservation Officer



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

646 Cajundome Blvd.  
Suite 400  
Lafayette, Louisiana 70506

April 18, 2006

Ms. Tonya Bolton  
Environmental Resource Group, L.L.C.  
Post Office Box 152  
Clinton, Louisiana 70722

Dear Ms. Bolton:

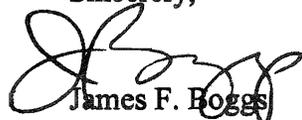
Please reference your March 30, 2006, letter requesting our review of the draft Environmental Assessment (EA) for demolition, construction, and realignment activities post-Hurricane Katrina at the Jackson Barracks in New Orleans, Orleans Parish, Louisiana. The Louisiana Army National Guard proposes to demolish approximately 116 structures in addition to parking areas, fencing, roadways, utilities, and a perimeter wall. Twelve new buildings would be constructed and all ancillary structures would be rebuilt and/or renovated. Additionally, staff elements, detachments, and/or units would be realigned to other installations within the State. The U.S. Fish and Wildlife Service (Service) has reviewed the information provided, and offers the following comments in accordance with provisions of the National Environmental Policy Act (NEPA) of 1969 (83 Stat. 852, as amended; 42 U.S.C. 4321 et seq.), the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

The draft EA is well written, well organized, and provides an adequate description of fish and wildlife resources in the project area, as well as the purpose and need for the proposed action and potential impacts associated with each alternative. According to the EA, the Jackson Barracks is located within an urban area of New Orleans and is surrounded by residential and commercial development and the Mississippi River. Additionally, jurisdictional wetlands or other waters of the U.S. are not located within the proposed construction areas and would not be impacted by implementation of the proposed alternative.

Our records indicate that there are currently no federally listed threatened or endangered species within the proposed project area. Therefore, no further endangered species consultation would be required for this action, unless there are changes in the scope or location of the proposed project or the project has not been initiated within one year. If the proposed project has not been initiated within one year, follow-up consultation should be accomplished with the Service prior to making expenditures because our threatened and endangered species information is updated annually. If the scope or location of the proposed project is changed, consultation should occur as soon as such changes are made.

We appreciate the opportunity to comment on the draft EA for the proposed activity. If you have any questions regarding our comments, please contact Angela Trahan (337/291-3137) of this office.

Sincerely,

A handwritten signature in black ink, appearing to read 'James F. Hoggs', written over the printed name.

James F. Hoggs  
Acting Supervisor  
Louisiana Field Office

cc: LDWF, Natural Heritage Program, Baton Rouge, LA

*APPENDIX C*  
*Air Quality Calculations*

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CALCULATION SHEET-COMBUSTABLE EMISSIONS-ORLEANS PARISH

Assumptions for Combustable Emissions						
Type of Construction Equipment	Num. of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs	
Water Truck	1	300	10	240	720000	
Diesel Road Compactors	1	100	10	90	90000	
Diesel Dump Truck	1	300	10	90	270000	
Diesel Excavator	1	300	10	90	270000	
Diesel Hole Trenchers	1	175	10	240	420000	
Diesel Bore/Drill Rigs	2	300	10	240	1440000	
Diesel Cement & Mortar Mixers	3	300	10	240	2160000	
Diesel Cranes	2	175	10	240	840000	
Diesel Graders	1	300	10	90	270000	
Diesel Tractors/Loaders/Backhoes	2	100	10	240	480000	
Diesel Bull Dozers	1	300	10	90	270000	
Diesel Front End Loaders	1	300	10	90	270000	
Diesel Fork Lifts	2	100	10	240	480000	
Diesel Generator Set	6	40	10	240	576000	

Emission Factors							
Type of Construction Equipment	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM-10 g/hp-hr	PM-2.5 g/hp-hr	SO2 g/hp-hr	CO2 g/hp-hr
Water Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Road Compactors	0.370	1.480	4.900	0.340	0.330	0.740	536.200
Diesel Dump Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Excavator	0.340	1.300	4.600	0.320	0.310	0.740	536.300
Diesel Trenchers	0.510	2.440	5.810	0.460	0.440	0.740	535.800
Diesel Bore/Drill Rigs	0.600	2.290	7.150	0.500	0.490	0.730	529.700
Diesel Cement & Mortar Mixers	0.610	2.320	7.280	0.480	0.470	0.730	529.700
Diesel Cranes	0.440	1.300	5.720	0.340	0.330	0.730	530.200
Diesel Graders	0.350	1.360	4.730	0.330	0.320	0.740	536.300
Diesel Tractors/Loaders/Backhoes	1.850	8.210	7.220	1.370	1.330	0.950	691.100
Diesel Bull Dozers	0.360	1.380	4.760	0.330	0.320	0.740	536.300
Diesel Front End Loaders	0.380	1.550	5.000	0.350	0.340	0.740	536.200
Diesel Fork Lifts	1.980	7.760	8.560	1.390	1.350	0.950	690.800
Diesel Generator Set	1.210	3.760	5.970	0.730	0.710	0.810	587.300

CALCULATION SHEET-COMBUSTABLE EMISSIONS-ORLEANS PARISH

Emission factors (EF) were generated from the NONROAD2005 model for the 2006 calendar year. The VOC EFs includes exhaust and evaporative emissions. The VOC evaporative components included in the NONROAD2005 model are diurnal, hotsoak, running loss, tank permeation, hose permeation, displacement, and spillage. The construction equipment age distribution in the NONROAD2005 model is based on the population in U.S. for the 2006 calendar year.

Emission Calculations									
Type of Construction Equipment	VOC tons/yr	CO tons/yr	NOx tons/yr	PM-10 tons/yr	PM-2.5 tons/yr	SO2 tons/yr	CO2 tons/yr		
Water Truck	0.349	1.642	4.356	0.325	0.317	0.587	425.284		
Diesel Road Paver	0.037	0.147	0.486	0.034	0.033	0.073	53.180		
Diesel Dump Truck	0.131	0.616	1.633	0.122	0.119	0.220	159.481		
Diesel Excavator	0.101	0.387	1.369	0.095	0.092	0.220	159.571		
Diesel Hole Cleaners/Trenchers	0.236	1.129	2.689	0.213	0.204	0.343	247.990		
Diesel Bore/Drill Rigs	0.952	3.634	11.346	0.793	0.778	1.158	840.570		
Diesel Cement & Mortar Mixers	1.452	5.522	17.329	1.143	1.119	1.738	1260.856		
Diesel Cranes	0.407	1.203	5.295	0.315	0.305	0.676	490.796		
Diesel Graders	0.104	0.405	1.407	0.098	0.095	0.220	159.571		
Diesel Tractors/Loaders/Backhoes	0.979	4.343	3.819	0.725	0.704	0.503	365.564		
Diesel Bull Dozers	0.107	0.411	1.416	0.098	0.095	0.220	159.571		
Diesel Front End Loaders	0.113	0.461	1.488	0.104	0.101	0.220	159.541		
Diesel Aerial Lifts	1.047	4.105	4.528	0.735	0.714	0.503	365.406		
Diesel Generator Set	0.768	2.387	3.789	0.463	0.451	0.514	372.790		
<b>Total Emissions</b>	<b>6.784</b>	<b>26.392</b>	<b>60.951</b>	<b>5.264</b>	<b>5.127</b>	<b>7.195</b>	<b>5220.169</b>		

Conversion factors	
Grams to tons	1.102E-06

CALCULATION SHEET-TRANSPORTATION COMBUSTABLE EMISSIONS-ORLEANS PARISH

Construction Worker Personal Vehicle Commuting to Construction Sight-Passenger and Light Duty Trucks									
Pollutants	Emission Factors			Assumptions			Results by Pollutant		
	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	120	90	20	20	0.32	0.38	0.71
CO	12.4	15.7	120	90	20	20	2.95	3.74	6.69
NOx	0.95	1.22	120	90	20	20	0.23	0.29	0.52
PM-10	0.0052	0.0065	120	90	20	20	0.00	0.00	0.00
PM 2.5	0.0049	0.006	120	90	20	20	0.00	0.00	0.00

Heavy Duty Trucks Delivery Supply Trucks to Construction Sight									
Pollutants	Emission Factors			Assumptions			Results by Pollutant		
	10,000-19,500 lb Delivery Truck	33,000-60,000 lb semi trailer rig	Mile/day	Day/yr	Number of trucks	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	0.29	0.55	60	90	2	2	0.00	0.01	0.01
CO	1.32	3.21	60	90	2	2	0.02	0.04	0.05
NOx	4.97	12.6	60	90	2	2	0.06	0.15	0.21
PM-10	0.12	0.33	60	90	2	2	0.00	0.00	0.01
PM 2.5	0.13	0.36	60	90	2	2	0.00	0.00	0.01

Commute									
Pollutants	Emission Factors			Assumptions			Results by Pollutant		
	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	60	365	0	0	-	0.00	-
CO	12.4	15.7	60	365	0	0	-	0.00	-
NOx	0.95	1.22	60	365	0	0	-	0.00	-
PM-10	0.0052	0.0065	60	365	0	0	-	0.00	-
PM 2.5	0.0049	0.006	60	365	0	0	-	0.00	-

POV Source: USEPA 2005 Emission Facts: Average annual emissions and fuel consumption for gasoline-fueled passenger cars and light trucks. EPA 420-F-05-022 August 2005. Emission rates were generated using MOBILE.6 highway vehicle emission factor model.  
 Fleet Characterization: 20 POVs commuting to work were 50% are pick up trucks and 50% passenger cars

**Construction Fugitive Dust Emissions**

<b>Construction Fugitive Dust Emission Factors</b>		<b>Emission Factor</b>	<b>Units</b>	<b>Source</b>
General Construction Activities		0.19 ton PM10/acre-month		MRI 1996; EPA 2001; EPA 2006
New Road Construction		0.42 ton PM10/acre-month		MRI 1996; EPA 2001; EPA 2006
<b>PM2.5 Emissions</b>				
PM2.5 Multiplier		0.10	(10% of PM10 emissions assumed to be PM2.5)	EPA 2001; EPA 2006
<b>Control Efficiency</b>		0.50	(assume 50% control efficiency for PM10 and PM2.5 emissions)	EPA 2001; EPA 2006

**Project Assumptions**

<b>New Building Construction (0.19 ton PM10/acre-month)</b>				<b>Conversion Factors</b>
Duration of Construction Project	12	months		0.000022957
Length		miles		5280
Length (converted)		feet		
Width		feet		
Area	20.00	acres		acres per feet
				feet per mile



	Project Emissions (tons/year)		
	PM10 uncontrolled	PM10 controlled	PM2.5 controlled
New Building Construction (0.19 ton PM10/acre-month)	45.60	22.80	4.56
<b>Total</b>	<b>45.60</b>	<b>22.80</b>	<b>4.56</b>
			2.28
			<b>2.28</b>

## VF 300 Fugitive Dust Emissions Model

### General Construction Activities Emission Factors

**0.19 ton PM10/acre-month** Source: MRI 1996; EPA 2001; EPA 2006

The area-based emission factor for construction activities is based on a study completed by the Midwest Research Institute (MRI) Improvement of Specific Emission Factors (BACM Project No. 1), March 29, 1996. The MRI study evaluated seven construction projects in Nevada and California (Las Vegas, Coachella Valley, South Coast Air Basin, and the San Joaquin Valley). The study determined an average emission factor of 0.11 ton PM10/acre-month for sites without large-scale cut/fill operations. A worst-case emission factor of 0.42 ton PM10/acre-month was calculated for sites with active large-scale earth moving operations. The monthly emission factors are based on 168 work-hours per month (MRI 1996). A subsequent MRI Report in 1999, Estimating Particulate Matter Emissions From Construction Operations, calculated the 0.19 ton PM10/acre-month emission factor by applying 25% of the large-scale earthmoving emission factor (0.42 ton PM10/acre-month) and 75% of the average emission factor (0.11 ton PM10/acre-month). The 0.19 ton PM10/acre-month emission factor is referenced by the EPA for non-residential construction activities in recent procedures documents for the National Emission Inventory (EPA 2001; EPA 2006).

The 0.19 ton PM10/acre-month emission factor represents a refinement of EPA's original AP-42 area-based total suspended solids (TSP) emission factor in Section 13.2.3 Heavy Construction Operations. In addition to the EPA, this methodology is also supported by the South Coast Air Quality Management District and the Western Regional Air Partnership (WRAP) which is funded by the EPA and is administered jointly by the Western Governor's Association and the National Tribal Environmental Council. The emission factor is assumed to encompass a variety of non-residential construction activities including building construction (commercial, industrial, institutional, governmental), public works, and travel on unpaved roads. The EPA National Emission Inventory documentation assumes that the emission factors are uncontrolled and recommends a control efficiency of 50% for PM10 and PM2.5 in PM nonattainment areas.

### New Road Construction Emission Factor

**0.42 ton PM10/acre-month** Source: MRI 1996; EPA 2001; EPA 2006

The emission factor for new road construction is based on the worst-case conditions emission factor from the MRI 1996 study described above (0.42 tons PM10/acre-month). It is assumed that road construction involves extensive earthmoving and heavy construction vehicle travel resulting in emissions that are higher than other general construction projects. The 0.42 ton PM10/acre-month emission factor for road construction is referenced in recent procedures documents for the EPA National Emission Inventory (EPA 2001; EPA 2006).

### PM2.5 Multiplier

**0.10**

PM2.5 emissions are estimated by applying a particle size multiplier of 0.10 to PM10 emissions. This methodology is consistent with the procedures documents for the National Emission Inventory (EPA 2006).

### Control Efficiency for PM10 and PM2.5

**0.50**

The EPA National Emission Inventory documentation recommends a control efficiency of 50% for PM10 and PM2.5 in PM nonattainment areas. Wetting controls will be applied during project construction.

### References:

EPA 2001. *Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985-1999*. EPA-454/R-01-006. Office of Air Quality Planning and Standards, United States Environmental Protection Agency. March 2001.

EPA 2006. *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants*. Prepared for: Emissions Inventory and Analysis Group (C339-02) Air Quality Assessment Division Office of Air Quality Planning and Standards, United States Environmental Protection Agency. July 2006.

MRI 1996. *Improvement of Specific Emission Factors (BACM Project No. 1)*. Midwest Research Institute (MRI). Prepared for the California South Coast Air Quality Management District, March 29, 1996.

CALCULATION SHEET-SUMMARY OF EMISSIONS-ORLEANS PARISH

Proposed Action Construction Emissions for Criteria Pollutants (tons per year)							
Emission source	VOC	CO	NOx	PM-10	PM-2.5	SO <sub>2</sub>	
Combustible Emissions	6.78	26.39	60.95	5.26	5.13	7.19	
Construction Site-fugitive PM-10	NA	NA	NA	22.80	4.56	NA	
Construction Workers Commuter & Trucking	0.72	6.74	0.73	0.01	0.01	NA	
Total emissions	7.50	33.13	61.68	28.07	9.70	7.19	
De minimis threshold	NA	NA	NA	NA	NA	NA	

**APPENDIX D**  
***Threatened and Endangered Species***

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## List of Threatened and Endangered Species for Orleans Parish

<b>USFWS Status</b>	<b>Common Name</b>	<b>Scientific Name</b>
E	West Indian Manatee	<i>Trichechus manatus</i>
E	Brown Pelican	<i>Pelecanus occidentalis</i>
T, CH	Gulf Sturgeon	<i>Acipenser oxyrinchus desotoi</i>
E	Pallid Sturgeon	<i>Scaphirhynchus albus</i>

Source: USFWS 2008

E = Endangered

T = Threatened

C = Candidate

CH = Critical Habitat