ATTACHMENT 1

NRCS PRIME FARMLAND DETERMINATION

Horizon™
Environmental Services, Inc.

28 December 2012

Micki Yoder
Natural Resources Conservation Service
US Department of Agriculture
101 South Main
Temple, Texas 76501-6624

RE: Proposed Jefferson County Drainage District No. 6 Project:
Bayou Din Detention Basin – Revised Spoil Area
Beaumont, Jefferson County, Texas
HJN 090038 EA

Dear Ms. Yoder:

In February of 2012, we corresponded with your office as part of a National Environmental Policy Act (NEPA) Environmental Assessment (EA) process on behalf of Jefferson County Drainage District No. 6 (DD6) and the Federal Emergency Management Agency (FEMA) to support a federal grant for the construction and implementation of a 41-acre detention basin. During that EA process, a proposed spoil site was identified on the north side of the proposed detention basin. The EA process was completed with a signed Finding of No Significant Impact (FONSI) in July of 2012 and the grant was issued to DD6. Subsequent easement negotiations with involved landowners have revealed the landowner's desire to place the spoil materials in a hay field east of the detention basin and across Boyt Road. FEMA has indicated that a supplemental EA will be required with new agency coordination. This coordination letter is being provided for your agency's' response in conformance with NEPA procedures.

The attached maps depict the new location of the proposed spoil placement area in relation to the 41-acre Lawhon Detention Basin. The proposed new spoil site is currently mapped to be in the FEMA 100-year floodplain of Bayou Din because during the 100-year event, the flood water elevation in Bayou Din peaks above the higher ground divide between the watersheds (Boyt Road) and spills into Kidd Gully. Once the detention project is complete the improved 100-year water surface for Bayou Din will be lowered below the existing high-ground divide and the water will no longer spill into Kidd Gully. The placement of spoil in this field will not displace any flood plain after the project is completed and the spoil will be shaped to drain away from the detention basin toward Kidd Gully.

The spoil placement area is characterized as a managed hay field dominated by bahia grass. No wetlands or waters of the US would be affected by the spoil placement. On-site photographs are also attached.

Soils on the revised spoil site include Anahuac very fine sandy loam, Morey-Levac complex, and League clay series soils. Anahuac very fine sandy loam, Morey-Levac complex, and League clay series soils are all listed as Prime Farmland Soils. An additional 86.9 acres of prime or unique farmland soils would be affected by the spoils placement in addition to the 42

acres impacted by the detention basin for a total of 129 acres. A revised Farmland Impact Worksheet and Custom Soil Resources Report are also attached.

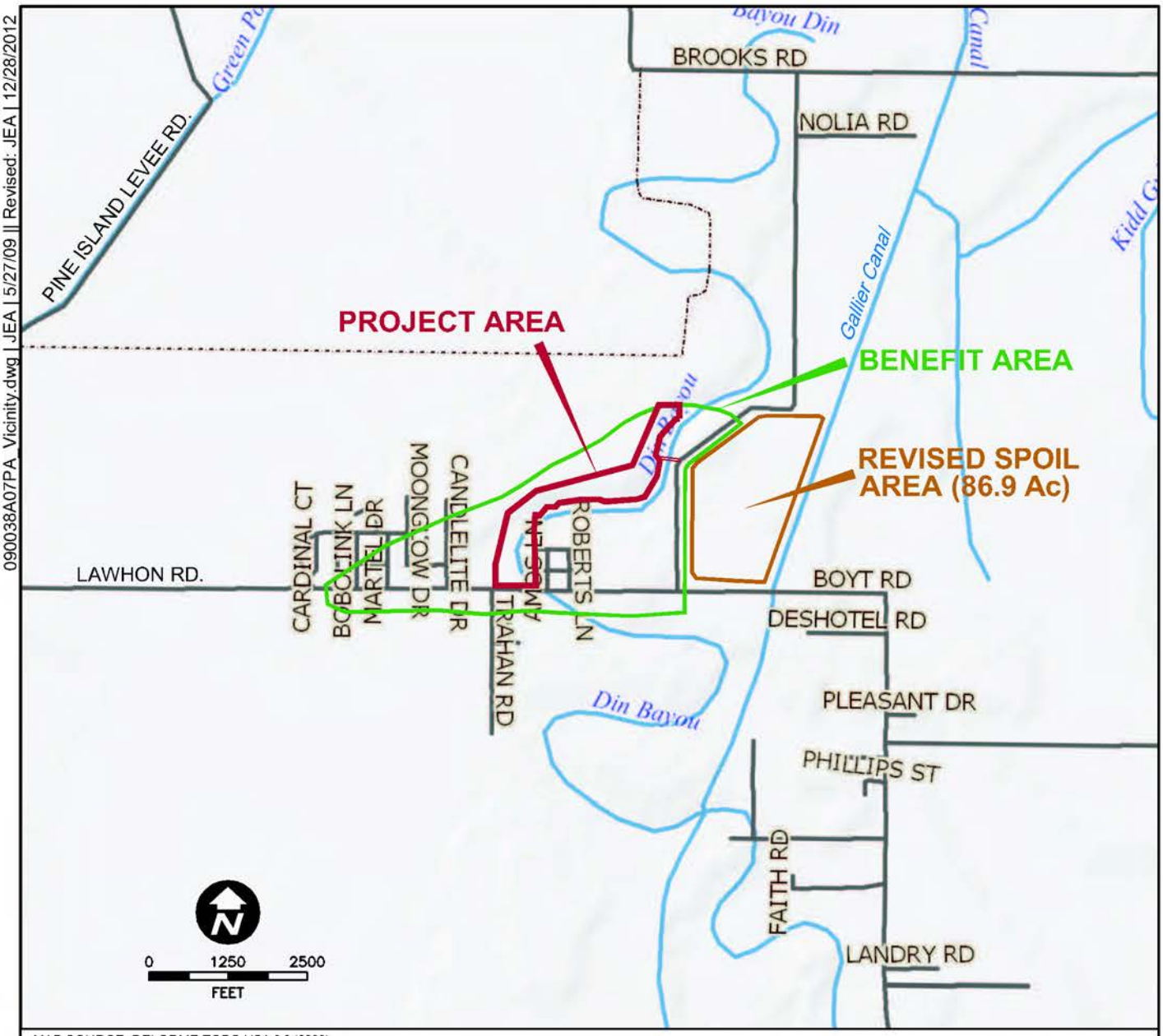
In accordance with NEPA and the Farmland Protection Policy Act (FPPA), your determination of impact significance to prime and other important farmlands is requested. Your prompt attention to this matter would be greatly appreciated, as your response is necessary to complete the application process for Jefferson County DD6's grant from FEMA.

Please call me should you have any questions concerning this project or if I can be of any further assistance.

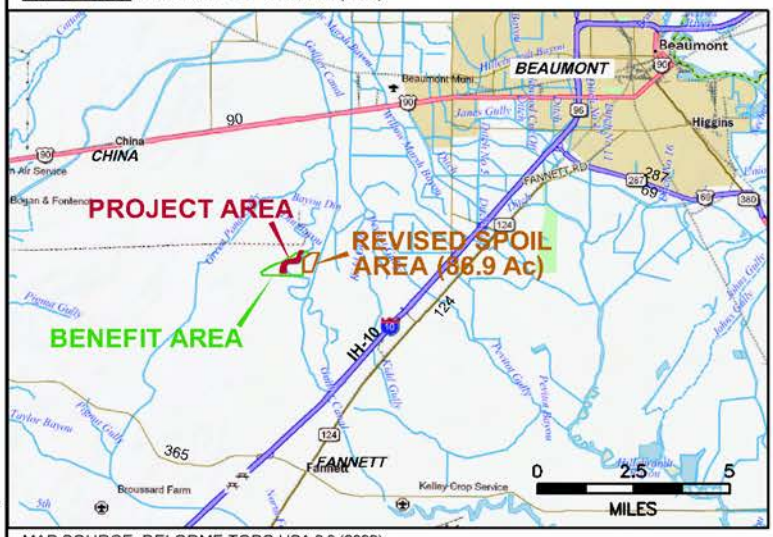
Sincerely,
For Horizon Environmental Services, Inc.

C. Lee Sherrod
Vice President

ATTACHMENTS



MAP SOURCE: DELORME TOPO USA 8.0 (2009)



MAP SOURCE: DELORME TOPO USA 8.0 (2009)

FIGURE 1

VICINITY MAP
BAYOU DIN PROJECT AREA
JEFFERSON COUNTY, TEXAS

Horizon
Environmental Services, Inc.

090038A07PA_Vicinity.dwg | JEA | 5/27/09 || Revised: JEA | 12/28/2012

"Do Not Scale This Drawing"

United States Department of Agriculture

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Jefferson and Orange Counties, Texas

February 27, 2012

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Soil Data Mart Web site or the NRCS Web Soil Survey. The Soil Data Mart is the data storage site for the official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Unit Legend

Jefferson and Orange Counties, Texas (TX623)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
AnA	Anahuac very fine sandy loam, 0 to 2 percent slopes	18.6	44.2%
AsA	Anahuac-Aris complex, 0 to 1 percent slopes	9.4	22.3%
LwA	Leton loam, ponded, 0 to 1 percent slopes	14.0	33.5%
Totals for Area of Interest		**42.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments

on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Jefferson and Orange Counties, Texas

AnA—Anahuac very fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

Elevation: 10 to 50 feet
Mean annual precipitation: 50 to 60 inches
Mean annual air temperature: 70 to 72 degrees F
Frost-free period: 260 to 310 days

Map Unit Composition

Anahuac and similar soils: 85 percent

Description of Anahuac

Setting

Landform: Meander scrolls
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy fluviomarine deposits of late pleistocene age

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 6.0
Available water capacity: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability (nonirrigated): 2w
Ecological site: Loamy Prairie 44-56" PZ (R150AY741TX)

Typical profile

0 to 7 inches: Very fine sandy loam
7 to 18 inches: Loam
18 to 22 inches: Loam
22 to 41 inches: Clay
41 to 54 inches: Clay loam
54 to 80 inches: Loam

AsA—Anahuac-Aris complex, 0 to 1 percent slopes

Map Unit Setting

Elevation: 10 to 50 feet
Mean annual precipitation: 50 to 60 inches
Mean annual air temperature: 70 to 72 degrees F
Frost-free period: 260 to 310 days

Map Unit Composition

Anahuac and similar soils: 60 percent
Aris and similar soils: 25 percent
Minor components: 15 percent

Description of Anahuac

Setting

Landform: Meander scrolls
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy fluviomarine deposits of late pleistocene age

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 6.0
Available water capacity: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability (nonirrigated): 2w
Ecological site: Loamy Prairie 44-56" PZ (R150AY741TX)

Typical profile

0 to 10 inches: Loam
10 to 19 inches: Loam
19 to 24 inches: Loam
24 to 45 inches: Clay
45 to 52 inches: Clay loam
52 to 80 inches: Sandy clay loam

Description of Aris

Setting

Landform: Flats

Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy fluviomarine deposits of late pleistocene age

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 24 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 3 percent
Gypsum, maximum content: 3 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 6.0
Available water capacity: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): 4w
Land capability (nonirrigated): 4w
Ecological site: Lowland 35-56" PZ (R150AY537TX)

Typical profile

0 to 6 inches: Silt loam
6 to 14 inches: Silty clay loam
14 to 23 inches: Silty clay
23 to 72 inches: Clay
72 to 80 inches: Clay

Minor Components

Unnamed, minor components

Percent of map unit: 15 percent

LwA—Leton loam, ponded, 0 to 1 percent slopes

Map Unit Setting

Elevation: 10 to 40 feet
Mean annual precipitation: 50 to 60 inches
Mean annual air temperature: 70 to 72 degrees F
Frost-free period: 260 to 310 days

Map Unit Composition

Leton and similar soils: 75 percent
Minor components: 25 percent

Description of Leton

Setting

Landform: Flats
Landform position (three-dimensional): Dip
Microfeatures of landform position: Open depressions
Down-slope shape: Concave, linear
Across-slope shape: Concave
Parent material: Loamy fluviomarine deposits of late pleistocene age

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water capacity: High (about 10.8 inches)

Interpretive groups

Land capability (nonirrigated): 4w
Ecological site: Lowland 35-56" PZ (R150AY537TX)

Typical profile

0 to 4 inches: Loam
4 to 8 inches: Loam
8 to 20 inches: Loam
20 to 80 inches: Silty clay loam

Minor Components

Unnamed, minor components

Percent of map unit: 25 percent

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

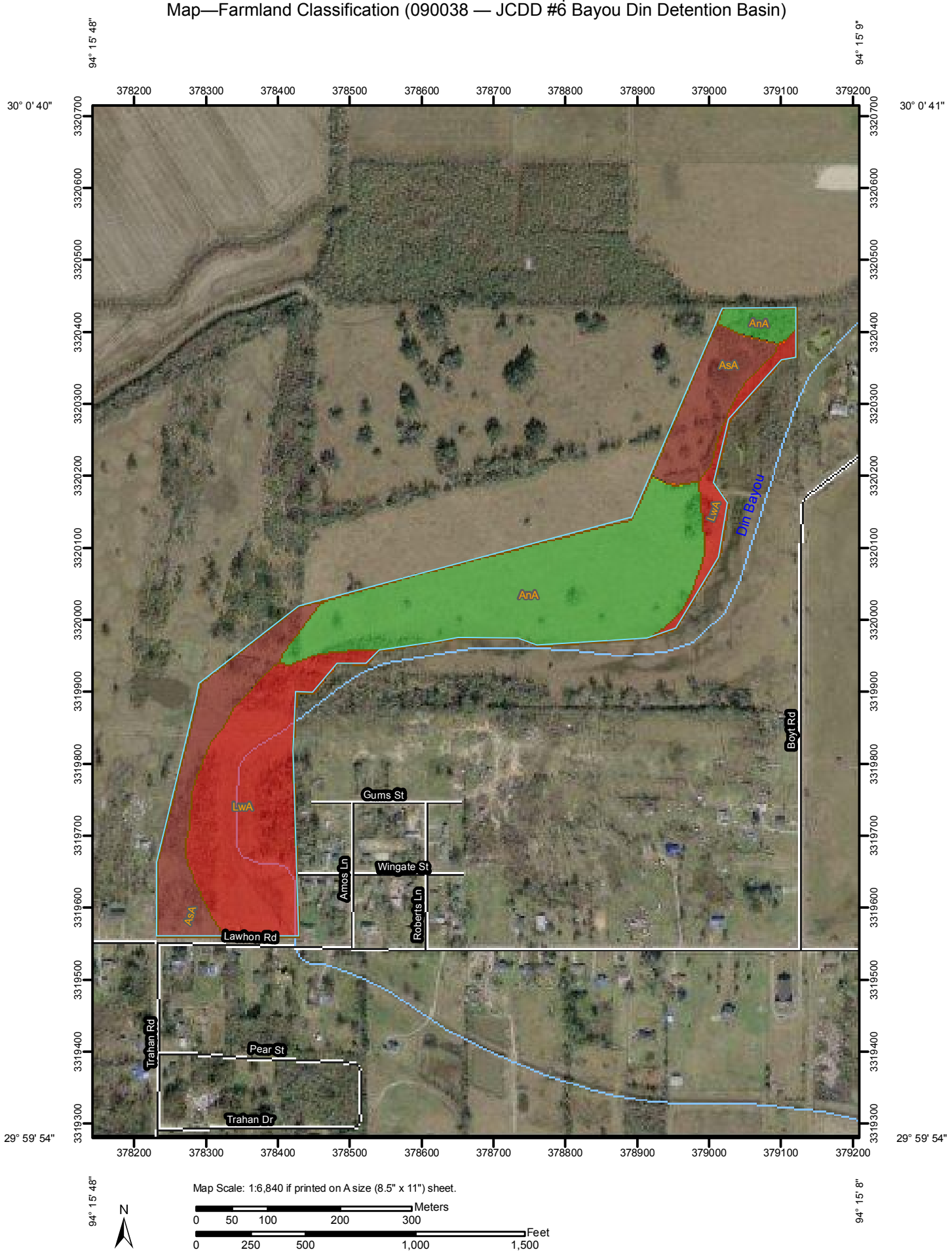
Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Farmland Classification (090038 — JCDD #6 Bayou Din Detention Basin)

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Custom Soil Resource Report
Map—Farmland Classification (090038 — JCDD #6 Bayou Din Detention Basin)



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Units

Soil Ratings

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Political Features

- Cities

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:6,840 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 15N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Jefferson and Orange Counties, Texas
Survey Area Data: Version 10, Oct 27, 2009

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Farmland Classification (090038 — JCDD #6 Bayou Din Detention Basin)

Farmland Classification— Summary by Map Unit — Jefferson and Orange Counties, Texas (TX623)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
AnA	Anahuac very fine sandy loam, 0 to 2 percent slopes	All areas are prime farmland	18.6	44.2%
AsA	Anahuac-Aris complex, 0 to 1 percent slopes	Prime farmland if drained	9.4	22.3%
LwA	Leton loam, ponded, 0 to 1 percent slopes	Not prime farmland	14.0	33.5%
Totals for Area of Interest			**42.0**	**100.0%**

Rating Options—Farmland Classification (090038 — JCDD #6 Bayou Din Detention Basin)

Aggregation Method: No Aggregation Necessary

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The majority of soil attributes are associated with a component of a map unit, and such an attribute has to be aggregated to the map unit level before a thematic map can be rendered. Map units, however, also have their own attributes. An attribute of a map unit does not have to be aggregated in order to render a corresponding thematic map. Therefore, the "aggregation method" for any attribute of a map unit is referred to as "No Aggregation Necessary".

Tie-break Rule: Lower

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

References

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United States Department of Agriculture

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Jefferson and Orange Counties, Texas

January 2, 2013

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Soil Data Mart Web site or the NRCS Web Soil Survey. The Soil Data Mart is the data storage site for the official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:4,870 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 15N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Jefferson and Orange Counties, Texas
Survey Area Data: Version 11, Sep 21, 2012

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Jefferson and Orange Counties, Texas (TX623)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
AnA	Anahuac very fine sandy loam, 0 to 2 percent slopes	9.4	10.8%
LtA	League clay, 0 to 1 percent slopes	67.8	78.3%
MrA	Morey-Levac complex, 0 to 1 percent slopes	9.5	10.9%
Totals for Area of Interest		**86.7**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If

intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Jefferson and Orange Counties, Texas

AnA—Anahuac very fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

Landscape: Coastal plains
Elevation: 10 to 50 feet
Mean annual precipitation: 50 to 60 inches
Mean annual air temperature: 70 to 72 degrees F
Frost-free period: 260 to 310 days

Map Unit Composition

Anahuac and similar soils: 85 percent
Minor components: 15 percent

Description of Anahuac

Setting

Landform: Meander scrolls
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy fluviomarine deposits of late pleistocene age

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 6.0
Available water capacity: High (about 9.7 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability classification (irrigated): 2w
Land capability (nonirrigated): 2w
Hydrologic Soil Group: D
Ecological site: Loamy Prairie 44-56" PZ (R150AY741TX)

Typical profile

0 to 7 inches: Very fine sandy loam
7 to 18 inches: Loam
18 to 22 inches: Loam
22 to 41 inches: Clay
41 to 54 inches: Clay loam
54 to 80 inches: Loam

Minor Components

Unnamed, minor components

Percent of map unit: 10 percent

Aris

Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Lowland 35-56" PZ (R150AY537TX)

LtA—League clay, 0 to 1 percent slopes

Map Unit Setting

Landscape: Coastal plains
Elevation: 10 to 50 feet
Mean annual precipitation: 50 to 60 inches
Mean annual air temperature: 70 to 72 degrees F
Frost-free period: 260 to 310 days

Map Unit Composition

League and similar soils: 85 percent
Minor components: 15 percent

Description of League

Setting

Landform: Flats
Landform position (three-dimensional): Talf
Microfeatures of landform position: Gilgai
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey sediments of the beaumont formation

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 6 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Gypsum, maximum content: 4 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Moderate (about 9.0 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability classification (irrigated): 3w
Land capability (nonirrigated): 3w

Hydrologic Soil Group: D
Ecological site: Blackland 24-44" PZ (R150AY526TX)

Typical profile
0 to 11 inches: Clay
11 to 30 inches: Clay
30 to 36 inches: Clay
36 to 59 inches: Clay
59 to 80 inches: Clay

Minor Components

Unnamed, minor components
Percent of map unit: 13 percent

Beaumont
Percent of map unit: 2 percent
Landform: Depressions on flats
Microfeatures of landform position: Gilgai

MrA—Morey-Levac complex, 0 to 1 percent slopes

Map Unit Setting
Landscape: Coastal plains
Elevation: 10 to 50 feet
Mean annual precipitation: 50 to 60 inches
Mean annual air temperature: 70 to 72 degrees F
Frost-free period: 260 to 310 days

Map Unit Composition
Morey and similar soils: 75 percent
Levac and similar soils: 10 percent
Minor components: 15 percent

Description of Morey

Setting
Landform: Meander scrolls
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy and clayey sediments of the beaumont formation

Properties and qualities
Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 30 inches
Frequency of flooding: None

Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 8.0
Available water capacity: High (about 9.6 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability classification (irrigated): 3w
Land capability (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: Loamy Prairie 44-56" PZ (R150AY741TX)

Typical profile

0 to 5 inches: Loam
5 to 9 inches: Loam
9 to 26 inches: Clay loam
26 to 80 inches: Clay loam

Description of Levac

Setting

Landform: Flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy fluviomarine deposits of late pleistocene age

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: High (about 9.2 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability classification (irrigated): 3w
Land capability (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: Loamy Prairie 44-56" PZ (R150AY741TX)

Typical profile

0 to 5 inches: Silt loam
5 to 18 inches: Silty clay loam
18 to 34 inches: Clay
34 to 52 inches: Clay
52 to 80 inches: Silty clay

Minor Components

Unnamed, minor components

Percent of map unit: 10 percent

Aris

Percent of map unit: 5 percent
Landform: Flats

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U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request
Name Of Project: Bayou Din Detention Basin and Revised Spoil Site	Federal Agency Involved: FEMA
Proposed Land Use: Drainage - Flood Mitigation	County And State: Jefferson County, Texas
PART II *(To be completed by NRCS)*	Date Request Received By NRCS

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☐	No ☐	Acres Irrigated	Average Farm Size
Major Crop*(s)*	Farmable Land In Govt. Jurisdiction Acres: 312695 %		Amount Of Farmland As Defined in FPPA Acres: %	
Name Of Land Evaluation System Used	Name Of Local Site Assessment System		Date Land Evaluation Returned By NRCS	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	129.0			
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	129.0	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	0	0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use	15	9			
2. Perimeter In Nonurban Use	10	10			
3. Percent Of Site Being Farmed	20	0			
4. Protection Provided By State And Local Government	20	20			
5. Distance From Urban Builtup Area	15	15			
6. Distance To Urban Support Services	15	10			
7. Size Of Present Farm Unit Compared To Average	10	3			
8. Creation Of Nonfarmable Farmland	10	0			
9. Availability Of Farm Support Services	5	5			
10. On-Farm Investments	20	0			
11. Effects Of Conversion On Farm Support Services	10	0			
12. Compatibility With Existing Agricultural Use	10	0			
TOTAL SITE ASSESSMENT POINTS	160	72	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	0	0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	72	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	72	0	0	0

Site Selected: A	Date Of Selection 12/28/12	Was A Local Site Assessment Used? Yes ☐ No ☒

Reason For Selection: Location is necessary to achieve required flood mitigation improvements. Work must be accomplished in and adjacent to E

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United States Department of Agriculture
NRCS
Natural Resources Conservation Service

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Temple, TX 76501-6624
Phone: 254-742-9826
FAX: 254-742-9859

January 9, 2013

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

Attention: C. Lee Sherrod

Subject: LNU-Farmland Protection
Proposed Bayou Din Detention Basin – Revised Spoil Area
Jefferson County, Texas

We have reviewed the information provided in your correspondence dated December 28, 2012 concerning the proposed new spoil site in Jefferson County, Texas. This review is part of the National Environmental Policy Act (NEPA) evaluation for Federal Emergency Management Agency (FEMA). We have evaluated the proposed site as required by the Farmland Protection Policy Act (FPPA).

The proposed project does contain soils classified as Important Farmland Soils. This Impact Rating does not address the quality of the spoil material being placed on this farmland. We have completed Parts II, IV, and V of the Farmland Conversion Impact Rating (Form AD-1006). The relative value of farmland in Part V should be used in your calculation for Part VII.

To meet reporting requirements of section 1546 of the Act, 7 U.S.C 4207, and for data collection purposes, after your agency has made a final decision on a project in which one or more of the alternative sites contain farmland subject to the FPPA, NRCS is requesting a return copy of the (Form AD-1006), which indicates the final decision. We encourage the use of accepted erosion control methods during the construction of this project.

If you have any questions, please contact me at (254) 742-9854, Fax (254) 742-9859 or by email at drew.kinney@tx.usda.gov.

Sincerely,

Drew Kinney

Drew Kinney
NRCS GIS Specialist

Attachment

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*		Date Of Land Evaluation Request	
Name Of Project	Bayou Din Detention Basin and Revised Spoil Site	Federal Agency Involved	FEMA
Proposed Land Use	Drainage - Flood Mitigation	County And State	Jefferson County, Texas
PART II *(To be completed by NRCS)*		Date Request Received By NRCS	1-2-2013

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☑	No ☐	Acres Irrigated	Average Farm Size
			16,896	420

Major Crop(s)	Farmable Land In Govt. Jurisdiction	Amount Of Farmland As Defined in FPPA
Bermudagrass	Acres: ~~312695~~ 443,258 % 74	Acres: 415,181 % 69
Name Of Land Evaluation System Used: LESA	Name Of Local Site Assessment System: NA	Date Land Evaluation Returned By NRCS: 1-9-2013

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	129.0			
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	129.0	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	28			
B. Total Acres Statewide And Local Important Farmland	0			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	.007			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	19			
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	92	0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use	15	9			
2. Perimeter In Nonurban Use	10	10			
3. Percent Of Site Being Farmed	20	0			
4. Protection Provided By State And Local Government	20	20			
5. Distance From Urban Builtup Area	15	15			
6. Distance To Urban Support Services	15	10			
7. Size Of Present Farm Unit Compared To Average	10	3			
8. Creation Of Nonfarmable Farmland	10	0			
9. Availability Of Farm Support Services	5	5			
10. On-Farm Investments	20	0			
11. Effects Of Conversion On Farm Support Services	10	0			
12. Compatibility With Existing Agricultural Use	10	0			
TOTAL SITE ASSESSMENT POINTS	160	72	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	0	0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	72	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	72	0	0	0

Site Selected: A	Date Of Selection 12/28/12	Was A Local Site Assessment Used? Yes ☐ No ☒

Reason For Selection: Location is necessary to achieve required flood mitigation improvements. Work must be accomplished in and adjacent to t

(See Instructions on reverse side) Form AD-1006 (10-83)

This form was electronically produced by National Production Services Staff

ATTACHMENT 2

AGENCY CONSULTATION/LETTERS OF CONCURRENCE

Horizon™
Environmental Services, Inc.

28 December 2012

Kate Zultner
Consistency Review Coordinator
Texas General Land Office
P. O. Box 12873
Austin, Texas 78711-2873

RE: Proposed Jefferson County Drainage District No. 6 Project:
Bayou Din Detention Basin – Revised Spoil Area
Beaumont, Jefferson County, Texas
HJN 090038 EA

Dear Ms. Zultner:

In February of 2012, we corresponded with your office as part of a National Environmental Policy Act (NEPA) Environmental Assessment (EA) process on behalf of Jefferson County Drainage District No. 6 (DD6) and the Federal Emergency Management Agency (FEMA) to support a federal grant for the construction and implementation of a 41-acre detention basin. During that EA process, a proposed spoil site was identified on the north side of the proposed detention basin. The EA process was completed with a signed Finding of No Significant Impact (FONSI) in July of 2012 and the grant was issued to DD6. Subsequent easement negotiations with involved landowners have revealed the landowner's desire to place the spoil materials in a hay field east of the detention basin and across Boyt Road. FEMA has indicated that a supplemental EA will be required with new agency coordination. This coordination letter is being provided for your agency's' response in conformance with NEPA procedures.

The attached maps depict the new location of the proposed spoil placement area in relation to the 41-acre Lawhon Detention Basin. The proposed new spoil site is currently mapped to be in the FEMA 100-year floodplain of Bayou Din because during the 100-year event, the flood water elevation in Bayou Din peaks above the higher ground divide between the watersheds (Boyt Road) and spills into Kidd Gully. Once the detention project is complete the improved 100-year water surface for Bayou Din will be lowered below the existing high-ground divide and the water will no longer spill into Kidd Gully. The placement of spoil in this field will not displace any flood plain after the project is completed and the spoil will be shaped to drain away from the detention basin toward Kidd Gully.

The spoil placement area is characterized as a managed hay field dominated by bahia grass. No wetlands or waters of the US would be affected by the spoil placement. On-site photographs are also attached.

Please review the attached figures and information concerning the proposed alternate spoil area to determine if the project is consistent with your agency's environmental regulations or policies. Please respond by letter at your earliest convenience. Your prompt attention to this matter would be greatly appreciated, as your signed concurrence letter is necessary to complete the supplemental EA for FEMA.

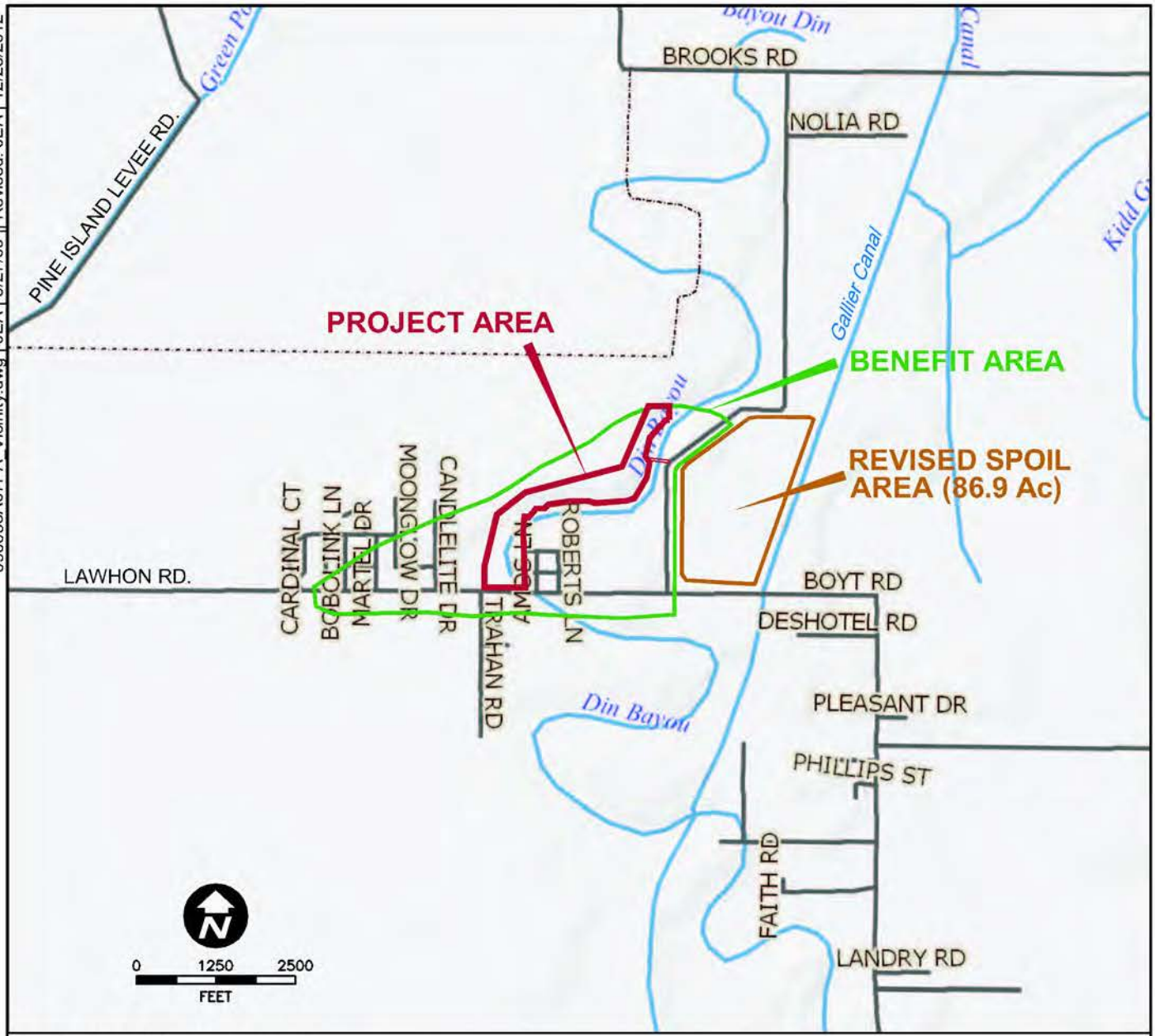
Please call me should you have any questions concerning this project or if I can be of any further assistance.

Sincerely,
For Horizon Environmental Services, Inc.

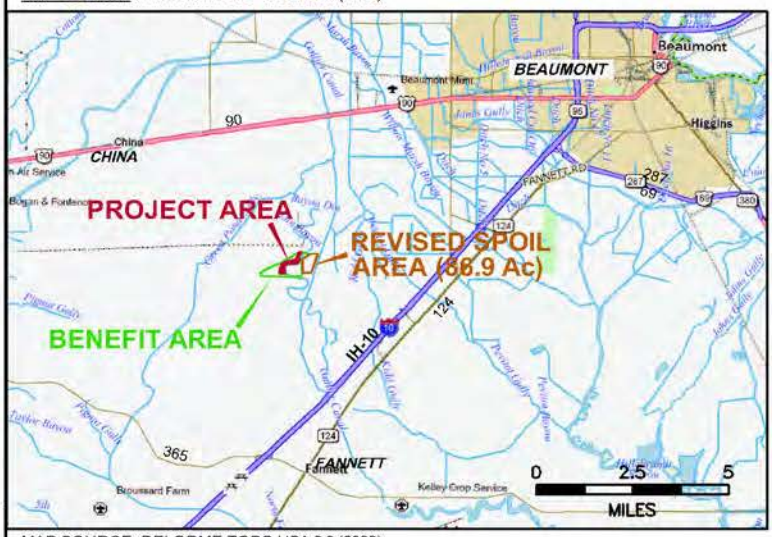
C. Lee Sherrod
Vice President

ATTACHMENTS

090038A07PA_Vicinity.dwg | JEA | 5/27/09 || Revised: JEA | 12/28/2012



MAP SOURCE: DELORME TOPO USA 8.0 (2009)



MAP SOURCE: DELORME TOPO USA 8.0 (2009)

FIGURE 1

VICINITY MAP
BAYOU DIN PROJECT AREA
JEFFERSON COUNTY, TEXAS

Horizon
Environmental Services, Inc.

"Do Not Scale This Drawing"

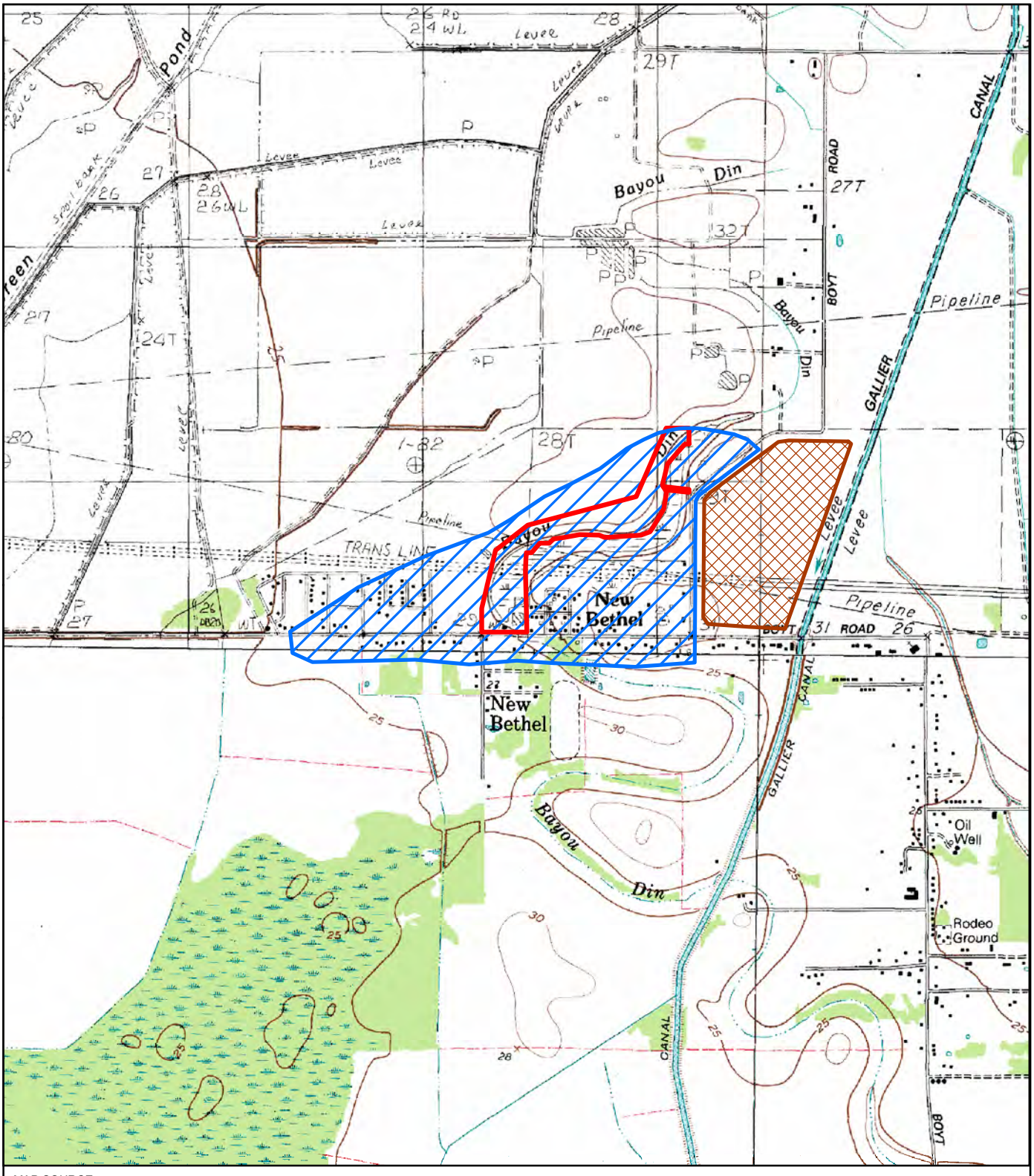


FIGURE 2

TOPOGRAPHIC MAP
BAYOU DIN PROJECT AREA
JEFFERSON COUNTY, TEXAS

TEXAS GENERAL LAND OFFICE
JERRY PATTERSON, COMMISSIONER

July 16, 2013

Mr. C. Lee Sherrod
Vice President
Horizon Environmental Services, Inc
1507 IH 35 South
Austin, Texas 78741

Re: Proposed Jefferson County Drainage District No. 6 Project:
Bayou Din Detention Basin –Revised Spoil Area
Jefferson County, Texas
CMP#: 13-1281-F5

Dear Mr. Sherrod,

Based on information provided to the Texas Coastal Management Program on the above project, it has been determined that it will likely not have adverse impacts on coastal natural resource areas (CNRAs) in the coastal zone. However, siting and construction should avoid and minimize impacts to CNRAs. If a U. S. Army Corps of Engineers permit is required, it will be subject to consistency review under the Texas Coastal Management Program.

Please forward this letter to applicable parties. If you have any questions or concerns, please contact me at (512) 463-5058 or at federal.consistency@glo.texas.gov.

Sincerely,

Sheri Land

Sheri Land
Director, Coastal Resources
Texas General Land Office

Horizon™
Environmental Services, Inc.

28 December 2012

Tangela Nieman
Intergovernmental Relations Division
Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, Texas 78753

RE: Proposed Jefferson County Drainage District No. 6 Project:
Bayou Din Detention Basin – Revised Spoil Area
Beaumont, Jefferson County, Texas
HJN 090038 EA

Dear Ms. Nieman:

In February of 2012, we corresponded with your office as part of a National Environmental Policy Act (NEPA) Environmental Assessment (EA) process on behalf of Jefferson County Drainage District No. 6 (DD6) and the Federal Emergency Management Agency (FEMA) to support a federal grant for the construction and implementation of a 41-acre detention basin. During that EA process, a proposed spoil site was identified on the north side of the proposed detention basin. The EA process was completed with a signed Finding of No Significant Impact (FONSI) in July of 2012 and the grant was issued to DD6. Subsequent easement negotiations with involved landowners have revealed the landowner's desire to place the spoil materials in a hay field east of the detention basin and across Boyt Road. FEMA has indicated that a supplemental EA will be required with new agency coordination. This coordination letter is being provided for your agency's' response in conformance with NEPA procedures.

The attached maps depict the new location of the proposed spoil placement area in relation to the 41-acre Lawhon Detention Basin. The proposed new spoil site is currently mapped to be in the FEMA 100-year floodplain of Bayou Din because during the 100-year event, the flood water elevation in Bayou Din peaks above the higher ground divide between the watersheds (Boyt Road) and spills into Kidd Gully. Once the detention project is complete the improved 100-year water surface for Bayou Din will be lowered below the existing high-ground divide and the water will no longer spill into Kidd Gully. The placement of spoil in this field will not displace any flood plain after the project is completed and the spoil will be shaped to drain away from the detention basin toward Kidd Gully.

The spoil placement area is characterized as a managed hay field dominated by bahia grass. No wetlands or waters of the US would be affected by the spoil placement. On-site photographs are also attached.

Please review the attached figures and information concerning the proposed alternate spoil area to determine if the project is consistent with your agency's environmental regulations or policies. Please respond by letter at your earliest convenience. Your prompt attention to this matter would be greatly appreciated, as your signed concurrence letter is necessary to complete the supplemental EA for FEMA.

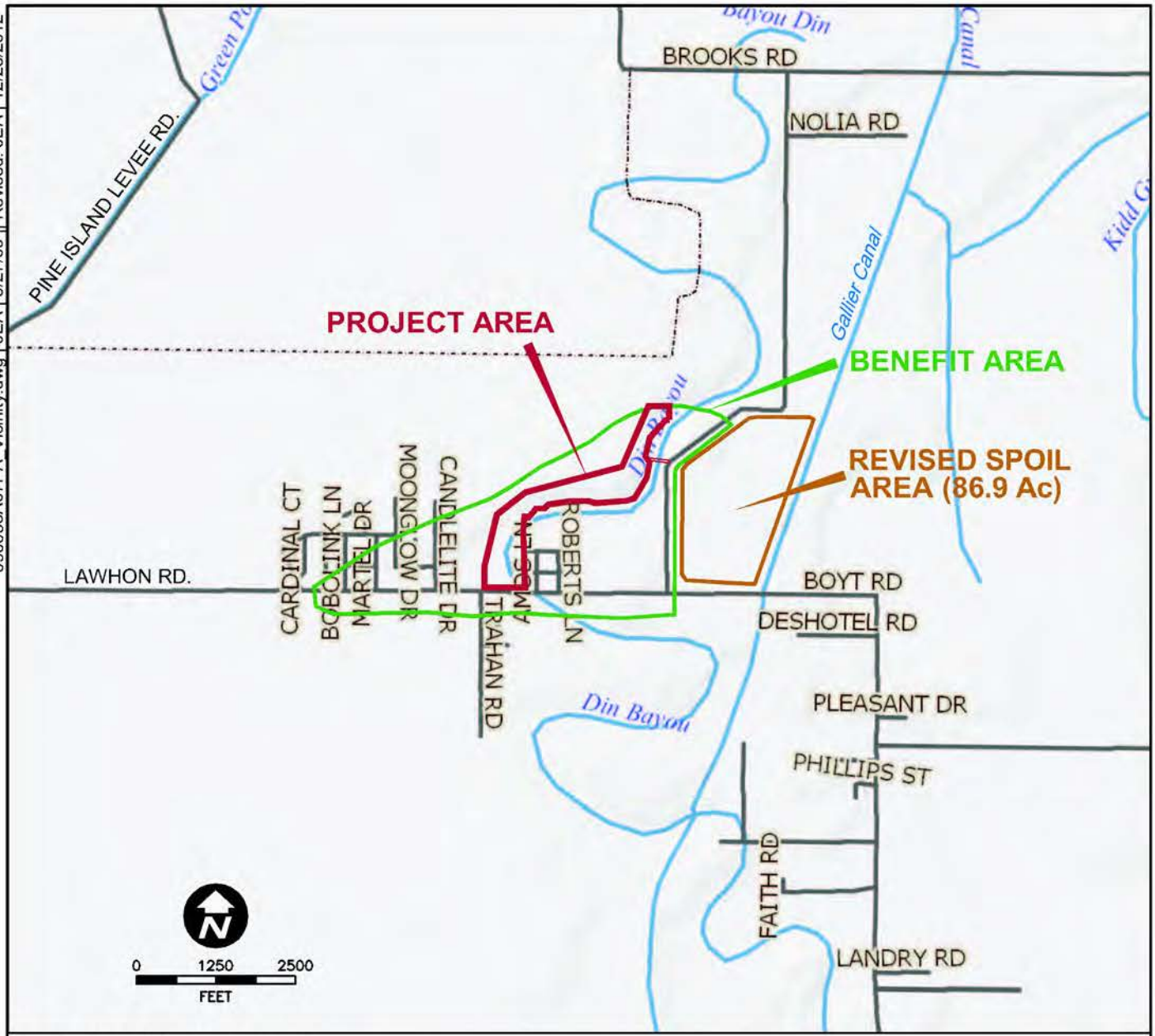
Please call me should you have any questions concerning this project or if I can be of any further assistance.

Sincerely,
For Horizon Environmental Services, Inc.

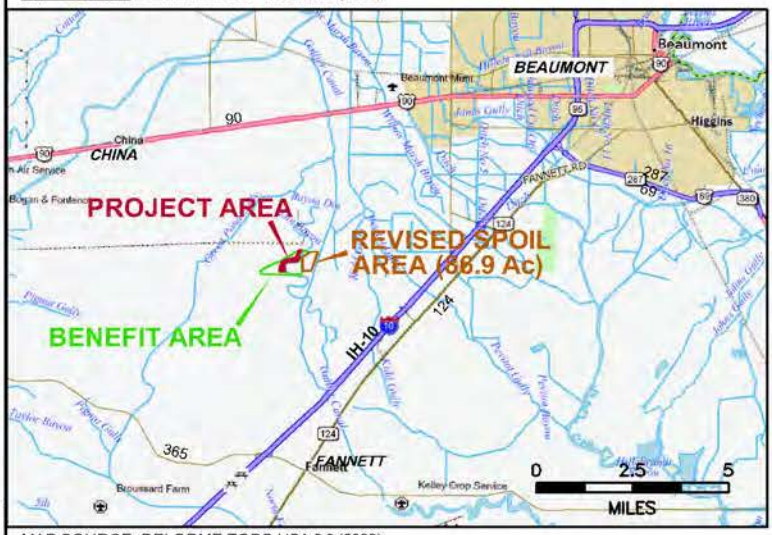
Lee Sherrod
Vice President

Horizon™
Environmental Services, Inc.

ATTACHMENTS



MAP SOURCE: DELORME TOPO USA 8.0 (2009)



MAP SOURCE: DELORME TOPO USA 8.0 (2009)

FIGURE 1

VICINITY MAP
BAYOU DIN PROJECT AREA
JEFFERSON COUNTY, TEXAS

Horizon
Environmental Services, Inc.

090038A07PA_Vicinity.dwg | JEA | 5/27/09 || Revised: JEA | 12/28/2012

"Do Not Scale This Drawing"

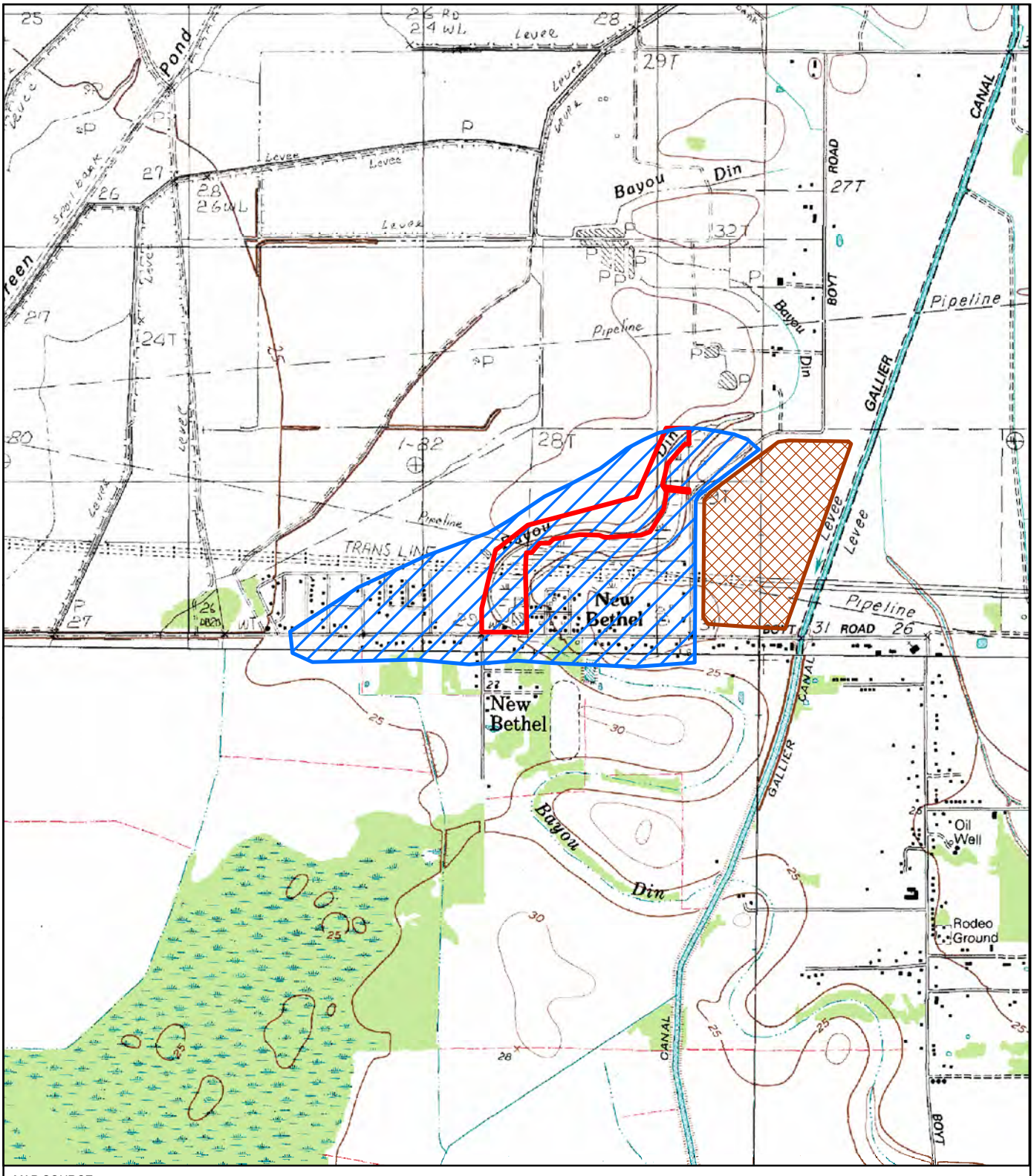
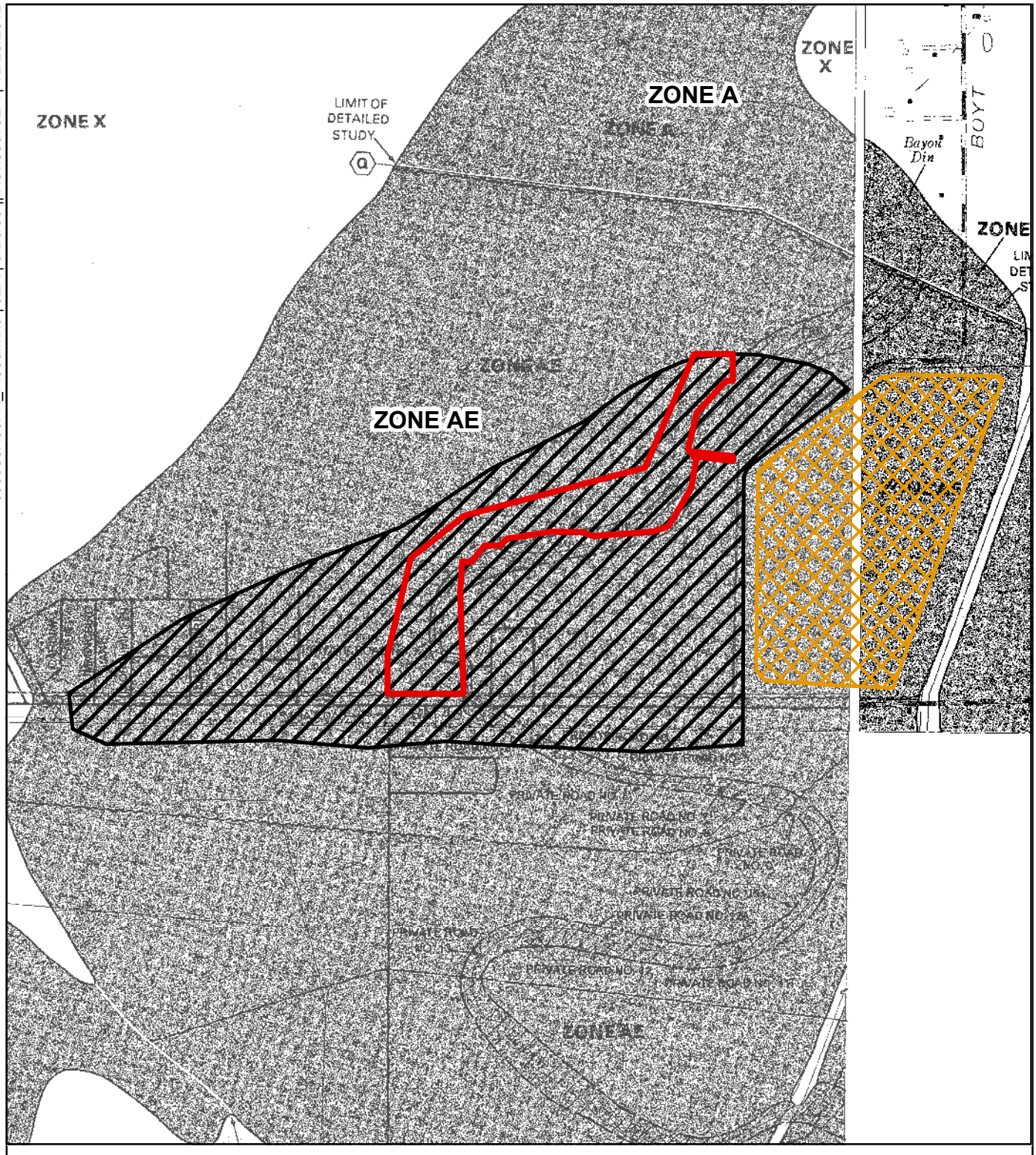


FIGURE 2

TOPOGRAPHIC MAP
BAYOU DIN PROJECT AREA
JEFFERSON COUNTY, TEXAS

090038A06PA_Flood.mxd | JEA | 5/26/09 || Revised: JEA | 12/28/2012



MAP SOURCE:
1. NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP); CHINA, TEXAS QUADRANGLE (2008)
2. FEMA FLOOD HAZARD MAPS (2002)

LEGEND

- PROJECT AREA
- BENEFITS AREA
- REVISED SPOIL AREA (86.9 Ac)

0 600 1,200
FEET

Horizon Environmental Services, Inc.

FIGURE 5

FEMA FLOOD MAP
BAYOU DIN PROJECT AREA
JEFFERSON COUNTY, TEXAS

Engineering Department

Donald M. Rao
Director of Engineering

Steve Stafford, P.E.
Engineering Superintendent

January 2, 2013

Mr. Doug Canant, P.E., R.P.L.S., C.F.M.
Jefferson County Drainage District No. 6
P.O. Box 20078
Beaumont, Texas 77720

Re: Lawhon Detention Basin Project Revised Spoil Site

Doug,

I have reviewed the plans for the Lawhon Detention Basin and see that the project will have a positive benefit, in that it lowers the BFE and reduces the floodplain. I understand that the land owners of the detention basin property have requested that the excavation be placed across Boyt Rd. from the detention basin in their hay field. Since the shallow fooding that occurs in the hay field will be eliminated by the project and the placement of this material will not occupy future floodplain and the placement of the material does not change the net water surface improvements, I am in approval of the revised disposal area.

As Floodplain Administrator for Jefferson County, Texas, I am in full support of this project.

Very truly yours,

Donald M. Rao
Director of Engineering
Floodplain Administrator
Jefferson County, Texas

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 15, 2013

Mr. C. Lee Sherrod
Horizon Environmental Services, Inc.
1507 South IH 35
Austin, Texas 78741

Re: TCEQ Grant and Texas Review and Comment System (TRACS) #2013-101, Jefferson County, Lawhon Detention Revised Spoil Area

Dear Mr. Sherrod:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above-referenced project and has no further comments.

Thank you for the opportunity to review this project. If you have any questions, please contact Ms. Melanie Aldana at (512) 239-1622 or melanie.aldana@tceq.texas.gov.

Sincerely,

Susana M. Hildebrand, P.E.
Chief Engineer

Horizon™
Environmental Services, Inc.

28 December 2012

Michael Segner, CFM
NFIP State Coordinator
Texas Water Development Board
P. O. Box 13231
Austin, Texas 78711-3231

RE: Proposed Jefferson County Drainage District No. 6 Project:
Bayou Din Detention Basin – Revised Spoil Area
Beaumont, Jefferson County, Texas
HJN 090038 EA

Dear Mr. Segner:

In February of 2012, we corresponded with your office as part of a National Environmental Policy Act (NEPA) Environmental Assessment (EA) process on behalf of Jefferson County Drainage District No. 6 (DD6) and the Federal Emergency Management Agency (FEMA) to support a federal grant for the construction and implementation of a 41-acre detention basin. During that EA process, a proposed spoil site was identified on the north side of the proposed detention basin. The EA process was completed with a signed Finding of No Significant Impact (FONSI) in July of 2012 and the grant was issued to DD6. Subsequent easement negotiations with involved landowners have revealed the landowner's desire to place the spoil materials in a hay field east of the detention basin and across Boyt Road. FEMA has indicated that a supplemental EA will be required with new agency coordination. This coordination letter is being provided for your agency's' response in conformance with NEPA procedures.

The attached maps depict the new location of the proposed spoil placement area in relation to the 41-acre Lawhon Detention Basin. The proposed new spoil site is currently mapped to be in the FEMA 100-year floodplain of Bayou Din because during the 100-year event, the flood water elevation in Bayou Din peaks above the higher ground divide between the watersheds (Boyt Road) and spills into Kidd Gully. Once the detention project is complete the improved 100-year water surface for Bayou Din will be lowered below the existing high-ground divide and the water will no longer spill into Kidd Gully. The placement of spoil in this field will not displace any flood plain after the project is completed and the spoil will be shaped to drain away from the detention basin toward Kidd Gully.

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Please review the attached figures and information concerning the proposed alternate spoil area to determine if the project is consistent with your agency's environmental regulations or policies. Please respond by letter at your earliest convenience. Your prompt attention to this matter would be greatly appreciated, as your signed concurrence letter is necessary to complete the supplemental EA for FEMA.

Please call me should you have any questions concerning this project or if I can be of any further assistance.

Sincerely,
For Horizon Environmental Services, Inc.

C. Lee Sherrod
Vice President

Texas Water Development Board

P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.state.tx.us
Phone (512) 463-7847, Fax (512) 475-2053

January 10, 2013

C. Lee Sherrod
Vice President
Horizon Environmental Services, Inc.
1507 South IH 35
Austin, TX 78741

Re: Proposed Jefferson County Drainage District No. 6 Project:
Bayou Din Detention Basin – Revised Spoil Area
Beaumont, Jefferson County, Texas
HJN 090038 EA

Dear Mr. Sherrod:

This is in response to your letter of December 28, 2012, concerning the referenced project. After a review of the information you provided for an Application for Approval of Reclamation Project, our findings indicate that as a participant in the National Flood Insurance Program (NFIP), that Jefferson County has approval authority for projects within their jurisdiction. Please ensure that you coordinate with the community for any specific details concerning development within the Special Flood Hazard Area.

Thank you for bringing this matter to our attention.

Sincerely,

Michael Segner, CFM
NFIP State Coordinator

Horizon™
Environmental Services, Inc.

28 December 2012

Ms. Catherine Yeargan
US Fish and Wildlife Service
Ecological Services Field Office – Clear Lake
17629 El Camino Real, Suite 211
Houston, Texas 77058-3051

RE: Proposed Jefferson County Drainage District No. 6 Project:
Bayou Din Detention Basin – Revised Spoil Area
Beaumont, Jefferson County, Texas
HJN 090038 EA

Dear Ms. Yeargan:

In February of 2012, we corresponded with your office as part of a National Environmental Policy Act (NEPA) Environmental Assessment (EA) process on behalf of Jefferson County Drainage District No. 6 (DD6) and the Federal Emergency Management Agency (FEMA) to support a federal grant for the construction and implementation of a 41-acre detention basin. During that EA process, a proposed spoil site was identified on the north side of the proposed detention basin. The EA process was completed with a signed Finding of No Significant Impact (FONSI) in July of 2012 and the grant was issued to DD6. Subsequent easement negotiations with involved landowners have revealed the landowner's desire to place the spoil materials in a hay field east of the detention basin and across Boyt Road. FEMA has indicated that a supplemental EA will be required with new agency coordination. This coordination letter is being provided for your agency's' response in conformance with NEPA procedures.

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The spoil placement area is characterized as a managed hay field dominated by bahia grass. No wetlands or waters of the US would be affected by the spoil placement. On-site photographs are also attached.

Our previous determination of "No Effect" for this project has not changed as a result of the change in spoil placement area. We understand that the Service does not reply in writing to No Effect determinations. Therefore, we are requesting herein whether your office has any additional information on the potential occurrence of listed T/E species in the project vicinity that we should consider in making a findings recommendation to FEMA.

This correspondence is required as part of the NEPA review process. Your prompt attention to this matter would be greatly appreciated, as your response is important in completing the application for grant funding from FEMA.

Please call me should you have any questions concerning this project or if I can be of any further assistance.

Sincerely,
For Horizon Environmental Services, Inc.

C. Lee Sherrod
Vice President

References:

(USFWS) Endangered Species List web site, http://ifw2es.fws.gov/EndangeredSpecies/Lists/ListSpecies.cfm. Accessed 12 August 2011.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Division of Ecological Services
17629 El Camino Real, Suite 211
Houston, Texas 77058
281/286-8282 / (FAX) 281/488-5882

In Reply Refer To:
FWS/R2/CLES/

March 2013

Thank you for your request for threatened and endangered species, fish and wildlife, environmental, and/or aquatic resources information, comments, and/or recommendations within the United States Fish and Wildlife Service (Service) Clear Lake Ecological Service's area of responsibility. Our comments are provided in accordance with the provisions of the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.), the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.), the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668 et seq.), the Fish and Wildlife Coordination Act (16 U.S.C. 661-667(e)), and the National Environmental Policy Act (42 U.S.C. §4321-4347 et seq.).

Endangered Species Act

The ESA and Federal regulations prohibit "take" of threatened or endangered species of fish and wildlife within the U.S. or its territorial waters. Please note that "take" is defined to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." A county-by-county listing of federally listed threatened and endangered species that occur within this office's work area can be found at http://www.fws.gov/southwest /es/ ES_Lists_Main.cfm.

Section 7 of the ESA
According to Section 7(a)(2) of the ESA, it is the responsibility of each Federal agency to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any federally listed species. As such, Federal agencies are required to consult with the Service if it appears that any action they are proposing "may affect" a listed species.

To evaluate a project for its potential effect(s) to listed species, project proponents should use the county-by-county listing and other current species information[1] to determine whether habitat for a listed species is present at the project site. If potential habitat is present, a qualified individual should conduct surveys to determine whether a listed species is present. After completing a habitat evaluation and/or any necessary surveys, project proponents should evaluate the project for potential effects[2] to listed species and make one of the following determinations:

No effect – the proposed action will not affect federally listed species or critical habitat (i.e., suitable habitat for the species occurring in the project county is not present in or adjacent to the action area). No coordination or contact with the Service is necessary. However, if the project changes or

[1] For information regarding habitat requirements of federally listed species please visit http://ecos.fws.gov/.
[2] The effects of any action under Section 7 should be analyzed together with the effects of other activities that are interrelated to, or interdependent with, that action. Therefore, if your proposed action(s) is part of and depends on a separate action for its justification, or has no independent utility apart from the separate action, then it should be considered interrelated or interdependent and should be analyzed under Section 7 of the ESA.

additional information on the distribution of listed or proposed species becomes available, the project should be reanalyzed for effects not previously considered.

Is not likely to adversely affect – the project may affect listed species and/or critical habitat; however, the effects are expected to be discountable (extremely unlikely to occur), insignificant (can't be measured or detected), or completely beneficial. Certain avoidance and minimization measures may need to be implemented in order to reach this level of effect. You should seek written concurrence from the Service that adverse effects have been eliminated. Be sure to include all of the information and documentation used to reach your decision with your request for concurrence. The Service must have this documentation before issuing a concurrence.

Is likely to adversely affect – adverse effects to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not discountable, insignificant, or beneficial. If the overall effect of the proposed action is beneficial to the listed species but also is likely to cause some adverse effects to individuals of that species, then the proposed action "is likely to adversely affect" the listed species. An "is likely to adversely affect" determination requires the Federal action agency to initiate formal Section 7 consultation with the Service.

Regardless of the determination, the Service recommends developing a complete record of the evaluation, including steps leading to the determination of effect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related articles.

Please be advised that while a Federal agency may designate a non-Federal representative to conduct informal consultations with the Service, assess project effects, or prepare a biological assessment, the Federal agency must notify the Service in writing of such a designation. The Federal agency shall also independently review and evaluate the scope and contents of a biological assessment prepared by their designated non-Federal representative before that document is submitted to the Service.

The Service's Consultation Handbook is available online to assist you with further information on definitions, process, and fulfilling ESA requirements for your projects at http://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf.

Section 10 of the ESA
Projects that do not involve a federal nexus can be evaluated under Section 10 of the ESA. If "incidental take" of a listed species is likely to occur during a proposed non-federal activity, then the project sponsor or landowner may apply for an incidental take permit under Section 10 of the ESA. Please see the following links for further guidance on Section 10 http://www.fws.gov/endangered/permits/index.html and http://www.fws.gov/southwest/es/AustinTexas/ESA_HCP_FAQs.html.

Candidate Species

Freshwater Mussels
The following species of mussels occur in Texas and are candidates for listing under the ESA: Texas fatmucket *Lampsiilis bracteata*, golden orb *Quadrula aurea*, smooth pimpleback *Quadrula houstonensis*, Texas pimpleback *Quadrula petrina*, and Texas fawnsfoot *Truncilla macrodon*. We are also reviewing the status of six other species for potential listing under the ESA. One of the main contributors to mussel die offs is sedimentation, which smothers and suffocates mussels. To reduce sedimentation within rivers, streams, and tributaries crossed by a project, the Service recommends

that that you implement the best management practices within the enclosed document entitled *Best Management Practices for Projects Affecting, Rivers, Streams and Tributaries.*

Candidate Conservation Agreements
Candidate Conservation Agreements (CCAs) or Candidate Conservation Agreements with Assurances (CCAAs) are voluntary agreements between the Service and public or private entities to implement conservation measures to address threats to candidate species. Implementing conservation efforts before species are listed increases the likelihood that simpler, flexible, and more cost-effective conservation options are available. A CCAA can provide participants with assurances that if they engage in conservation actions, they will not be required to implement additional conservation measures beyond those in the agreement. For additional information on CCAs/CCAAs please visit the Service's website at http://www.fws.gov/endangered/what-we-do/cca.html.

Migratory Birds

The MBTA protects all native migratory birds and prohibits the taking, killing, possession, and transportation (among other actions) of migratory birds, their eggs, and parts, except when specifically permitted by regulations for specific intentional uses. A list of birds protected under the MBTA can be found in 50 CFR 10 of the MBTA and at http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/mbtandx.html. Activities that have the potential to take migratory birds as well as recommendations for reducing such take include:

Utility Lines
The construction of overhead power lines creates threats of avian collision and electrocution. The Service recommends the installation of underground rather than overhead power lines whenever possible. For new lines and/or the modification, maintenance, and update of old lines, we recommend that you implement the Avian Protection Plan guidelines for power lines found at http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/BirdHazards.html.

Communication Towers
Telecommunication towers are estimated to kill millions of birds per year. We recommend that you implement the guidance in *Service Guidance on Siting, Construction, Operation, and Decommissioning of Communication Towers*. This guidance can be found at http://www.fws.gov/habitatconservation/communicationtowers.html.

We request that you provide us with the final location and specifications of your proposed towers, as well as the recommendations implemented. A Tower Site Evaluation Form is also available via the above website; we recommend you complete this form and keep it in your files.

Land Clearing
Land clearing work can destroy active nests (eggs or young present) and kill birds. The Service recommends you review and implement the conservation actions for migratory birds outlined in the enclosed document entitled *Suggested Priority for Migratory Bird Conservation Actions for Projects.*

Colonial Water Bird Rookeries

Disturbance from construction activities and project operations can adversely affect breeding bird use of nesting sites and can result in nest abandonment and loss of reproduction. We recommend that

project activities do not occur within 1,000 feet of colonial waterbird rookeries during the nesting season from February 15 to September 1.

Bald Eagles

The bald eagle *Haliaeetus leucocephalus* is protected by the BGEPA and the MBTA. Accordingly, the Service recommends that project proponents use the *National Bald Eagle Management Guidelines* to avoid and minimize harm and disturbance of bald eagles. These guidelines can be found at http://www.fws.gov/migratorybirds/BaldAndGoldenEagleManagement.htm. Eagles are particularly vulnerable to disturbance throughout the nesting season, which in Texas is generally from October 1 to May 30.

Wetlands, Streams, and Other Aquatic Resources

Numerous projects along the Texas coast often impact wetlands, streams, or other aquatic resources or require work in a navigable waterway. Section 404 of the Clean Water Act regulates the discharge of fill material into waters of the U.S. (e.g., wetlands and streams) and Section 10 of the Rivers and Harbors Act of 1899 regulates work and/or structures within navigable waterways. The U.S. Army Corps of Engineers (Corps) is tasked with administering these regulations and we recommend that you coordinate your activities with the Corps for proper permitting and compliance with these regulations.

Thank you for the opportunity to provide comments on your project. If you need any additional information, you can contact one of our biologists (Donna Anderson, Moni Belton, Kelsey Gocke, Jeff Hill, Charrish Stevens, or Arturo Vale) at 281/286-8282.

Sincerely,

Edith Erfling

Edith Erfling
Field Supervisor

Enclosures

Suggested Priority of Migratory Bird Conservation Actions for Projects
U.S. Fish and Wildlife Service (USFWS), Migratory Bird Management

March 9, 2010

1. Avoid any take of migratory birds and/or minimize the loss, destruction, or degradation of migratory bird habitat while completing the proposed project or action.

2. Determine if the proposed project or action will involve below- and/or above-ground construction activities since recommended practices and timing of surveys and clearances could differ accordingly.

3. If the proposed project or action includes a reasonable likelihood that take of migratory birds will occur, then complete actions that could take migratory birds outside of their nesting season. This includes clearing or cutting of vegetation, grubbing, etc. The primary nesting season for migratory birds varies greatly between species and geographic location, but generally extends from early April to mid-July. However, the maximum time period for the migratory bird nesting season can extend from early February through late August. Also, eagles may initiate nesting as early as late December or January depending on the geographic area. Due to this variability, project proponents should consult with the appropriate Regional Migratory Bird Program (USFWS) for specific nesting seasons. Strive to complete all disruptive activities outside the peak of migratory bird nesting season to the greatest extent possible. Always avoid any habitat alteration, removal, or destruction during the primary nesting season for migratory birds. Additionally, clearing of vegetation in the year prior to construction (but not within the nesting season) may discourage birds from attempting to nest in the proposed construction area, thereby decreasing chance of take during construction activities.

4. If a proposed project or action includes the potential for take of migratory birds and/or the loss or degradation of migratory bird habitat and work cannot occur outside the migratory bird nesting season (either the primary or maximum nesting season), project proponents will need to provide the USFWS with an explanation for why work has to occur during the migratory bird nesting season. Further, in these cases, project proponents also need to demonstrate that all efforts to complete work outside the migratory bird nesting season were attempted, and that the reasons work needs to be completed during the nesting season were beyond the proponent's control.

   Also, where project work cannot occur outside the migratory bird nesting season, project proponents must survey those portions of the project area during the nesting season prior to construction occurring to determine if migratory birds are present and nesting in those areas. In addition to conducting surveys during the

nesting season/construction phase, companies may also benefit from conducting surveys during the prior nesting season Such surveys will assist the company in any decisions about the likely presence of nesting migratory birds or sensitive species in the proposed project or work area. While individual migratory birds will not necessarily return to nest at the exact site as in previous years, a survey in the nesting season in the year before construction allows the company to become familiar with species and numbers present in the project area well before the nesting season in the year of construction. Bird surveys should be completed during the nesting season in the best biological timeframe for detecting the presence of nesting migratory birds, using accepted bird survey protocols. USFWS Offices can be contacted for recommendations on appropriate survey guidance. Project proponents should also be aware that results of migratory bird surveys are subject to spatial and temporal variability. Finally, project proponents will need to conduct migratory bird surveys during the actual year of construction, if they cannot avoid work during the primary nesting season (see above) and if construction will impact habitats suitable for supporting nesting birds.

5. If no migratory birds are found nesting in proposed project or action areas immediately prior to the time when construction and associated activities are to occur, then the project activity may proceed as planned.

6. If migratory birds are present and nesting in the proposed project or action area, contact your nearest USFWS Ecological Services Field Office and USFWS Region Migratory Birds Program for guidance as to appropriate next steps to take to minimize impacts to migratory birds associated with the proposed project or action.

* Note: these proposed conservation measures assume that there are no Endangered or Threatened migratory bird species present in the project/action area, or any other Endangered or Threatened animal or plant species present in this area. If Endangered or Threatened species are present, or they could potentially be present, and the project/action may affect these species, then consult with your nearest USFWS Ecological Services Office before proceeding with any project/action.

** The Migratory Bird Treaty Act prohibits the taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulations. While the Act has no provision for allowing unauthorized take, the USFWS realizes that some birds may be killed during construction and operation of energy infrastructure, even if all known reasonable and effective measures to protect birds are used. The USFWS Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and industries that have taken effective steps to avoid take of migratory birds, and by encouraging others to implement measures to avoid take of migratory birds. It is not possible to absolve

individuals, companies, or agencies from liability even if they implement bird mortality avoidance or other similar protective measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without identifying and implementing all reasonable, prudent and effective measures to avoid that take. Companies are encouraged to work closely with Service biologists to identify available protective measures when developing project plans and/or avian protection plans, and to implement those measures prior to/during construction or similar activities.

*** Also note that Bald and Golden Eagles receive additional protection under the Bald and Golden Eagle Protection Act (BGEPA). BGEPA prohibits the take, possession, sale, purchase, barter, offer to sell, purchase, or barter, transport, export or import, of any Bald or Golden Eagle, alive or dead, including any part, nest, or egg, unless allowed by permit. Further, activities that would disturb Bald or Golden Eagles are prohibited under BGEPA. "Disturb" means to agitate or bother a Bald or Golden Eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an Eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. If a proposed project or action would occur in areas where nesting, feeding, or roosting eagles occur, then project proponents may need to take additional conservation measures to achieve compliance with BGEPA. New regulations (50 CFR § 22.26 and § 22.27) allow the take of bald and golden eagles and their nests, respectively, to protect interests in a particular locality. However, consultation with the Migratory Bird, Ecological Services, and Law Enforcement programs of the Service will be required before a permit may be issued.

BEST MANAGEMENT PRACTICES FOR PROJECTS AFFECTING RIVERS, STREAMS AND TRIBUTARIES

The project crosses or potentially affects river, stream or tributary aquatic habitat. Therefore the Service recommends implementing the following applicable Best Management Practices:

1. Construct stream crossings during a period of low streamflow (e.g., July - September);
2. Cross streams, stream banks and riparian zones at right angles and at gentle slopes;
3. When feasible, directionally bore under stream channels;
4. Disturb riparian and floodplain vegetation only when necessary;
5. Construction equipment should cross the stream at one confined location over an existing bridge, equipment pads, clean temporary native rock fill, or over a temporary portable bridge;
6. Limit in-stream equipment use to that needed to construct crossings;
7. Place trench spoil at least 25 feet away landward from streambanks;
8. Use sediment filter devices to prevent movement of spoil off right-of-way when standing or flowing water is present;
9. Trench de-watering, as necessary, should be conducted to prevent discharge of silt laden water into the stream channel;
10. Maintain the current contours of the bank and channel bottom;
11. Do not store hazardous materials, chemicals, fuels, lubricating oils, and other such substances within 100 feet of streambanks;
12. Refuel construction equipment at least 100 feet from streambanks;
13. Revegetate all disturbed areas as soon as possible after construction to prevent unnecessary soil erosion. Use only native riparian plants to help prevent the spread of exotics;
14. Maintain sediment filters at the base of all slopes located adjacent to the streams until right-of-way vegetation becomes established;
15. Maintain a vegetative filtration strip adjacent to streams and wetlands. The width of a filter strip is based on the slope of the banks and the width of the stream. Guidance to determine the appropriate filter strip (stream management zone, SMZ) width is provided below; and
16. Direct water runoff into vegetated areas.

SMZ widths should consider watershed characteristics, risk of erosion, soil type, and stream width. SMZ widths are measured from the top of each bank and established on each side of the stream. Erosion risk is increased with sandy soil, steep slopes, large watersheds and increasing stream widths. Recommended primary and secondary SMZ widths are provided in the table below.

Stream Width (Feet)	Slope (Percent)	Primary SMZ (Feet)	Secondary SMZ (Feet)
<20	<7	35	0
<20	7-20	35	50
<20	>20	Top of slope or 150	75
20-50	<7	50	0
20-50	7-20	50	50
20-50	>20	Top of slope or 150	75
>50	<7	Width of stream or 100 max.	0
>50	7-20	Width of stream or 100 max.	50
>50	>20	Top of slope or 150	75

Reference

Arkansas Forestry Commission. 2001. Draft Arkansas Forestry Best Management Practices for Water Quality Protection.

ATTACHMENT 3

ON-SITE PHOTOGRAPHS

Photo 1: Typical View of Spoil Area

Photo 2: Typical View of Spoil Area

ATTACHMENT 4

THC CONSULTATION LETTER

NI LCH

Horizon™

Environmental Services, Inc.

April 30, 2013

Mr. Mark Wolfe
Executive Director / State Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711

Re: Request for Preliminary Cultural Resources Consultation

Proposed 86-9-acre Spoil-Disposal Site
Beaumont, Jefferson County, Texas

HJN 090038 AR

Dear Mr. Wolfe,

Horizon previously completed an intensive cultural resources survey in 2009 of a 34.0-acre detention basin excavation and spoil disposal site located in Jefferson County for Jefferson County Drainage District #6 (JCDD6) under Texas Antiquities Permit # 5197. The results of that survey were negative for cultural materials and the THC concurred with Horizon's recommended findings of no effect on historic properties. Recently, the landowner of the subject property and adjacent properties (LaBelle Properties, Inc.) requested that JCDD6 place spoil materials from the detention basin excavation on an adjacent 86.9-acre property just east of the project site (please see attached project map showing the location of the detention basin project and proposed new spoil disposal site). The new spoil disposal site is an agricultural field currently used for hay production with improved grasses (bahia grass). The field has been utilized for agricultural production for many decades, including plowing and discing.

Regulatory Background

JCDD6's detention basin project has received a grant from the Federal Emergency Management Agency (FEMA) for flood control. The FEMA grant process required a National Environmental Policy Act (NEPA) evaluation. FEMA has indicated that an amended NEPA evaluation is required for the revised spoil placement area. This communication is provided to your office as part of the revised NEPA evaluation process. Your response to this request for comment would be greatly appreciated.

Archival Research

Archival research conducted via the Internet on the THC's online Texas Archeological Sites Atlas database indicates the presence of no previously recorded archeological sites, cemeteries, or historic properties listed on the National Register of Historic Places (NRHP) or designated as State Archeological Landmarks (SAL) within a 1.0-mile radius of the proposed 86.9-acre tract (THC 2013). Several previous cultural resources surveys have been completed in the surrounding area; however, no portion of the proposed 86.9-acre tract has been previously surveyed for cultural resources (THC 2013). According to the current landowner, the tract currently consists of a managed bahia grass field with no natural drainage features.

Assessment

Based on a review of the Natural Resource Conservation Service's (NRCS) online Web Soil Survey, the proposed 86.9-acre spoil disposal site is situated predominantly on League clay, 0 to 1% slopes (LtA), which consists of clayey sediments of the Beaumont Formation found on coastal flats (NRCS 2013).

While aboriginal cultural resources are commonly encountered in deep alluvial sediments adjacent to major streams in Texas, the relative antiquity of the fluviodeltaic clayey sediments that constitute the soils on the coastal plain, such as those that comprise the current project area, suggests that any cultural resources would be constrained to the modern ground surface, rather than in buried contexts, in erosional settings lacking integrity. Intact, buried archeological deposits may occur within alluvial sediments near major streams, though no alluvial sediments are mapped within the current project area. The channelized Gallier Canal forms the eastern boundary of the proposed 86.9-acre tract, the northern and western margins are defined by Boyt Road, and the southern boundary is marked by Lawhon Road. Bayou Din is located a short distance south and west of the proposed project site, though a prior cultural resources survey of a 34.0-acre tract located along Bayou Din immediately west of the current project area resulted in the recording of no cultural resources (Owens 2013). Historic-age cultural resources may occur in any physiographic setting, though they are comparatively rare in the frequently flooded, marshy environs of Southeast Texas, and the lack of any visible structures on the relevant USGS topographic quadrangle suggests a reduced potential for historic-age architectural and archeological resources.

Based on the physiographic location of the project area on a broad coastal flat composed of pre-Holocene-age Beaumont Formation clay sediments, the current land use as a managed grass farm, and the fact that a prior cultural resources survey of a nearby segment of Bayou Din (which would appear to represent a higher-probability setting for cultural resources) resulted in the determination that no cultural resources occur along this segment of Bayou Din, it is Horizon's opinion that the proposed new 86.9-acre tract has a relatively low potential to contain intact archeological deposits.

Horizon respectfully requests the THC's consultation and review of the proposed project to determine the necessary level of cultural resources investigations required to comply with applicable statutes. Should you have any questions, please do not hesitate to call me at (512) 328-2430.

Sincerely,

Jesse Owens, MA, RPA
Archeological Principal Investigator
Horizon Environmental Services, Inc.

References:

Owens, Jeffrey D. *Intensive Cultural Resource Survey of 34 Acres of Dredge Disposal Areas along Bayou Din, Beaumont, Jefferson County, Texas.* HJN 090038 AR. Horizon Environmental Services, Inc., Austin, Texas. 2009.

(NRCS) Natural Resources Conservation Service. Web Soil Survey. <http://websoilsurvey.nrcs.usda.gov/app/>. US Department of Agriculture. Accessed April 26, 2013.

(THC) Texas Historical Commission. Texas Archeological Sites Atlas. http://nueces.thc.state.tx.us/. Accessed April 26, 2013.

ANTIQUITIES CODE OF TEXAS REVIEW
NO SIGNIFICANT SITES
PROJECT MAY PROCEED
by _____
for Mark Wolfe
Executive Director, THC
Date 5-28-13
Track# _____