Draft Environmental Assessment

Jefferson County Drainage District No. 7
A3A Detention Basin Project
HMGP-4332-0167-TX (1)
Groves, Jefferson County, Texas

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Prepared By:

LJA Environmental Services, LLC
1507 South IH 35
Austin, Texas 78741

Federal Emergency Management Agency
Region 6
800 N. Loop 288
Denton TX 76209

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ALERT – Automated Local Evaluation in Real Time
APE – Area of Potential Effect
ASTM – American Society for Testing and Materials
BFE – Base Flood Elevation
BMP – Best Management Practice
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS – Comprehensive Environmental Response, Compensation, and Liability Information System
CESQGs – Conditionally Exempt, Small-Quantity Generators
CFR – Code of Federal Regulations
CORRACT – Corrective Action
DRYC – Dry Cleaning
EA – Environmental Assessment
EPA – US Environmental Protection Agency
ERNS – Emergency Response Notification System
ESA – Endangered Species Act
FEMA – Federal Emergency Management Agency
FIRM – Flood Insurance Rate Map
FM – Farm to Market
FONSI – Finding of No Significant Impact
FPPA – Farmland Protection Policy Act
GLO – General Land Office
H&H Study – Hydrology and Hydraulics Study
HEC-1 – Hydrologic Engineering Center – 1 Model
HECRAS – Hydrologic Engineering Center River Analysis System
HECHMS – Hydrologic Engineering Center Hydrologic Modeling System
HMGP – Hazard Mitigation Grant Program
IH – Interstate Highway
JCCAD – Jefferson County Central Appraisal District
JCDD7 – Jefferson County Drainage District No. 7
LFUN – TCEQ Solid Waste Facilities and Unauthorized and Unpermitted Landfill
LOMA – Letter of Map Adjustment
LOMR – Letter of Map Revision
LQGs – Large-Quantity Generators
MSA – Metropolitan Statistical Area
MSL – Mean Sea Level
NDD – Natural Diversity Database
NEPA – National Environmental Policy Act
NFIP – National Flood Insurance Program
NFRAP – No Further Remedial Action Planned
NHPA – National Historic Preservation Act
NOI – Notice of Intent
NOx – nitrogen oxides
NPL – National Priority List
NPS – National Park Service
NRCS – Natural Resources Conservation Service
NRHP – National Register of Historic Places
NWI – National Wetland Inventory

NWS – National Weather Service
PEM1Cd – palustrine, emergent, persistent, seasonally flooded, partly drained/ditched
PFO1Ad – palustrine, forested, broad-leaved deciduous, temporarily flooded, partly drained/ditched
PFO1Cd – palustrine, forested, broad-leaved deciduous, partly drained/ditched
PRPs – Potentially Responsible Parties
PUBHx – palustrine, unconsolidated bottom, permanently flooded, excavated
RCRA – Resource Conservation and Recovery Act
RCRA-G – RCRA Generators
RCRA-TSD – RCRA Treatment, Storage, or Disposal
RCRIS – Resource Conservation and Recovery Information System
RFI – RCRA Facility Investigation
ROW – right-of-way
RRC – Railroad Commission of Texas
SALs – State Archeological Landmarks
SARA – Superfund Amendments and Reauthorization Act
SH – State Highway
SHPO – State Historic Preservation Office
SQGs – Small-Quantity Generators
SWPPP – Storm Water Pollution Prevention Plan
TAC – Texas Administrative Code
TCEQ – Texas Commission on Environmental Quality
THC – Texas Historical Commission
TMDL – Total Maximum Daily Load
TPDES – Texas Pollutant Discharge Elimination System
TPWD – Texas Parks and Wildlife Department
TSMASS – Texas State Minimum Archeological Survey Standards
TWDB – Texas Water Development Board
TXAST – Texas Aboveground Storage Tank
TXIOP – Texas Innocent Owner/Operator Program
TXLF – TCEQ Solid Waste Facilities
TXLUSTs – Texas Leaking Underground Storage Tanks
TXSPILL – Hazardous or Potentially Hazardous Substances Spills
TXSSF – Texas State Superfund database
TXUSTs – Texas Underground Storage Tanks
TXVCP – Texas Voluntary Cleanup Program
USACE – US Army Corps of Engineers
USDA – US Department of Agriculture
USFWS – US Fish and Wildlife Service
UT-BEG – University of Texas Bureau of Economic Geology
VOC – volatile organic compound

1.0 INTRODUCTION

1.1 PROJECT AUTHORITY

Jefferson County Drainage District No. 7 (JCDD7) (the Applicant) is a political subdivision of the State of Texas that serves drainage needs in southern Jefferson County. JCDD7 was established in February 1946. JCDD7 assumed responsibilities for Jefferson County Drainage District No. 4 on 27 November 1961 after a vote in the 1961 November general election favored consolidation of the two districts. JCDD7 covers the needs for drainage and hurricane protection for approximately 107.5 square miles within Jefferson County, including the cities of Port Arthur, Groves, Nederland, and Port Neches, and was created primarily to provide drainage for flood-prone areas within the district. JCDD7 is governed by a 5-member Board of Directors appointed by the County Commissioners Court of Jefferson County, Texas (the Commissioners Court).

Funding for the A3A Detention project is being requested from the Federal Emergency Management Agency (FEMA) under the Hazard Mitigation Grant Program (HMGP). FEMA's project number is HMGP-4332-0167-TX (1). This Environmental Assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the President's Council on Environmental Quality regulations to implement NEPA (40 Code of Federal Regulations Parts 1500-1508), and FEMA's procedures for implementing NEPA (FEMA Instruction 108-1-1). FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this EA is to analyze the potential environmental impacts of the A3A Detention project. FEMA will use the findings in this EA to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

FEMA is aware of the November 12, 2024, decision in Marin Audubon Society v. Federal Aviation Administration, No. 23-1067 (D.C. Cir. Nov. 12, 2024). To the extent that a court may conclude that the Council on Environmental Quality regulations implementing NEPA are not judicially enforceable or binding on this agency action, FEMA has nonetheless elected to follow those regulations at 40 C.F.R. Parts 1500–1508, in addition to DHS and FEMA's procedures implementing NEPA found in DHS Directive 023-01-01, DHS Instruction 023-01-001-01, FEMA Directive 108-1, and FEMA Instruction 108-1-1to meet the agency's obligations under NEPA, 42 U.S.C. §§ 4321 et seq.

1.2 PROJECT LOCATION

The approximately 26-acre A3A Detention project is located between the City of Groves and the City of Nederland in the corporate limits of Port Neches, east of the State Highway (SH) 347 and SH 136 intersection in Jefferson County, Texas (Figure 1). Approximate Global Positioning System (GPS) coordinates for the center of the project area are Latitude: 29.950852, Longitude: 93.942644. The land use surrounding the project area consists of residential and light industrial development.

Major transportation arteries in the area include SH 347 and SH 136. Topographical information published by the US Geological Survey (USGS) indicates a gently sloping landscape with stormwater runoff flowing generally to the southwest off the site.

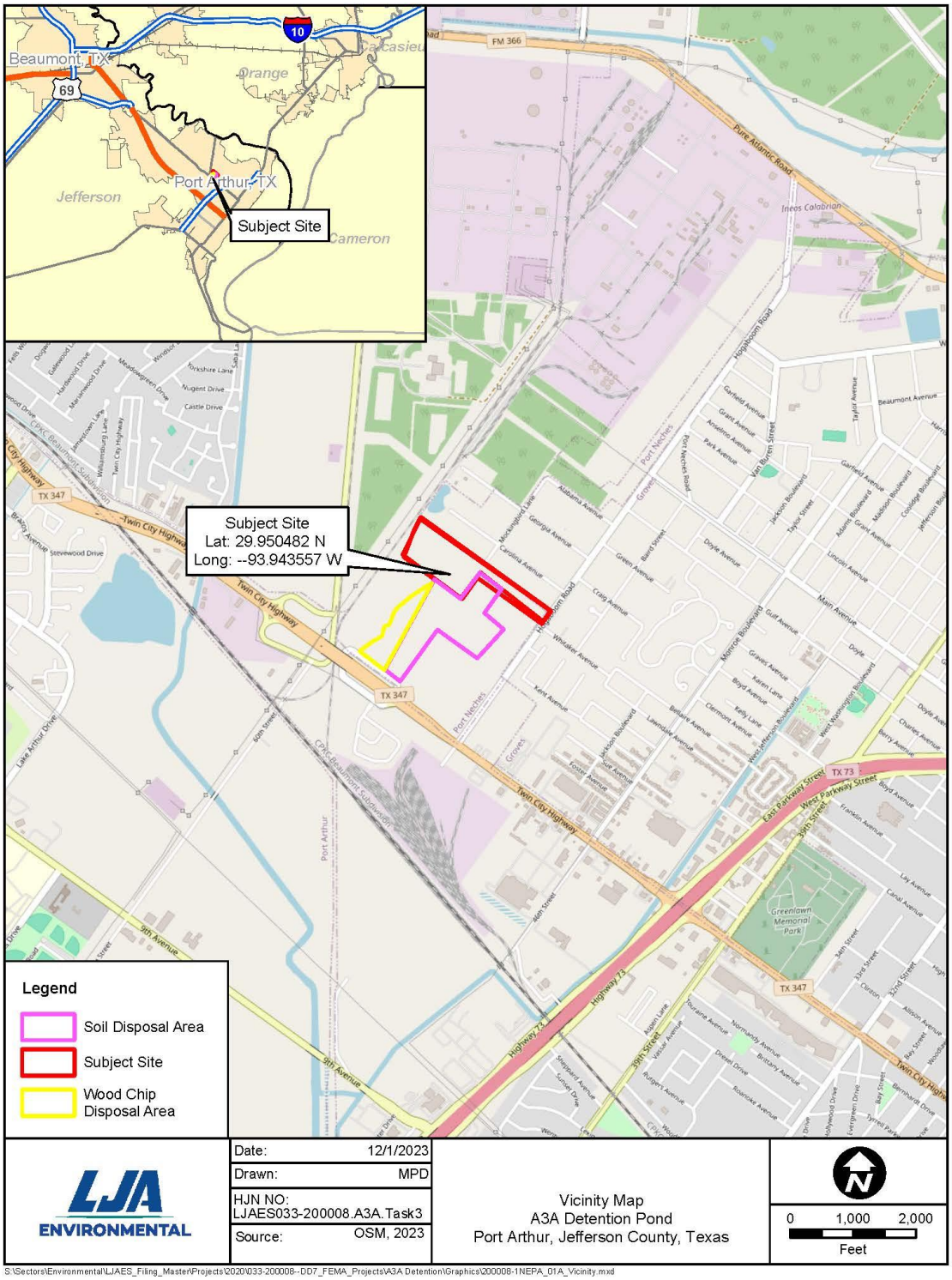

FIGURE 1: PROJECT LOCATION

1.3 PURPOSE AND NEED OF PROJECT

1.3.1 Purpose

The purpose of the project is to provide improved drainage for the District's Main A and Pear Ridge watersheds, thus significantly reducing flooding to structures in the Benefit Area (see Figure 2). Through the HMGP, FEMA provides grants to states and local governments to implement long-term hazard mitigation measures. The purpose of HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

1.3.2 Need

Jefferson County experiences a relatively high level of rainfall. National Weather Service (NWS) statistics currently indicate an average annual rainfall rate of 59 inches. The NWS statistics also indicate that a 24-hour rain event with a 100-year recurrence interval is 18.2 inches, though the highest point rainfall for a 24-hour period recorded by the Applicant is 26.03 inches, which occurred on 29 August 2017 during Hurricane Harvey. Other tropical systems have impacted the region in recent years, including Ike, Rita, Gustav, and Imelda. The local watershed suffers flooding from a rainfall event that may last only 2 hours.

The JCDD7 Hazard Mitigation Plan (2019) estimated that about 2,300 residential buildings and nearly 2,500 non-residential structures are located in the flood-prone areas of the District. Three hundred and seventy-three properties have received more than one payout for flood insurance claims in JCDD7, totaling over $20 million. Most of these payouts were for structures outside of the 100-year floodplain and occurred during rainfall totals and duration as low as 5-year events. Past flood events have caused a great deal of damage to houses in the project area.

The problem to be mitigated is repetitive structure flooding and frequent roadway flooding. The source of the flooding is JCDD7's A3A lateral drainage. The channel, and its associated crossings, are inadequate to convey flood flows without floodwater surface elevations reaching a point of entering structures along the channel. The proposed detention pond project will be designed to lower the water surface in the District's Main A channel, which will translate to reduced flood elevations for roads and residential and commercial structures within the watershed as well as reducing pumping requirements at the Alligator Bayou Pump Station.

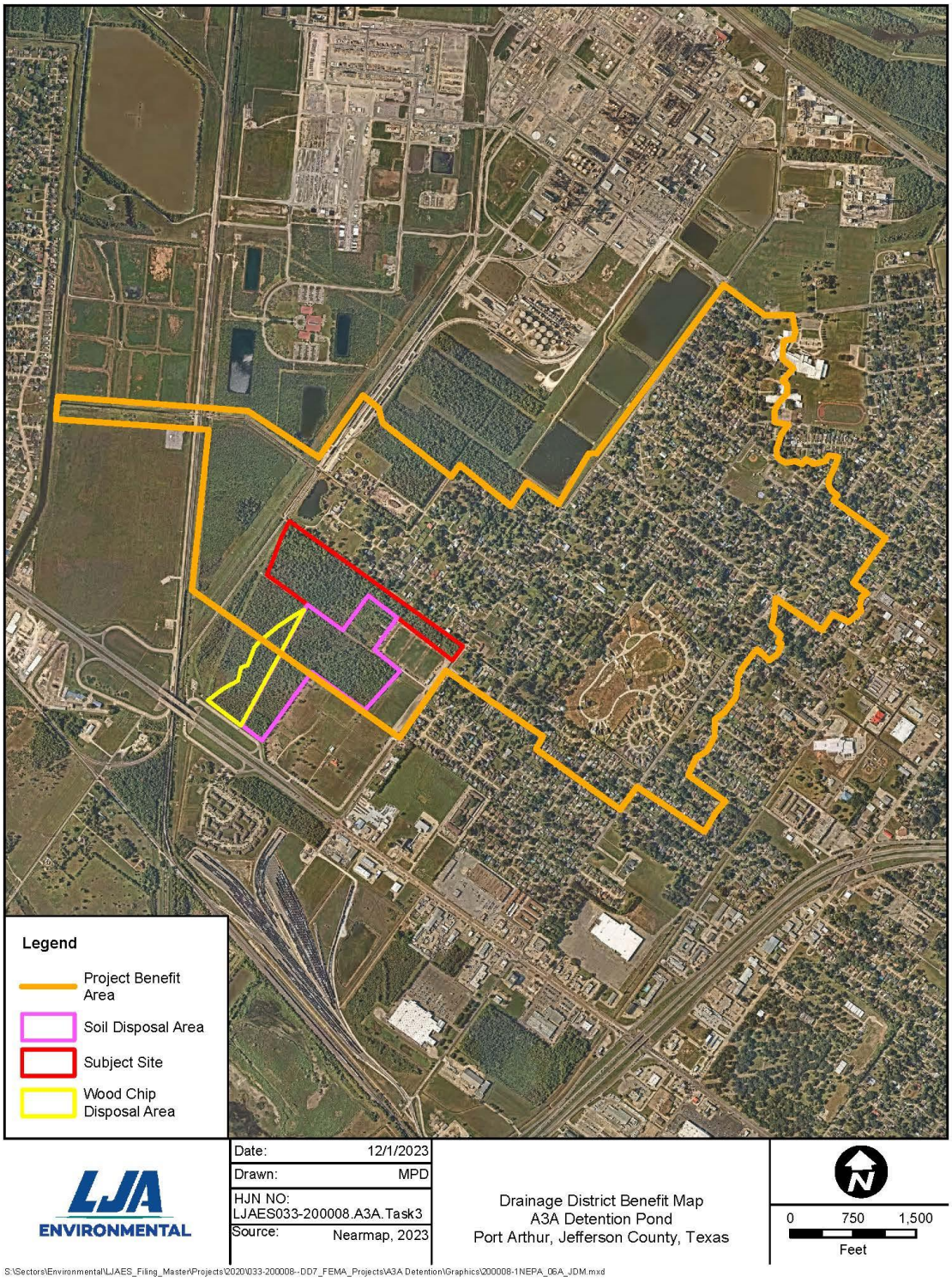

FIGURE 2: BENEFIT AREA MAP

2.0 ALTERNATIVES ANALYSIS

2.1 ALTERNATIVE 1: NO-ACTION ALTERNATIVE

The no-action alternative would not result in the expenditure of FEMA HMGP grant funds or the described impacts to the project site but would result in the continued threat of flooding in the developed areas within the benefit area.

2.2 ALTERNATIVE 2: DRAINAGE NETWORK CAPACITY EXPANSION ALTERNATIVE

This alternative would require the expansion of the A3A and Main A drainage network to accommodate and hold additional floodwaters for evacuation by the Alligator Bayou Pump Station. This would essentially be a linear detention facility along the existing drainage network. Widening of various drainage channels would be required to accommodate the volume necessary to reduce road and structure flooding in the watershed. The widening of existing channels would potentially result in necessary acquisition of numerous private properties adjacent to the drainage network as well as potential impacts to “waters of the United States” (WOTUS) that would require permitting through the US Army Corps of Engineers (USACE).

2.3 ALTERNATIVE 3: PROPOSED ALTERNATIVE

The project includes the construction of a 26-acre floodwater detention basin in the chosen project area that will provide 110-acre-feet of detention capacity for the developed areas of the A3A Watershed in the upper parts of the Main A drainage network of Port Arthur (benefit area) (Figure 2). In addition to the basin, an additional 32-acre area adjacent to the basin will be used for disposal of excavated materials and an additional 9.67-acre area will be utilized for disposal of wood chips from the clearing of the project area (Figures 1 and 2). Establishment of the permanent soil and wood chip disposal areas would include removal of some, but not all, vegetation; placement of 2 to 3 feet of loose fill; and some grading to prevent ponding. The proposed detention pond project will be designed to lower the water surface in the District's A3 and A3A channels, which will translate to reduced flood elevations for the residential and commercial structures within the watershed. After the construction of this project has been completed, the citizens and properties in the watershed will observe an increase in the current level of protection. Because previous events have resulted in flooding of structures and roads in the area, costs associated with recovery from potential future disasters will be reduced by the elimination/reduction of structure flooding.

This project will be designed to reduce flooding at the 100-year frequency level while also providing an increased level of protection in more frequent events (e.g., 2-year, 5-year, 10-year, 25-year). This project will also provide an enhanced level of protection for a 500-year event.

The current BCA has approximately 177 residential properties and 442 people that will directly benefit from this project.

The drainage improvements are intended to provide relief from flood events with a 100-year or less frequency. A map of the benefit area is shown in Figure 2. Within this benefit area, the project will result in flood level reductions ranging from 0.01 feet to 0.41 feet.

2.4 COST COMPARISON OF ALTERNATIVES

No-Action Alternative:

The no-action alternative has a cost of more than $9.7 million in repetitive damages which was calculated as part of the benefit cost analysis for the project.

Drainage Network Capacity Expansion:

Based on cost estimates prepared by DD7, expansion of the drainage network channels, including right-of-way (ROW) acquisition and construction is estimated at $30 million.

Proposed Project Alternative:

The project yields $9,776,3552 in benefits (avoided damages). The proposed project alternative has a cost of $7,583,099, which yields a benefit-cost ratio of 1.29. No structures will be acquired or demolished as part of this project.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 PHYSICAL ENVIRONMENT

3.1.1 Geology, Seismicity, and Soils

Jefferson County is located on the coastal plain of the upper Texas coast, an area of little topographic relief. Characterized as a strandplain-chenier system, the general project area consists of extensive fresh to saltwater marshes, with coastal prairies and urban and industrial development on the higher chenier strandplains.

Geologically, the project area is underlain by the Beaumont Formation. The Beaumont Formation is one of the youngest formations occurring in Jefferson County and crops out extensively throughout the county. This formation is characterized by a relict depositional pattern of slightly elevated meandrous ridges separated by low-lying flats. The lows are old back swamps or floodplains. The Beaumont Formation originates from the fluvial deposits of Buffalo Bayou, Greens Bayou, Cedar Bayou, and the Brazos, San Jacinto, and Trinity rivers.

Soils observed on-site during field reconnaissance consisted of loams, loamy clays, and clays. According to the Natural Resources Conservation Service (NRCS) Web Soil Survey of Jefferson County, the project area is composed of 3 soil map units including Labelle-Levac complex, 0 to 1% slopes (LalA); League clay, 0 to 1% slopes (LeaA); and Urban Land Complex (UrlX) (Figure 3) (NRCS 2023).

The Labelle-Levac complex, 0 to 1% slopes (LalA), consists of 2 soil components, Labelle and Levac. The Labelle component of the Labelle-Levac complex is typically located on flats within flat coastal plains. The parent material consists of loamy fluviomarine deposits derived from igneous, metamorphic, and sedimentary rock. Depth to a root-restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most

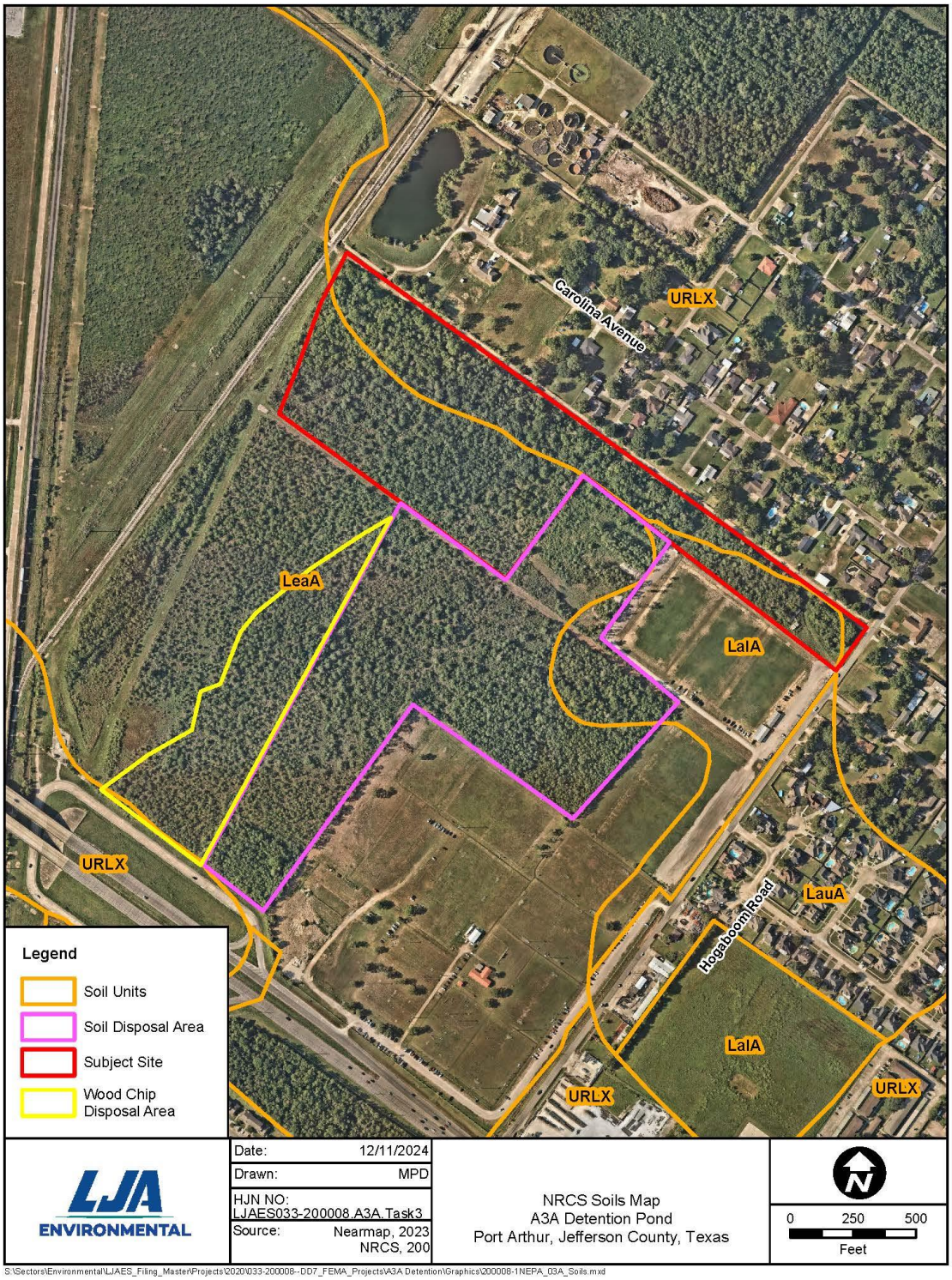

FIGURE 3: SOILS MAP

restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is high. This soil is not flooded or ponded. A seasonal zone of water saturation is at 48 inches during January, February, and March. This soil is considered a prime farmland soil.

League clay, 0 to 1% slopes (LeaA), is typically located on gilgai on flats within flat coastal plains. The parent material consists of clayey fluviomarine deposits derived from igneous, metamorphic, and sedimentary rock. Depth to a root-restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is very high. This soil is not flooded or ponded. A seasonal zone of water saturation is at 36 inches during January, February, and March. This soil is considered a prime farmland soil.

The Urban land (URLX) component is a miscellaneous area without a soil description, typically in urban or industrial areas. This soil is not a prime farmland soil.

A literature review indicated no known seismic faults on the site or in the nearby area (UT-BEG, 1992). Occasional earthquakes do occur within the coastal plain, but these are usually situated between San Antonio and Corpus Christi. Additionally, much seismic activity (earthquakes and subsidence) within the coastal plain has been attributed to well injections associated with oil and gas field operations and groundwater pumping. There is a very low probability of structure damage due to the rarity and lack of severity of seismic activity in the project area.

3.1.1.1 No-Action Alternative

The no-action alternative would not affect geology, seismicity, or soils.

3.1.1.2 Drainage Network Capacity Expansion Alternative

This alternative would not affect geology or seismicity but would disturb soils in the vicinity of new channel construction.

3.1.1.3 Proposed Alternative

Construction of the detention pond will result in the excavation of approximately 199,247 cubic yards of soil. The excavated materials will be disposed of on approximately 32 acres adjacent to the basin. A 4:1 slope will allow for greater stabilization and less tendency to erode during storm events. Approximately 15.9 acres of prime farmland soils will be excavated for the project. Coordination with the US Department of Agriculture (USDA) has been conducted to determine the effects on prime farmland soils under the Farmland Protection Policy Act (FPPA). The USDA has responded that the project is exempt from the provisions of the FPPA since they consider it to be “lands committed to urban development” (Attachment 2).

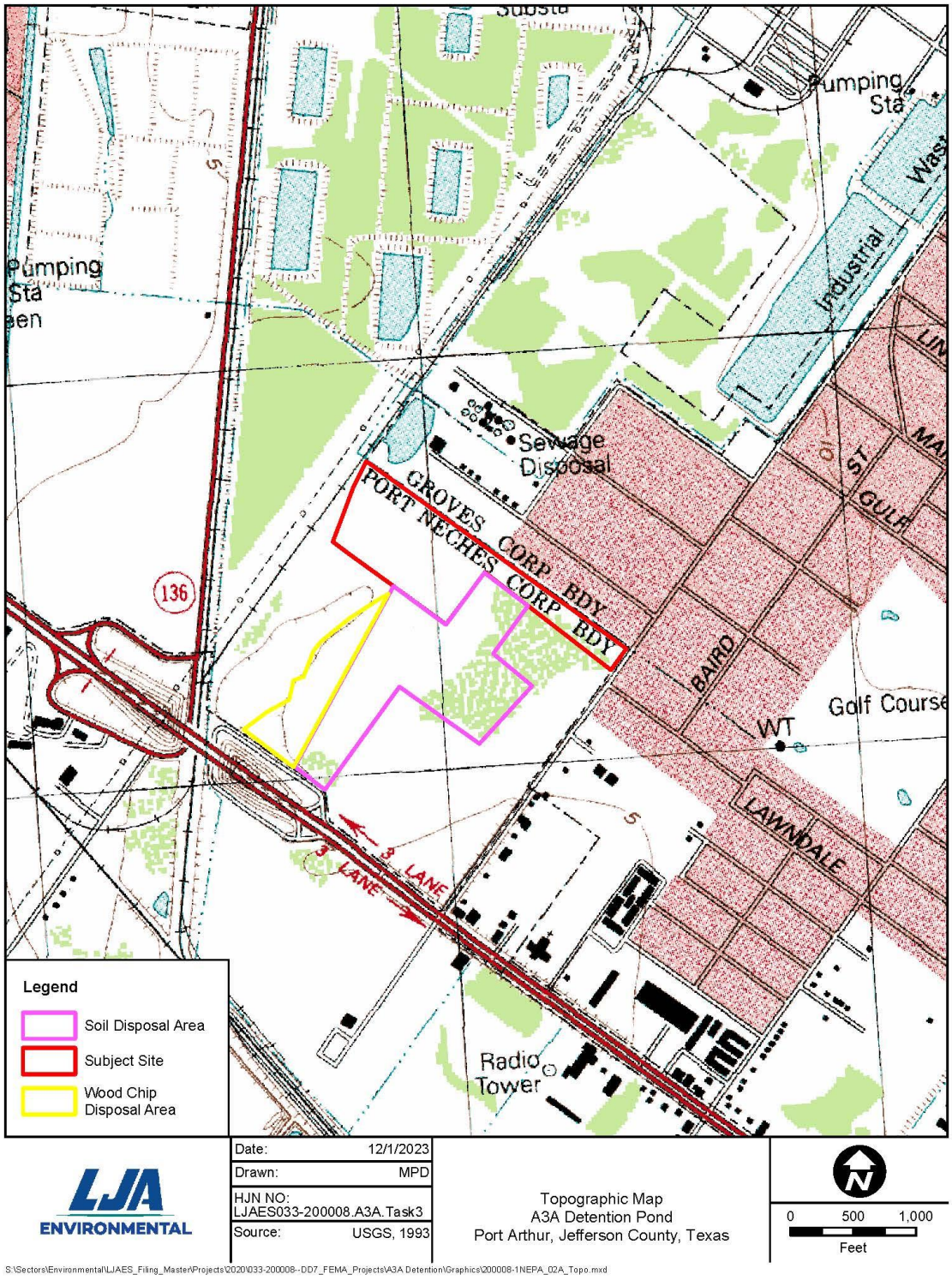

FIGURE 4: USGS TOPOGRAPHIC MAP

3.1.2 Water Resources and Water Quality

On-site topography is generally flat and approximately 0 to 5 feet above mean sea level (amsl) (Figure 4) (USGS, 1993). The water surface in the Main A Canal downstream of the project area is generally maintained near sea level except at times of stormwater inflow. The Main A canal discharges via the Alligator Bayou Pumping Station into Taylors Bayou, then the Intracoastal Waterway and Sabine Lake.

The Chicot Aquifer (in Holocene- and Pleistocene-age sediments) and the Evangeline Aquifer (in Pliocene- and Miocene-age sediments) are the 2 primary sources of fresh (less than 1000 milligrams per liter dissolved solids concentration) groundwater in the Beaumont area and are part of the Gulf Coast aquifer system. The hydrogeologic units are laterally discontinuous fluvial-deltaic deposits of gravel, sand, silt, and clay that dip and thicken from northwest to southeast. Recharge to the aquifers generally occurs through the percolation of fresh water (precipitation, stream flow, lakes, etc.) along the aquifers' area of outcrop at the surface. The aquifers crop out in bands inland from and approximately parallel to the coast and become progressively more deeply buried and confined toward the coast. The Chicot, which comprises the youngest sediments, outcrops nearest to the coast, followed farther inland by the Evangeline outcrop. These outcrop areas are located a number of miles north and west of the project area. Groundwater movement is generally from the area of outcrop toward the southeast (down-dip), but may vary in the vicinity of natural discharge points (along stream banks) or artificial discharge points (groundwater wells).

LJA Environmental Services LLC (LJAES) conducted an online search of water well records at both the Texas Water Development Board (TWDB) and the Texas Commission on Environmental Quality (TCEQ) for water wells located on and within a 0.5-mile radius from the project area. The records indicated no water wells on the project site and one water well within a 0.5-mile radius of the project site. Based on water well drillers' records, the water well (6301505) was drilled to 196 feet for the withdrawal of water. Generally, water wells in the region draw water from the aquifer system, which yields water at depths greater than 60 feet in the vicinity of the subject site (TWDB, 2023). No evidence of water wells was present on the project site during the field reconnaissance effort.

The results of this survey do not preclude the existence of an abandoned well. If a water well or casing is encountered during construction, work should be halted near the feature until TCEQ is contacted.

All abandoned wells must be capped or properly abandoned according to the Administrative Rules of the Texas Department of Licensing and Regulation, 16 Texas Administrative Code (TAC), Chapter 76, effective 3 January 1999. A plugging report must be submitted (by a licensed water well driller) to the Texas Department of Licensing and Regulation, Water Well Drillers Program, Austin, Texas. If a well is intended for use, it must comply with rules stipulated in16 TAC §76.

The receiving body of water for the proposed project, Sabine Lake (Segment 2412), approximately 19.8 miles downstream of the project site, is listed as a Category 5c segment with polychlorinated biphenyl oils (PCBs) in edible tissue by the TCEQ (2024). The TCEQ is required, under Section 303(d) of the federal Clean Water Act (CWA), to identify water bodies for which

effluent limitations are not stringent enough to implement water quality standards. Category 5c segment water bodies do not meet applicable water quality standards or are threatened for one or more designated uses by one or more pollutants, and a review of the water quality standards for this water body is conducted before a Total Maximum Daily Load (TMDL) is scheduled. The TCEQ monitors the condition of the state's surface waters and assesses the status of water quality every 2 years. The TCEQ also develops a schedule identifying TMDLs that will be initiated in the next 2 years for priority impaired waters. The TCEQ submits this assessment to the US Environmental Protection Agency (EPA). The report is also published on the TCEQ web site as the Texas Water Quality Inventory and 303(d) List (Inventory and List) (TCEQ, 2024). The Inventory assigns each assessed water body to 1 of 5 categories to provide information to the public, EPA, and internal agency programs about water quality status and management activities.

3.1.2.1 No-Action Alternative

The no-action alternative would not be expected to affect water resources or water quality.

3.1.2.2 Drainage Network Capacity Expansion Alternative

Impaired water quality in Sabine Lake would not be expected to be worsened by the drainage network expansion alternative.

3.1.2.3 Proposed Alternative

The proposed alternative could potentially result in beneficial effects to downstream water quality by increasing flood storage, reducing velocity of floodwaters, and controlling sedimentation. The detention of flood waters within a vegetated basin will also allow for increased nutrient and pollutant removal for flood waters before they are discharged to downstream receiving waters.

As more than 5 acres of land disturbance will occur, the project will be subject to requirements of the Texas Pollutant Discharge Elimination System (TPDES), Construction Storm Water General Permit (TXR 150000). As such, JCDD7 will prepare a Stormwater Pollution Prevention Plan (SWPPP) and will file a Notice of Intent (NOI) with the TCEQ at least 48 hours prior to start of construction. Monitoring and maintenance of emplaced Best Management Practices (BMPs) for stormwater management will be conducted on a regular basis as prescribed by the TPDES General Permit. The proposed project would not adversely affect freshwater supply canals, sources, or water conservation projects in the region.

3.1.3 Floodplain Management (Executive Order 11988)

Executive Order 11988 mandates that all federal agencies shall provide leadership and take action to reduce the risk of flood loss; to minimize the impact of floods on human safety, health, and welfare; and to restore and preserve the natural and beneficial values served by floodplains in carrying out their responsibilities for (1) acquiring, managing, and disposing of federal lands and facilities; (2) providing federally undertaken, financed, or assisted construction and improvements; and (3) conducting federal activities and programs affecting land use,

including, but not limited to, water and related land resources planning, regulating, and licensing activities.

Before taking an action, each agency shall determine whether the proposed action will occur in a floodplain. For major federal actions significantly affecting the quality of the human environment, the evaluation would be included in any statement prepared under Section 102(2)(C) of the NEPA. The agency shall make a determination of the location of the floodplain based on the best available information.

There are many flood mitigation activities within areas of Jefferson County. The County has land use, building code, and permit authority over the land within its boundaries, including the authority to regulate development proposed within the special flood hazard areas designated on the county's Flood Insurance Rate Maps (FIRM). The Applicant seeks to obtain a FEMA grant that would help reduce the flooding of existing structures in the benefit area.

According to FEMA FIRMs, the proposed detention pond is not located in an area that is inundated by 100-year flooding (Figure 5). The project area is located on FIRM panel numbers 485000010D, 4855000005D, and 4854750005E, dated 1 June 1983. However, significant structure flooding occurs under moderate to heavy storm events due to the inadequacy of existing drainage conveyances, namely the A3A ditch and downstream conveyances. The proposed project would provide a flood reduction benefit to all residential and commercial areas as well as roads within the benefit area.

3.1.3.1 No-Action Alternative

The no-action alternative would not adversely affect the floodplain downstream of the project. However, the purpose of the proposed action to relieve flooding for numerous structures in west Groves would not be realized, and repetitive losses would continue to occur.

3.1.3.2 Drainage Network Capacity Expansion Alternative

The drainage network capacity expansion alternative would potentially have similar relief of flooding for properties and roads in the benefit area.

3.1.3.3 Proposed Alternative

As mentioned previously, the benefit area suffers from frequent and severe structure and roadway flooding due to ponding of local runoff caused by an inadequate drainage system. The project has been carefully designed so that it will not aggravate any downstream flooding situations due to previous improvements to the Alligator Bayou Pumping Station and the existing Main A drainage network. The project will provide the greatest benefit to the most severely flooded areas in the local watershed. Frequent flooding presently occurs within the benefit area. This project will not require a Letter of Map Adjustment (LOMA) or Letter of Map Revision (LOMR) since the benefit area or project area are not within the 100-year floodplain.

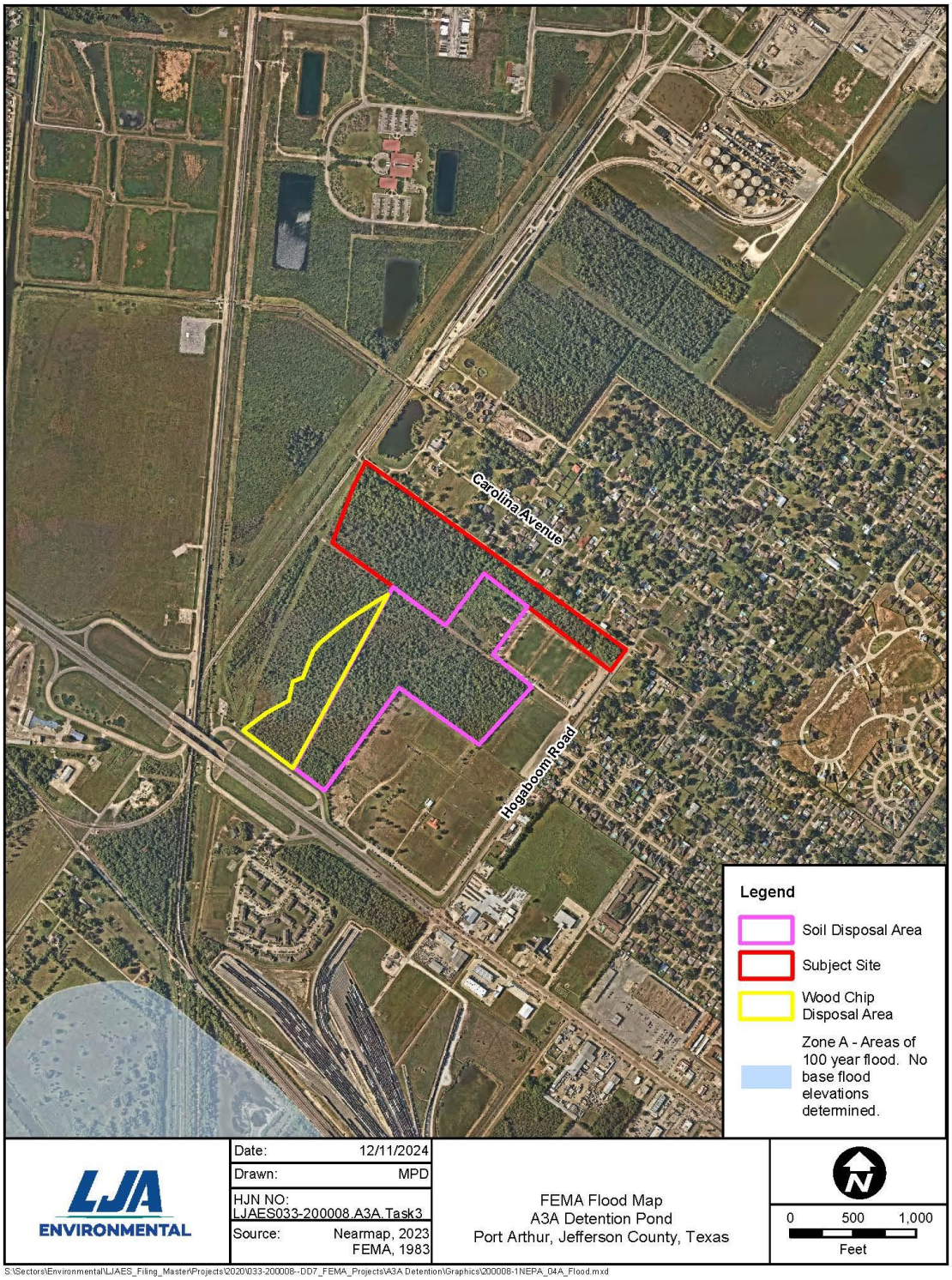

FIGURE 5: FEMA FIRM MAP

The majority of the benefit area consists of residential and light industrial development. Significant amounts of land transformation have occurred in this area in the past due to land development uses. Residential development has not previously been restricted due to flooding issues since this portion of Groves is not within the mapped floodplain. The project is not intended to provide for increased development potential in the area, but to reduce flooding hazards that exist for established residential development in the watershed. Therefore, it is not expected that this project will lead to other significant secondary impacts.

3.1.4 Air Resources and Air Quality

Jefferson County is located in extreme southeastern Texas and exhibits a subtropical climate. Extremely high summer temperatures are rare due to sea breezes from the Gulf of Mexico, and winter cold temperatures are generally moderate due to the county's southern location. Average temperatures range from 53.3 degrees Fahrenheit (°F) in January to 82.9°F in August. Relative humidity is high due to the nearby Gulf of Mexico. Yearly rainfall averages 55.21 inches and is distributed unevenly throughout the year. Heavy rains associated with tropical disturbances generally strike the area from June through August. Eighty to 100 inches of precipitation have not been uncommon in certain areas over the past several years.

Jefferson County is currently unclassified or in attainment of the National Air Quality Standards for all 6 criteria air pollutants. Therefore, general conformity rules for these standards do not apply. Two precursors to ozone formation are volatile organic compounds (VOCs) and nitrogen oxides (NOx). An increase of 100 tons per year for VOCs or NOx resulting from the proposed project could trigger general conformity analysis. However, the proposed project would be expected to be well below the 100 tons per year significance level.

3.1.4.1 No-Action Alternative

This alternative would not be expected to adversely affect ambient air quality.

3.1.4.2 Drainage Network Capacity Expansion Alternative

If dry weather conditions prevailed during construction, fugitive dust emissions could occur from equipment movements and earth-moving activities. Additionally, some minor and temporary exhaust emissions from equipment during construction could also occur, but this alternative would have no long-term adverse effect on air quality.

3.1.4.3 Proposed Alternative

During construction, if dry weather conditions prevailed, fugitive dust emissions could occur from equipment movements and earth-moving activities. Additionally, some minor and temporary exhaust emissions from equipment during construction could also occur, but the proposed project would have no long-term adverse effect on air quality.

To reduce the temporary impacts, contractors will be required to water down construction areas as needed in order to mitigate excess dust. To reduce emissions, vehicle running times on site will be kept to a minimum and engines will be properly maintained.

3.2 BIOLOGICAL ENVIRONMENT

3.2.1 Terrestrial and Aquatic Environment

The surrounding area is generally characterized as undeveloped land that has historically been used for agriculture (Figure 6). Common species on the subject site include Chinese tallow (*Triadica sebifera)*, boxelder (*Acer negundo*), live oak (*Quercus virginiana*), water oak (*Quercus nigra*), Carolina laurel-cherry (*Prunus caroliniana*), groundsel (*Baccharis halimifolia*), privet (*Ligustrum lucidum*), yaupon (*Ilex vomitoria*), woodsorrel (*Oxalis corniculata*), dewberry (*Rubus trivialis*), St. Augustine grass (*Stenotaphrum secundatum*), spikerush (*Eleocharis montevidensis*), curly dock (*Rumex crispus*), deep-rooted sedge (*Cyperus entrerianus*), and lizard-tail (*Saururus cernuus*).

Limited and temporary aquatic habitat is provided by a few depressional wetland areas and a concrete-lined ditch present within the project area (see Section 3.2.2).

Attachment 4 provides representative on-site photographs of the project area and surrounding benefit area.

3.2.1.1 No-Action Alternative

The no-action alternative would not adversely affect terrestrial or aquatic habitats.

3.2.1.2 Drainage Network Capacity Expansion Alternative

The drainage network expansion alternative would disturb an unknown amount of additional land adjacent to the existing drainage network within the benefit area and downstream. The disturbed areas would be revegetated following construction.

3.2.1.3 Proposed Alternative

The proposed detention pond would involve ground disturbance totaling approximately 67.67 acres (basin and materials disposal areas). The disturbed area will be revegetated with native species following construction.

3.2.2 Wetlands (Executive Order 11990)

Executive Order 11990 provides that, in order to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative, all federal agencies shall provide leadership and shall take action to minimize the

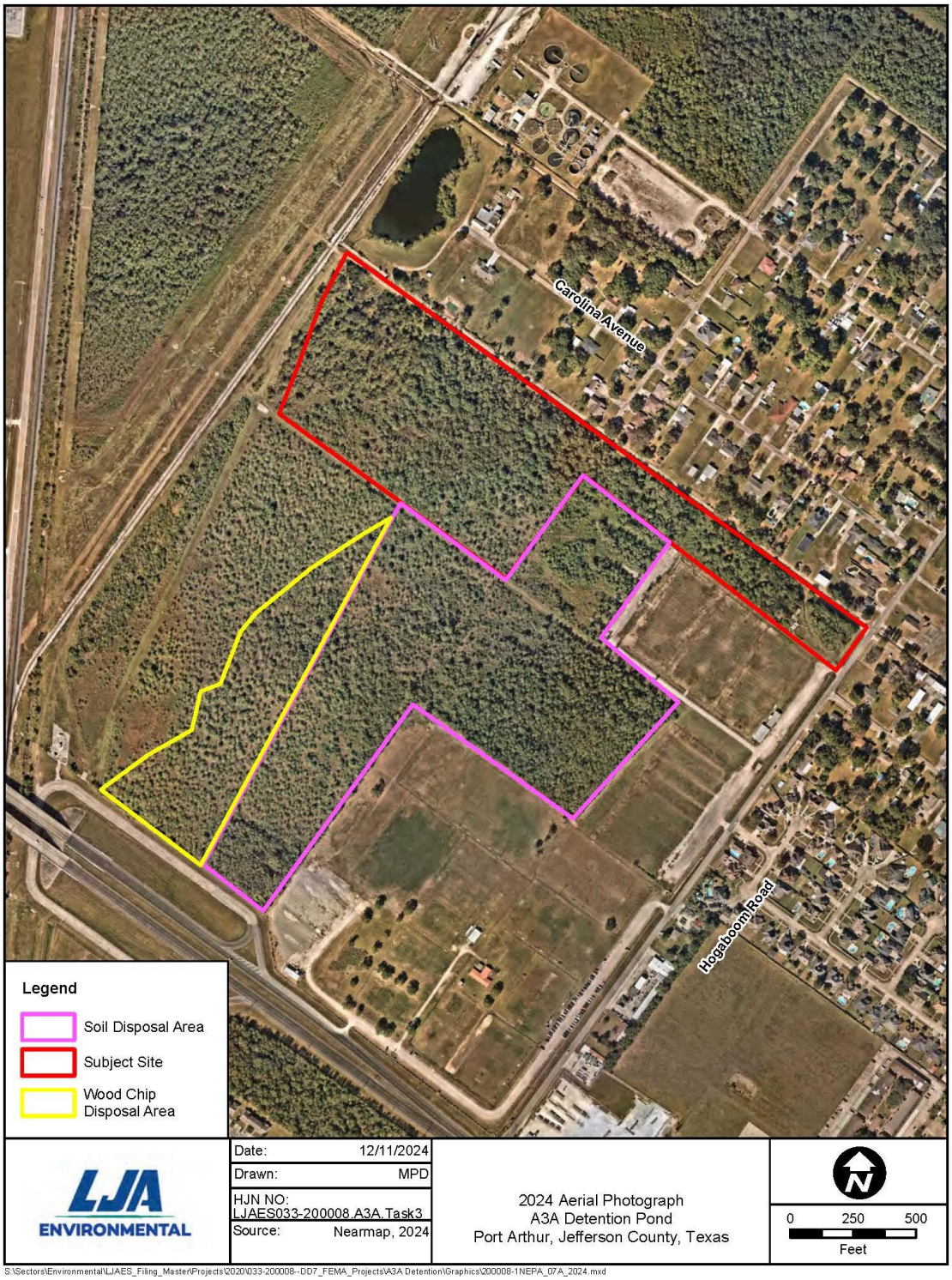

FIGURE 6: CURRENT AERIAL PHOTGRAPH

destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for (1) acquiring, managing, and disposing of federal lands and facilities; (2) providing federally undertaken, financed, or assisted construction and improvements; and (3) conducting federal activities and programs affecting land use, including, but not limited to, water and related land resources planning, regulating, and licensing activities. Under the CWA, the USACE is the regulatory authority forthe discharge of dredged or fill material into WOTUS including jurisdictional wetlands, pursuant to Section 404 of the CWA.

The National Wetlands Inventory (NWI) map for Groves, Texas (USFWS, 2023a) (Figure 7) indicates that the project area contains palustrine, forested wetlands (PFO1A) and the surrounding areas contain palustrine, emergent, unconsolidated bottom, scrub/shrub, and forested wetlands, with a riverine feature along the northeastern boundary of the site (PUBKx, PEM1A, PSS1A, PFO1A and R5UBFx) (Figure 7).

Following a site visit, a detailed jurisdictional determination for project area was conducted by LJAES in February 2021. Wetland areas were identified based on field observations and historical aerial photography analysis.

Approximately 15.1 acres of low-quality herbaceous/wooded wetlands were determined to be present within the project boundary and were composed primarily of herbaceous depressional areas with Chinese tallow trees (Figure 8 and Attachment 5).

In accordance with USACE jurisdictional determination methodology, these identified wetlands were determined to be non-jurisdictional under Section 404 of the CWA. LJAES pursued and received an Approved Jurisdictional Determination from the USACE Galveston District, dated 20 October 2022 (Attachment 5). The determination concluded that the wetlands delineated on the subject site were not jurisdictional and not subject to Section 404 of the CWA.

3.2.2.1 No-Action Alternative

The no-action alternative would not adversely affect wetlands or other WOTUS.

3.2.2.2 Drainage Network Capacity Expansion Alternative

The expansion of the existing drainage network would affect drainage features that are subject to Section 404 jurisdiction. A permit from the USACE would be required for modifications to jurisdictional drainage features. The permit process can be lengthy and may require mitigation for impacts to jurisdictional areas which would be an additional cost to the project.

3.2.2.3 Proposed Alternative

Approximately 15.1 acres of non-jurisdictional wetlands within the project area will be excavated or filled for the construction of the proposed detention pond. No permit from the USACE is required. An additional 8.42 acres of wetlands will be avoided by the project. JCDD7 will ensure that BMPs are implemented to prevent erosion and sedimentation and avoid other wetlands

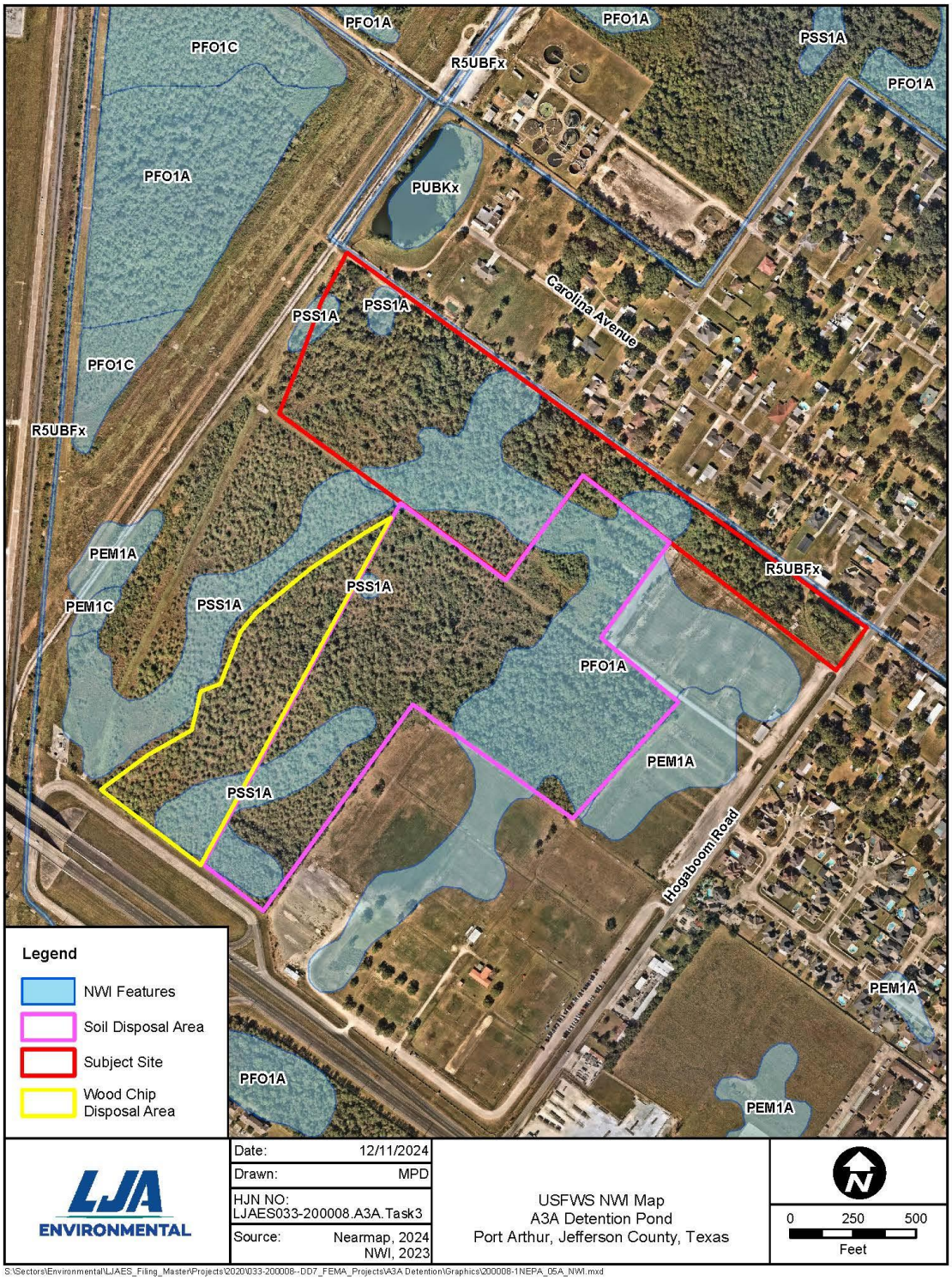

FIGURE 7: NWI MAP

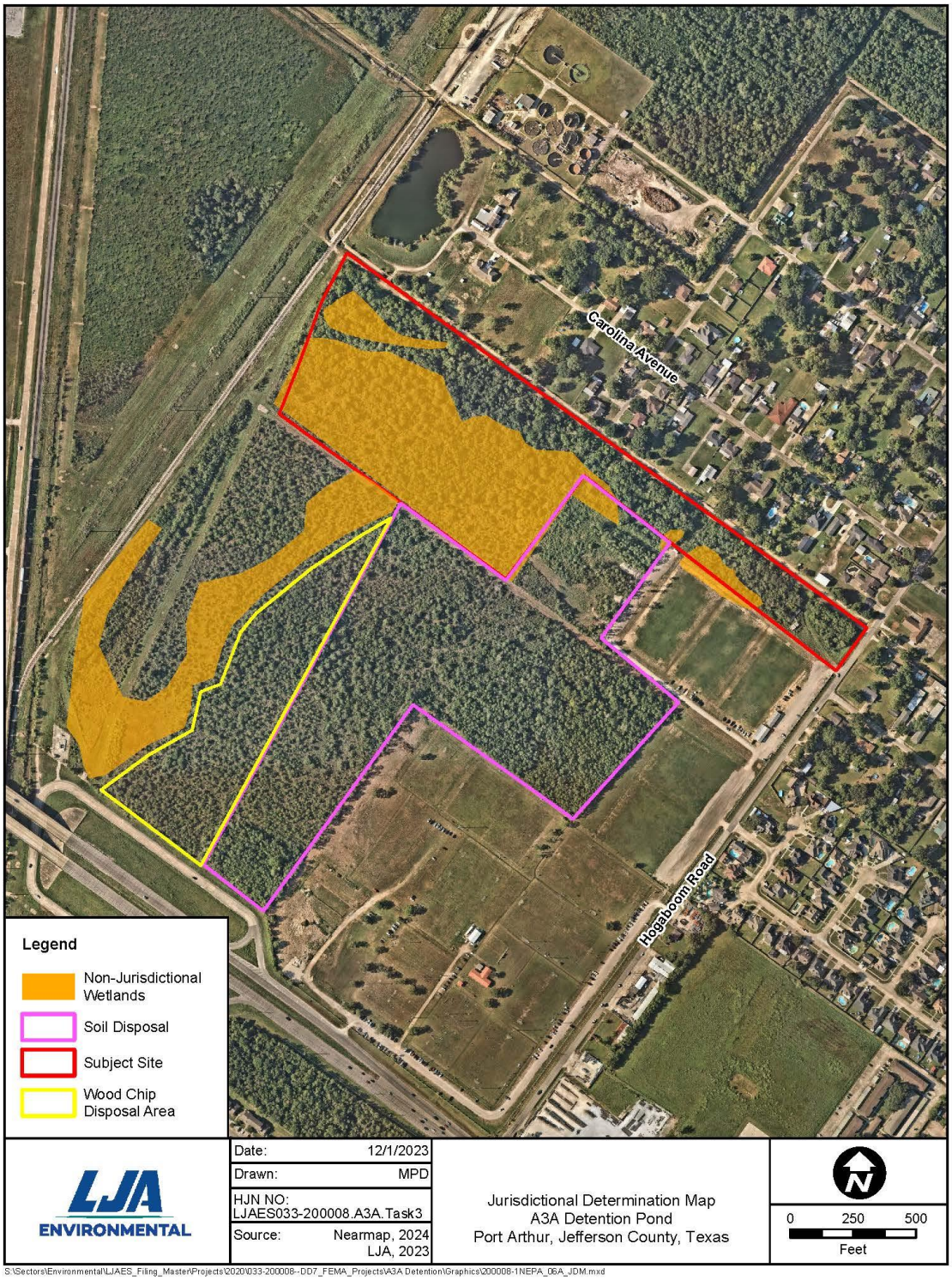

FIGURE 8: JURISDICTIONAL DETERMINATION MAP

adjacent to the project area. These BMPs include equipment storage and staging of construction materials to prevent erosion and sedimentation to ensure that impacts to wetlands are avoided and minimized to the greatest extent practicable per Executive Order 11990.

3.2.3 Threatened or Endangered Species and Critical Habitat

Federally listed threatened or endangered (T/E) species known to occur in Jefferson County include the eastern black rail (*Laterallus jamaicensis*), piping plover (*Charadrius melodus*), red knot (C*alidris canutus rufa*), whooping crane (*Grus americana*), green sea turtle (*Chelonia mydas*), Atlantic hawksbill sea turtle (*Eretmochelys imbricata*), Kemp's ridley sea turtle (*Lepidochelys kempii*), leatherback sea turtle (*Dermochelys coriacea*), and loggerhead sea turtle (*Caretta caretta*) (USFWS, 2024). The USFWS additionally lists the tricolored bat (*Perimyotis subflavus*) as proposed for listing as endangered and the monarch butterfly (*Danaus plexipus*) as a candidate species. There is no designated critical habitat for any listed species within this portion of Jefferson County.

Birds

Piping plover habitat in Texas consists of sandy beaches and lakeshores that provide marine worms, flies, beetles, spiders, crustaceans, mollusks, and other small marine invertebrates during the over-wintering portion of their migration. None have been reported from the project area, and no suitable habitat is present.

The red knot has similar distribution and habitat preferences to the piping plover. No red knots have been reported in the project vicinity and suitable habitat is not present.

The eastern black rail inhabits fresh and saltwater marshes and wet meadows. The project area does not contain marshes or wet meadows that would typically be associated with the species; therefore, the species would not be expected to be impacted by the project as currently proposed.

The whooping crane similarly utilizes marshes and agricultural fields along the Texas coast during winter migration. While the whooping crane primarily occurs on the middle Texas coast, it has occasionally been seen in Jefferson County. The whooping crane would not be expected to be impacted by the project.

Sea Turtles

All 5 federally listed sea turtle species are known to occur sporadically along the Texas Coast in bays and along the Gulf shore. Sea turtles do not occur upstream of saltwater influence and would not be affected by the proposed project.

Proposed and Candidate Species

The tricolored bat and the monarch butterfly are currently listed as proposed species.

The tricolored bat occurs in forests, woodlands, and riparian areas. Most foraging occurs in riparian areas. Caves are important to this species. Roosts probably occur in tree

foliage, caves, mines, and rock crevices. Potential suitable woodland habitat for the tricolored bat was observed within the project area; however, given the level of development and long-term industrial use of the surrounding areas, impacts to the species are not expected to occur.

The monarch butterfly's preferred forage species, milkweed (*Asclepias* spp.), was not observed in the project area during the site reconnaissance, and impacts to the monarch are not expected to occur with the proposed project.

3.2.3.1 No-Action Alternative

No listed species or their supporting habitats are present in the project area; therefore, the no-action alternative would not affect listed species.

3.2.3.2 Drainage Network Capacity Expansion Alternative

No listed species or their supporting habitats are present in the project area; therefore, the no-action alternative would not affect listed species.

3.2.3.3 Proposed Alternative

The proposed project area may provide potential habitat for the tricolored bat. An acoustic survey was conducted on the site by USFWS approved biologists to determine the presence or presumed absence of the tricolored bat utilizing USFWS required methodologies. While the survey detected tricolored bats, the detections were not statistically significant and presence is considered unlikely in the project area (Attachment 6). The survey report has been sent to the USFWS for review and concurrence.

Based on a review of the species, habitat requirements, presence or presumed absence surveys for the tricolored bat, and the scope of the proposed project, FEMA has determined that the proposed alternative will have no effect on listed or proposed species. Critical habitat is not present within the project area; therefore, the proposed alternative will not adversely modify any critical habitat.

3.2.4 Migratory Birds

The Migratory Bird Treaty Act of 1918 makes it illegal to kill, capture, possess, transport, buy, sell, or trade migratory birds or any migratory bird parts (bones, feathers, etc.), nest, or eggs without prior authorization by the USFWS. Many birds may nest or roost in trees, brushy areas, and other potential habitat. These areas provide nesting habitat and support rookeries for migratory birds. The USFWS Information for Planning and Consulting website lists 11 migratory species that may have the potential to occur within the study area (USFWS, 2024).

3.2.4.1 No-Action Alternative

Migratory birds are expected to utilize the Project Area for nesting. The No Action Alternative would not result in any impacts to migratory bird species.

3.2.4.2 Drainage Network Capacity Expansion Alternative

This alternative would not involve the removal of vegetation of migratory bird habitat. Implementing this alternative would not result in any impacts to migratory bird species.

3.2.4.3 Proposed Alternative

Vegetation clearing activities related to the proposed project have the potential to affect migratory bird nesting habitat. To minimize impacts to migratory bird species, JCDD7 will limit tree removal work during the peak migratory bird-nesting period of March through August as much as possible to avoid destruction of individuals, nests, or eggs. If tree removal activities must occur during the nesting season, JCDD7 will deploy a qualified biological monitor with experience conducting breeding bird surveys to survey the vegetation management area for nests prior to conducting work. The biologist will determine the appropriate timing of surveys in advance of work activities. If an occupied migratory bird nest is found, work within a buffer zone around the nest will be postponed until the nest is vacated and juveniles have fledged. The biological monitor will determine an appropriate buffering radius based on species present, real-time site conditions, and proposed vegetation management methodology and equipment. For work near an occupied nest, the biological monitor would prepare a report documenting the migratory species present and the rationale for the buffer radius determination and submit that report to FEMA for inclusion in project files.

3.2.5 Coastal Zone Management

The project is located within the Coastal Zone Management (CZM) boundary of Texas (Figure 9). Correspondence has been provided to the Texas General Land Office (GLO) for coastal zone consistency. The GLO has responded that a federal consistency review is not required (Attachment 3).

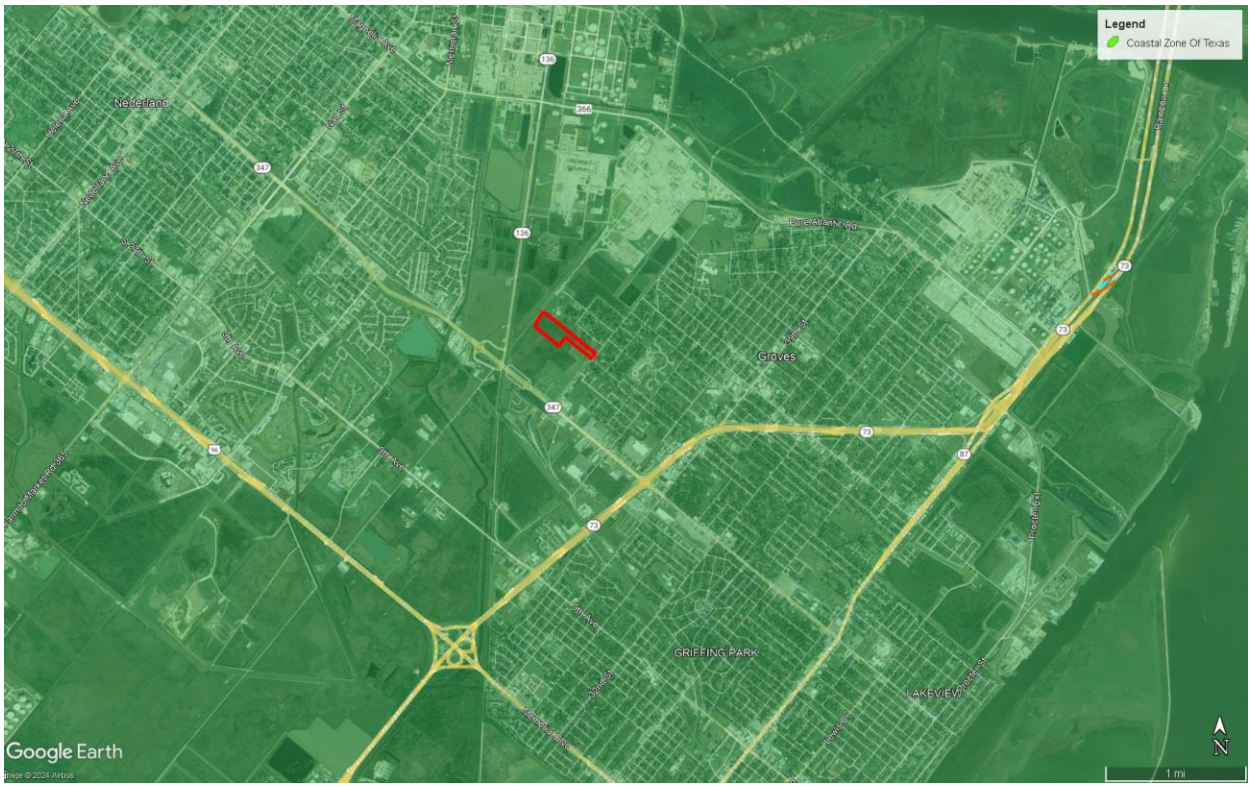

FIGURE 9: COASTAL ZONE MAP

3.3 HAZARDOUS MATERIALS

LJAES commissioned Environmental Risk Information Services (ERIS) of Austin, Texas, to review state and federal agency records required by American Society for Testing and Materials (ASTM) Practice E1527-21. ERIS conducted its data search using minimum search distances outlined in the ASTM standard (ASTM, 2021). ERIS's search results for Standard Environmental Records can be requested from FEMA by emailing dorothy.cook@fema.dhs.gov.

ERIS found 7 records within the ASTM-prescribed search distances. These findings included 1 Leaking Petroleum Storage Tank (LPST) for the K-Way Equipment facility, 1 Underground Petroleum Storage Tank (UST) for the City of Groves Wastewater treatment plant, 1 Historical Tank Construction Notification (HIST TANK), 1 Notice of Violation (NOV), Court Orders & Administrative Orders (ORD), 1 inactive Resource Conservation and Recovery Act (RCRA) and non-RCRA facility (HIST RCRA NONRCRA), and 1 Industrial and Hazardous Waste Site with Corrective Actions (IHW CORR ACT) listing.

Four of the sites associated with records listed in the database report (UST, HIST TANK, NOV, and ORD) are located approximately 800 feet north of the project area at the City of Groves Wastewater Treatment Plant at 6499 Georgia Street. All violations have been resolved. Based on the distance, regulatory status, and history of this site, it would not be considered a Recognized Environmental Condition (REC) for the project area.

Two of the records (LPST and HIST RCRA NONRCRA) are located at the K Way Equipment facility, with an address listed as 5300 SH 347, Port Arthur. The records indicate that

final concurrence was issued for the LPST. Based on the distance, regulatory status, and history of this site, it would not be considered a REC for the project area.

One record (IHW CORR ACTION) is shown for a location at 6101 N. Twin City Highway. The issue requiring corrective action was resolved in 2009. Based on the distance, regulatory status, and history of this site, it is not considered to be a REC for the project area.

Railroad Commission of Texas (RRC) records were investigated to determine the presence of active natural gas, crude oil, or refined product pipelines, as well as oil or gas wells that may exist on or within 1,000 feet from the project area. The records reviewed indicated the presence of pipelines along the southern and western project area boundaries, one well beyond the western site corner near Spur 136, and multiple pipelines surrounding the project area (RRC, 2023). None of these records indicate any release of contaminants.

3.3.1 No-Action Alternative

The no-action alternative would not contribute to potential downstream pollution as a result of any identified sources of pollution in the project area.

3.3.2 Drainage Network Capacity Expansion Alternative

The expansion of the drainage network could involve the need to lower or relocate any of the numerous pipelines present in the area. This would add significant cost to the project and increase the potential for spillage of pipeline contents during lowering or relocation activities.

3.3.3 Proposed Alternative

The proposed alternative would not contribute to potential downstream pollution as a result of any identified sources of pollution in the project area. Unusable equipment, debris, and material shall be disposed of in an approved manner and location. In the event significant items (or evidence thereof) are discovered during implementation of the project, the Applicant shall handle, manage, and dispose of petroleum products, hazardous materials, and toxic waste in accordance with TCEQ and/or RRC requirements.

3.4 SOCIOECONOMICS[1]

US Census Bureau (USCB) estimates for 2023 indicate a population of 251,496 for Jefferson County (USCB, 2024). A demographic profile of the area shows that approximately 37.4% of the population is reported as white alone, 34.5% as Black, 23.7% as Hispanic, and 4.4% as Other. The project is not expected to affect the population of the area.

1 *Executive Order 12898 ("Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations") and 14096 ("Revitalizing Our Nation's Commitment to Environmental Justice for All") were rescinded on January 20 and 21, 2025 by Executive Orders 14154 ("Unleashing American Energy") and 14173 ("Ending Illegal Discrimination and Restoring Merit-Based Opportunity").*

Local employment in Jefferson County is dominated by construction, with retail, industrial, healthcare, and education occupations also being common. The median household income is reported as $57,294 in 2022 dollars, approximately $17,286 less than the US average (USCB, 2024).

3.4.1 Zoning and Land Use

The project site is within the city limits of Port Neches and may be affected by zoning laws. Residential, commercial, and light industrial land uses are common in the area. The proposed project is not expected to be affected by zoning regulations.

3.4.2 Visual Resources

The current project area is undeveloped land and predominantly surrounded by residential and light industrial development in Port Neches and Groves.

3.4.3 Noise

The current project area is undeveloped land and predominantly surrounded by residential and light industrial development in Port Neches and Groves. Existing noise is generally generated by traffic on Hogaboom Road, residential properties in adjacent Groves, and highways 347 and 136. A railroad track is also present along SH 136. The noise level is generally low.

3.4.4 Public Services and Utilities

Public services and utilities are provided to nearby residents by the City of Groves. Most city services are provided north and east of the project area. Hogaboom Road is a county-maintained roadway, while the residential streets within the City of Groves are maintained by the City. Highways 136 and 347 are state maintained.

3.4.5 Traffic and Circulation

Major transportation arteries in the area include SH 347 and SH 136. Temporary traffic diversions or congestion may be necessary during mobilization for project construction, particularly on Hogaboom Road.

3.4.7 Safety and Security

The properties within the project area are currently privately owned and undeveloped, and JCDD7 will purchase or obtain an easement for the facilities. Current safety issues in the area include construction traffic entering and exiting the project area from Hogaboom Road during mobilization.

3.4.8 No-Action Alternative

The no-action alternative will not provide relief of concerns for property, health, and welfare protection during flood events. Continued flooding of structures in the benefit area would

continue to place a burden on local, state, and federal flood relief resources and would also continue to depress property values. The no-action alternative has a cost of more than $9.7 million in repetitive damages.

3.4.9 Drainage Network Capacity Expansion Alternative

The expansion of the drainage network within and downstream of the benefit area will necessitate acquisition of additional ROW for expanded drainage ditches. The additional ROW requirements could potentially require displacements of residents and businesses that are located near the drainage ditches. Construction activities along miles of drainage ditches would also increase noise and safety issues over a much wider segment of the area.

3.4.10 Proposed Alternative

The project yields $9,776,352 in benefits (avoided damages). The proposed project alternative has a total cost of nearly $7,583,099, which yields a benefit-cost ratio of 1.29.

The proposed project would not significantly affect or change current land uses. The area would remain as open land.

Visual resources (aesthetics) are not expected to be changed by the proposed drainage improvements. After construction, the area will have a similar appearance to pre-construction conditions.

The only anticipated significant noises associated with the project would be due to heavy equipment operation during the construction phase. Following construction activities, there would be no noise-generating activities at the site other than occasional mowing. To reduce noise levels during construction, construction activities will take place during normal business hours. No permanent equipment or machinery will be installed at the proposed project site.

The proposed project is not expected to impede the access of nearby residents to any public services. There are no anticipated impediments to traffic due to operation of the proposed drainage improvements. There may be short-term traffic congestion due to movement of construction equipment during mobilization on Hogaboom Road. Appropriate construction barricades and signage will be utilized during construction.

The benefits of the proposed project are expected to be proportional to all residents in the benefit area. No existing residential properties or structures will be adversely affected by the project.

No significant safety or security issues are expected with the proposed project. The appropriate signage and barriers will be in place prior to construction activities to alert pedestrians and motorists to project activities.

3.5 CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, requires federal agencies "to take into account" the "effect" that an undertaking would have on historic properties. Historic properties are those included in or eligible for inclusion in the National Register of Historic Places (NRHP) and may include archeological sites, buildings, structures, sites, objects, and districts. In accordance with the Advisory Council on Historic Preservation regulations pertaining to the protection of historic properties (36 CFR 800.4), federal agencies are required to identify and evaluate historic resources for NRHP eligibility and assess the effects that the undertaking would have on historic properties. Additionally, since the proposed improvements would be sponsored by a subdivision of the state, the project is also regulated by the Antiquities Code of Texas (ACT).

To assess the potential for intact, significant cultural resources within the Area of Potential Effect (APE) of the proposed project, LJAES conducted an archival review of the project area. The archival review consisted of a review of existing maps and records to determine the degree of prior disturbances in the area, the potential for intact cultural deposits, and the presence or absence of significant cultural resources.

3.5.1 Findings

Examination of historical USGS topographic maps dating from 1956 to the present and aerial photographs dating from 1953 to the present indicate that no standing structures of potentially historic age (i.e., 50 years of age or older) are located within the boundaries of the project area. The project area has remained a largely undeveloped coastal flat since at least the mid-20th century. Development of the Groves Acres residential subdivision to the northeast of the site began in the 1950s and may contain historic-age structures, though none of these structures are present within the site boundaries, nor will they be adversely affected by the project.

Prehistoric archeological sites are commonly found in upland areas and on alluvial terraces near stream/river channels or drainages. Based on the physiographic setting of the project area on an undeveloped coastal flat surrounded by residential developments and industrial facilities that is set well away from natural water bodies, it is LJAES's opinion that there exists a low potential for undocumented prehistoric archeological resources within the boundaries of the project area.

Based on these findings, it is LJAES's opinion that there exists a low potential for historic-age architectural and/or archeological resources within the boundaries of the project area.

Based on the assessed low potential for undocumented prehistoric and historic-age archeological resources and for historic-age architectural resources within the project area, it is LJAES's opinion that a formal cultural resources survey of the portions of the project area within any federal agency's jurisdiction would not be warranted to comply with Section 106 of the NHPA. Similarly, if any portion of the project area is located on publicly owned land, it is LJAES's further opinion that a formal cultural resources survey of the portions of the site located on public property would not be warranted in compliance with the ACT.

3.5.2 Native American Cultural/Religious Sites

In accordance with 36 CFR §800.2(c)(2)(i)(B), FEMA conducted tribal consultations with federally recognized Indian tribal governments with interest to exchange information, receive input, and consider their views on actions that have tribal implications. Consultation with the Alabama-Coushatta Tribe of Texas, Choctaw Nation, Kiowa Indian Tribe of Oklahoma (Kiowa Tribe), and Tonkawa Tribe of Indians of Oklahoma was conducted per 36 CFR §800.2(c)(2)(i)(B), dated July 31, 2024 and January 7, 2025. Tribes were given 30 days to respond and or identify possible historic properties effected by this Project. The Alabama-Coushatta Tribe of Texas, Choctaw Nation, Kiowa Indian Tribe of Oklahoma (Kiowa Tribe), and Tonkawa Tribe of Indians of Oklahoma did not provide comments within 30 days or declined to comment.

3.5.3 No-Action Alternative

The no-action alternative would result in continued flooding of residential structures in the benefit area, some of which could be of historic age.

3.5.4 Drainage Network Capacity Expansion Alternative

The need for additional ROW requirements along drainage ditches to be improved in the benefit area and downstream could potentially require demolition of residential and business structures that are located near the drainage ditches, some of which could be of historic age. Additionally, portions of the current drainage network may correspond with historically natural tributaries where there would be a higher probability of prehistoric cultural resources.

3.5.5 Proposed Alternative

The proposed project was coordinated with the State Historic Preservation Office (SHPO). Correspondence documenting coordination activities with the SHPO is included in Attachment 7. Based on archival research and correspondence with the SHPO and tribes, FEMA has made the determination that there will be no historic properties affected as a result of the proposed project.

Based on tribal coordination and consultation (Attachment 7), FEMA has determined that proposed project will not adversely affect traditional, religious, or culturally significant sites.

In the event that archeological deposits, including any Native American pottery, stone tools, bones, or human remains, are uncovered, the project shall be halted and the Applicant shall stop all work immediately in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the finds. All archeological findings will be secured by JCDD7, and access to the sensitive area will be restricted by JCDD7. JCDD7 will inform FEMA immediately, and FEMA will consult with the SHPO. Work in sensitive areas shall not resume until consultation is completed and until FEMA determines that the appropriate measures have been taken to ensure complete project compliance with the NHPA and its implementing regulations.

4.0 CUMULATIVE IMPACTS

An assessment of cumulative impacts takes into consideration the consequences that past, present, and reasonably foreseeable future projects have had, have, or will have on an ecosystem. Every project must be considered on its own merits. However, its impacts on the environment must be assessed in light of historical activity, along with anticipated future activities in the area. Although a particular project may constitute a minor impact in itself, the cumulative impacts that result from a large number of such projects could cause significant impairment of natural resources.

Cumulative impacts can result from many different activities, including the introduction of materials into the environment from multiple sources, repeated removal of materials or organisms from the environment, and repeated environmental changes over large areas and long periods. More complicated cumulative effects occur when stresses of different types combine to produce a single effect or accumulation of effects. Large, contiguous habitats can become fragmented, making it difficult for organisms to locate and maintain populations between disjunctive habitat fragments. Cumulative impacts may also occur when the timing of perturbations are so closely spaced that their effects overlap.

4.1 NO-ACTION ALTERNATIVE

The no-action alternative would not have any additive effects to other regional impacts to environmental resources. However, the continued flooding and cost of responses and damages in the benefit area would continue to contribute to regional financial and socioeconomic impacts.

4.2 DRAINAGE NETWORK CAPACITY EXPANSION ALTERNATIVE

This alternative would have a similar reduction of potential future flood damage to existing structures in the benefit area as the proposed project, but would potentially add to regional impacts to environmental resources such as WOTUS and cultural resources, as well as potentially resulting in displacement of residents and businesses along the drainage network. This alternative was ruled out due to excessive cost.

4.3 PROPOSED ALTERNATIVE

The primary purpose of the proposed project is to reduce potential future flood damage to existing structures in the benefit area. The project is not intended to provide for increased development potential in the area; therefore, it is not expected that this project will lead to other significant secondary impacts.

The proposed drainage improvement project will have minimal impacts to natural resources. These impacts include temporary disturbances to 67.67 acres of undeveloped land. Most of the areas surrounding the project site are residential and commercial/light industrial land. The disturbed area would be revegetated and maintained as open space.

Approximately 15.1 acres of isolated, depressional, non-jurisdictional wetlands will be excavated or filled as part of the project. The floor of the constructed detention basin may develop similar wetland characteristics.

Approximately 15.9 acres of prime farmland soils will be affected. The USDA's NRCS has been contacted to evaluate the proposed project for impacts to prime farmland soils under requirements of the FPPA. The USDA has responded that the project is exempt from the provisions of the FPPA since they consider it to be "lands committed to urban development" (Attachment 2).

The proposed project does not have any other impacts that are of such significance as to add materially to cumulative impacts in the region. Impacts are summarized in Table 1.

5.0 PUBLIC PARTICIPATION

A Notice of Availability for the Draft EA will be published in the *Beaumont Enterprise* (Attachment 8) and on JCDD7's website (http://dd7.org/special-notices.asp) requesting public comments. The Draft EA will be made available on JCDD7's website and upon request electronically or in hard copy from FEMA. The public comment period will last for 30 days upon publication of the initial public notice. FEMA will consider and respond to all public comments in the Final EA. If no substantive comments are received, the Draft EA will become final and a Finding of No Significant Impact (FONSI) will be issued for the project.

6.0 CONSULTATIONS

Consultation responses from resource agencies are provided in Attachment 2 (NRCS), Attachment 3 (TPWD, TWDB, and GLO), Attachment 5 (USACE), Attachment 6 (USFWS), and Attachment 7 (Texas Historical Commission [THC] and Tribal Governments).

7.0 LIST OF PREPARERS

C. Lee Sherrod, Senior Project Manager, LJA Environmental Services, LLC
Greg Sherrod, Environmental Project Manager, LJA Environmental Services LLC
, Michael DeLalio, Environmental Project Coordinator, LJA Environmental Services, LLC
Toby Davis, District Engineer, Jefferson County Drainage District No. 7

Government Contributors
LaToya Leger-Taylor, Regional Environmental Officer, FEMA Region 6
Dorothy Cook, Senior Environmental Specialist, FEMA Region 6
Subha Pandey, Environmental Specialist, FEMA Region 6

TABLE 1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
AND MITIGATION MEASURES

RESOURCE	ANTICIPATED EFFECTS	MITIGATION MEASURES
Geology, Seismicity, and Soils	Geology – no impacts Seismicity – no impacts Soils – 15.9 acres of prime farmland soils	NRCS has determined that the project area is dedicated to urban development and is exempt from provisions of the FPPA. No mitigation measures proposed.
Water Resources and Water Quality	Groundwater – no impacts Surface water quality – minor, temporary effects Developed water resources – no impacts	JCDD7 will comply with conditions of Construction Stormwater General Permit TXR 150000, including preparation of SWPPP and implementing BMPs.
Floodplains	No adverse impacts to the 100-year or 500-year floodplain	None required.
Air Quality	Temporary increase of fugitive dust and exhaust emissions during construction. No post-construction effects.	Contractors will be required to water down construction areas as needed in order to mitigate excess dust. Vehicle running times on site will be kept to a minimum and engines will be properly maintained.
Terrestrial and Aquatic Environment	Approximately 67.67 acres of undeveloped lands will be temporarily disturbed	Disturbed areas will be revegetated.
Wetlands	No jurisdictional wetlands or WOTUS will be adversely affected. Approximately 15.1 acres of non-jurisdictional wetlands will be excavated or filled. 8.42 acres of other non-jurisdictional wetlands south of the project site will be avoided. It is likely that similar wetlands will develop in the constructed detention basin floor.	JCDD7 will ensure that BMPs are implemented to prevent erosion and sedimentation to surrounding, nearby or adjacent wetlands. This includes equipment storage and staging of construction to prevent erosion and sedimentation.
Threatened or Endangered Species and Critical Habitat	No effect.	No mitigation measures proposed.
Migratory Birds	Vegetation clearing activities related to the proposed project have the potential to affect migratory bird nesting habitat.	JCDD7 will limit tree removal work during the peak migratory bird-nesting period of March through August as much as possible. Otherwise, JCDD7 will deploy a qualified biological monitor.
Coastal Zone Management	Project is within the Coastal Management Program (CMP) boundary	The GLO has determined that a consistency review is not required.
Hazardous Materials	No anticipated impacts	Unusable equipment, debris, and material shall be disposed of in an approved manner and location. In the event significant items (or evidence thereof) are discovered during implementation of the project, applicant shall handle, manage, and dispose of petroleum products, hazardous materials, and toxic waste in

		accordance with the requirements and to the satisfaction of the governing local, state, and federal agencies.
Zoning and Land Use	No impacts	No mitigation measures proposed.
Visual Resources	No impacts	No mitigation measures proposed.
Noise	Temporary construction equipment noise	Construction activities will take place during normal business hours. Machinery operating at the proposed project site will meet all local, state, and federal noise regulations.
Public Services/Utilities	Public services – no impacts Utilities – water and wastewater line to be relocated Pipelines – no anticipated impacts	The on-site pipeline company will be coordinated with to ensure no adverse impacts to the pipeline.
Traffic and Circulation	Possible, short-duration traffic interruptions during construction mobilization	Implement traffic control procedures as needed.
Safety and Security	No significant impacts	The appropriate signage and barriers will be in place prior to construction activities to alert pedestrians and motorists of project activities.
Cultural Resources	No anticipated impacts	In the event that archeological deposits, including any Native American pottery, stone tools, bones, or human remains, are uncovered, the project shall be halted and the applicant shall stop all work immediately in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the finds. All archeological findings will be secured by JCDD7, and access to the sensitive area will be restricted by JCDD7. JCDD7 will inform FEMA immediately, and FEMA will consult with the SHPO. Work in sensitive areas shall not resume until consultation is completed and until FEMA determines that the appropriate measures have been taken to ensure complete project compliance with the NHPA and its implementing regulations.

8.0 REFERENCES

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ATTACHMENT 1

PROJECT PLANS

ATTACHMENT 2

NRCS PRIME FARMLAND DETERMINATION

ATTACHMENT 3

AGENCY CONSULTATION/LETTERS OF CONCURRENCE

ATTACHMENT 4

ON-SITE PHOTOGRAPHS

ATTACHMENT 5

SECTION 404 DETERMINATION INFORMATION

ATTACHMENT 6

LISTED SPECIES INFORMATION

ATTACHMENT 7

CULTURAL RESOURCES CONSULTATION LETTERS

ATTACHMENT 8

DRAFT NOTICE OF AVAILABILITY

ATTACHMENT 9

FINDING OF NO SIGNIFICANT IMPACT

Appendices are available for review upon request to dorothy.cook@fema.dhs.gov