Commonwealth Liquid Natural Gas (LNG) Facility and Pipeline in Cameron Parish


LOCATION OF WORK: In Cameron Parish, Louisiana; LNG Facility located at North 29.7705, West -93.3527, at 500 Gulf Beach Highway, Cameron, LA, on the Calcasieu Ship Channel near the mouth of the channel and the Gulf of Mexico. The site is situated along the west bank of the Calcasieu River, between mile markers 0 and 1. The proposed 3.04-mile pipeline is located north of the LNG Facility, as shown on the attached vicinity map. Hydrologic Unit Code 08080206 Lower Calcasieu Basin.

CHARACTER OF WORK: The applicant has requested a Department of the Army authorization to clear, grade, fill, and excavate to develop approximately 118.8 acres of a 393-acre site to construct a proposed LNG Facility. The marine facilities at the LNG Facility would consist of one berth area and a barge dock. Up to 1.73 million cubic yards of waterbottom material will be removed from the dredge footprint, and approximately 47.0 acres within the Calcasieu River will be dredged to a depth of 46 feet below North American Vertical Datum of 1988 (NAVD 88) utilizing a cutterhead suction dredge.
The applicant has also requested a Department of the Army authorization to install and operate a 3.04-mile-long, 30-inch diameter natural gas (NG) Pipeline. Additionally, there will be one meter station and three pipeline interconnects on the NG Pipeline. The project activities include clearing the right-of-way, conducting trenching operations, installing a belowground NG Pipeline, installing aboveground facilities, temporarily stockpiling materials, and performing horizontal directional drill (HDD) operations. Following construction, areas temporarily impacted by project construction will be restored to pre-construction grade and allowed to revegetate.

The proposed construction and operation of the LNG Facility will result in the permanent loss of 89.5 acres of jurisdictional wetlands (65.7 acres of intermediate marsh [EEM] wetlands, 9.5 acres of estuarine scrub-shrub [ESS] wetlands, and 14.3 acres of estuarine forested [EFO] wetlands), 1.5 acres of 404-jurisdictional other waters of the U.S. (slough), and 1.2 acres of 404/10-jurisdictional waters of the U.S. (open water), as well as temporary impact on 6.3 acres of intermediate [EEM] marsh. The proposed construction and operation of the NG Pipeline and associated aboveground facilities will result in the permanent loss of 4.0 acres of intermediate EEM marsh, as well as temporary impacts to 37.7 acres of jurisdictional intermediate EEM marsh and 0.1 acre of 404-jurisdictional other waters of the U.S. (open water). No anticipated scrub shrub (ESS) or forested (EFO) wetland habitats will be cleared during construction of the NG Pipeline or permanently converted to emergent wetlands within the maintained NG Pipeline right-of-way. In addition, a slurry pipeline for transport of the dredged materials to a marsh-enhancement and re-establishment site will temporarily impact approximately 7.3 acres of jurisdictional intermediate EEM marsh and 3.5 acres of 404-jurisdictional other waters of the U.S. (slough). The attached table provides a summary of the impacts on wetlands and other waters of the U.S. associated with the proposed LNG Facility, the NG Pipeline, and the slurry pipeline.

The applicant has designed the project to avoid and minimize direct and secondary adverse impacts to the maximum extent practicable by using modular construction methods (where significant portions of the equipment, including the LNG storage tanks, are assembled offsite and delivered in modules to the site, reducing the need for onsite construction area), selecting the proposed site from a range of alternative sites, selecting the proposed configuration from a range of alternative configurations, selecting the proposed Pipeline route from a range of alternative routes, utilizing HDD, reducing the construction footprint in wetlands, and maximizing the use of existing access roads. The applicant proposes that the beneficial use of dredged material will offset unavoidable wetland impacts associated with the proposed LNG facility and pipeline, and therefore a supplemental compensatory mitigation plan has not been proposed. As outlined in the Beneficial Use of Dredge Material (BUDM) Plan, up to 1.73 million yds of dredged material will be placed approximately 1.5 miles northwest of the proposed LNG facility to restore coastal marsh habitat. Overall, the 1.73 million yds of dredged material that will be placed within the BUDM areas will result in the creation of 201.4 acres of new marsh habitat and will nourish an additional 278.3 acres of existing marsh habitat.

The comment period for the Department of the Army Permit and the Louisiana Department of Environmental Quality WQC will close 20 days from the date of this joint public notice. Written comments, including suggestions for modifications or objections to the proposed work, stating reasons thereof, are being solicited from anyone having interest in this permit and/or this WQC request and must be submitted so as to be received before or by the last day of the comment period. Letters concerning the Corps of Engineers permit application must reference the
 applicant's name and the Permit Application Number, and be forwarded to the Corps of Engineers at the address above, ATTENTION: REGULATORY BRANCH. Letters concerning the Water Quality Certification must reference the applicant's name and the WQC Application number and be mailed to the Louisiana Department of Environmental Quality at the address above.

The application for this proposed project is on file with the Louisiana Department of Environmental Quality and may be examined during weekdays between 8:00 a.m. and 4:30 p.m. Copies may be obtained upon payment of costs of reproduction.

Corps of Engineers Permit Criteria

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

The U.S. Army Corps of Engineers is soliciting comments from the public, federal, state, and local agencies and officials, Indian Tribes, and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the U.S. Army Corps of Engineers to determine whether to make, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

The applicant has conducted Phase I cultural resource investigations in compliance with Section 106 of the National Historic Preservation Act and guidelines set forth by the Louisiana Division of Archaeology (LDOA) to identify cultural resource sites within the project footprint and to assess any potential impacts by the project to historic properties or other sensitive cultural resources. The Draft Phase I Archaeological Survey of the Commonwealth LNG Project Report (submitted March 14, 2019), Addendum 1: Phase I Cultural Resources Assessment of the Commonwealth LNG Project, Cameron Parish, Louisiana (submitted October 8, 2019), Proposed Pipeline Associated with the Commonwealth LNG Project, Cameron Parish, Louisiana (submitted August 30, 2019), and Proposed Dredge Area, Slurry Pipeline, and Beneficial Use of Dredge Material Area Associated with the Commonwealth LNG Project, Cameron Parish, Louisiana (submitted December 10, 2019), which provide a detailed analysis of the results of the investigation, were submitted to the LDOA. The LDOA issued letters concurring with the applicant’s determinations that the project will have no impact on any historic properties listed or eligible for listing on the National Register of Historic Places on September 12, 2019, November 27, 2019, September 28, 2019, and January 12, 2020, respectively.

The applicant submitted concurrence request letters to the U.S. Fish and Wildlife Service (USFWS) on May 13, 2019. On August 31, 2019, the applicant received a letter from the USFWS indicating that the agency concurred with the May Affect, Not Likely to Adversely Affect determinations for West Indian manatee, red knot, and piping plover and No Effect
determinations for the loggerhead sea turtle, Kemp's ridley sea turtle, and designated critical habitat for the piping plover. Consultation regarding the eastern black rail, which was proposed for protection under the Endangered Species Act (ESA) on October 9, 2018, and migratory bird habitat is ongoing. Utilizing the process outlined in the Standard Local Operating Procedure for Endangered Species in Louisiana (SLOPES), dated October 22, 2014, between the U.S. Army Corps of Engineers, New Orleans District and USFWS, Louisiana Ecological Services Office, the Corps concurs with the USFWS findings as stated above. Our initial finding is that the proposed work would not adversely affect any species currently listed as threatened or endangered by the U.S. Department of Interior or Commerce, nor affect any habitat designated as critical to the survival and recovery of any endangered species.

The applicant initiated the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act on May 15, 2019. The applicant's proposal would result in the destruction, alteration, and/or disturbance of up to 118.9 acres of EFH utilized by various life stages of red drum, red snapper, gray snapper, lane snapper, brown shrimp, and white shrimp. Consultation regarding proposed mitigation for impacts on wetlands that provide EFH is ongoing.

If the proposed work involves deposits of dredged or fill material into navigable waters, the evaluation of the probable impacts will include the application of guidelines established by the Administrator of the Environmental Protection Agency. Also, a certification that the proposed activity will not violate water quality standards will be required from the Department of Environmental Quality, Water Quality Certification Section before a permit is issued.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

The applicant has certified that the proposed activity described in the application complies with and will be conducted in a manner that is consistent with the Louisiana Coastal Resources Program. The Department of the Army permit will not be issued unless the applicant received approval or a waiver of the Coastal Use Permit by the Department of Natural Resources.

You are invited to communicate the information contained in this notice to any other parties whom you deem likely to have interest in the matter.

Darrell S. Barbara
Chief, Western Evaluation Section
Regulatory Branch

Enclosure
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<th>ESS</th>
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Note: All facilities located in Cameron Parish, Louisiana.

- **a** The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends.
- **b** Land affected during construction includes both temporary and permanent work areas.
- **c** Dredging will occur in approximately 47 acres of existing open water to create the LNG carrier berth/access. Land use will not change in this area, which therefore is not included in total Project acreage.
- **d** Within the LNG Facility.
- **e** The vegetation (16.6 acres of EEM wetlands and 0.1 acre of open water) in the Pipeline right-of-way will not be affected by operations. Aboveground facilities and permanent access roads are considered separately.
INFORMATION DEPICTED HEREON IS FOR REFERENCE PURPOSES ONLY AND IS COMPILTED FROM BEST AVAILABLE DATA SOURCES. TRC ASSUMES NO RESPONSIBILITY FOR ERRORS ARISING FROM MISUSE OF THIS MAP.

Legend
- LNG Facility Site Boundary
- Pipeline Route
- BUDM Area
- LNG Berth/Access Dredge Area
- Slurry Pipeline
- Nearshore Disposal Area

Sources: ESRI, USGS, CPL, TRC

Commonwealth LNG Project
Cameron Parish, Louisiana

Figure 1
Vicinity Map

4155 Shackleford Road, Suite 225
Norcross, GA 30093
Commonwealth LNG Project
Cameron Parish, Louisiana

Figure 2
Plan View - LNG Facility

INFORMATION DEPICTED HEREON IS FOR REFERENCE PURPOSES ONLY AND IS COMPILED FROM BEST AVAILABLE DATA SOURCES. TRC ASSUMES NO RESPONSIBILITY FOR ERRORS ARISING FROM USE OF THIS MAP.
Note: Cleared vegetation will either be burned on-site (in accordance with Louisiana Administrative Code 33:III Ch. 11 § 1109.C.8) or removed off-site for disposal at an appropriately approved disposal facility. Cleared vegetation will not be disposed of on the Commonwealth property or in adjacent wetland areas.

Note: All structures to be hauled offsite for sale or disposal.

Note: Moran Towing – relocated to new “Moran Towing” location.
Figure 4
Cross Section Locations
LNG Facility

Commonwealth LNG Project
Cameron Parish, Louisiana

Sources: ESRI, USGS, CPL, TRC

INFORMATION DEPICTED HEREON IS FOR REFERENCE PURPOSES ONLY AND IS COMPILTED FROM BEST AVAILABLE DATA SOURCES. TRC ASSUMES NO RESPONSIBILITY FOR ERRORS ARISING FROM USE OF THIS MAP.
Storm Surge Wall (+26' Elevation)

LNG Storage Tanks (+5' Elevation)

LNG Facility Grounds (+6' Elevation)

Existing Calcasieu Ship Channel

Access Road (+5' Elevation)
Crushed Stone/Gravel (2 - 6")

Storm Water Ditch

Dredge Elevation (-48')

Existing Waterbottom Elevation

Permanent Fill (hauled in)
Temporary Fill (hauled in)
Crushed Stone/Gravel (hauled in)
Riprap (hauled in)

1:3 slope

A. 1 foot thickness of cushion stone 1-6" dia.
B. 3 foot thickness of armor rip-rap 1-3" dia.
Commonwealth LNG Project
Cameron Parish, Louisiana

Figure 5
Sheet 5 of 5
Cross Section E - LNG Facility

Flare Support Piles
Maximum Tip Depth (100')
(Not to Scale)

Storm Water Ditch

Crushed Stone/Gravel (2-6")
Flare Pad and Access Road (+5' Elevation)

Proposed Riprap
1:3 Slope
(Not to Scale)

Existing Waterbottom Elevation

Existing Calcasieu Ship Channel

LNG Facility, Cross Section E - E'

Permanent Fill (hauled in)
Temporary Fill (hauled in)
Crushed Stone/Gravel (hauled in)
Riprap (hauled in)
Construction Mat
Excavation/Dredging
Pipeline
Temporary Fill (native material)

Water Surface

E

E'

1:3 slope

A. 1 foot thickness of cushion stone 1-6" dia.
B. 3 foot thickness of armor rip-rap 1-3' dia.

Note: Not to Scale
Kalcasieu Ship Channel

Kinetica (existing pipeline)

Proposed Pipeline ROW & Workspace
Temporary Excavation/Backfill
(Cross Section Figure 7)

Proposed ATWS
(Cross Section Figure 14)

Proposed ATWS
(Cross Section Figure 14)

Proposed ATWS
(Cross Section Figure 14)

Proposed ATWS
(Cross Section Figure 14)

Temporary Access Road
(Cross Section Figure 9)

Legend
- Cross Section
- Permanent Fill
- Temporary Excavation and Backfill
- Temporary Fill
- LNG Facility Site Boundary

Commonwealth LNG Project
Cameron Parish, Louisiana

Figure 6
Plan View - Pipeline
Sheet 2 of 3

INFORMATION DEPICTED HEREON IS FOR REFERENCE PURPOSES ONLY AND IS COMPILED FROM BEST AVAILABLE DATA SOURCES. TRC ASSUMES NO RESPONSIBILITY FOR ERRORS ARISING FROM MISUSE OF THIS MAP.
30" Diameter Pipeline

Edge of Construction Workspace

Existing Grade

Edge of Construction Workspace

Sideboom With Counterweight Extended

12" Native Topsoil Maximum

20' +/- Temporary Ditch Spoil Storage

30' Working Side

50' Permanent Easement Width

10' +/-

50' Temporary Workspace Width

12' +/-

25' Temporary Workspace Width

25' Spoil Side

50' Working Side

75' Construction Workspace Width

3.5' +/-

7' +/-

5.5' +/-

NOTE:
CONCRETE COATING OR SACK WEIGHTS WILL BE INSTALLED FOR THE FULL LENGTH OF THE PIPELINE ROUTE

* MATTING WILL OCCUR IN WORKING LANE. OPTIONAL UNDER SKIDS AND PIPE.

Commonwealth LNG Project
Cameron Parish, Louisiana

Figure 7
Cross Section - Pipeline
Typical Construction Configuration,
Saturated Wetlands

4155 Shackleford Road, Suite 225
Norcross, GA 30093

1/24/2020

Permanent Fill (hauled in)
Temporary Fill (hauled in)
Crushed Stone/Gravel (hauled in)
Riprap (hauled in)
Water Surface
Typical Construction Workspace Width
Temporary Fill (native material)
Existing Soil
Excavation/Dredging
Construction Mat
Pipeline

Note: Not to Scale
Figure 9
Cross Section
Temporary Access Road (Typical)

Note: Not to Scale

- Permanent Fill (hauled in)
- Temporary Fill (hauled in)
- Existing Soil
- Excavation/Dredging
- Construction Mat
- Temporary Fill (native material)
- Crushed Stone/Gravel (hauled in)
- Riprap (hauled in)
- Water Surface
Figure 10
Cross Section
Yard 1 (Typical)
Proposed Additional Temporary Workspace (ATWS) (Cross Section Figure 14)

Proposed HDD Stringing Corridor (Cross Section Figure 13)

Feet (NAVD 88)

HDD Entrance

HDD Exit

30" Diameter Pipeline
Maximum depth approximately -50'

Existing Grade

Waterbody CO2

28'

Highway 27/82

Profile  Pipeline, Site-Specific Construction, Horizontal Directional Drill

Commonwealth LNG Project
Cameron Parish, Louisiana

Figure 12

Note: Not to Scale

Permanent Fill (hauled in)
Temporary Fill (hauled in)
Existing Soil
Excavation/Dredging
Construction Mat
Temporary Fill (native material)
Crushed Stone/Gravel (hauled in)
Riprap (hauled in)
Water Surface

4155 Shackleford Road, Suite 225
Norcross, GA 30093

TRC
Note: Not to Scale

Commonwealth LNG Project
Cameron Parish, Louisiana

Figure 13
Cross Section
Pipeline Typical Construction
Configuration HDD
Stringing Corridor

Permanent Fill (hauled in)
Temporary Fill (hauled in)
Existing Soil
Excavation/Dredging
Construction Mat
Temporary Fill (native material)
Crushed Stone/Gravel (hauled in)
Riprap (hauled in)
Water Surface
ATWS will be Used for Equipment Staging and Spoil Storage

Note: Not to Scale

ATWS Width Varies from 25' to 200'

ATWS will be Used for Equipment Staging and Spoil Storage

Note: See Figure 7 for Adjacent Pipeline Construction Configuration
Cross Section A
Temporary Slurry Pipeline
Typical Construction Configuration

Commonwealth LNG Project
Cameron Parish, Louisiana
Figure 17
Sheet 1 of 6
2/4/2020
Cameron Parish, Louisiana
Commonwealth LNG Project
4155 Shackleford Road, Suite 225
Norcross, GA 30093
2/4/2020
Cross Section - Slurry Pipeline (Floating) Typical In-Water Configuration

800' +/- Dredge Area

Cross Section - Slurry Pipeline (Sinking) Typical In-Water Configuration

800' +/- Dredge Area

Note: Not to Scale

Commonwealth LNG Project
Cameron Parish, Louisiana
Figure 17
Sheet 2 of 6
Cross Section B
Temporary Slurry Pipeline
Typical In-Water
Configuration

Permanen Fill (hauled in)  Existing Soil  Construction Mat
Temporary Fill (hauled in)  Excavation/Dredging  Pipeline
Crushed Stone/Gravel (hauled in)  Riprap (hauled in)  Water Surface
Existing Degraded Marsh Elevation

Existing Adjacent Marsh (1.5' +/-0.5' Elevation)

Borrow Area for Containment Berm (-7' Elevation)

Containment Berm (+4' Elevation)

Target Final Settled Elevation of Fill (+1.8' +/- 0.5' Typical)

4:1 slope (typical)

45' (typical)

Cross Section D - Preliminary BUDM/Mitigation Area

Containment Berm (+4' Elevation)

Target Final Settled Elevation of Fill (+1.8' +/- 0.5' Typical)

45' (typical)

3:1 slope (typical)

3' (typical)

Figure 17
Sheet 4 of 6

Cross Section D - Preliminary BUDM/Mitigation Area

Permanent Fill (hauled in)

Temporary Fill (hauled in)

Crushed Stone/Gravel (hauled in)

Riprap (hauled in)

Existing Soil

Excavation/Dredging

Construction Mat

Pipeline

Temporary Fill (native material)

Open Water

Water Surface

4155 Shackleford Road, Suite 225
Norcross, GA 30093

Commonwealth LNG Project
Cameron Parish, Louisiana

Target Maximum Construction Elevation Level (+3.5')

Open Water

0

+4'

+5'

Target Final Settled Elevation of Fill (+1.8' +/- 0.5' Typical)

Edge of BUDM/Mitigation Area

D

D'

Edge of BUDM/Mitigation Area

Note: Not to Scale

Note: Not to Scale
Cross Section E - Preliminary BUDM/Mitigation Area

- Edge of BUDM/Mitigation Area
- Containment Berm (+4' Elevation)
- Target Maximum Construction Elevation Level (+3.5')
- Target Final Settled Elevation of Fill (+1.8' +/- 0.5' Typical)
- Containment Berm (+4' Elevation)
- Borrow Area for Containment Berm (-7' Elevation)
- Existing Degraded Marsh Elevation
- Open Water

- MHW (+1.34')
- MLW (+0.65')
- E
- E'

- Note: Not to Scale

Commonwealth LNG Project
Cameron Parish, Louisiana

Figure 17
Sheet 5 of 6
Cross Section E - Preliminary BUDM/Mitigation Area

- Permanent Fill (hauled in)
- Temporary Fill (hauled in)
- Crushed Stone/Gravel (hauled in)
- Riprap (hauled in)
- Existing Soil
- Excavation/Dredging
- Construction Mat
- Temporary Fill (native material)
- Pipeline
- Water Surface
- Open Water

4155 Shackleford Road, Suite 225
Norcross, GA 30093

2/5/2020
Cross Section F - Preliminary BUDM/Mitigation Area

- **Target Final Settled Elevation of Fill (+1.8' +/- 0.5' Typical)**
- **Containment Berm (+4' Elevation)**
- **4:1 slope (typical)**
- **Open Water**
- **5' (typical)**
- **45' (typical)**
- **Borrow Area for Containment Berm (-7' Elevation)**
- **3:1 slope (typical)**

- **Existing Degraded Marsh Elevation**
- **Edge of BUDM/Mitigation Area**
- **Borrow Area for Containment Berm (-7' Elevation)**
- **Target Maximum Construction Elevation Level (+3.5')**
- **Target Final Settled Elevation of Fill (+1.8' +/- 0.5' Typical)**
- **Containment Berm (+4' Elevation)**

- **Note: Not to Scale**

---

**Commonwealth LNG Project**

*Cameron Parish, Louisiana*

**Figure 17**

Sheet 6 of 6

Cross Section F - Preliminary BUDM/Mitigation Area

---

**Legend**

- Permanent Fill (hauled in)
- Temporary Fill (hauled in)
- Crushed Stone/Gravel (hauled in)
- Riprap (hauled in)
- Existing Soil
- Excavation/Dredging
- Construction Mat
- Temporary Fill (native material)
- Pipeline
- Water Surface
- Open Water
Gulf of Mexico

Arkansas

Louisiana

Mississippi

Texas

Alabama

Nearshore Disposal Area

Slurry Pipeline

Cross Section

LNG Berth/Access Dredge Area

Limits of Work

LNG Facility Site Boundary

Sources: ESRI, USGS, CPL, TRC

Commonwealth LNG Project
Cameron Parish, Louisiana

Figure 18
Nearshore Disposal Area

4155 Shackleford Road, Suite 225
Norcross, GA 30093

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Figure 19
Sheet 2 of 3
Cross Section H
Nearshore Disposal Area

Commonwealth LNG Project
Cameron Parish, Louisiana

Water Surface

Permanent Fill (hauled in)
Temporary Fill (hauled in)
Existing Soil
Crushed Stone/Gravel (hauled in)
Construction Mat
Riprap (hauled in)
Pipeline

Note: Not to Scale

MHW (+0.55')
MLW (-0.73')
Water

Maximum Final Elevation (-1.0')
Dredged Material
Existing Grade

Feet (NAVD 88)
Cross Section - Slurry Pipeline (Floating) Typical In-Water Configuration

- Anchored at Edge of Channel
- 30" Diameter Slurry Pipeline
- Water Surface
- MHW (+0.55')
- MLW (-0.73')
- Water Depth (0' to <10')

Note: Not to Scale

Commonwealth LNG Project
Cameron Parish, Louisiana

Figure 19
Sheet 3 of 3
Cross Section I
Temporary Slurry Pipeline
Typical In-Water Configuration