

Draft Environmental Assessment

Tyrrell Park Detention Project HMGP-DR-1780-TX, Project #40 Beaumont, Jefferson County, Texas

January 2012

Prepared By:

Horizon Environmental Services, Inc.
1507 South IH-35
Austin, Texas 78741

Horizon Environmental Services, Inc.™



FEMA

**Federal Emergency Management Agency
Department of Homeland Security**
500 C Street, SW
Washington, DC 20472

TABLE OF CONTENTS

SECTION	PAGE
LIST OF TABLES	iv
LIST OF FIGURES	iv
LIST OF ATTACHMENTS	iv
LIST OF ACRONYMS	v
1.0 INTRODUCTION	1
1.1 PROJECT AUTHORITY	1
1.2 PROJECT LOCATION	1
1.3 PURPOSE AND NEED OF PROJECT	2
1.3.1 <u>Need</u>	2
1.3.2 <u>Purpose</u>	2
2.0 ALTERNATIVES ANALYSIS	2
2.1 ALTERNATIVE 1: NO-ACTION ALTERNATIVE	3
2.2 ALTERNATIVE 2: DETENTION/BUYOUT COMBINATION	3
2.3 ALTERNATIVE 3: BUYOUT OF ALL AFFECTED HOMES	3
2.4 ALTERNATIVE 4: CHANNELIZATION	4
2.5 COST COMPARISON OF ALTERNATIVES	4
3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES	5
3.1 PHYSICAL ENVIRONMENT	5
3.1.1 <u>Geology, Seismicity, and Soils</u>	5
3.1.2 <u>Water Resources and Water Quality</u>	7
3.1.3 <u>Floodplain Management (Executive Order 11988)</u>	10
3.1.4 <u>Air Resources and Air Quality</u>	11
3.2 BIOLOGICAL ENVIRONMENT	13
3.2.1 <u>Terrestrial and Aquatic Environment</u>	13
3.2.2 <u>Wetlands (Executive Order 11990)</u>	14
3.2.3 <u>Threatened or Endangered Species and Critical Habitat</u>	15
3.3 HAZARDOUS MATERIALS	16
3.3.1 <u>National Priority List (NPL) Database</u>	18
3.3.2 <u>Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Database</u>	18
3.3.3 <u>Resource Conservation and Recovery Information System (RCRIS) Database</u>	18
3.3.4 <u>Emergency Response Notification System (ERNS) Database</u>	19
3.3.5 <u>Texas Voluntary Cleanup Program (TXVCP) and the Texas Innocent Owner/Operator Program (TXIOP)</u>	19
3.3.6 <u>Texas State Superfund Database</u>	20
3.3.7 <u>TCEQ Solid Waste Facilities and Unauthorized and Unpermitted Landfill (LFUN) Sites</u>	20
3.3.8 <u>Underground or Aboveground Storage Tanks</u>	20
3.3.9 <u>TCEQ Spills List</u>	21

3.3.10	<u>Brownfields</u>	21
3.3.11	<u>Dry Cleaners</u>	21
3.3.12	<u>Indian Reservation Underground Storage Tanks</u>	21
3.3.13	<u>No-Action Alternative</u>	21
3.3.14	<u>Proposed Alternative</u>	22
3.3.15	<u>Buyout Alternative</u>	22
3.3.16	<u>Channelization Alternative</u>	22
3.4	SOCIOECONOMICS	22
3.4.1	<u>Zoning and Land Use</u>	23
3.4.2	<u>Visual Resources</u>	23
3.4.3	<u>Noise</u>	23
3.4.4	<u>Public Services and Utilities</u>	23
3.4.5	<u>Traffic and Circulation</u>	23
3.4.6	<u>Environmental Justice (Executive Order 12898)</u>	23
3.4.7	<u>Safety and Security</u>	24
3.4.8	<u>No-Action Alternative</u>	24
3.4.9	<u>Proposed Alternative</u>	24
3.4.10	<u>Buyout Alternative</u>	25
3.4.11	<u>Channelization Alternative</u>	25
3.5	CULTURAL RESOURCES	25
3.5.1	<u>Archival Research</u>	25
3.5.2	<u>Intensive Field Survey</u>	26
3.5.3	<u>No-Action Alternative</u>	26
3.5.4	<u>Proposed Alternative</u>	26
3.5.5	<u>Buyout Alternative</u>	27
3.5.6	<u>Channelization Alternative</u>	27
4.0	CUMULATIVE IMPACTS	27
4.1	NO-ACTION ALTERNATIVE	28
4.2	PROPOSED ALTERNATIVE	28
4.3	BUYOUT ALTERNATIVE	28
4.4	CHANNELIZATION ALTERNATIVE	29
5.0	PUBLIC PARTICIPATION	29
6.0	SUMMARY OF ANTICIPATED IMPACTS AND MITIGATION MEASURES FOR PROPOSED ALTERNATIVE	30
7.0	CORRESPONDENCE AND CONSULTATIONS	32
8.0	LIST OF PREPARERS	32
9.0	REFERENCES	33

LIST OF TABLES

TABLE		PAGE
1	TELALL AGENCY DATABASE REPORT FINDINGS	17
2	SUMMARY OF ANTICIPATED IMPACTS AND MITIGATION MEASURES FOR PROPOSED ALTERNATIVE	30

LIST OF FIGURES

FIGURE

1	PROJECT VICINITY MAP
2	2010 AERIAL PHOTOGRAPH
3	TOPOGRAPHIC MAP
4	SOILS MAP
5	FEMA FLOOD HAZARD ZONES

LIST OF ATTACHMENTS

ATTACHMENT

1	PROJECT DESCRIPTION AND H&H INFORMATION
2	NRCS PRIME FARMLAND DETERMINATION
3	TCEQ DRAFT 2010 TEXAS 303(d) LIST
4	AGENCY CONSULTATION/LETTERS OF CONCURRENCE
5	ON-SITE PHOTOGRAPHS
6	THREATENED OR ENDANGERED SPECIES INFORMATION
7	HAZARDOUS MATERIALS AGENCY DATABASE SEARCH
8	CULTURAL RESOURCES SURVEY AND SHPO CONSULTATION LETTERS
9	DRAFT NOTICE OF AVAILABILITY

LIST OF ACRONYMS

ALERT – Automated Local Evaluation in Real Time
APE – Area of Potential Effect
ASTM – American Society for Testing and Materials
B/C – Benefit/Cost
BMP – Best Management Practices
BRNFD – Brownfields
CAA – Clean Air Act
CEQ – Council on Environmental Quality
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
FONSI – Finding of No Significant Impact
FPPA – Farmland Protection Policy Act
GLO – General Land Office
H&H Study – Hydrology and Hydraulics Study
HB – House Bill
HEC-1 – Hydrologic Engineering Center – 1 Model
HMGP – Hazard Mitigation Grant Program
IH – Interstate Highway
IRUST – Indian Reservation Underground Storage Tanks
JCAD – Jefferson County Appraisal District
JCDD6 – Jefferson County Drainage District No. 6
LFUN – TCEQ Solid Waste Facilities and Unauthorized and Unpermitted Landfill
LQGs – Large-Quantity Generators
MSL – Mean Sea Level
NAAQS – National Ambient Air Quality Standards
NDD – Natural Diversity Database
NEPA – National Environmental Policy Act
NFRAP – No Further Remedial Action Planned
NHPA – National Historic Preservation Act
NOI – Notice of Intent
NO_x – Nitrogen Oxides
NPL – National Priority List
NRCS – Natural Resources Conservation Service
NRHP – National Register of Historic Places
NWI – National Wetland Inventory
NWS – National Weather Service

PRPs – Potentially Responsible Parties
RCRA – Resource Conservation and Recovery Act
RCRA-G – RCRA Generators
RCRA-TSD – RCRA Treatment, Storage, or Disposal
RCRIS – Resource Conservation and Recovery Information System
RCT – Railroad Commission of Texas
SALs – State Archeological Landmarks
SARA – Superfund Amendments and Reauthorization Act
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
TSS – Total Suspended Solids
TWDB – Texas Water Development Board
TXAST – Texas Above Ground Storage Tank
TXIOP – Texas Innocent Owner/Operator Program
TXLF – Texas landfill
TXLUSTs – Texas Leaking Underground Storage Tanks
TXSPILL – Hazardous or Potentially Hazardous Substances Spills
TXSSF – Texas State Super Fund
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 Compounds

1.0 INTRODUCTION

1.1 PROJECT AUTHORITY

Jefferson County Drainage District No. 6 (JCDD6) (the Applicant) is a conservation and reclamation district and a political subdivision of the State of Texas. JCDD6 was established 21 January 1920, after a favorable vote by the Texas Legislature on 10 January 1920. The JCDD6 district boundary was extended and enlarged (Vol. 63, P. 478) according to the authority of the 57th Legislature, Chapter 349, and Chapter 7, Title 128, Revised Civil Statutes of Texas, Art. 8129. Enlargement came about in 1961 through legislation (HB 1063) that also established JCDD6 as a Conservation and Reclamation District under Section 59, Article XVI, of the Texas Constitution. Containing approximately 450 square miles, JCDD6 lies wholly within Jefferson County, which includes much of the City of Beaumont, and was created primarily to provide drainage for flood-prone areas within the district. JCDD6 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 Tyrrell Park Detention Project (the project) is being requested from the Federal Emergency Management Agency (FEMA) under the Hazard Mitigation Grant Program (HMGP). FEMA's project number is HMGP-DR-1780-TX, Project #40. The purpose of this Environmental Assessment (EA) is to comply with FEMA's responsibilities under the National Environmental Policy Act (NEPA), Section 7 of the Endangered Species Act (ESA), and Section 106 of the National Historic Preservation Act (NHPA). This EA is required for purposes of evaluating the environmental impacts of a project grant application submitted to FEMA by the Applicant. The environmental reviews are required by FEMA regulations 44 CFR Part 10 and by the Council on Environmental Quality guidelines 40 CFR Parts 1500 to 1508.

1.2 PROJECT LOCATION

The proposed Tyrrell Park Detention Project is located southeast of the intersection of Seale Road and SH 124 southwest of Beaumont, Jefferson County, Texas (Figure 1). Figure 2 shows a color aerial view of the project area. Figure 3 provides a topographic and physical features map of the project area.

The project location is a large lot residential area. Major transportation arteries in the area include State Highway (SH) 124, Walden Road, and Interstate Highway (IH) 10. Topography is generally flat with elevations ranging from 15 to 25 feet (ft) above mean seal level (msl). Vegetation in the area is generally modified due to residential development and introduction of ornamentals. Most drainage is via man-made or man-modified ditches that flow eastward to Willow Marsh Bayou and Hillebrandt Bayou. There are no historically natural waterways in the immediate vicinity of the project site.

1.3 PURPOSE AND NEED OF PROJECT

1.3.1 Need

Jefferson County experiences a relatively high level of rainfall. National Weather Service (NWS) statistics currently estimate annual rainfall at 56 inches (in). In 2001, ALERT (Automated Local Evaluation in Real Time) stations measured 103 in of rainfall, and the Applicant's gauges have measured 5.43 in of rainfall in a 12-hour period on January 4, 2009. The NWS statistics indicate that a 24-hour rain event with a 100-year recurrence interval is 13 in, though the highest point rainfall for a 24-hour period recorded by the Applicant is 24 in, which occurred on 7 June 2001. The local watershed suffers flooding from a rainfall event that may last only 2 hours.

The 131-acre watershed—known as the “Upper Ditch 200-B2 Watershed” which incorporates the Tyrrell Park subdivision—experiences frequent structure flooding. Some level of structure flooding occurs during rainfall events with a recurrence interval of less than five (5) years. The cause of the structure flooding is the elevation of the finished floors is at or near natural grade. Natural grade in much of this area lies below the elevation of the outfalls draining to Willow Marsh Bayou and Hillebrandt Bayou. The flow rates generated by the runoff from the 131-acre watershed cause head loss through the crossings and ditches, thus causing floodwaters to enter homes in the area.

The majority of homes in the project area are single-family, one-story, slab-on-grade homes averaging about 1,633 square feet (sq ft). The average calculated replacement cost of each home (using Marshall and Swift data for replacement cost value of \$61.5/sq ft) is \$100,429.

1.3.2 Purpose

The purpose of this HMGP project is to reduce home flooding in the Tyrrell Park area of Beaumont, Texas. Through HMGP, FEMA provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the 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. Although HMGP funds are made available statewide under the Presidential Disaster Declaration DR-1780-TX for Hurricane Dolly, the state gave priority to applications from the sixteen (16) declared counties, including Jefferson County. HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

2.0 ALTERNATIVES ANALYSIS

Four alternatives have been considered in this EA: (1) no action; (2) detention/buyout combination (proposed project); (3) buyout; and (4) channelization of existing drainage infrastructure.

2.1 ALTERNATIVE 1: NO-ACTION ALTERNATIVE

The no-action alternative would result in the continued flooding potential for 33 existing homes in the Tyrrell Park subdivision. This alternative does not achieve the stated project purpose of providing flood relief.

2.2 ALTERNATIVE 2: DETENTION/BUYOUT COMBINATION (PROPOSED PROJECT)

The proposed Tyrrell Park Detention Project will achieve flood relief for homes in the Tyrrell Park subdivision. Since 33 homes are below or very near the level of the 100-year event, the project will directly improve flooding on 33 homes. The project reduces the number of homes below the 100-year event from 26 to 10, the number of homes below the 50-year event from 22 to 6, and the number of homes below the 10-year event from 13 to zero. The project provides 100-year protection in most cases.

The Tyrrell Park Detention Project would include new construction of 2 detention basins that total 14 acre feet. The basins, side slopes, and perimeter berms would be earthen and lined with grass. These detention basins would temporarily hold water during rain or flood events and would not retain water permanently.

Culverts would be installed across Phelps Road to convey flood water from north to south under the road. Downspouts would be installed to drain adjacent areas into the detention basins and to control erosion along the detention basin slopes. Aprons constructed out of concrete would be installed in areas of anticipated increased water velocity such as at the ends of culverts and downspouts.

In addition, the project would include the buyout and demolition of five (5) homes located on Phelps Road that are the lowest in the project area (see Figure 2). The buyout area will be used to construct the detention basins. The net result of this effort will be a lower 100-year water surface in the area, and a significant reduction in flooding. By removing the lowest homes, the design water surface can be increased. Total ground disturbance in the entire project area will be approximately 16 acres.

2.3 ALTERNATIVE 3: BUYOUT OF ALL AFFECTED HOMES

This alternative would result in the purchase and demolition of up to 33 properties in the Tyrrell Park subdivision. The majority of the homes in this area are single-family, 1-story, slab-on-grade homes averaging about 1,633 sq ft plus an average of 1.4 acres of land for each lot.

2.4 ALTERNATIVE 4: CHANNELIZATION

In order to accomplish the same level of floodplain improvement without increasing downstream flooding, local ditches and associated crossings would have to be substantially improved. Improvements would involve right-of-way acquisitions and widening and deepening of an existing drainage ditch for approximately 6,900 feet; replacement of several road-crossing culverts; adjustment of 2 gravity sewer lines with the installation of inverted siphons, which are a constant maintenance problem; and adjustment of two petroleum pipelines.

2.5 COST COMPARISON OF ALTERNATIVES:

No-Action Alternative:

An analysis of structure damages under current conditions projected over the useful life of the proposed project (50 years) was derived using FEMA’s full data model, which calculates a present value of future damages that are estimated to occur over that time period. The estimated future damages are based on varying flood depth scenarios for different storm events and flood flows. The estimated cost for continued flood damages is \$2,111,066.

Proposed Project Alternative:

Tyrrell Park Cost Estimate

ITEM	QUANTITY UNIT	UNIT COST	TOTAL COST
House Acquisition	5 ea.	\$75,000.00	\$375,000.00
Property Acquisition	7 acres	\$20,000.00	\$140,000.00
Excavation	45,000 cu. yds.	\$5.00	\$225,000.00
30" Culvert	350 L.F.	\$70.00	\$24,500.00
Street Repair	800 sq. yds.	\$50.00	\$40,000.00
Downspout & Aprons	12 ea.	\$1,400.00	\$16,800.00
Seeding	9 acres	\$500.00	\$4,500.00
Dress-up	1 ea.	\$5,000.00	\$5,000.00
SUB-TOTAL			\$830,800.00
COST ESTIMATE			\$830,800.00
5% ADMINISTRATIVE COSTS			\$41,540.00
ENGINEERING COSTS			\$25,000.00
TOTAL			\$897,340.00

Buy-Out of all Affected Structures:

It is estimated that, at an average of \$75 per sq ft (based on JCAD data on Bldg Sqft and number of stories) it would cost \$4,043,250 to elevate the 33 homes in the benefit area. Further, it is estimated, based on Jefferson County Appraisal District (JCAD) values and estimated cost to settle and demolish, it would cost \$4,210,016 to acquire and demolish all 33 homes.

Channelization

The widening and deepening of an existing drainage ditch for approximately 6,900 feet (including new ROW), replacement of several road crossing culverts, adjustment of two gravity sewer lines with the installation of inverted siphons, and adjustment of two petroleum pipelines is estimated to cost \$1,450,000.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 PHYSICAL ENVIRONMENT

3.1.1 Geology, Seismicity, and Soils

Geologic development of the Texas Coastal Plain began approximately 220 million years ago during the early Mesozoic Era with the separation of the North American and European continental plates. This Gulfian cycle consisted of several periods of continental extension (rifting) and compression. During the Triassic, discontinuous rift basins were formed that were generally oriented parallel to the edge of the developing ocean basin and extending from Mexico to Nova Scotia. Later, as continental separation continued, the rift basins in Texas were eventually filled by deposits of marine salt. Subsequent burial by river sediment carried in from the newly emerging Rocky Mountains caused instability and deformation in the buried salt layers. This led to an upward migration of the salt deposits to a lower confining pressure, forming a variety of structures collectively known as salt domes. These structures, which are prominent subsurface features of the Texas Gulf Coast region, formed significant oil and natural gas traps in the sedimentary rocks that immediately surround them. Additionally, rapid deposition of deltaic sands over marine mud resulted in an unstable sediment column, leading to displacement of the sediments by growth faults (large, curved faults that formed during sediment accumulation and continue to grow with increasing depth of burial). Linear zones of growth faults of various ages extend from northeastern Mexico into Louisiana and compose traps for large oil and gas fields (*Handbook*, 2011).

A review of existing literature indicates that the proposed project is located in an area of outcropping sediments belonging to the Beaumont Formation (UT-BEG, 1992). In the region, the Beaumont Formation consists of varying proportions of clays, silts, and sands originating from primarily stream channel, point-bar, natural levee, backswamp, and, to a lesser extent, coastal marsh and mud-flat depositional systems. Concretions of calcium carbonate, iron oxide, and iron-

manganese oxides are common in the weathered zone. The surface topography of the region tends to be characterized by relict river channels shown by meander patterns and pimple mounds on meanderbelt ridges. The majority of the subject site is located within an area of the Beaumont Formation that predominantly consists of clay and mud of low permeability, high water-holding capacity, high compressibility, high to very high shrink-swell potential, poor drainage, level to depressed relief, low shear strength, and high plasticity. Geological units include interdistributary muds, abandoned channel-fill muds, and fluvial overbank muds.

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 (UT-BEG, 1992). Since the proposed project would not result in construction of any structures such as buildings or dams that could be susceptible to damage from seismic activity, the Executive Order (12699) on consideration of the effects of seismic activity does not apply.

The sediments exposed in Jefferson County are divided into 2 groups: those of Pleistocene origin and those of more recent origin. Recent time began with the withdrawal of large continental ice sheets that were characteristic of Pleistocene times. Generally, soils of the coastal prairie and timberlands are of Pleistocene origin, while those of the floodplains, coastal marshes, and beaches are of more recent origin.

The Tyrrell Park subdivision is located on League Clay soils (Figure 4) (NRCS, 2010a). This soil consists of very deep, somewhat poorly drained, very slowly permeable soils that have 0 to 1% slopes (NRCS, 2010b).

3.1.1.1 No-Action Alternative

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

3.1.1.2 Proposed Alternative

The proposed project would not materially affect geological resources. No structures or dams would be constructed that would pose a hazard in the unlikely event of any seismic activity.

Approximately 16 acres of surface and near-surface soils would be displaced by excavation of the detention basins and construction of the proposed project. The US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) has evaluated the proposed project for impacts to prime farmland soils under requirements of the Farmland Protection Policy Act (FPPA). The League soils are classified as prime farmland soils. However, since the project area

has already been converted to urban uses, it is exempt from the provisions of the FPPA. The response from NRCS is included in Attachment 2.

3.1.1.3 Buyout Alternative

Since properties that are involved with the buyout alternative are already developed and disturbed, this alternative would not adversely affect geology, seismicity, or soils. The removal of habitable structures would slightly reduce the potential hazards in the unlikely event of any seismic activity.

3.1.1.4 Channelization Alternative

Deepening and widening of all existing drainage infrastructure in the subdivision and downstream would not materially affect geological resources. No structures or dams would be constructed that would pose a hazard in the unlikely event of any seismic activity. League soils, which are classified as prime farmland soils, would be displaced for excavation of the ditches, but as previously noted under the proposed alternative, the subdivision area has already been converted to urban uses, therefore, pursuing this action would be exempt from the provisions of the FPPA. However, channelization activities downstream of the subdivision might affect prime farmland soils as they are not located in areas that have already been converted to urban use..

3.1.2 Water Resources and Water Quality

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).

Horizon 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 subject site. The records indicate the

presence of a water well within a 0.5-mile radius of the subject site. Based on water well drillers' records, nearby water wells draw water from the Gulf Coast aquifer system, which yields water at depths greater than 60 feet in the vicinity of the subject site (TWDB, 2010).

The receiving stream for the project, Hillebrandt Bayou (stream segment ID 0704-02), is listed as a Category 5b segment by the TCEQ (TCEQ, 2010) (Attachment 3). The TCEQ is required, under Section 303(d) of the federal Clean Water Act, to identify water bodies for which effluent limitations are not stringent enough to implement water quality standards. As a Category 5b segment, the water body does not meet applicable water quality standards or is threatened for one or more designated uses by one or more pollutants, and a review of the water quality standards for this water body will be 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, 2010). 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

Continued flooding of the subdivision area would be expected to continue the contribution of pollutants to downstream receiving waters that are commonly present in subdivision areas, including oil and grease, herbicides, pesticides, fertilizers, animal waste, and excess total suspended solids (TSS).

3.1.2.2 Proposed Alternative

No evidence of water wells was present on the subject 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 the 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 in the Texas Administrative Code, 16 TAC §76. The entitled Ordinance No. 05-031 passed by the City Council of the City of Beaumont on 22 March 2005 established properties within the Corporate City limits of the City of Beaumont as a municipal setting designation and prohibited the use of designated groundwater from beneath the property as potable water.

The proposed project would not materially affect the flow or water quality in Hillebrandt Bayou. The detention basins would allow for temporary detention of storm runoff that would facilitate settling and assimilation of entrained pollutants in vegetation in the detention basins. The proposed project would not adversely affect freshwater supply canals, sources, or water conservation projects in the region.

The project has been carefully designed so that it will not aggravate any downstream flooding situations and also provides the greatest benefit to the most severely flooded areas. The lowering of the water surfaces in these flood-prone areas will allow the outfalls that drain the area to function much more efficiently because they will have increased energy slopes, which will move the floodwaters at much greater velocities.

The capacity of the existing and proposed drainage system was analyzed using computer programs based on the Manning Flow Equation for culverts and open channels. The volume of water stored in flooded areas was calculated using a contour map generated from collected field data. Also included was the volume of water stored in ditches and culverts.

The US Army Corps of Engineers' program Hydrologic Engineering Center-1 (HEC-1) was utilized to calculate flows of various locations in the watershed (JCDD6, 2008). Inputs into the HEC-1 model included area, time of concentration, soil properties, amount of impervious cover, storage coefficients, and rainfall distributions. The relationship of each subarea to the others was also defined, as well as the flood hydrograph routes. The Modified-Pulse Routing Method was used to analyze existing flooding, as well as to size proposed detention basins. The storage, outflow, and elevation relationship was carefully determined and inserted into the model.

The flow rates calculated were compared to the existing capacity, and alternatives were analyzed providing the most practical, economical, and environmentally appropriate solution to the problems. The existing conditions computer model was calibrated with a rain event that occurred 29 May 2006. Downstream areas were taken into consideration, and alternatives were chosen that make sense for the entire area.

Neither a Section 401 (Clean Water Act) Water Quality Certification nor a Section 404 (Clean Water Act) permit for placement of fill materials in waters of the US are expected for this project, as no areas subject to Section 404 jurisdiction are present in the project area (see Section 3.2.2).

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, JCDD6 will prepare a Storm Water 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 storm water management will be conducted on a regular basis as prescribed by the TPDES General Permit.

3.1.2.3 Buyout Alternative

The demolition of structures in the buyout area might be expected to release or expose pollutants that could be entrained in runoff and transmitted to downstream receiving waters, such as lead paint, asbestos, household chemicals, petroleum hydrocarbons, and excess TSS.

3.1.2.4 Channelization Alternative

The channelization alternative will increase flood flow velocities in subdivision ditches and downstream receiving waters, such as Willow Marsh Bayou and Hillebrandt Bayou. The increased velocities would have a greater potential for causing erosion and downstream sedimentation. Additionally, the lack of detention time for floodwaters would not allow settling of entrained sediments or filtration of contaminants that may be suspended in floodwaters from the subdivision. Therefore, this alternative could have an increased impact on water quality in downstream receiving waters (Willow Marsh Bayou and Hillebrandt Bayou). This alternative could further impact water quality in Hillebrandt Bayou.

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 the City of Beaumont. The City of Beaumont has land use, building code, and permit authority over the land within its corporate boundaries, including the authority to regulate development proposed within the special flood hazard areas designated on the city's Flood Insurance Rate Map (FIRM). The Applicant seeks to

obtain a FEMA grant that would help reduce the flooding of existing homes in the Tyrrell Park subdivision.

3.1.3.1 No-Action Alternative

The no-action alternative would not adversely affect the 100-year floodplain. However, the purpose of the proposed action to relieve flooding for homes in the Tyrrell Park subdivision would not be realized, and repetitive losses would continue to occur.

3.1.3.2 Proposed Alternative

The proposed project is not located in and would not result in any negative impacts to the 100- and 500-year floodplains; rather, construction of the detention ponds would decrease the floodplain within the Tyrrell Park subdivision. Figure 5 shows the proposed project and the project benefit area in relation to the FEMA flood hazard zones based on FIRM panel 4854570040D, dated 8/06/2002. Since the project is not located within the 100-year floodplain and will not have adverse effects on flooding characteristics, it was not analyzed using the FEMA Eight-Step Planning Process.

3.1.3.3 Buyout Alternative

This alternative would not adversely affect the 100-year floodplain.

3.1.3.4 Channelization Alternative

In order to accomplish the same level of flood improvement in the benefit area, the channels of subdivision ditches and downstream ditches with associated road or pipeline crossings would have to be substantially improved.

3.1.4 Air Resources and Air Quality

The Clean Air Act (CAA) requires that states adopt ambient air quality standards. The standards have been established in order to protect the public from potentially harmful amounts of pollutants. The EPA has established National Ambient Air Quality Standards (NAAQS) for six air pollutants. These pollutants include sulfur dioxide (SO₂), particulate matter with a diameter less than or equal to ten micrometers (PM₁₀), carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), and lead. The EPA has designated specific areas as NAAQS attainment or non-attainment areas. Non-attainment areas are any areas that do not meet (or that contribute to ambient air

quality in a nearby area that does not meet) the quality standard for a pollutant. Attainment areas are any areas that meet ambient air quality standards.

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°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 classified by the EPA and TCEQ as an ozone maintenance area. A maintenance area is an area that was once a non-attainment area, but that has again met standards and additional re-designation requirements through the implementation of measures provided in a State Implementation Plan.

The General Conformity Rule ensures that federal actions comply with the NAAQs. Currently, the General Conformity Rule applies to all federal actions that are taken in designated nonattainment or maintenance areas. However, the rule does not apply if one of these exceptions exists: actions covered by transportation conformity; actions with emissions clearly at or below de minimis levels; actions listed as exempt in the rule; or actions covered by a Presumed-to-Conform approved list (see TCEQ response in Attachment 4).

3.1.4.1 No-Action Alternative

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

3.1.4.2 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 construction equipment during construction could also occur, but the proposed project would have no long-term adverse effect on air quality.

The two pollutants of concern as precursors to ozone formation are volatile organic compounds (VOCs) and nitrogen oxides (NO_x). An increase of 100 tons per year for VOCs or NO_x, resulting from the proposed project, could trigger General Conformity analysis under the CAA. However, the emissions from the proposed project are expected to be well below the 100 tons per year significance level. Therefore, a General Conformity analysis under the CAA will not be required given the exceptions discussed above.

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.

3.1.4.3 Buyout Alternative

Demolition of the 33 purchased residences would be expected to have the same or potentially greater temporary impacts to air quality from fugitive dust and equipment exhaust. This alternative would not have any expected long-term adverse effects on air quality.

3.1.4.4 Channelization Alternative

This alternative would be expected to have the same temporary impacts to air quality from fugitive dust and equipment exhaust as the proposed alternative except that the emissions would be in much closer proximity to existing residences in the Tyrrell Park subdivision. This alternative would not have any expected long-term adverse effects on air quality.

3.2 BIOLOGICAL ENVIRONMENT

3.2.1 Terrestrial and Aquatic Environment

The Tyrrell Park subdivision is characterized as a developed, large-lot residential subdivision. The majority of the area is composed of open lawns and small pastures dominated by St. Augustine grass (*Stenotaphrum secundatum*), bermudagrass (*Cynodon dactylon*), and various weeds and forbs. Scattered trees are present that include Chinese tallow (*Triadica sebifera*), hackberry (*Celtis laevigata*), water oak (*Quercus nigra*), live oak (*Quercus virginiana*), and pecan (*Carya illinoensis*). Additionally, many ornamental trees and shrubs have been introduced to the area.

No aquatic habitat is present on the detention basin sites. Outfall ditches in the vicinity are all maintained drainage facilities with little or no temporary aquatic habitat. Attachment 5 provides representative on-site photographs.

3.2.1.1 No-Action Alternative

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

3.2.1.2 Proposed Alternative

Approximately 16 acres of residential lawn areas and small pastures would be disturbed by the construction of the two detention basins and channel improvements. The constructed areas would be revegetated with grass species similar to those that currently exist in the area. Other than permanent removal of a number of scattered trees from the landscape, the area would generally be returned to a commensurate vegetative condition.

3.2.1.3 Buyout Alternative

The buyout alternative would not adversely affect terrestrial or aquatic habitats.

3.2.1.4 Channelization Alternative

The channelization alternative would have much the same impact to terrestrial landscapes as the proposed project.

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 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. This Order does not apply to the issuance by federal agencies of permits, licenses, or allocations to private parties for activities involving wetlands on non-federal property.

According to the Fannett East and Fannett West National Wetland Inventory (NWI) maps (USFWS, 2008), there were no potential areas of concern mapped within the Tyrrell Park subdivision.

A field determination of wetlands and other aquatic features was conducted by Horizon in accordance with the 2008 Clean Water Act Jurisdictional Determination Guidance (Rapanos Guidance), the 1987 US Army Corps of Engineers (USACE) *Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Regional Supplement (Version 2.0)*, and USACE Regulatory Guidance

Letter No. 05-05 (7 December 2005). The field reconnaissance conducted by Horizon did not reveal the presence of any areas determined to be wetlands or waters of the US subject to jurisdiction under Section 404 of the Clean Water Act.

3.2.2.1 No-Action Alternative

The no-action alternative would not adversely affect jurisdictional wetlands, non-jurisdictional wetlands, or waters of the US.

3.2.2.2 Proposed Alternative

The proposed alternative would not adversely affect jurisdictional wetlands or waters of the US.

3.2.2.3 Buyout Alternative

The buyout alternative would not adversely affect jurisdictional wetlands or waters of the US.

3.2.2.4 Channelization Alternative

The channelization alternative would be limited to predominantly upland ditches that do not contain jurisdictional wetlands but may contain non-jurisdictional wetlands.

3.2.3 Threatened or Endangered Species and Critical Habitat

Federally listed threatened or endangered species known to occur in Jefferson County include the piping plover (*Charadrius melodus*), 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, 2011) (Attachment 6).

Additionally, the USFWS lists the following migratory bird species as being of potential occurrence in many or all Texas counties: Eskimo curlew (*Numenius borealis*), interior least tern (*Sterna antillarum athalossos*), and whooping crane (*Grus americana*). Examination of the Texas Parks and Wildlife Department (TPWD) National Diversity Database (NDD) provided by the TPWD in Austin indicated no documented occurrences of listed species on or within the immediate vicinity of the subject site (NDD, 2011) (Attachment 6). The TPWD also lists the brown pelican (*Pelecanus occidentalis*) as a potential inhabitant of Jefferson County. The brown pelican has been federally delisted in Texas. They also note the Louisiana black bear (*Ursus americanus*) as a possible transient and note that the red wolf (*Canis rufus*), considered extirpated, formerly occupied the area.

Piping Plover

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. Critical habitat for the piping plover has not been designated in the project area.

Sea Turtles

All five (5) federally listed sea turtle species are known to occur sporadically along the Texas Coast (NDD, 2011). Since the proposed project features would not be located adjacent to the Gulf of Mexico or Sabine Lake, sea turtles would not be affected. There is no critical habitat for listed turtles in the project area.

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 will not affect listed species or critical habitat.

3.2.3.2 Proposed Alternative

Based on a review of the species, habitat requirements, and the scope of the proposed project, FEMA has determined that the proposed alternative will not affect listed species or critical habitat.

3.2.3.3 Buyout Alternative

No listed species or their supporting habitats are present in the project area; therefore, the buyout alternative will not affect listed species or critical habitat.

3.2.3.4 Channelization Alternative

No listed species or their supporting habitats are present in the project area; therefore, the channelization alternative will not affect listed species or critical habitat.

3.3 HAZARDOUS MATERIALS

Horizon commissioned TelALL Phase I Support Services, Inc. (TelALL) to provide an environmental database review of selected state and federal agency records. TelALL conducted the database search for the subject site using minimum search distances outlined in the American

Society for Testing and Materials (ASTM) Standards E-1527-00 (ASTM, 2006). Table 1 shows the number of known occurrences for each category as of July 2010 for the proposed Tyrrell Park Detention Project and the minimum search distance for each category.

**TABLE 1
TELALL AGENCY DATABASE REPORT FINDINGS
TYRRELL PARK DETENTION PROJECT**

DATABASE	ACRONYM	LAST UPDATED	MINIMUM SEARCH DISTANCE IN MILES	FINDINGS
National Priority List	NPL	06/2010	1.0	0
Comprehensive Environmental Response, Compensation, and Liability Information System	CERCLIS	06/2010	0.5	0
No Further Remedial Action Planned	NFRAP	06/2010	0.5	0
Resource Conservation and Recovery Act Information System – Treatment, Storage, or Disposal	RCRA-TSD	04/2010	1.0	0
Corrective Action	CORRACT	04/2010	1.0	0
Resource Conservation and Recovery Act Information System – Generators	RCRA-G	04/2010	0.25	0
Emergency Response Notification System	ERNS	05/2010	0.25	0
Texas Voluntary Cleanup Program	TXVCP	04/2010	0.5	0
Innocent Owner/Operator Program	TXIOP	04/2010	0.5	0
Texas State Superfund	TXSSF	05/2010	1.0	0
TCEQ Solid Waste Facilities	TXLF	06/2010	1.0	0
Unauthorized and Unpermitted Landfill Sites	LFUN	06/2010	0.5	0
Leaking Underground Storage Tanks	TXLUST	05/2010	0.5	1
Texas Underground Storage Tanks	TXUST	05/2010	0.25	0
Texas Aboveground Storage Tanks	TXAST	05/2010	0.25	0
Texas Spills List	TXSPILL	06/2010	0.25	0
Brownfield	BRNFD	04/2010	0.5	0
Dry Cleaner	DRYC	05/2010	0.5	0
Indian Reservation Underground Storage Tanks	IRUST	05/2010	0.25	0

The details of the agency database search are provided in Attachment 7. Based on the findings more fully discussed below, the Tyrrell Park Detention Project site has a low probability for the occurrence of any contamination or recognized environmental conditions. Any hazardous or potentially hazardous materials discovered, generated, or used during construction/excavation of the project would be disposed of and handled by the Applicant in accordance with applicable local, state, and federal regulations.

3.3.1 National Priority List (NPL) Database

The National Priority List (NPL) is a priority subset of the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) list and contains those CERCLIS facilities or locations evaluated and confirmed as contaminated. The CERCLIS list was created by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in order to fulfill the need to track contaminated sites. The CERCLA was enacted in 1980 and amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986. These acts established broad authority for the government to respond to problems posed by the release, or threat of release, of hazardous substances, pollutants, or contaminants. The CERCLA also imposed liability on those responsible for releases and provided the authority for the government to undertake enforcement and abatement action against responsible parties. TelALL identified no NPL facilities on or within a 1.0-mile radius of the subject site.

3.3.2 Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Database

This database lists facilities reported to and identified by the EPA, pursuant to Section 103 of the CERCLA. The CERCLIS database contains sites that are either proposed to be listed or are listed on the NPL and sites that are in the screening and assessment phase for possible inclusion on the NPL. These sites are known to, or have the potential to, release hazardous substances or pollutants into the environment. TelALL identified no CERCLIS hazardous waste sites on or within a 0.5-mile radius of the subject site. No further remedial action planned (NFRAP) sites indicate a CERCLIS site that was designated as a site that required no further agency action by the EPA. TelALL identified no NFRAP sites within a 0.5-mile radius of the subject site.

3.3.3 Resource Conservation and Recovery Information System (RCRIS) Database

TelALL derived the data contained in this list from the Resource Conservation and Recovery Information System (RCRIS) database, which attempts to track the status of those regulated under the Resource Conservation and Recovery Act (RCRA). The RCRA requires

generators, transporters, treaters, storers, and disposers of hazardous waste to provide information concerning their activities to state environmental agencies, who, in turn, provide the information to regional and national EPA offices. The RCRA Treatment, Storage, or Disposal (RCRA-TSD) database is a subset of the RCRIS list that tracks facilities that fall under the treatment, storage, or disposal classification. TelALL reviewed the RCRA-TSD database for those facilities where treatment, storage, or disposal of hazardous waste takes place and identified no RCRA-TSD facilities on or within a 1.0-mile radius of the subject site.

The Corrective Action (CORRACT) database lists RCRIS sites that are currently subject to or have in the past been subject to corrective action. No facilities are listed as RCRIS violators that have been subject to corrective action within a 1.0-mile radius of the subject site.

The RCRA Generators (RCRA-G) database is a subset of the RCRIS list that tracks facilities that generate or transport either small or large quantities of substances regulated under the RCRA. The RCRA classifies 3 generators, including conditionally exempt, small-quantity generators (CESQGs); small-quantity generators (SQGs); and large-quantity generators (LQGs). The CESQG produces less than 100 kilograms (kg) per month of hazardous waste; the SQG produces at least 100 kg per month, but less than 1,000 kg per month, of hazardous waste; and the LQG produces at least 1,000 kg per month of hazardous waste. TelALL reviewed the RCRA-G database and found no facilities within a 0.25-mile radius of the subject site.

3.3.4 Emergency Response Notification System (ERNS) Database

The Emergency Response Notification System (ERNS) supports the release of notification requirements of Section 103 of the CERCLA, as amended; Section 311 of the Clean Water Act; and Sections 300.51 and 300.65 of the National Oil and Hazardous Substances Contingency Plan. Additionally, ERNS serves as a mechanism to document and verify incident location information as initially reported, and is utilized as a direct source of easily accessible data needed for analyzing oil and hazardous substances spills. TelALL reviewed the ERNS database and identified no oil or hazardous substance releases within 0.25 miles of the subject site.

3.3.5 Texas Voluntary Cleanup Program (TXVCP) and the Texas Innocent Owner/Operator Program (TXIOP)

The Texas Voluntary Cleanup Program (TXVCP) was established to provide administrative, technical, and legal incentives to encourage the cleanup of contaminated sites in Texas. Since future lenders and landowners receive protection from liability to the State of Texas for cleanup of sites under the TXVCP, most of the constraints for completing real estate transactions at those sites are eliminated. As a result, many unused or underused properties may be restored to economically productive or community-beneficial uses.

After cleanup, the parties receive a certificate of completion from the TCEQ, which states that all lenders and future landowners who are not potentially responsible parties (PRPs) are released from all liability to the State. TelALL identified no TXVCP participants on or within a 0.5-mile radius of the subject site.

The Texas Innocent Owner/Operator Program (TXIOP) provides a certificate to an innocent owner or operator if his or her property is contaminated as a result of a release or migration of contaminants from a source or sources not located on the subject site, and he or she did not cause or contribute to the source or sources of contamination. TelALL identified no TXIOP participants on or within a 0.5-mile radius of the subject site.

3.3.6 Texas State Superfund Database

The Texas State Superfund (TXSSF) database is a list of sites that the State of Texas has identified for investigation or remediation. The TXSSF sites are reviewed for potential upgrading to CERCLIS status by the EPA. TelALL identified no state or federal Superfund sites on or within a 1.0-mile radius of the subject site.

3.3.7 TCEQ Solid Waste Facilities and Unauthorized and Unpermitted Landfill (LFUN) Sites

The TCEQ Solid Waste Facilities (TXLF) listing, derived from the permit files of the TCEQ, contains known active and inactive solid waste disposal, transfer, and processing stations registered within a municipality and/or county. Subchapter R of Chapter 361 of the State of Texas Health and Safety Code regulates land use on sites determined to be, or contain, solid waste landfills. Based on the review of all available information developed during this Environmental Assessment, Horizon found no evidence that suggests that a municipal solid waste landfill exists on or within a 1.0-mile radius of the subject site. Therefore, the site would not be subject to this regulation.

Unauthorized and Unpermitted Landfill (LFUN) sites have no permit and are considered abandoned. All information about these sites was compiled by Texas State University–San Marcos (formerly Southwest Texas State University) under contract with the TCEQ. TelALL identified no LFUN sites on or within a 0.5-mile radius of the subject site.

3.3.8 Underground or Aboveground Storage Tanks

TelALL reviewed the TCEQ database listings that contain information on permitted Texas Underground Storage Tanks (TXUSTs), permitted Texas Aboveground Storage Tanks (TXASTs), and known Texas Leaking Underground Storage Tanks (TXLUSTs). According to TCEQ records, no TXAST facilities were identified on or within a 0.25-mile radius of the Property. No

TXUST or TXSAT facilities were identified on or within a 0.25-mile radius of the Property. According to TCEQ records, there is one (1) TXLUST within a 0.5-mile radius of the subject site.

The TXLUST is 0.5 miles NW of the subject site and located at 5705 Fannett Road, Beaumont Texas, 77704. The TXLUST was reported on 18 September 1989 and was leaking petroleum. A Final Concurrence was issued and the case was closed (see Attachment 7 for details).

Based on the regulatory information and location, the TXLUST would not be expected to affect the subject site and does not appear to constitute a recognized environmental condition for the subject site.

3.3.9 TCEQ Spills List

The TCEQ tracks cases where emergency response is needed for cleanup of hazardous or potentially hazardous substances spills (TXSPILL). TelALL identified no TXSPILL cases within 0.25 miles of the subject site.

3.3.10 Brownfields

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. According to TCEQ records, no Brownfields are located within 0.5 miles of the subject site.

3.3.11 Dry Cleaners

House Bill 1366 requires all dry cleaning (DRYC) drop stations and facilities in Texas to register with the TCEQ and implement new performance standards at their facilities as appropriate. It also requires distributors of dry cleaning solvents to collect fees on the sale of dry cleaning solvents at certain facilities. TelALL identified no DRYC cases within 0.5 miles of the subject site.

3.3.12 Indian Reservation Underground Storage Tanks

Permitted underground storage tanks on Indian land are tracked and maintained by the EPA. TelALL identified no Indian reservation underground storage tank sites on or within a 0.25-mile radius of the Property.

3.3.13 No-Action Alternative

The no-action alternative would not alleviate the current flooding problems of approximately 33 homes in the Tyrrell Park subdivision. During flood events, it is possible for household and lawn chemicals, petroleum products associated with automobiles and other motorized equipment, and other pollutants to be suspended in flood waters and could result in pollution of Willow Marsh Bayou, Hillebrandt Bayou, and downstream waters.

3.3.14 Proposed Alternative

No hazardous materials or sources were identified that would adversely affect the proposed project or be released into the environment as a result of implementation of the project. The reduction of flooding in the Tyrrell Park subdivision would reduce the possibilities of pollution releases from the subdivision to downstream waters during flood events. Excavated soil, waste materials, and debris will be managed and disposed of in accordance with applicable local, state, and federal regulations in an approved manner and location. If contaminated materials are discovered during the construction activities, the work must cease until the appropriate procedures can be implemented and permits obtained. JCDD6 shall handle, manage, and dispose of petroleum products, hazardous materials, and toxic waste in accordance to the requirements and to the satisfaction of the governing local, state, and federal agencies.

3.3.15 Buyout Alternative

The buyout and demolition of residences and associated out-buildings in the Tyrrell Park subdivision has the potential to encounter and potentially release into the environment asbestos, lead-based paint, and other potentially hazardous household and lawn chemicals that might be stored on these properties.

3.3.16 Channelization Alternative

The channelization alternative would not likely release any hazardous materials into the environment as a result of implementation of the project. The reduction of flooding in the Tyrrell Park subdivision would reduce the possibilities of pollution releases from the subdivision to downstream waters during flood events.

3.4 SOCIOECONOMICS

2010 US Census data indicate a population of 252,273 for Jefferson County. A demographic profile of the area shows that approximately 52% of the population is reported as white, 34% as black, 10% as Hispanic, and 4% as other. The project is not expected to affect the

population of the area. The county population is the reference population for the Environmental Justice analysis below (Section 3.4.6).

Local employment is dominated by manufacturing jobs, with the service industry and agricultural-related occupations also being common. The median household income is reported as \$51,688, and is approximately \$10,675 less than the US average. The project is not expected to significantly affect local employment or income, except for a temporary increase during construction. The project however, will benefit the local economy by reducing flooding impacts on homes, structures, and infrastructure in the Tyrrell Park subdivision.

3.4.1 Zoning and Land Use

The project area and surrounding areas are currently zoned single-family residential by the City of Beaumont. Drainage facilities are a permitted activity within single-family residential zoning areas.

3.4.2 Visual Resources

The area of the 2 proposed detention pond sites is currently large-lot residential with abundant open space and surrounded by additional large-lot residential development.

3.4.3 Noise

The project location is currently a large-lot residential area. Existing noise is generally low and generated by traffic on SH 124 and other major streets in the area.

3.4.4 Public Services and Utilities

The proposed project is not expected to impede the access of nearby residents to any public services. A review of the Railroad Commission of Texas (RCT) Well Location Database indicated that 2 pipelines traverse or pass in close proximity to the proposed detention basin areas in the Tyrrell Park subdivision (see Figure 3). No gas wells are present within the boundaries of the drainage improvement areas.

3.4.5 Traffic and Circulation

Major traffic arterials in the area include SH 124, Walden Road, and IH 10. Local residential streets and rural county roads also provide for traffic movements in the area. The proposed Tyrrell Park detention basins are located on the southeast side of SH 124 and southwest of Seale Road.

3.4.6 Environmental Justice (Executive Order 12898)

Executive Order 12898 directs federal agencies to identify and address disproportionately high adverse human health, environmental, economic and social effects of its actions on minority and low-income populations. By necessity, the proposed project is located in the vicinity of the subdivision for which it is designed to provide flood protection and all populations in the project area will benefit.

3.4.7 Safety and Security

Properties within the project area are currently privately owned, and public access is generally limited. Current safety issues in the area include traffic safety on Seale Road and property and health and welfare protection during flood events.

3.4.8 No-Action Alternative

The no-action alternative will not provide relief of concerns for property and health and welfare protection during flood events. Continued flooding of homes in the Tyrrell Park subdivision would continue to place a burden on local, state, and federal flood relief resources and would also continue to depress property values.

3.4.9 Proposed Alternative

The proposed project would not affect or change current zoning. Visual resources (aesthetics) are not expected to be substantially affected by the proposed detention basins in the Tyrrell Park subdivisions. Post-construction, the areas would have a generally similar visual appearance (open space) in all areas following development of the project. The only anticipated significant noises associated with the project would be due to heavy equipment operation during the construction phase. To reduce noise levels during construction, construction activities will take place during normal business hours. Equipment and machinery used at the proposed project site will meet all local, state, and federal noise regulations. Following construction activities, there would be no significant noise-generating activities at the site other than occasional mowing.

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

No impacts or alterations to pipelines will occur.

Other than temporary interruptions of traffic flow on adjacent residential streets during construction, there are no anticipated long-term impediments to traffic due to construction or operation of the proposed drainage improvements.

No low-income or minority populations would be adversely affected by the proposed project. The project is located within the subdivision it is designed to benefit.

3.4.10 Buyout Alternative

The buyout alternative would remove 33 private residential properties from the local tax rolls with a substantial loss in future tax revenues to local governments and service providers.

3.4.11 Channelization Alternative

The land acquisition phase of the channelization alternative would involve the acquisition of portions of several existing residential properties within the Tyrrell Park subdivision. The channelization would also necessitate two (2) petroleum pipeline adjustments. Noise would be of greater concern during construction as the majority of construction would be in close proximity to residences along much of the length of the ditch projects. Construction equipment in such close proximity to residences would also be a potential safety issue for children. The higher flow velocities and depths in the widened and deepened ditch would also present a safety concern to children in the neighborhood.

The channelization alternative would require replacement of several road-crossing culverts with corresponding traffic interruptions and adjustment of two gravity sewer lines with the installation of inverted siphons, which are a constant maintenance problem.

3.5 CULTURAL RESOURCES

To assess the potential for intact, significant cultural resources within the Area of Potential Effect (APE) of the proposed Tyrrell Park Detention Project, an archival review and a field investigation of the proposed improvements was conducted. The archival review consisted of a review of existing maps and records, while the field investigation consisted of an intensive cultural resources survey of the locations of the proposed improvements 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 Archival Research

Archival research conducted via the Texas Historical Commission's (THC) *Texas Archeological Sites Atlas* web site indicated that no previous cultural resource investigations have been conducted and no previously documented cultural resource properties have been recorded within a 2.0-kilometer (1.2-mile) radius of the proposed improvements. The nearest previously recorded archeological site, 41JF66, the Tyrrell Tenant Farmstead, is located approximately 12 kilometers (7 miles) northeast of the subject site (THC, 2009). No recorded sites, including those listed in the National Register of Historic Places (NRHP) or designated as State Archeological Landmarks (SALs), occur within or near the vicinity of the proposed improvements. However, according to the *Atlas*, no formal cultural resources surveys have been undertaken within the boundaries of the proposed improvements.

Prehistoric archeological sites are commonly found in upland areas and alluvial terraces near stream/river channels or drainages. While most of the subject site is within urbanized or agricultural areas, there is generally a low potential for intact prehistoric deposits within the subject site due to the extent of existing disturbances.

3.5.2 Intensive Field Survey

Horizon performed an intensive cultural resources survey of the proposed drainage improvements to locate any cultural resource properties that potentially would be impacted by the proposed construction project. Horizon conducted a 100% surface inspection of the proposed improvement areas and excavated 5 shovel tests in the APE, thereby meeting the Texas State Minimum Archeological Survey Standards (TSMASS) for a project area of this size. The survey is included in Attachment 8.

No cultural resources, historic or prehistoric, were encountered on the modern ground surface or in any of the shovel tests excavated in the APE.

3.5.3 No-Action Alternative

The no-action alternative would have no effects on cultural resources.

3.5.4 Proposed Alternative

No additional cultural resources were identified in the APE during the survey, and no previously documented cultural resources are present in the vicinity of the project area that would be adversely affected by the proposed undertaking. The Texas Historical Commission (THC) serves as the State Historic Preservation Office (SHPO) for Texas. The cultural resources survey was submitted to the SHPO in April of 2009. On May 29, 2009, SHPO concurred that the proposed

project would have no effect on historic properties and cleared the project to proceed. Five residential structures are proposed for demolition as part of the proposed action. Three of the five structures are 45 years old or older. In compliance with the NHPA, a consultation letter was sent to the SHPO on November 23, 2011, regarding the demolition of these three structures. In a December 8, 2011 letter, SHPO concurred that the proposed demolitions would have no effect on historic properties. Copies of the consultation letters with the SHPO's concurrence stamp are provided in Attachment 8.

Based on the archival research, negative results of the survey investigations and consultations with SHPO, FEMA has determined that the Proposed Alternative will have no effect on historic properties or cultural resources.

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 JCDD6 and access to the sensitive area will be restricted by JCDD6. The applicant will inform TDEM and 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.

Additionally, since the proposed improvements would be sponsored by a subdivision of the state, the project also falls under the jurisdiction of the Antiquities Code of Texas.

3.5.5 Buyout Alternative

The buyout alternative would not likely affect historic or prehistoric cultural resources since no significant ground disturbance would be involved in previously undisturbed areas.

3.5.6 Channelization Alternative

Improvements would involve right-of-way acquisitions and widening and deepening of an existing drainage ditch for approximately 6,900 feet, replacement of several road crossing culverts, adjustment of two gravity sewer lines with the installation of inverted siphons, and adjustment of two petroleum pipelines. Previously undiscovered cultural features could be adversely impacted by the channelization alternative in areas of new construction outside the limits of existing facilities.

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 is 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 costs of responses and damages in the Tyrrell Park subdivision would contribute to regional financial and socio-economic impacts.

4.2 PROPOSED ALTERNATIVE

The primary purpose of the proposed project is to reduce potential future flood damage to existing residential development. 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 on natural resources.

The proposed project does not have any other anticipated impacts that are of significance as to add materially to cumulative impacts in the region.

4.3 BUYOUT ALTERNATIVE

The buyout alternative would have minimal additive effects on other regional impacts to environmental resources. However, this alternative would temporarily contribute to regional air-quality degradation due to emissions of fugitive dust and equipment exhaust during demolition of purchased residences and outbuildings. The potential also exists for the encounter and release of toxic or harmful materials during the demolition process that could include asbestos, lead-based

paint, and other potentially hazardous household and lawn chemicals. These materials could temporarily affect air or surface water quality. These impacts would be short term in nature.

The only long-term effect that would contribute to regional cumulative effects would be the loss of approximately 33 private residential properties from the local tax rolls, with a loss of future tax revenues for local government.

4.4 CHANNELIZATION ALTERNATIVE

This alternative would have perhaps the greatest additive effect to regional cumulative impacts both on a short-term and long-term basis.

Short-term impacts that would add to cumulative effects on a temporary basis would include air-quality impacts from fugitive dust and temporary construction noise.

Long-term impacts that would add to cumulative effects on a more permanent basis would include the potential impacts to water quality from increased flood flow velocities in affected ditches and downstream receiving waters, impacts to the aquatic communities in downstream receiving waters due to higher flood flow velocities and reduced water quality, the reduction or loss of tax revenues from acquired properties, and potential negative effects to historic or prehistoric cultural resources in expanded construction areas.

5.0 PUBLIC PARTICIPATION

A Notice of Availability of the Draft EA will be published in the *Beaumont Enterprise* and on FEMA's website (<http://www.fema.gov/plan/ehp/envdocuments/ea-region6.shtml>) requesting public comments. Additionally, the Draft EA will be made available for review for a period of 30 days at the Beaumont Public Library located at 801 Pearl Street; at the Jefferson County Drainage District No. 6 Offices located at 6550 Walden Road in Beaumont, Texas; and at the offices of Horizon Environmental Services, Inc., located at 1507 South IH 35, Austin, Texas. 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. Substantive comments will be addressed as appropriate in the final documents.

6.0 SUMMARY OF ANTICIPATED IMPACTS AND MITIGATION MEASURES FOR PROPOSED ALTERNATIVE

TABLE 2

RESOURCE	ANTICIPATED IMPACTS	MITIGATION MEASURES
Geology, Seismicity, and Soils	Geology – no impacts Seismicity – no impacts Soils – no prime or unique farmland will be impacted. The NRCS has determined that this project is exempt from the FPPA.	No mitigation measures proposed
Water Resources and Water Quality	Groundwater – no impacts Surface water quality – no impacts Developed water resources – no impacts	Project will be subject to requirements of the Texas Pollutant Discharge Elimination System (TPDES), Construction Storm Water General Permit (TXR 150000). JCDD6 will prepare a Storm Water 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 storm water management will be conducted on a regular basis as prescribed by the TPDES General Permit.
Floodplains	No adverse impacts to 100-year floodplain	No mitigation measures proposed
Air Quality	Fugitive dust emissions – temporary increase during construction	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.
Terrestrial and Aquatic Environment	Approximately 16 acres of rural residential lawns and scattered trees to be removed	No mitigation measures proposed
Wetlands	No wetlands to be impacted	No mitigation measures proposed
Threatened and Endangered Species and Critical Habitat	No effect to listed species or critical habitat	No mitigation measures proposed
Hazardous Materials	No hazardous materials concerns identified	Excavated soil, waste materials, and debris will be managed and disposed of in accordance with applicable local, state, and federal regulations in an approved manner and location. If contaminated materials are discovered during the construction activities, the work must cease until the appropriate procedures can be implemented and permits obtained. JCDD6 shall handle, manage, and dispose of petroleum products, hazardous materials, and toxic waste in accordance to the requirements and to the satisfaction of the governing local, state, and federal agencies.
Land Use	No significant changes. 5 single-family residences will be converted to open space.	No mitigation measures proposed
Visual Resources	No significant alterations – rural residential lawns and scattered trees will be converted to open grassy basins.	No mitigation measures proposed
Noise	Temporary construction equipment noise	Construction activities will take place during normal business hours. Equipment and machinery used at the proposed project site will meet all local, state, and federal noise regulations.
Public Services/Utilities	Public services – no impacts Utilities – no impacts Pipelines – no impacts	No mitigation measures proposed
Traffic	Short-duration traffic interruptions during construction on local streets	Implement traffic control procedures as needed
Environmental Justice	No impacts	No mitigation measures proposed

Safety/Security	No issues are expected	Appropriate signage and barriers must be in place prior to construction activities to alert pedestrians and motorists of project activities.
Cultural Resources	No significant cultural resources present – no 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 JCDD6 and access to the sensitive area will be restricted by JCDD6. The applicant will inform TDEM and 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.

7.0 CORRESPONDENCE AND CONSULTATIONS

The NRCS response is included in Attachment 2. Response letters from the USFWS, TPWD, TCEQ, and GLO are located in Attachment 4. The cultural resources survey and SHPO correspondence is provided in Attachment 8.

8.0 LIST OF PREPARERS

C. Lee Sherrod, Vice President, Biologist, Horizon Environmental Services, Inc.

Jesse Owens, Senior Archeologist and Project Manager, Horizon Environmental Services, Inc.

Doug Canant, District Engineer, Jefferson County Drainage District No. 6

Government Contributors

Kevin Jaynes, CHMM, Regional Environmental Officer, FEMA Region 6

Dorothy Weir, Environmental Specialist, FEMA Region 6

9.0 REFERENCES

- (ASTM) American Society for Testing and Materials. *ASTM Standards on Environmental Site Assessments for Commercial Real Estate*, 5th Edition, E 1527-05. West Conshohocken, Pennsylvania: ASTM, 2006.
- (ESRI) Environmental Systems Research Institute, Inc. Data & Maps and Street Map North America DVD. ESRI Data & Maps 9.3. ESRI, Redlands, California. 2009.
- (FEMA) Federal Emergency Management Agency. Flood Insurance Rate Map No. 4854570040D. 6 August 2002.
- (JCDD6) Jefferson County Drainage District No. 6. In-house H+H study. Beaumont, Texas. 2008.
- (NRCS) US Department of Agriculture, Natural Resources Conservation Service. 2010a. Texas Online Soil Survey Manuscripts, <http://soils.usda.gov/survey/online_surveys/texas/>. Accessed 16 September 2010.
- _____. 2010b. Soil Series Description Query Facility, <http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdnamequery.cgi>. Accessed 16 September 2010.
- (TCEQ) Texas Commission on Environmental Quality. Draft 2010 Texas 303(d) List (5 February, 2010). http://www.tceq.state.tx.us/assets/public/compliance/menops/water/08twqi/2008_303d.pdf. Accessed 18 July 2010.
- Texas State Historical Association. 2011. *The Handbook of Texas Online*. "Geology," <http://www.tsha.utexas.edu/handbook/online/articles/view/GG/swgqz.html>. Accessed 10 June 2011.
- (THC) Texas Historical Commission. *Texas Archeological Sites Atlas* restricted database, <http://www.pedernales.thc.state.tx.us/>. Accessed 24 April 2009.
- (TPWD) Texas Parks and Wildlife Department. 2011. Natural Diversity Database: Element Occurrence Record, Jefferson County.
- (TWDB) Texas Water Development Board. Water Information Integration and Dissemination System. TWDB Groundwater Database (ArcIMS), http://wiid.twdb.state.tx.us/ims/wm_drl/viewer.htm?DISCL=1&. Accessed 18 July 2010.
- (USDA) US Department of Agriculture. Digital orthophoto quarter-quadrangle, Beaumont West, Texas. National Agriculture Imagery Program, Farm Service Agency, Aerial Photography Field Office. 2010.

(USFWS) US Department of the Interior, Fish and Wildlife Service. National Wetlands Inventory Maps; Beaumont West, Texas, quadrangle. 2008.

_____. Endangered Species List web site, <http://www.fws.gov/southwest/es/endangeredspecies/Lists/ListSpecies.cfm>. Accessed 18 July 2011.

(USGS) US Geological Survey. 7.5-minute series topographic maps, Beaumont West, Texas, quadrangle. 1994.

(UT-BEG) University of Texas Bureau of Economic Geology. *Geologic Atlas of Texas*, Beaumont Sheet. The University of Texas at Austin. Revised 1992.

FIGURES

ATTACHMENT 1
PROJECT DESCRIPTION
AND
H&H INFORMATION

ATTACHMENT 2
NRCS PRIME FARMLAND DETERMINATION

ATTACHMENT 3
TCEQ DRAFT 2010 TEXAS 303(d) LIST

ATTACHMENT 4
AGENCY CONSULTATION/LETTERS OF CONCURRENCE

ATTACHMENT 5
ON-SITE PHOTOGRAPHS

ATTACHMENT 6
THREATENED OR ENDANGERED SPECIES INFORMATION

ATTACHMENT 7
HAZARDOUS MATERIALS AGENCY DATABASE SEARCH

ATTACHMENT 8

CULTURAL RESOURCES SURVEY AND SHPO CONSULTATION LETTERS

ATTACHMENT 9
DRAFT NOTICE OF AVAILABILITY

Federal Emergency Management Agency (FEMA)
PUBLIC NOTICE
Notice of Availability of the Draft Environmental Assessment for the
Tyrrell Park Detention Project
HMGP-DR-1780-TX, Project #40
Jefferson County, Texas

Jefferson County Drainage District No. 6 has applied to FEMA for assistance with the construction of two detention basins totaling approximately 14 acre feet to relieve flooding conditions in portions of the Tyrrell Park subdivision. Total ground disturbance in the entire project area will be approximately 16 acres. The improvements aim to reduce future flood risk to 33 existing structures in the Tyrrell Park subdivision near Beaumont, Jefferson County, Texas.

A draft Environmental Assessment (EA) has been prepared to assess the potential impacts of the proposed action and alternatives on the human and natural environment in accordance with the National Environmental Policy Act of 1969 (NEPA), the Council for Environmental Quality (CEQ) regulations implementing NEPA (40 CFR Parts 1500 – 1508), the National Historic Preservation Act, Executive Order 11988, Executive Order 11990, and the implementing regulations of FEMA (44 CFR Parts 9 and 10). This project is not located within the 100-year flood plain and an assessment has not been made on the effects of the proposed action on the flood plain.

The draft EA evaluates alternatives that provide for compliance with applicable environmental laws. The alternatives evaluated include (1) no action; (2) the proposed action described above; (3) buy-out of 33 flood prone properties; and (4) channelization.

The draft EA is available for review and comment between _____, 2011, and _____, 2012, at the Beaumont Public Library located at 801 Pearl Street; at the Jefferson County Drainage District No. 6 Offices located at 6550 Walden Road in Beaumont, Texas; and at the offices of Horizon Environmental Services, Inc., located at 1507 South IH 35, Austin, Texas. Electronic copies can be accessed on the FEMA website at <http://www.fema.gov/plan/ehp/envdocuments/ea-region6.shtm> or by request from Dorothy Weir, Environmental Specialist, FEMA Region 6 at dorothy.weir@fema.dhs.gov.

Written comments regarding this proposed project can be mailed to Dorothy Weir, Environmental Specialist, FEMA Region 6, 909 N. Loop 288, Denton, TX 76209. Electronic comments can also be submitted to dorothy.weir@fema.dhs.gov. Comments should be received no later than 5 p.m. on _____, 2011. 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. Substantive comments will be addressed as appropriate in the final documents.

Betty Holman, Asst. Gen. Manager – Adm.
Jefferson County Drainage District No. Six
6550 Walden Rd.
Beaumont, TX 77707
(409) 842-1818