

DEC 06 2018



Life's better outside.™

December 6, 2018

Mr. Richard G Leonhard
 Project Consulting Services, Inc.
 3300 W. Esplanade Avenue South, Suite 500
 Metairie, LA 70002

Commissioners

Ralph H. Duggins
 Chairman
 Fort Worth

S. Reed Morian
 Vice-Chairman
 Houston

T. Dan Friedkin
 Houston

Anna B. Galo
 Laredo

Bill Jones
 Austin

Jeanne W. Latimer
 San Antonio

James H. Lee
 Houston

Dick Scott
 Wimberley

Kelcy L. Warren
 Dallas

Lee M. Bass
 Chairman-Emeritus
 Fort Worth

Carter P. Smith
 Executive Director

RE: Axis Midstream
 Redfish to Harbor Island Pipelines

Dear Mr. Leonhard:

As indicated at the Joint Evaluation Meeting (JEM) on October 2, 2018, hosted by the U.S. Army Corps of Engineers (USACE) Corpus Christi Regulatory Field Office, the Texas Parks and Wildlife Department (TPWD) is providing written comments and concerns for the proposed project. TPWD greatly appreciates this timely coordination effort so that information about potential impacts to fish and wildlife resources, as well as recommendations to avoid and minimize those impacts, can be provided and taken into consideration during the early stages of project development.

As proposed at the JEM, the project would consist of two 42-inch pipelines for exporting crude oil, one 12-inch backflow pipeline for maintenance, and one 6-inch gas pipeline for power. As explored for 14 alternative routes, the pipeline route would begin at an existing crude gathering facility in Aransas Pass in San Patricio County, Texas and terminate at an unidentified export terminal on Harbor Island. The majority of these routes would pass through Redfish Bay and the designated Redfish Bay State Scientific Area (RBSSA). Of the alternatives presented, three routes remain under consideration, including a route through the Port of Corpus Christi Authority's (PCCA) right-of-way (ROW) that runs along the northern shoreline of State Highway (SH) 361 and two routes that cross through southern Redfish Bay between SH 361 and the Corpus Christi Ship Channel (CCSC).

Axis Midstream's presented preferred route, which crosses southern Redfish Bay just south of Ransom Island, would avoid and minimize the first 4,500 feet of impacts by horizontally directionally drilling (HDD) under the Aransas Pass shoreline, the Gulf Intracoastal Waterway (GIWW), and adjacent seagrass beds and shallow water habitats. The remainder of the route would employ conventional trenching techniques through approximately 6,000 feet of existing oil and gas channels, approximately 6,500 feet of open waters in Redfish Bay, and upon approaching Harbor Island, up to 7,600 feet of seagrass and other shallow water habitats. Trenching techniques would require an approximately 44-foot-wide trench, with an adjacent corridor measuring approximately 44-feet-wide for the placement of side casted dredged material. According to the impact calculations provided, the project would directly affect approximately 13.1 acres of existing oil and gas channels, approximately 14.2 acres of open water, and approximately 16.6 acres of shallow water resources, including seagrasses. Estimates of indirect impacts, such as those resulting from turbidity, have not been provided.

Seagrasses play critical roles in the coastal environment by providing nursery habitat for estuarine fisheries, serving as a major source of organic biomass for coastal food webs, contributing to the stabilization of shorelines and sediments to reduce coastal erosion and improve water clarity, as well as contributing to nutrient cycling and water quality processes. Redfish Bay represents the most extensive area of pristine seagrass beds outside the Laguna Madre and is also the northern range limit for large beds of turtlegrass and manatee grass (Pulich and Calnan, 1999)ⁱ.

The importance of these shallow water resources to recreational fisheries in Redfish Bay is evidenced by recent angler survey data collected from 2013 to 2017. Southern Redfish Bay (as defined above) represents only about 7% of the areal extent of the Corpus Christi Bay Ecosystem, yet survey data indicate that this small area accounted for 18% of the angling trips taken by boat and 21% of the angler hours (time anglers spent fishing) throughout the Corpus Christi Bay Ecosystem. These survey data also indicate that southern Redfish Bay accounted for 37% of spotted seatrout, 31% of red drum, 23% of southern flounder, and 12% of black drum landed throughout the Corpus Christi Bay Ecosystem.

Following a multi-agency effort and the resulting publication of the "Seagrass Conservation Plan for Texas" in 1999, the Texas Parks and Wildlife Commission established the RBSSA for the purpose of education, scientific research, and preservation of flora and fauna of scientific or educational value (i.e., seagrass meadow communities). Because of this designation, the RBSSA has special status, and the importance of seagrass habitat has since been specifically recognized by state law, not just within the RBSSA, but state-wide. As part of this special status, the policies of the Coastal Management Program as specified in Title 31, Texas Administrative Code, section 501.29 require compliance with Chapter 26 of the Texas Parks and Wildlife Code when development projects require the use or taking of any public land within a state park, wildlife management area or preserve, such as RBSSA.

Chapter 26 provides that a department, agency, political subdivision, county, or municipality of this state may not approve any program or project that requires the use or taking of public lands unless it holds a public hearing and determines that there is "no feasible and prudent alternative to the use or taking of such land," and the project "includes all reasonable planning to minimize harm to the land resulting from the use or taking." Entities responsible for holding such hearings and making such determinations for the proposed project may include the Texas General Land Office, the Texas Railroad Commission, and/or local navigation districts, such as the PCCA or Aransas County Navigation District.

TPWD understands that habitat surveys have not been performed and that the calculated impacts are currently based on desktop estimates. TPWD recommends that habitat surveys be conducted, preferably during the growing period (March – October), so that the entire suite of project impacts can be adequately quantified.

Storage tanks and an export terminal were identified among the infrastructure that would be required to fulfill the basic purpose and need of the proposed project. However, details related to these components have not been provided. To fully evaluate potential impacts

Mr. Richard G. Leonhard
Axis Midstream; Redfish to Harbor Island Pipelines
Page 3 of 3
December 6, 2018

DEC 06 2018

to fish and wildlife resources, all components of the proposed project should be included in the proposed project plans, and all direct and indirect impacts to each aquatic resource type should be quantified.

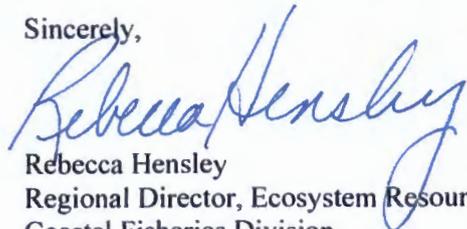
To ensure that impacts to aquatic resources are avoided and minimized to the extent practicable, an alternatives analysis should include project alternatives that do not require the siting of an export terminal on Harbor Island. Alternatives that reduce the sizes and/or numbers of pipelines routed through RBSSA should also be considered, as well as including additional HDD segments to reduce both direct and indirect impacts.

With respect to the use of turbidity curtains, TPWD continues to recommend their use as a best management practice (BMP) to minimize turbidity, which is known to cause secondary impacts to seagrass beds. This BMP is widely used throughout the state, and TPWD is not aware of any data that supports the assertion made at the JEM that this BMP does not work when properly installed and maintained.

Based on the information provided, TPWD believes that the PCCA ROW route may result in fewer impacts to fish and wildlife resources than the preferred route but may not represent the least damaging practical alternative. Such a determination would need to be made by divisions of the state that would authorize such a project through the RBSSA, but only after the consideration of public comments.

Again, TPWD appreciates the opportunity to provide information about fish and wildlife resources and recommendations that avoid and minimize impacts to those resources. We look forward to continuing this coordination effort, and please feel free to contact Ms. Jackie Robinson (361-825-3241) or Ms. Leslie Koza (361-825-2329) in Corpus Christi for any questions you may have as this process moves forward.

Sincerely,



Rebecca Hensley
Regional Director, Ecosystem Resources Program
Coastal Fisheries Division

RH:LK:JR:lam

cc: Ms. Emily Edwards, U.S. Army Corps of Engineers, Corpus Christi, Texas

¹ Pulich, W.M., Jr. and T. Calnan (eds.). 1999. Seagrass Conservation Plan for Texas. Resource Protection Division. Austin, Texas: Texas Parks and Wildlife Department. 79 pp.

Trant, Angela G CIV USARMY CESWG (US)

From: Trant, Angela G CIV USARMY CESWG (US)
Sent: Monday, January 7, 2019 4:09 PM
To: 'dodell@axismidstream.com'; 'Ganczak, Robert'
Cc: Fitzpatrick, Wayne C CIV USN NAVFAC SW SAN CA (USA)
Subject: Axis Midstream Holdings - Midway to Harbor Island Pipelines & Support Facilities - Redfish Bay, San Patricio and Nueces Counties - SWG-2018-00789

We received your permit application on December 27, 2018. It has been assigned Corps of Engineers file number SWG-2018-00789 and has been assigned to Mr. Wayne Fitzpatrick. Mr. Fitzpatrick may be reached by telephone at 361-814-5847 (ext 1008) or by e-mail at Wayne.C.Fitzpatrick@usace.army.mil.

Please be advised that all requests received in this office are assigned based on perceived complexity of the action and on a first-come, first-served basis. We ask that you please allow the Corps regulator assigned this action time to review this action and note that he will contact you if further information is required.

Please reference the above number on any future correspondence to this office.

Thank you.

Angela Trant
Legal Instruments Examiner
US Army Corps of Engineers
Regulatory Field Office
5151 Flynn Parkway, Suite 306
Corpus Christi, TX 78411-4318
361-814-5847 phone, ext 1001

To assist us in improving our service to you, please complete the survey found at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

MEMORANDUM FOR FILE

SUBJECT: SWG-2018-00789; Axis Midstream, Midway to Harbor Island Pipeline and Facilities, Application Meeting

1. On this day we held a meeting with representatives from Axis Midstream and Corpus Christi Regulatory Field Office (CCRFO) personnel. In attendance was Mr. David O'Dell (Axis Midstream), Mr. Robert Ganzak (Project Consulting Services (PCS)), Mr. Richard Leonard (PCS), Ms. Kristi McMillan (CCRFO Interim Supervisor), and Mr. Robert Jones (CCRFO Project Manager (PM)).

2. Several topics were covered during this meeting associated with the current permit action we received on 27 December 2018. These topics and discussions area as follows:

a. Purpose and Need: As proposed, the stated purpose and need (even though is good for a project of this magnitude), is not supported by the actual project description. Axis is proposing to construct a series of pipelines and bulk storage facilities for a terminal located on Harbor Island; however, there is no vessel berth or associated work proposed to construct the export amenities required to have a terminal. Axis stated that the Port of Corpus Christi Authority (POCCA) is seeking to develop a proposed project to create a VLCC (very large crude carrier) terminal in the area of the proposed terminal. Basically, Axis is basing the need for the terminal facility on what is now just a potential project by POCCA for a VLCC export facility. We explained to them that since the two are both merely a link in a corridor type project, both project are linked and should be proposed as a single and complete project. Therefore, the applicant's stated purpose and need at this point does not align with the actual project description.

b. Project Plans: We expressed our findings of inconsistencies with the project plans and the ecological surveys. Axis stated that the preferred route was investigated but found that it was not feasible for HDD at that distance which is why they chose the open cut trenching alternative. They stated this alternative would actually adversely impact less resources and that the explanation would be covered in the alternatives analysis which is currently being drafted.

c. Midway to Redfish Pipeline: The pipeline route from the proposed Midway Facility and the Redfish Facility is fairly straight forward when it comes to impacts to aquatic resources. They did however state that they are currently exploring adding another 42-inch crude oil pipeline to this route. Due to the established Scope of Analysis associated with the geographical scope of the project and how each part is integrally tied together ("merely a link"), this would be required to be included in the overall project description to fully evaluate the environmental impacts associated with the project.

d. Redfish Facility: We expressed our very heavy concerns over the proposed construction of in 133 acres of pristine tidally influenced wetlands along the GIWW. They expressed their concerns over it as well; however, when it comes to the actual overall project design, this site was the only one that would serve the four pipelines going from a facility located along the GIWW in Aransas Pass to the Harbor Island site. The POCCA ROW located along the Aransas Causeway (SH 361) is too narrow for the pipelines and is quite packed full of pipelines as it is. Additionally, installing along the Corpus Christi Ship Channel would impact the Federal Project even more. This will be covered in the alternatives analysis.

e. HDD Workspaces: This was not annotated on the project plans. Additionally, it was not specified that where the entry and exit points are located. They will address this with revised plans.

f. Oil and Gas Canals: These are just canals dredged in the 40s through the 60s as access channels for Oil Field Development projects in the watershed. These are currently at a depth where they would not adversely impact any seagrass beds with the installation of the pipelines.

g. Site Visit Verifications: This will be required to verify the data in the applicant's application submittal.

h. Project and Aquatic Resource Locations: Earlier in the day, I emailed Mr. Ganczak requesting shapefiles and locations of the proposed project and associated aquatic resources.

- i. Other: The fact that it not being a single and complete project due to the lack of means to export product from the proposed facility, there are also other issues that are secondary at this point.
- ii. The first being that it is unclear at this point that the POCCA has initiated the 75-foot Deepening process. This includes a feasibility study, potentially and EIS, and then funding to construct. The best case scenario for this would be within the next 4-6 years, all these things could be accomplished. POCCA would still have to construct the project which could take an additional 2-3 years to put all the pieces in place to complete. At this time, the proposed facilities and pipelines are not feasible.
- iii. Second, there is an anticipated increase of oil production going from 1.2 million barrels a day to 2 million barrels a day. This production would all be coming to Texas Ports with the bulk going to Corpus Christi. However, there could be a change in administration or a change in policy due to flooding the oil market making the product less valuable; thus, making the 75-foot Deepening project less feasible for the Federal Government to fund based on cost benefit ratio. The oil industry in Texas is always fluctuating on its highs and lows and as of now its high. A low is potentially due in the future based on trends. If this proposed Axis facility is basing its feasibility on that, it is too uncertain and at the moment not a feasible project.

- iv. Third, this project could eventually trigger an EIS based on the impacts to the human environment according to CEQ regulations. EIS criteria is highly subjective and has no established thresholds; however, this is a discussion I will have with the Policy and Analysis Branch in Galveston based on the how the project is being proposed.
- v. There are also critical areas such as the Redfish Bay State Scientific Area (RBSSA) that would be adversely impacted by the proposed work. The State of Texas has designated the area as a preserve in which it would require special use permission by the state in order to conduct work within its boundaries.

3. Our path forward is to notify them with an additional information letter that generally explains what is required to move forward with the permit application. As of now, we do not have enough data to move forward with an Internal Review or Public Notice.



Robert Jones
PM, CCRFO

Jones, Robert N CIV USARMY CESWG (US)

From: Jones, Robert N CIV USARMY CESWG (US)
Sent: Tuesday, January 29, 2019 9:19 AM
To: McMillan, Kristi N CIV USARMY CESWG (US)
Cc: Hudson, Jayson M CIV USARMY CESWG (USA); HEINLY, Robert W CIV USARMY CESWG (US)
Subject: SWG-2018-00789; Axis Midstream Midway to Harbor Island Project Rundown

- 1) Locations: The proposed Midway Tank Farm Facility is located approximately 5 miles south of Taft, TX. From there, a 42-inch crude oil pipeline will traverse in a northeast direction crossing 0.45 acres of small waterbodies and agricultural fields where it then crosses SH 181 between Taft and Gregory, TX. As it crosses the highway it takes a dogleg southeast towards Gregory, TX. This segment of the 42-inch pipeline terminates at the proposed Redfish Tank Farm Storage Facility located along the GIWW south of Aransas Pass, TX. From this facility, the pipeline splits into one 6-inch gas supply, one 12-inch return intermix, and two 42-inch crude oil pipelines. It traverses across the GIWW (HDD) into Redfish Bay (HDD and open-cut trenching) towards Harbor Island in Port Aransas, TX. The Harbor Island facility is a proposed Terminal near DMPA 3. This facility will be used for the loading of crude oil onto marine transport vessels.
- 2) Proposed Activity: To construct three Oil and Gas Facilities {two tank farms (Midway and Redfish) and one smaller tank farm plus terminal facility (Harbor Island)} that is interconnected by a series of pipelines for Oil and Gas storage and distribution.
- 3) Midway to Redfish Pipeline: The proposed 42-inch crude oil pipeline will be installed via directional boring under a total 0.45 acres of 404 waterbodies which is not a regulated activity.
- 4) Redfish to Harbor Island Pipelines: The proposed pipelines in Redfish Bay will impact approximately 27.9 acres of special sites that includes mangrove marshes, estuarine wetlands, oyster reefs, seagrass beds, and tidal flats; of that, 16.06 acres are temporary impacts and 11.84 acres are permanent impacts. The pipelines will also permanently impact 23.84 acres of estuarine open water, 21.96 acres of oil and gas canals, and 0.73 acres of other waterbodies.
- 5) Harbor Island DMPA 3 Pipelines: The proposed pipelines will impact 6.41 acres of estuarine wetlands and mangrove marshes within DMPA 3; of that, 6.33 acres to wetlands are temporary.
- 6) Midway Facility: No waters or other special aquatic sites are proposed to be impacted by the construction of this facility because none were identified in the applicant's delineation of this site.
- 7) Redfish Facility: The proposed Redfish Facility will permanently impact 133 acres of tidal estuarine wetlands (that may include mangroves as well) along the GIWW.
- 8) Harbor Island Facility: No waters or other special aquatic sites are proposed to be impacted by the construction of the Harbor Island Facility because none were identified in the applicant's delineation report.
- 9) Concerns:
 - a. There are no proposed structures or dredging for the Harbor Island Terminal Facility and it is unclear if the applicant intends to use existing facilities for docking vessels.
 - b. Applicant stated project purpose and need is "to construct a series of facilities and pipelines to transport crude oil loading onto marine transport vessels." However, due to the multiple facilities proposed, each one requires a purpose and need to support the overall need, specifically, the proposed Redfish Facility which will impact 133 acres of pristine tidally influenced estuarine wetlands.

- c. As proposed, the application does not clearly indicate that impacts to special aquatic sites associated with the construction of the Redfish Facility or the pipelines traversing Redfish Bay have been avoided and minimized to the fullest extent practicable.
- d. The application did not include a waters table that identifies where the waters are located or the size of them. I sent the consultant an email requesting shapefiles of the proposed project and a waters data table for them to fill out with the necessary information required for proper impact assessment and evaluation. We do have maps; however, they are unclear on many impact locations associated with the project. I cannot issue an IR until I receive the water data table with GPS locations to include in the coordination.
- e. This project will likely trigger RE and Ops 408 reviews.
- f. There is no alternatives analysis or mitigation plan in the application package; but I do not need them as of yet. This will create further issues and concerns down the road when these things are required. Information for the IR and PN will better define these.

10) Path Forward: We have a meeting with the applicant today at 1330. We will discuss the concerns with them during this meeting and work out some details in order to publish a PN. I will need to verify the applicant's data by conducting a site visit, maybe even two given the geographic scope of the project. Based on the meeting today, I will gather that information, if they have what I need, and prepare and coordinate the IR and PN. If not, I will send them an additional info letter stating what I need putting them on the clock.

Bobby Jones, Regulatory Project Manager
USACE Galveston District Regulatory Division
Corpus Christi Field Office
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411-4318
Desk: 361-814-5847 x1010/Mobile: 361-558-3766

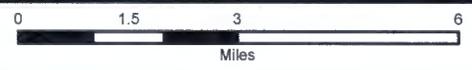
(COPY)



— Proposed Pipeline

□ Facility

NOTE: THE CONTENT OF THIS DRAWING IS DESIGNED SPECIFICALLY FOR THE PURPOSE OF SECURING FEDERAL, STATE AND LOCAL ENVIRONMENTAL/REGULATORY AUTHORIZATIONS ONLY.



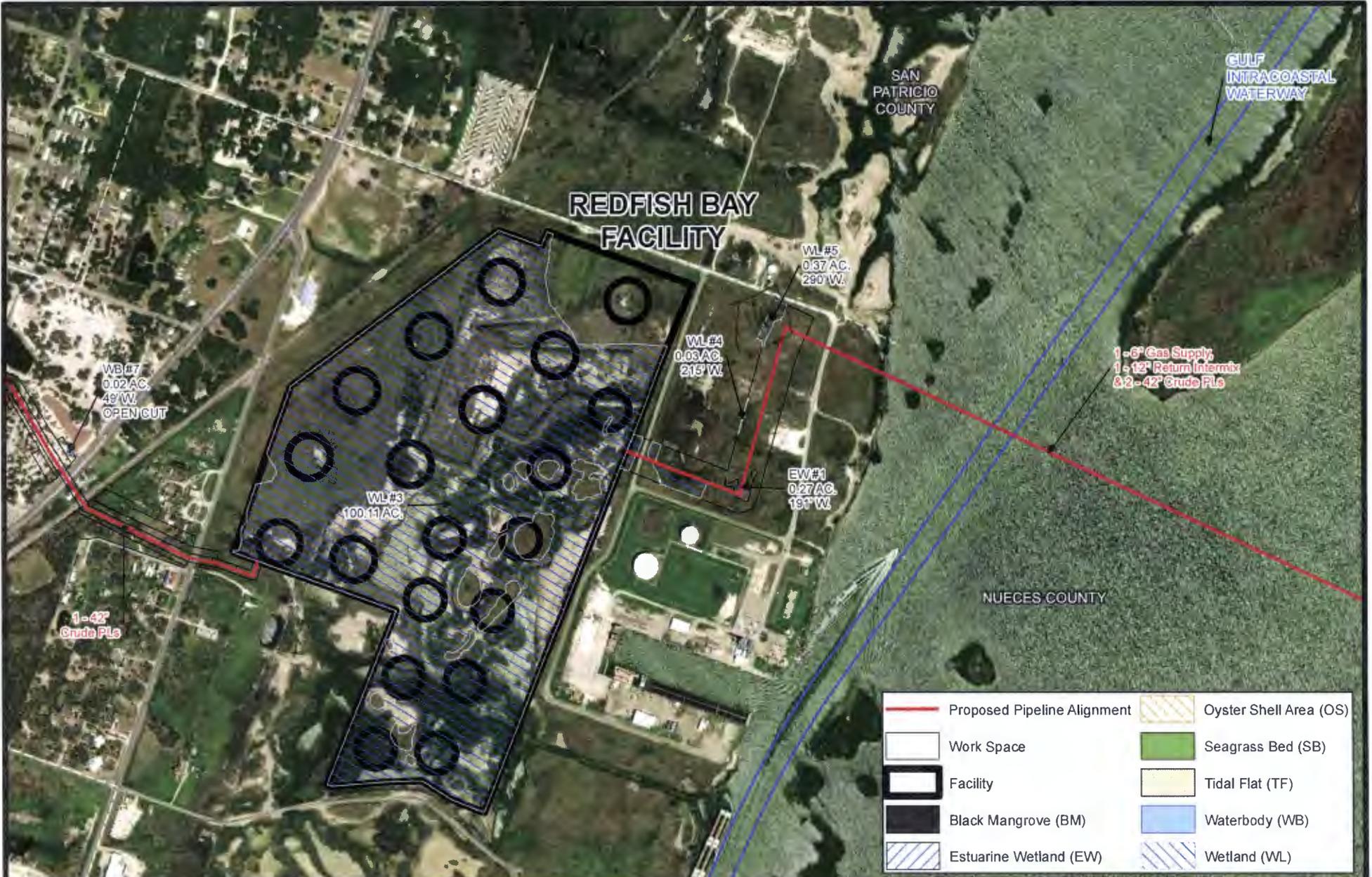
SITE VICINITY



AXIS MIDSTREAM HOLDINGS, LLC.
MIDWAY TO HARBOR ISLAND PROJECT
SAN PATRICIO & NUECES COUNTIES, TEXAS

12/21/2018—8.5" X 11"—NAD83 UTM 14N

Prepared By: RCO
Checked By:
Approved By:
Project No.: 18087



NOTE: THE CONTENT OF THIS DRAWING IS DESIGNED SPECIFICALLY FOR THE PURPOSE OF SECURING FEDERAL, STATE AND LOCAL ENVIRONMENTAL/REGULATORY AUTHORIZATIONS ONLY.



Axis Midstream

AXIS MIDSTREAM HOLDINGS, LLC.
MIDWAY TO HARBOR ISLAND PROJECT
SAN PATRICIO & NUECES COUNTIES, TEXAS

12/21/2018—8.5" X 11"—NAD83 UTM 14N

Prepared By: RCO
 Checked By:
 Approved By:
 Project No.: 18067



1-6" Gas Supply,
1-12" Return Intermix
& 2-42" Crude PLS

SB #1
0.14 AC
62' W

SB #2
1.17 AC
2340' W

SB #4
0.07 AC
365' W

SB #3
0.03 AC
677' W

SB #5
0.31 AC
781' W

REDFISH BAY

	Proposed Pipeline Alignment		Oyster Shell Area (OS)
	Work Space		Seagrass Bed (SB)
	Facility		Tidal Flat (TF)
	Black Mangrove (BM)		Waterbody (WB)
	Estuarine Wetland (EW)		Wetland (WL)

NOTE: THE CONTENT OF THIS DRAWING IS DESIGNED SPECIFICALLY FOR THE PURPOSE OF SECURING FEDERAL, STATE AND LOCAL ENVIRONMENTAL/REGULATORY AUTHORIZATIONS ONLY.



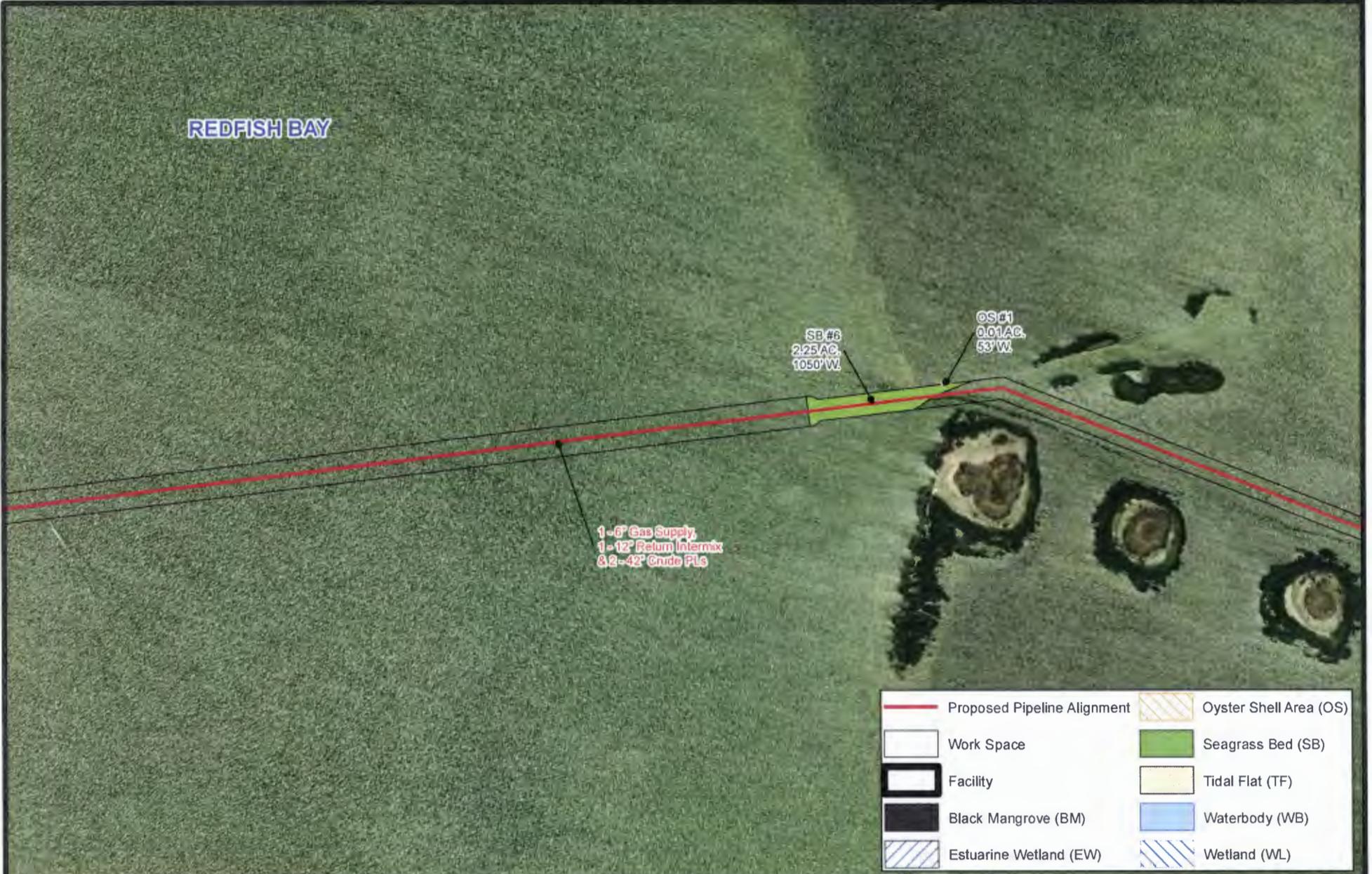
AXIS MIDSTREAM HOLDINGS, LLC.
MIDWAY TO HARBOR ISLAND PROJECT
SAN PATRICIO & NUECES COUNTIES, TEXAS

12/21/2018—8.5" X 11"—NAD83 UTM 14N

Prepared By: RCO
Checked By:
Approved By:
Project No.: 18087



REDFISH BAY



	Proposed Pipeline Alignment		Oyster Shell Area (OS)
	Work Space		Seagrass Bed (SB)
	Facility		Tidal Flat (TF)
	Black Mangrove (BM)		Waterbody (WB)
	Estuarine Wetland (EW)		Wetland (WL)

NOTE: THE CONTENT OF THIS DRAWING IS DESIGNED SPECIFICALLY FOR THE PURPOSE OF SECURING FEDERAL, STATE AND LOCAL ENVIRONMENTAL/REGULATORY AUTHORIZATIONS ONLY.

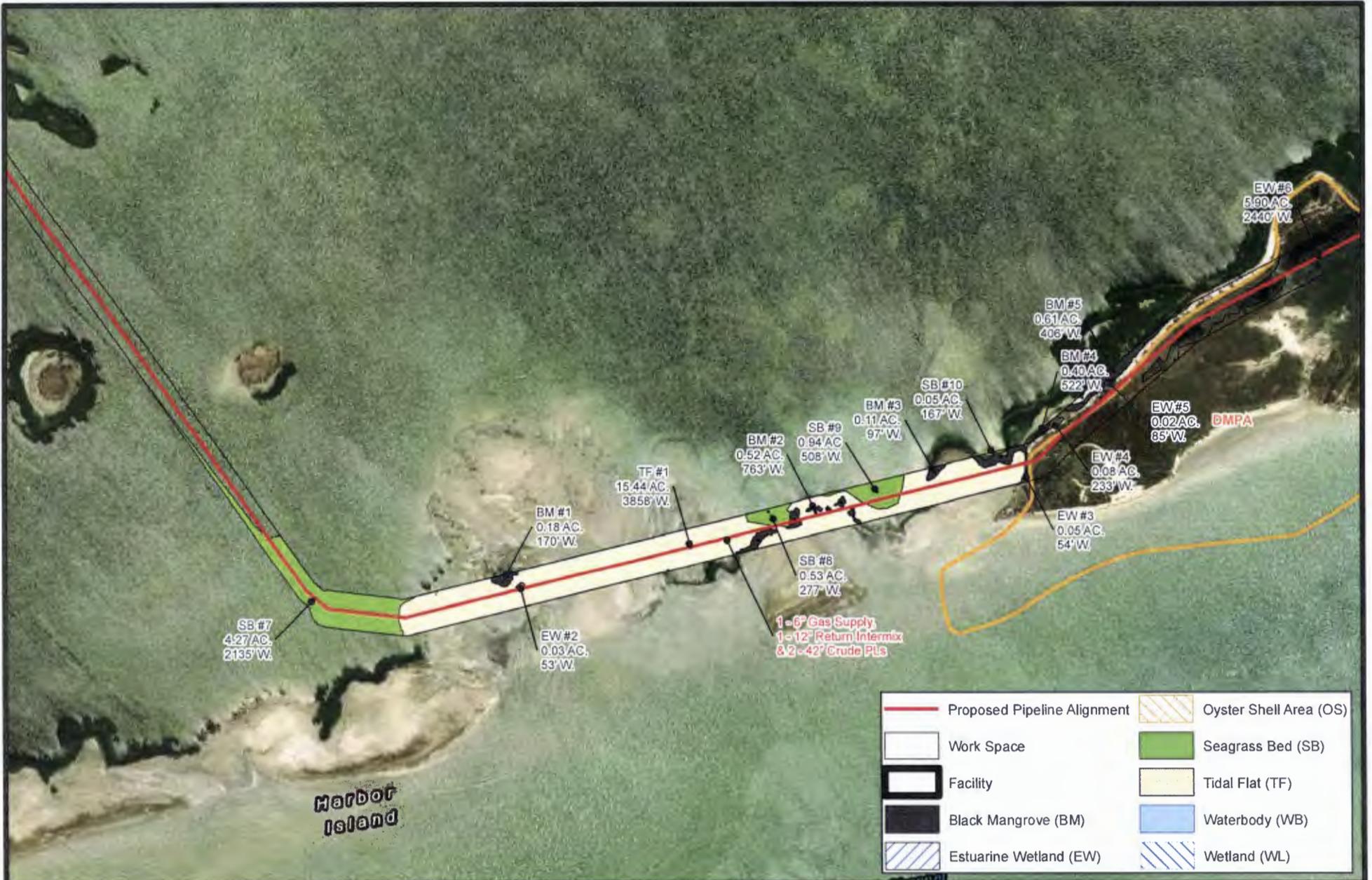


AXIS MIDSTREAM HOLDINGS, LLC.
MIDWAY TO HARBOR ISLAND PROJECT
SAN PATRICIO & NUECES COUNTIES, TEXAS

12/21/2018—8.5" X 11"—NAD83 UTM 14N

Prepared By: RCO
Checked By:
Approved By:
Project No.: 18087





NOTE: THE CONTENT OF THIS DRAWING IS DESIGNED SPECIFICALLY FOR THE PURPOSE OF SECURING FEDERAL, STATE AND LOCAL ENVIRONMENTAL/REGULATORY AUTHORIZATIONS ONLY.



AXIS MIDSTREAM HOLDINGS, LLC.
MIDWAY TO HARBOR ISLAND PROJECT
SAN PATRICIO & NUECES COUNTIES, TEXAS

12/21/2018—8.5" X 11"—NAD83 UTM 14N

Prepared By: RCO
Checked By:
Approved By:
Project No.: 18087





Pipeline Route Survey Plan
 Bathymetric, Sounding, and Sensitive
 Resource Mapping for Two Pipeline Routes:
 Preferred Route (5.4 Miles) Alternative Route (6.0 Miles)
 Redfish Bay, Texas

Legend

- Data Points (500 ft Spacing)
- ▭ Survey Area Buffer (500 Ft)
- Preferred Pipeline Route (5.4 Miles)
- Preferred Route Transects
- Alternative Pipeline Route (6.0 Miles)
- Alternative Route Transects
- HDD Back String (4,062 ft)
- HDD Back String Transects



Survey Transects

500 ft Buffer

Alternative Route (6.0 Miles)

HDD Back String (4,062 ft)

Preferred Route (5.4 Miles)

Data Collection Points
 (Elevation, Soft Sediment, Substrate)

Notes:
 -The Preferred and Alternate Route KMZ files provided by PCS Inc..
 -Conceptual transect and sample station locations developed by Triton Environmental Solutions, LLC.
 -Survey areas and survey plan are subject to change.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroX, GeoMapping, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community

Figure 4: Harbor Island Habitat Map
 White to Harbor Island Pipeline Project
 Alex Madriem Partners, LLC

Map Notes:
 -For planning and permitting purposes only, not for construction
 -Map Projection Date: December 4, 2018 (AMN)
 -Base Map Source: Aerial photograph obtained online from ESRI
 -Elevation values are based on data provided by client
 -Coordinate system: NAD 1983 StatePlane Texas South FIPS 4205 Feet
 -USACE CDD lines obtained from their website
 -Elevation values are in feet North American Vertical Datum
 1988 (NAVD83) based on the National Oceanic and Atmospheric
 Administration Tide and Currents Leveage Station
 http://tidesandcurrents.noaa.gov/stations.html#4775206
 -ATL and MRW elevations verified by the USACE in March 2018
 -Survey date: November 10, 14, 17, 20, 21, 26-29

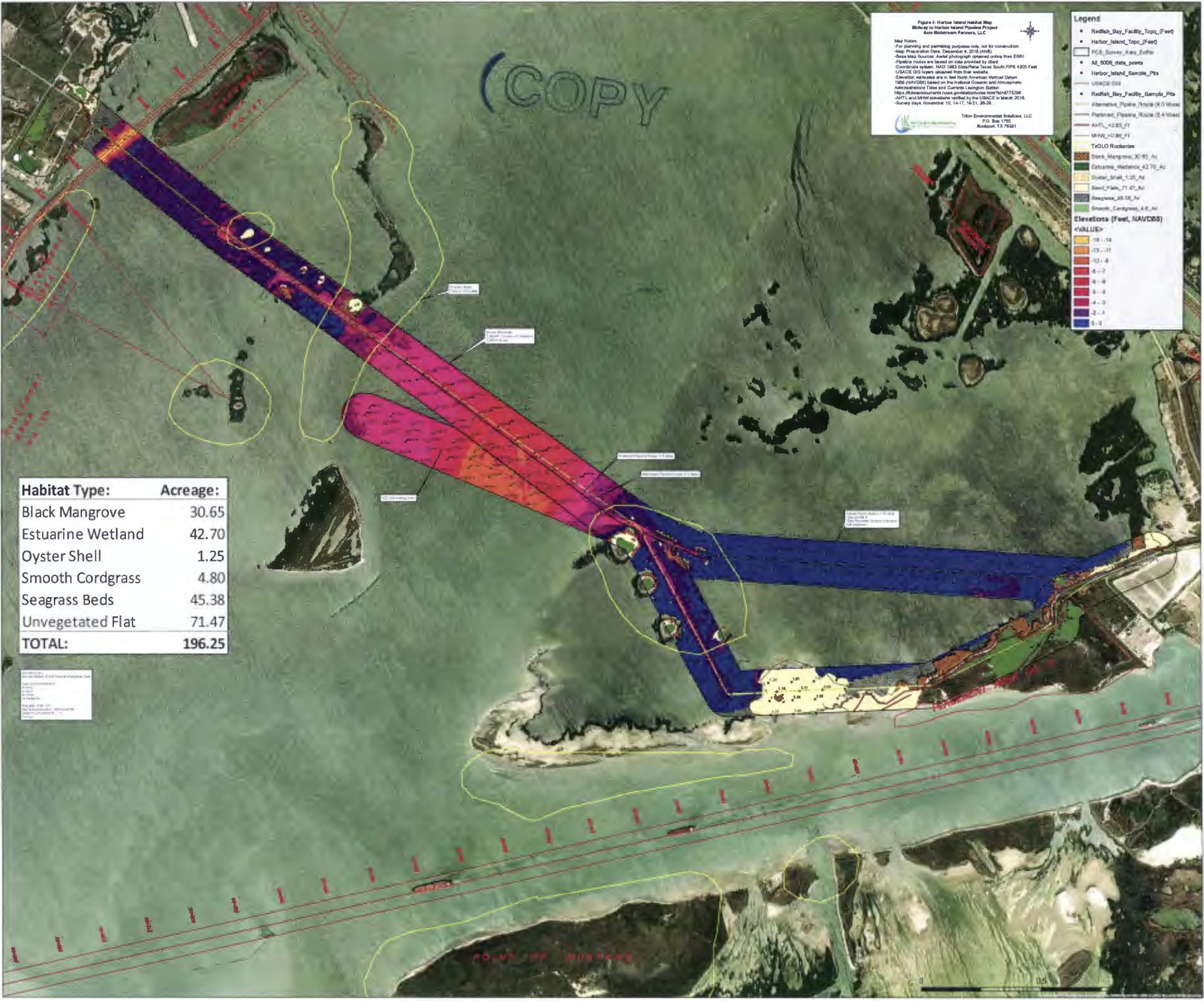
Teton Environmental Solutions, LLC
 P.O. Box 1750
 Rockport, TX 75087

- Legend**
- Redfish Bay_Facility_Topz_Fwat0
 - Harbor_Island_Topz_Fwat0
 - PDS_Survey_Area_Effort
 - AL_SOBG_data_points
 - Harbor_Island_Sandpile_Pts
 - USACE CDD
 - Redfish_Bay_Facility_Sandpile_Pts
 - Alternative_Platform_Route (2.0 Miles)
 - Preferred_Platform_Route (2.4 Miles)
 - AHTL_4265_FY
 - MRWL_4266_FY
 - TxDOT Rockeries
 - Black_Mangrove_30.65_Ac
 - Estuarine_Wetland_42.70_Ac
 - Oyster_Shell_1.25_Ac
 - Sand_Pit_71.47_Ac
 - Seagrass_Beds_45.38_Ac
 - Smooth_Cordgrass_4.80_Ac
 - Unvegetated_Flat_71.47_Ac
- Elevations (Feet, NAVD83)**
 <VALUE>
 18-14
 13-11
 10-9
 8-7
 6-5
 5-4
 4-3
 3-1
 2-1

(COPY)

Habitat Type:	Acreage:
Black Mangrove	30.65
Estuarine Wetland	42.70
Oyster Shell	1.25
Smooth Cordgrass	4.80
Seagrass Beds	45.38
Unvegetated Flat	71.47
TOTAL:	196.25

Map Scale:
 1" = 100 Feet
 1:12,500





**Figure 3: Redfish Bay Facility Habitat Map
 Midway to Harbor Island Pipeline Project
 Axis Midstream Partners, LLC**

Triton Environmental Solutions, LLC
 Prepared By: P.O. Box 1755
 Rockport, TX 78381

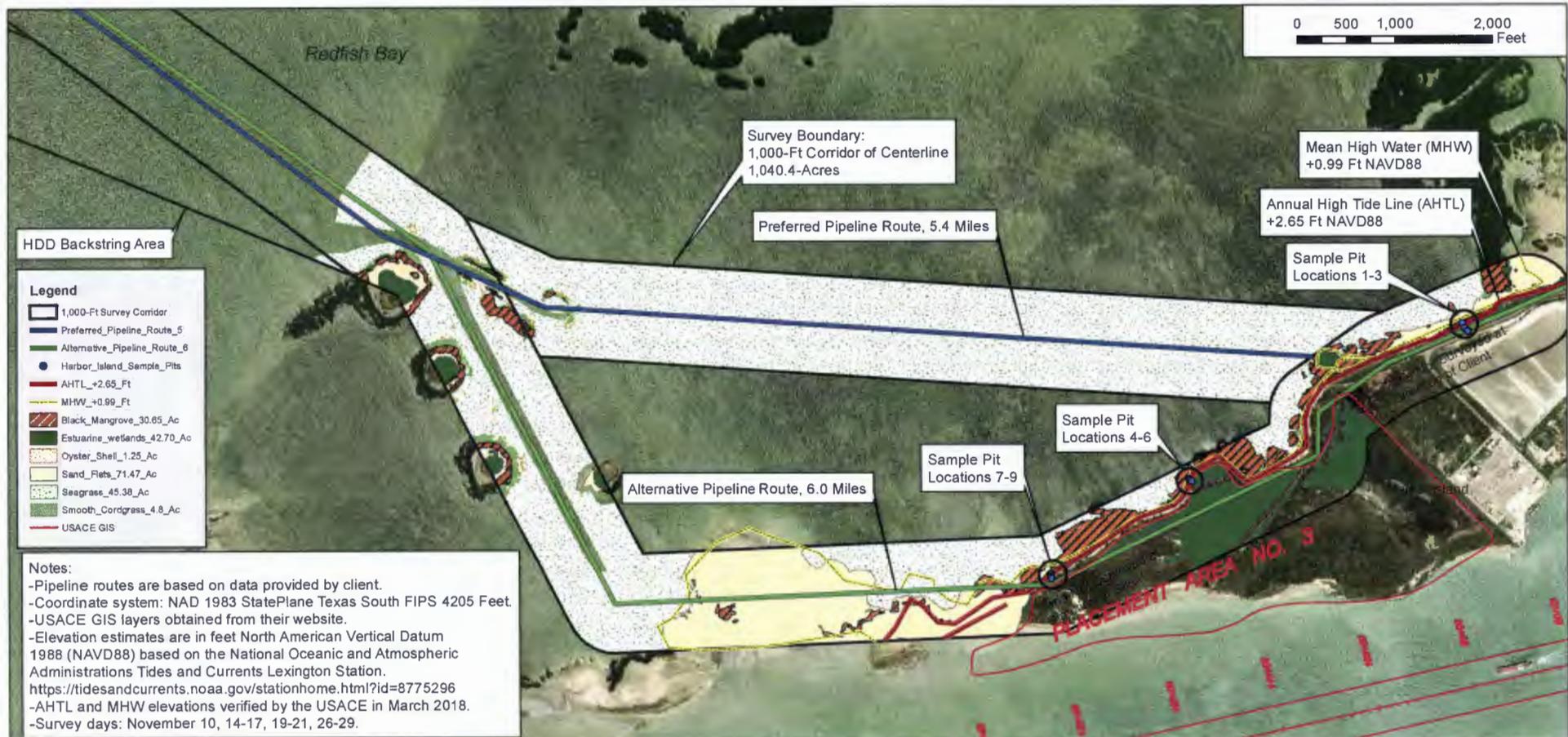


Prepared For: Project Consulting Services, Inc.
 1800 West Loop South, Suite 900
 Houston, Texas 77027

Map Notes:
 For planning and permitting purposes only, not for construction.
 Map Preparation Date: December 4, 2018 (ANB).
 Base Map Sources: Aerial photograph obtained online from ESRI.



(COPY)



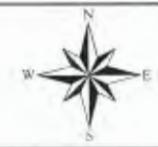
**Figure 4: Harbor Island Habitat Map
Midway to Harbor Island Pipeline Project
Axis Midstream Partners, LLC**

Triton Environmental Solutions, LLC
Prepared By: P.O. Box 1755
Rockport, TX 78381



Prepared For: Project Consulting Services, Inc.
1800 West Loop South, Suite 900
Houston, Texas 77027

Map Notes:
For planning and permitting purposes only, not for construction.
Map Preparation Date: December 4, 2018 (ANB).
Base Map Sources: Aerial photograph obtained online from ESRI.



AXIS Midstream, LLC
Crude Pipeline System
Midway Tank Farm to Harbor Island Terminal
US Army Corps of Engineers, Galveston District
Corpus Christi Field Office
Tuesday, January 29, 2019 @ 1:30 PM
Meeting Agenda

1. Introductions

2. Project Overview

- Facility Positioning
- Pipeline Alignment
 - o Midway to Redfish
 - o Redfish to Harbor Island

3. Permit Application

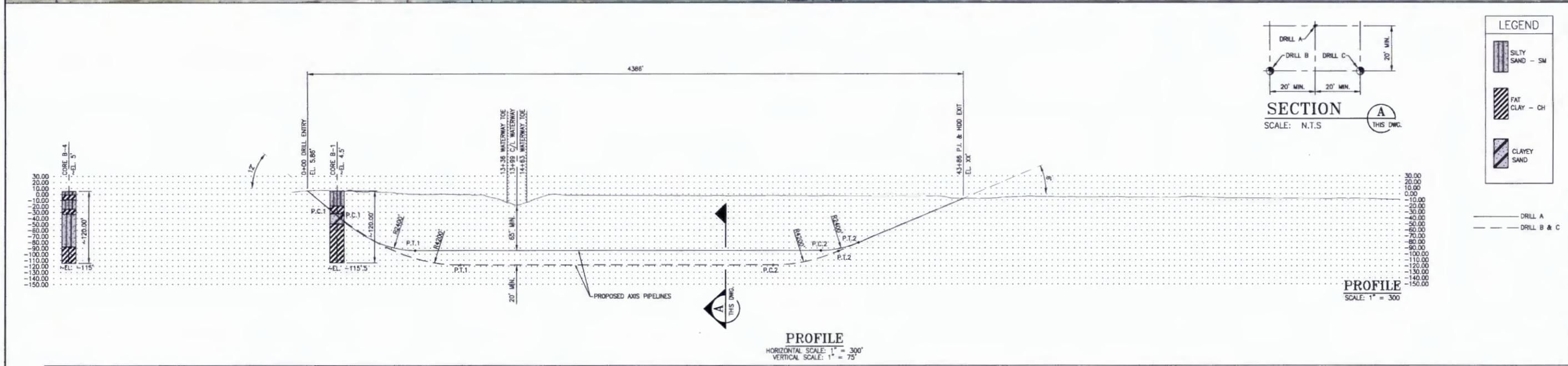
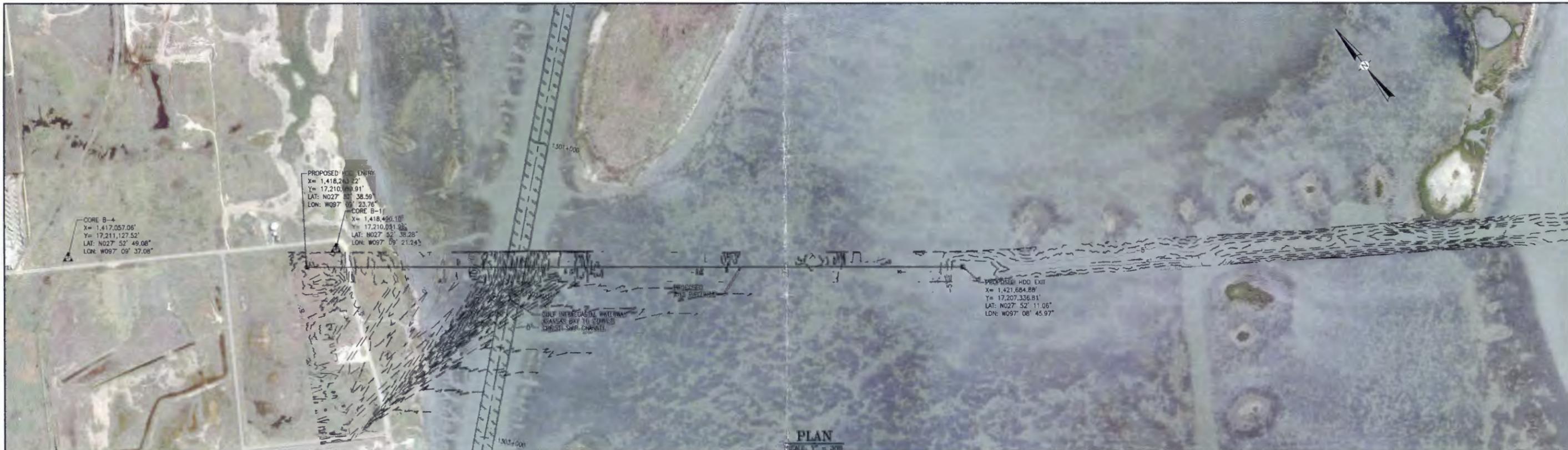
- USACE Filing
- Application Needs

4. Project Topics/Matters

- Public Hearing Process (if necessary)
- Wetland Delineation

5. Closing

- Comments & Suggestions
- Action Items/Tasks Review



- SPECIFICATIONS:**
- CARRIER PIPE: 12.750" O.D.
 - DRILL A BUNDLE: 6.625" O.D.
 - DRILL B: 42.000" O.D.
 - DRILL C: 42.000" O.D.
- GENERAL NOTES:**
- GRID PROJECTION BASED UPON TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE (GRID UNITS IN FEET) GEOCEUTIC DATUM: NAD 1983, CLARKE SPHEROID, 1886.
 - CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.
 - 3 PROPOSED HDD WILL BE INSTALLED IN THE EASEMENT. DRILL A WILL CONSIST OF A BUNDLED ONE 12.750" O.D. AND ONE 6.625" O.D. DRILL B WILL BE A 42.000" O.D. PIPELINE AND DRILL C WILL BE A 42.000" O.D. PIPELINE.
 - THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING THE ORDER OF THE DRILLS.
 - THE ENGINEER'S SEAL AFFIXED TO THIS DRAWING REPRESENTS THE ENGINEERING DESIGN OF THE 3 HDD PROFILES SHOWN ON THIS DRAWING. THE DESIGN IS BASED UPON THE SURVEY INFORMATION PROVIDED BY GULLETT & ASSOCIATES DISPLAYED HEREIN. THE ISSUANCE OF THIS DRAWING IS NOT INTENDED AS A SURVEYING DOCUMENT AND SHOULD NOT BE USED FOR ESTABLISHMENT OR RECORD OF BOUNDARY, EASEMENTS OR ANY OTHER SURVEYING PURPOSE.

PRELIMINARY

This document is released for the purpose of preliminary review under the authority of Christofer R. Ferguson, P.E. 125436 on 12/17/2018. It is not to be used for construction, bidding or permit purposes.

SURVEY DWG	DATA
GULLETT-REFISH_BAY_NAVD88_AS_RUN_NOV2018.CSV	
90185281	TERRACON, PRELIMINARY BORING LOGS NO. B-1 AND B-4, DATED 11-28-18 & 11-30-18

REFERENCE DRAWINGS



NO.	DATE	DESCRIPTION	KMA	CRF	CRF
A	12-18-18	PRELIMINARY, FOR REVIEW AND COMMENT			
REVISIONS					

PROJECT CONSULTING SERVICES, INC.
 TEXAS ENGINEERING REGISTRATION # 1-8314
 3300 WEST ESPERANZA AVE., SUITE 500
 METairie, LA 70002-7426
 (504) 833-5321 Fax (504) 833-4940
 www.projectconsulting.com

AXIS MIDSTREAM
 GULF INTRACOASTAL WATERWAY
 3 PROPOSED HORIZONTAL DIRECTIONAL DRILLS

DRAWN BY: KMA	APPROVED BY: C.R.F.
SCALE: 1"=300'	PROJ. ENGR.: C.R.F.
DATE: 12-13-18	PROJ. MGR.: C.T.
CHECKED BY: C.R.F.	SHEET: 1 OF 1

DWG. NO. HDD-01

18087_HDD-01.DWG 3 KMA 12-17-18 16:15

COPY



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT
5151 FLYNN PARKWAY, SUITE 306
CORPUS CHRISTI, TEXAS 78411-4318

February 1, 2019

Corpus Christi Regulatory Field Office

SUBJECT: Permit Application: SWG-2018-00789

Axis Midstream Holdings, LLC
ATTN: Mr. David O'Dell
5005 Riverway, Suite 110
Houston, Texas 77056-2123

Dear Mr. O'Dell:

This is in reference to your permit application submitted on December 27, 2018, requesting to construct a series of pipelines and facilities to transport crude oil for loading onto marine transport vessels. The proposed project would start at the proposed Midway Tank Farm Facility located near the intersection of Farm to Market (FM) 893 and County Road (CR) 2004, 5 miles south of Taft, San Patricio County, Texas. From there the proposed pipelines would head in a northeast direction crossing State Highway (SH) 181, where they would take a dogleg southeast towards Aransas Pass, San Patricio County, Texas, where they would terminate at the proposed Redfish Tank Farm Facility off FM 2725. From there, the proposed pipelines would cross the Gulf Intracoastal Water Way (GIWW) and Redfish Bay where they would terminate at the proposed Harbor Island Terminal Facility in Port Aransas, Nueces County, Texas.

Based on our review of your permit application and information obtained during a meeting held at the Corpus Christi Regulatory Field Office (CCRFO) on January 30, 2019, we have determined that your permit application is incomplete. In order to determine that the permit application is Federally complete for an Internal Review and for publication of a Public Notice, additional information must be submitted. Please note that clarification may be required once this additional information has been provided. Respectfully, we request:

1. As stated in our meeting at the CCRFO, we identified that your stated project purpose and need is not sufficient enough to develop a reasonable and practicable alternatives analysis and it is not supported by what is actually being proposed. Additionally, the purpose and need for each facility is not clearly defined. We require that you revise your purpose and need statement and/or revise your proposed project description so they coincide with each other including the purpose and needs for the facilities and pipelines.

-2-

2. It was brought to our attention that there may be a potential second 42-inch crude oil pipeline added to the route between the proposed Midway Facility and the Redfish Facility. Additionally, it was unclear where the temporary work area for the horizontal directional drilling (HDD) locations would be to cross the GIWW and how the pipeline would be installed across Redfish Fish Bay. There were also other inconsistencies with the proposed permit drawings that were addressed that included, but not limited to temporary placement of fill locations in Redfish Bay, temporary work areas in Redfish Bay, and installation or construction description of how the pipeline would be installed in Redfish Bay. It is unclear what the order of construction would be as well. We require:
 - a. Revised plan views and side profile views of the proposed project's drawings.
 - b. The plan views need to be specific enough to identify what is being constructed and what resources are being impacted. Methods of construction should also be detailed on the plan views for the proposed pipelines. We will also accept profile plan views for the construction of the pipelines as long as they are legible (font no smaller than 10).
 - c. The revised project plans shall be submitted on 8.5-inch by 11-inch paper. No other paper size will be accepted.
3. We require that a wetland and water data table be submitted that includes the data required to sufficiently fulfill your request for a preliminary jurisdictional determination (PJD). We emailed your consultant an Excel spreadsheet that outlines the required information on January 30, 2019.

The following information is not needed to deem the project Federally Complete. However, this information is needed to complete our review of the proposed project.

1. A Mitigation Plan, in accordance with 33 CFR 332, providing full compensation for all impacts associated with the proposed project. Please be aware that monitoring reports need to be in accordance to Regulatory Guidance Letter No. 08-03.
2. An analysis of alternatives that documents the process of avoidance and minimization of impacts to jurisdictional areas. A thorough alternative analysis should include a no action alternative, multiple offsite location alternatives, and multiple onsite alternatives. The offsite alternatives should include siting criteria and specific reasons for why these sites were not selected as the least environmentally-damaging practicable alternative with regard to the aquatic resources. The onsite alternatives also should include specific justification why each of the onsite alternatives is not the least environmentally-damaging

practicable alternative and that the remaining impacts to jurisdictional areas are, in fact, unavoidable. If economics are cited as justification for any of the above alternatives not being practicable, please submit data that shows that the particular alternative is in fact not economically practicable.

Please reference our file number in any future correspondence pertaining to this project. If you do not submit the required information to determine the project Federally complete within 30 days from the date of this letter, we will assume that you no longer wish to pursue this permit and your application will be withdrawn. We are ready to assist you in whatever way possible. We can arrange a meeting to discuss the requested information if that is your desire. If you have any questions, please call me at 361-814-5847 ext. 1010. You may also email me at Robert.n.jones2@usace.army.mil if you prefer.

To assist us in improving our service to you, please complete the survey found at: http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0

Sincerely,



Robert Jones
Regulatory Project Manager

Copy Furnished:

Project Consulting Services, Inc.
ATTN: Robert Ganczak
1800 West Loop South, Suite 900
Houston, Texas 77027-3259

PROJECT CONSULTING SERVICES®, INC.

1800 WEST LOOP SOUTH, SUITE 900
HOUSTON, TX. 77027-3259
(713) 952-7380 Fax (713) 952-7082
www.projectconsulting.com

FEB 11 2019

February 8, 2019

Mr. Robert Jones
U.S. Army Corps of Engineers
Galveston District - Corpus Christi Office, Regulatory Division
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411

RE: PERMIT APPLICATION – SWG-2018-00789
Axis Midstream Holdings, LLC – Midway to Harbor Island Pipelines & Support Facility
Proposed Pipelines and Support Facilities
San Patricio and Nueces Counties, Texas

Dear Mr. Jones:

Pursuant our recent telephone conversation, attached please find a copy of the Freedom of Information Act (FOIA) data received for permit number 11867, Redfish Bay Terminals, Inc. It appears there have been six (6) iterations of the original 1979 permit.

In addition, please find a pdf copy of a supplemental delineation report prepared for the Redfish Bay Facility area and the associated point and polygon files. The supplemental field work was done on January 16th and 17th, 2019.

Should you have any questions regarding the FOIA data or supplemental delineation report, please do not hesitate to contact me. Thanks!

Sincerely,

Project Consulting Services, Inc.



Robert Ganczak
Senior Environmental Specialist

Attachment

PROJECT CONSULTING SERVICES[®], INC.

1800 WEST LOOP SOUTH, SUITE 900

HOUSTON, TX. 77027-3259

(713) 952-7380 Fax (713) 952-7082

www.projectconsulting.com

FEB 19 2019

February 15, 2019

Mr. Robert Jones
U.S. Army Corps of Engineers
Galveston District - Corpus Christi Office, Regulatory Division
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411

RE: PERMIT APPLICATION – SWG-2018-00789
Axis Midstream Holdings, LLC – Midway to Harbor Island Pipelines & Support Facility
Proposed Pipelines and Support Facilities
San Patricio and Nueces Counties, Texas

Robert:

Attached please find a zip drive with the Freedom of Information Act (FOIA) data received for permit number 11867, Redfish Bay Terminals, Inc., the supplemental delineation report prepared for the Redfish Bay Facility area and the associated point and polygon files. Sorry for the goof up. Thanks!

Sincerely,

Project Consulting Services, Inc.



Robert Ganczak
Senior Environmental Specialist

Attachment



COPY

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT
5151 FLYNN PARKWAY, SUITE 306
CORPUS CHRISTI, TEXAS 78411-4318

March 12, 2019

Corpus Christi Field Office

SUBJECT: Withdrawal of Department of the Army Permit Application SWG-2018-00789

Axis Midstream Holdings, LLC
ATTN: Mr. David O'Dell
5005 Riverway, Suite 110
Houston, Texas 77056-2123

Dear Mr. O'Dell:

This is in reference to your permit application submitted on December 27, 2018, requesting to construct a series of pipelines and terminal facilities to transport, store, and load marine transport vessels with crude oil. The proposed pipelines would start at the proposed Midway Tank Farm Facility located 5 miles south of Taft, Texas; from there head northeast crossing State Highway (SH) 181 where they would take a dogleg southeast towards Aransas Pass, Texas, terminating at the proposed Redfish Tank Farm Facility off FM 2725; and then spanning Redfish Bay and the Gulf Intracoastal Water Way (GIWW) where the proposed project terminates at the proposed Harbor Island Terminal Facility in Port Aransas, Nueces County, Texas.

In a letter, dated February 1, 2019, the United States Army Corps of Engineers (Corps) requested additional to continue our review of your proposed project. The Corps advised you that if we did not receive all of the requested information within 30 days, your permit application would be withdrawn. As of the date of this letter, the Corps has not received all of the information requested in our February 1, 2019 letter. Therefore, your Department of Army Permit application SWG-2018-00789 is hereby withdrawn. This withdrawal is without prejudice to your right to reapply at a later date.

If you have questions or require additional information, please contact Mr. Robert Jones at the letterhead address or by telephone at 361-814-5847 ext. 1010. To assist us in improving our service to you, please complete the survey found at <http://per2.nwp.usace.army.mil/survey.html>.

Sincerely,

Kristi N. McMillan
Interim Supervisor
Corpus Christi Regulatory Field Office

Cc:

Project Consulting Services, Inc., ATTN: Robert Ganczak, 1800 West Loop South, Suite 900, Houston, Texas 77027-3259