

DEEPWATER PORT LICENSE APPLICATION FOR THE BLUEWATER SPM PROJECT

VOLUME II – ENVIRONMENTAL EVALUATION

Section 10 – Socioeconomics

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ACRONYMS AND ABBREVIATIONS

<	less than
>	greater than
ac	acre
BMP	Best Management Practices
BOEM	Bureau of Ocean Energy Management
bpd	barrels per day
BWTT	Bluewater Texas Terminal, LLC
Census	U.S. Census Bureau
CEQ	Council on Environmental Quality
CWA	Clean Water Act of 1977
CZMA	Coastal Zone Management Act of 1972
DWP	Deepwater Port
DWPA	Deepwater Port Act
DWPL	Deepwater Port License
E.O.	Executive Order
EEZ	Exclusive Economic Zone
EJ	environmental justice
EMS	Emergency Medical Services
FR	Federal Register
ft	feet
GLO	Texas General Land Office
GOM	Gulf of Mexico
HDD	horizontal directional drill
km	kilometer
m	meter
mi	mile
NAICS	North American Industry Classification System
NEPA	National Environmental Policy Act of 1969
OCS	Outer Continental Shelf
p/a	per annual
PD	Police Departments
PINS	Padre Island National Seashore
POCC	Port of Corpus Christi
Project	Bluewater Single Point Mooring (SPM) Project
ROW	right-of-way
RV	recreational vehicle
SO	Sherriff's Office
study area	Socioeconomic Study Area
TPWD	Texas Parks and Wildlife Department
U.S.	United States of America

U.S.C.	United States Code
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VLCC	very large crude carrier

10 Socioeconomics

This section discusses the existing socioeconomic conditions within the vicinity of the Proposed Bluewater Single Point Mooring (SPM) Project (Project) and the Alternative Project, and the anticipated environmental impacts associated with the construction, operation, and decommissioning of the Proposed Project and the Alternative Project. The detailed description of the Proposed and Alternative Project and the framework for the evaluation of environmental impacts is provided in Section 3: Project Description and Framework for Environmental Evaluation.

This socioeconomic evaluation considers the existing conditions within the vicinity of the Proposed Project, including population of the affected region, its demographic makeup, labor force, housing availability, employment, and its social service infrastructure (i.e. schools, fire stations, and hospitals). It will also consider the impact of the Proposed Project to the environmental justice (EJ) communities to determine whether a disproportionate impact is anticipated to be experienced by minority and low-income populations. These topics are compiled by reviewing Census data, regional indicators such as commercial fishing labor and employment, and other publicly available data, and by determining if any public services, resources, or industries would be impacted for the community in which the Proposed Project is located.

Because of the nature of this Proposed Project, certain offshore marine industries in the Gulf of Mexico (GOM) are also considered, including commercial and recreational fishing, offshore oil and gas, and marine shipping and commercial ports. These resources are also discussed in Section 12: Coastal Zone Uses, Recreation, and Aesthetics.

10.1 Applicable Laws and Regulations

Bluewater Texas Terminal, LLC (BWTT) has reviewed the following laws and statues that relate to socioeconomics required to comply with the Deepwater Port Act (DWPA) during construction and operation of the Proposed Project; Executive Order (E.O.) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Protection of Children from Environmental Health and Safety Risks, E.O. 13045, 62 Federal Register (FR) 19885.

10.1.1 Federal and International

10.1.1.1 E.O. 12898 Environmental Justice

E.O. 12898 states that “...each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations.” (59 FR 7629 [1994]). The Council on Environmental Quality (CEQ) provides oversight for Federal agencies’ compliance with E.O. 12898. Therefore, CEQ, in consultation with other Federal agencies, in order to implement National Environmental Policy Act of 1969 (NEPA) procedures and the E.O. 12898 prepared the Environmental Justice: Guidance Under the National Environmental Policy Act (CEQ 1997). In 1998 the United States of America (U.S.) Environmental Protection Agency (USEPA) prepared additional insight while still incorporating the CEQ 1997 guidance, Final Guidance for Incorporating Environmental Justice Concerns in USEPA’s NEPA Compliance Analyses. These three policies have governed the EJ analysis performed herein.

10.2 Proposed Project

10.2.1 Proposed Project Area

The extent of the socioeconomic environment which could potentially be impacted by a project can extend further than a project’s footprint, and as such it is important to identify a study area which adequately reflects this. A Socioeconomic Study Area must take into consideration the characteristics of a project’s vicinity and how data is presented in relevant federal, state, and local databases. It is usually defined by the counties and statistical areas

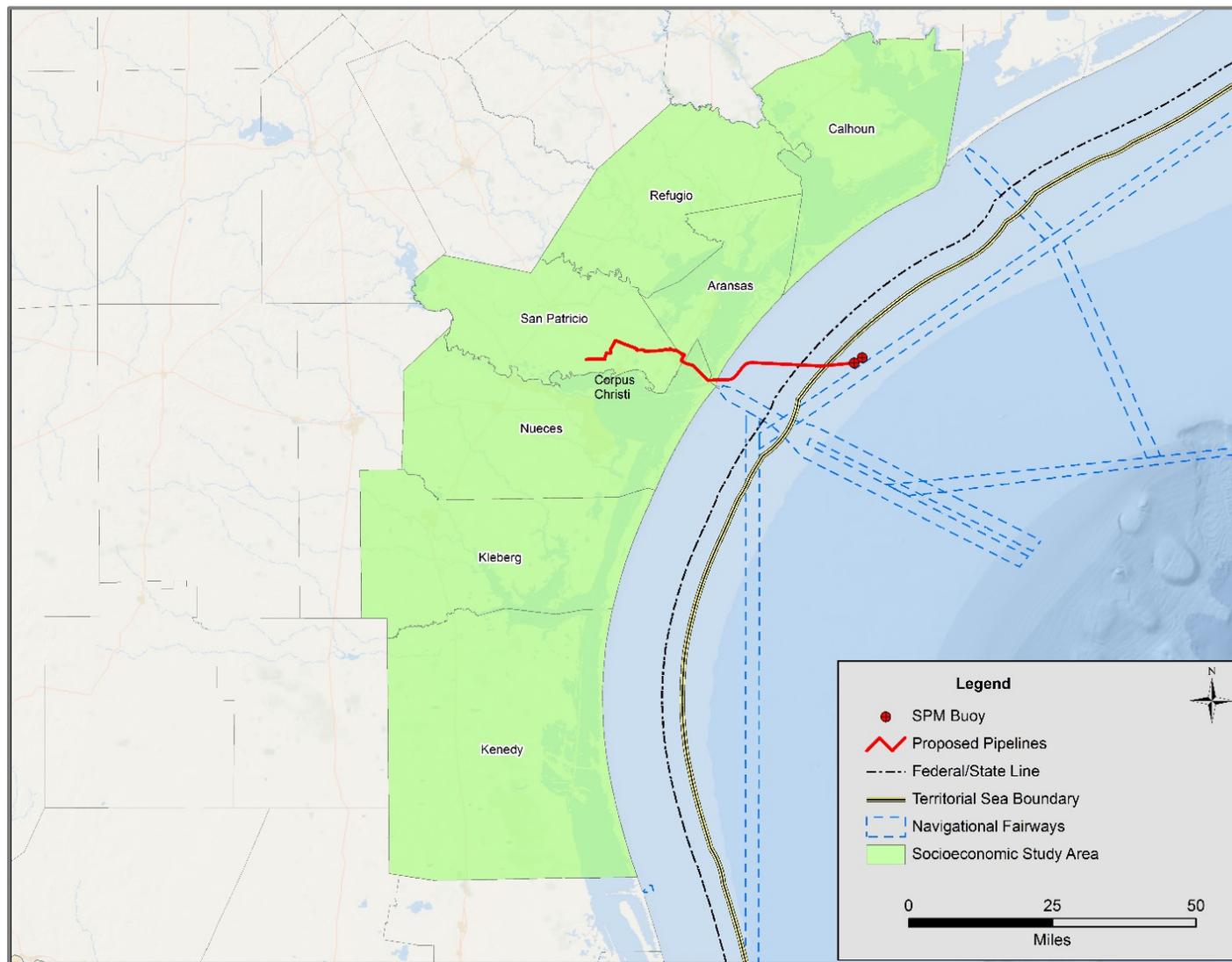
likely to be affected by construction, operation, and decommissioning of the Proposed Project in regard to the factors being assessed. For this Proposed Project the study area includes the Texas Coastal Bend, a region referenced for both economic development and tourism and consisting of five counties (Aransas, San Patricio, Nueces, Kleberg, and Kenedy Counties), and neighboring counties Refugio and Calhoun.

The Texas Coastal Bend, whereas not a designated political or biological region, is generally considered to be the region within the notable curve along the Gulf Coast from Kennedy County northward to Aransas County. The Proposed Project will be entirely within the Texas Coastal Bend, with components located onshore, near shore and in the offshore waters of the GOM, however, due to the Proposed Project being located close to Refugio and Calhoun Counties, these two counties have also been included in the examined study area. Throughout this socioeconomic impact assessment, when referenced, the Socioeconomic Study Area (study area) will refer to the seven counties: Aransas, San Patricio, Nueces, Kleberg, Kenedy, Refugio, and Calhoun.

This area is known for its fishing, birding, the Padre Island National Seashore (PINS), the energy industry, as well as its commercial and private boating. Most of the cities that are located in the study area are small in scale and population, as the study area offers more of a rural lifestyle. Corpus Christi is the largest city in the study area at 325,605 persons (estimated for 2017 [U.S. Census Bureau (Census) 2019a,b]).

The study area is depicted in Figure 10-1.

Figure 10-1: Socioeconomic Study Area



10.2.2 Proposed Project Area Existing Conditions

The following subsections provide information to characterize the current general social and economic environment for the Proposed Project and the Alternative Project.

10.2.2.1 Onshore/Inshore

10.2.2.1.1 POPULATION

Table 10-1 provides population statistics from 2010 and 2017 for the study area jurisdictions and the State of Texas. The components of population change, 2010 to 2017, show the amount of population change caused by natural increase (net of births and deaths) versus the amount caused by net migration (net of immigration and emigration). Of the seven counties that make up the study area, only two, Kleberg County and Refugio County, lost more residents than it gained in the recent period (Census 2019a,c).

Jurisdiction	Population		Components of Population Change 2010-2017			
	2010 ^a	2017 ^b	Percent Change ^c	Total Population Change ^c	Natural Increase	Net Migration
Texas	25,145,561	28,304,596	12.6 %	3,158,496	1,529,843	1,616,768
Kenedy County	416	417	1.0 %	4	14	-12
Kleberg County	32,061	31,088	-3.0 %	-973	1,551	-2,563
Nueces County	340,223	361,221	6.2 %	20,998	15,144	5,937
San Patricio County	64,804	67,215	3.7 %	2,408	2,606	-210
Aransas County	23,158	25,572	10.4 %	2,414	-615	2,982
Refugio County	7,383	7,224	-2.2 %	-159	-12	-150
Calhoun County	21,381	21,744	1.7 %	363	662	-294

Notes:

- a 2010 Census data.
- b Population estimates based on the 2010 Census and reflect changes to the April 1, 2010 population due to the Count Question Resolution program and geographic program revisions.
- c Total population change includes a residual. This residual represents the change in population that cannot be attributed to any specific demographic component.

Sources: Census 2019a,c.

All seven of the counties that make up the study area are primarily rural and agricultural in nature. Kenedy County has the smallest population of the seven counties with a population of just 417 in 2017 (Census 2019a). Kenedy County is the third-least populous county in Texas and fourth-least populous in the U.S. (Census 2019d,e). Refugio County has the second-least populous county in the study area with a 2017 population of 7,224, followed by Calhoun, Aransas and Kleberg Counties which are all similar in size, with 2017 populations of 21,381, 23,158 and 32,061 respectively (Census 2019a). Refugio County's largest population center is Refugio Town (population 2,890 per Census 2010); Calhoun County's is Port Lavaca City (population 12,248 per Census 2010); Aransas County's is Rockport City (population 8,766 per Census 2010); and Kleberg County's is Kingsville (population 26,213 per Census 2010) (Census 2019f,g,h,i).

While also primarily rural and agricultural in nature, San Patricio County has a population approximately double that of Kleberg County (67,215 in 2017) and is home to the cities of Mathis, Sinton, Taft, Portland, and Aransas Pass (Census 2019a,j). While also primarily rural and agricultural in nature, Nueces County is home to the largest population center in the study area, the city of Corpus Christi (population 325,605 [2017 Census estimate]), as well

as the smaller cities of Robstown, Banquete, and Bishop, and as a result, Nueces County has the largest population of the seven counties (population 361,221 in 2017) (Census 2019a,b,k,l).

With the exceptions of Kleberg and Refugio Counties, the region is experiencing steady growth as shown in Table 10-1.

10.2.2.1.2 ACCOMMODATION

HOUSING

The change in the population (as shown in Table 10-1) is reflected in the increase in the number of housing units and building permits for the region and for the State of Texas (Table 10-2). Nueces County is experiencing the most significant change, with 820 building permits granted in 2017. The average occupied housing rate within the study area is 76.6 percent, which is lower than the state average of 88.9 percent. All seven of the study area counties have a higher percentage of vacant housing units than the state average, and Aransas and Calhoun Counties also having higher rental vacancy rates than the state average.

With an occupied housing rate of 76.6 percent, there is over 23 percent of housing stock available in the study area, as seen in Table 10-2.

Geography	Housing Occupancy: 2013-2017 American Community Survey 5-Year Estimates					Building Permits 2017
	Total Housing Units	Percent of Housing Units Occupied	Percent of Housing Units Vacant	Homeowner Vacancy Rate	Rental Vacancy Rate	
Texas	10,611,386	88.9 %	11.1 %	1.6 %	7.6 %	175,112
Kenedy County	253	60.1 %	39.9 %	0.0 %	0.0 %	n/a
Kleberg County	13,194	83.1 %	16.9 %	0.3 %	5.5 %	5
Nueces County	146,962	87.7 %	12.3 %	2.1 %	6.8 %	820
San Patricio County	27,492	84.6 %	15.4 %	0.7 %	4.8 %	209
Aransas County	16,002	59.5 %	40.5 %	3.0 %	17.7 %	157
Refugio County	3,734	72.1 %	27.9 %	2.2 %	0.7 %	10
Calhoun County	11,837	65.3 %	34.7 %	3.1 %	12.8 %	76
Study Area Average	1,545,575	76.6 %	23.4 %	1.4 %	6.2 %	182
n/a – information not available.						
Source: Census 2019d.						

HOTELS AND RV PARKS

Hotels

The Economic Development and Tourism branch within the Office of the Governor tracks hotel occupancy rates for Texas. To aid their examination, the branch ('Travel Texas') divides Texas into seven Travel Regions, the Proposed Project, and all seven counties of the Socioeconomic Study Area, fall within the Gulf Coast Region (Figure 10-2).

In 2017 there were 1,297 hotels within the Gulf Coast Region, an increase of 5.4 percent from 2016; of those hotels, 144 were located within Corpus Christi (Table 10-3). In 2017, Texas averaged a 64.8 percent occupancy rate, a 3.2 percent increase from 2016; the Gulf Coast Region averaged 65.3 percent occupancy rate, an increase of 7.3 percent from 2016; and Corpus Christi alone had an occupancy rate of 65.0 percent in 2017, an increase of 8.3 percent from 2016 (Table 10-3).

Table 10-3 shows that in 2017, in Corpus Christi alone, there were 144 hotels with a total of 12,028 hotel rooms; with a hotel occupancy of 65 percent, it can be estimated that on average, at any one time, just over 4,200 rooms were unoccupied within Corpus Christi in 2017. Assuming the trends presented in Table 10-3 will continue, it can be assumed that hotel occupancy within the Socioeconomic Study Area will remain between 60 and 70 percent in 2018 and 2019, and that hotel room availability within Corpus Christi alone will be sufficient to accommodate the limited Proposed Project workforce as discussed below.

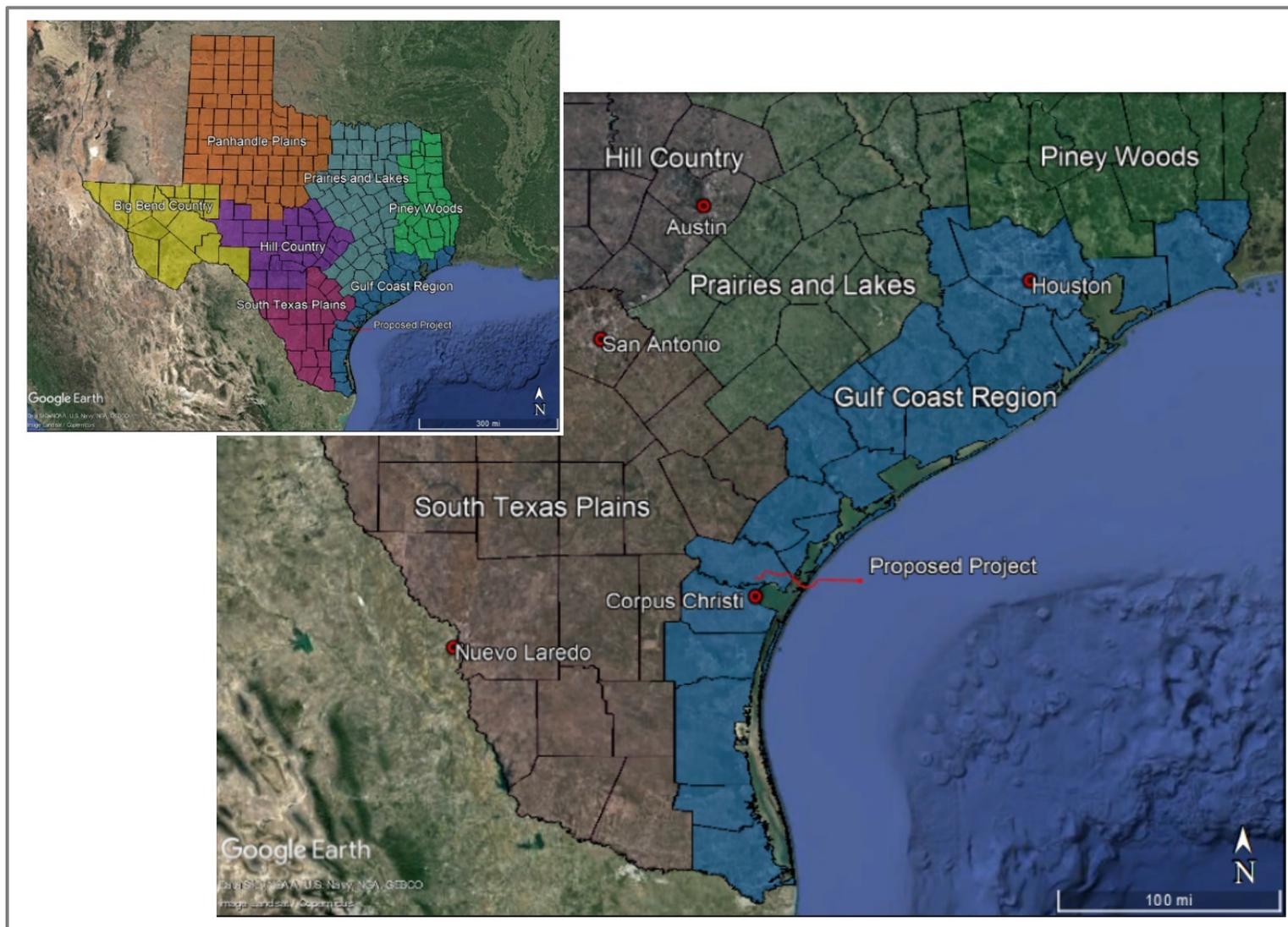
RV Parks and Campgrounds

Based on a desktop review 108 recreational vehicle (RV) parks and/or campsites were identified within the study area (Table 10-4). The majority of the RV parks and campsites within the study area are privately owned and are located along the Gulf Coast within Nueces and Aransas Counties (Table 10-4). Six of the identified RV parks are within 1 mile (mi) (1.6 kilometers [km]) of the Proposed Project, and one would be crossed. The Onshore Pipelines will cross the entrance off of Southern Oaks Drive to Southern Oaks Luxury RV Resort.

The 108 RV parks and/or campsites within the study area provide over 7,600 RV and/or tent sites (this number excludes the 'tent only' spaces) (Table 10-4). Occupancy statistics for RV parks and/or campsites within the study area were not identified during the desktop review of publicly available information.

A more detailed breakdown of the information presented in Table 10-4 is provided in Attachment 1.

Figure 10-2: Office of the Governor, Economic Development and Tourism Branch’s Texas Travel Regions



DEEPWATER PORT LICENSE APPLICATION FOR THE BLUEWATER SPM PROJECT

Volume II: Environmental Evaluation (Public)

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Table 10-3: Hotel Occupancy Rates and Availability																
Year	Hotel	Hotel % Change	Rooms		Est. Room Nights Available		Est Room Nights Sold		Total Room Revenue		Occupancy		Average Daily Room Rate (ADR)		Revenue Per Available Room (RevPAR)	
			No.	% Change	Million	% Change	Million	% Change	Million \$	% Change	%	% Change	Dollar	% Change	Dollar	% Change
Gulf Coast Travel Region																
2015	1,189	-	110,848	-	40.5	-	26.9	-	\$2,584	-	66.5 %	-	\$96.12	-	\$63.87	-
2016	1,231	3.5 %	114,516	3.3 %	41.9	3.6 %	25.5	-5.0 %	\$2,457	-4.9 %	60.9 %	-8.3 %	\$96.22	0.1 %	\$58.61	-8.2 %
2017	1,297	5.4 %	120,799	5.5 %	44.1	5.2 %	28.8	12.8 %	\$2,799	13.9 %	65.3 %	7.3 %	\$97.17	1.0 %	\$63.48	8.3 %
Corpus Christi, TX																
2015	144	-	11,803	-	4.3	-	2.7	-	\$228	-	62.0 %	-	\$85.54	-	\$53.03	-
2016	144	0.1 %	11,700	-0.9 %	4.3	-0.6 %	2.6	-3.8 %	\$217	-4.8 %	60.0 %	-3.2 %	\$84.64	-1.0 %	\$50.78	-4.2 %
2017	144	1.6 %	12,028	2.8 %	4.4	2.5 %	2.9	11.1 %	\$246	13.3 %	65.0 %	8.3 %	\$86.36	2.0 %	\$56.13	10.5 %
Sources: JLL 2018.																

County /Area	Total No. of RV Parks and/or Campsites	Park Type					Accommodation Type			No. of Spaces		No. of Sites with Unknown No. of Spaces
		Privately Owned	National	State	County	Naval Air Base	RVs Only	RVs and Tents	Tents Only	Total No. of Spaces (RV or Tent)	Tent Only Spaces	
Kenedy	1	0	1	0	0	0	0	0	1	Unknown	Unknown	1
Kleberg	10	5	4	0	0	1	3	3	4	477	50	4
Nueces	26	19	0	1	5	1	18	8	0	3,045	300	3
San Patricio	18	14	0	4	0	0	13	4	1	1,429	172	1
Aransas	38	35	0	3	0	0	26	9	3	2,876	127	5
Refugio	3	2	0	0	1	0	2	1	0	34	Unknown	0
Calhoun	12	11	0	1	0	0	8	1	1	399	Unknown	1
Study Area [Totals]	108	86	5	9	6	2	70	26	10	8,260	649	15

Sources: AllStays 2019; RVParkStore.com 2019; TPWD 2019a, b.

10.2.2.1.3 PUBLIC SERVICES

Public services within the study area include medical facilities; emergency responders, including fire, police, and coast guard; and, educational facilities. A summary of the facilities within the study area is provided below.

10.2.2.1.4 MEDICAL SERVICES

Medical facilities located within the study area include hospitals, surgical centers, rehabilitation facilities, behavioral hospitals, and urgent care facilities. The most likely type of medical facility needed in immediate response to an emergency is a hospital. The majority of hospitals within the study area are located within Nueces County, primarily in and around Corpus Christi (Table 10-5). The closest hospital with an emergency room to the Proposed Project is Care Regional Medical Center, which is in Aransas Pass, 1 mi (1.6 km) west of the Onshore Pipelines (see Table 10-5).

SAFETY AND EMERGENCY RESPONSE

Fire, police, and emergency response facilities are primarily located in or nearby population centers and are commensurate with the population and industrial activity in the study area.

In the South Texas Coastal Bend, the U.S. Coast Guard (USCG) Sector Corpus Christi is responsible for enhancing the safety and security of the Maritime Transportation System, enforcing maritime boundaries, conducting search and rescue operations, ensuring the safety of the boating public and commercial interests, and protecting the environment.

Fire Fighting

Within the study area there are 22 fire departments and 57 firefighting stations, primarily located in or nearby population centers and are commensurate with the population and industrial activity in the area (see Table 10-6). These firefighting stations provide fire, water, auto rescue, and Emergency Medical Services (EMS) to the seven counties of the study area. The closest fire station to the Onshore and Inshore elements of the Proposed Project would be Aransas Pass Fire Department, located in Aransas Pass, approximately 0.6 mi (1.0 km) northwest of the Onshore Pipelines and approximately 1.2 mi (1.93 km) northwest of the Proposed Project's landfall. Additionally, Gregory Fire Department, located in Gregory, and Taft Volunteer Fire Department, located in Taft, are 1.5 mi (2.4 km) and 4.3 mi (6.9 km), respectively, from the Onshore Pipelines and 7.5 mi (12.1 km) and 5.2 mi (8.4 km), respectively, from the western extent of the Onshore Pipelines (see Table 10-6). Facilities within the study area are familiar with oil and gas activities and would be able to provide appropriate support for a fire at the Harbor Island Booster Station and Onshore and Inshore Pipelines.

All counties within the study area have firefighting stations with the exception of Kenedy County. As discussed above, Kenedy County is mainly rural, and one of the lowest populated counties in the U.S., and this is likely why this county is served by fire stations from the surrounding counties rather than having its own fire stations.

Details of firefighting stations within the Socioeconomic Study Area are provided in Table 10-6.

Table 10-5: Hospitals in the Socioeconomic Study Area					
County	Hospital Name	Address	Approximate Distance to Project^a (miles)	Emergency and Trauma Services	No. of Hospital Beds
Kenedy County	No hospitals identified		-	No	-
Kleberg County	Christus Spohn Hospital Kleberg	1311 General Cavazos Blvd Kingsville, TX 78363	40	Yes	50
Nueces County	Northwest Regional Emergency Department	13725 Northwest Blvd Corpus Christi, TX 78410	14	Yes	89
	Post Acute Medical Specialty Hospital of Corpus Christi South	6226 Saratoga Blvd Corpus Christi, TX 78414	16	No	68
	Christus Spohn Hospital Corpus Christi South	5950 Saratoga Blvd Corpus Christi, Texas 78414	16	Yes	151
	Corpus Christi Rehabilitation Hospital	5726 Esplanade Drive Corpus Christi, TX 78414	16	No	35
	South Texas Surgical Hospital	6130 Parkway Drive Corpus Christi, TX 78414	16	No	33
	The Corpus Christi Medical Center - Bay Area Hospital	7101 S. Padre Island Drive Corpus Christi, TX 78412	15	Yes	583
	Driscoll Children's Hospital	3533 S. Alameda Street Corpus Christi, TX 78411	11	Yes [Infant Only]	189
	Doctors Regional Emergency Department	3315 S. Alameda Street Corpus Christi, TX 78411	11	Yes	416
	Christus Spohn Hospital Corpus Christi Shoreline	600 Elizabeth Street Corpus Christi, Texas 78404	9	Yes	557
	Post Acute Medical Specialty Hospital at Corpus Christi North	600 Elizabeth Street, Suite 3C Corpus Christi, TX, 78404	9	No	22
	Christus Spohn Hospital Memorial	2606 Hospital Blvd Corpus Christi, Texas 78405	9	Yes	397
San Patricio County	Northshore Emergency Center	1702 Highway 181 North Suite A-11 Portland, TX 78374	3	Yes	12
	Care Regional Medical Center	1711 West Wheeler Ave Aransas Pass, TX 78336	1	Yes	74
Aransas County	Code 3 Emergency Room and Urgent Care	400 Enterprise Blvd Suite A Rockport, TX 78382	10	Yes	6
Refugio County	Refugio County Memorial Hospital District	107 Swift St Refugio, TX 78377	24	Yes	20
Calhoun County	Memorial Medical Center	815 North Virginia Street Port Lavaca, TX 77979	57	Yes	25
Sources: Texas Hospital Association 2019; Post Acute Medical 2019; Christus Spohn 2019; South Texas Surgical Hospital 2019; Driscoll Children's Hospital 2019; Corpus Christi Medical Center 2019; Code 3 Emergency Room and Urgent Care 2019; Refugio County Memorial Hospital 2019; Memorial Medical Center. 2019;					
^a Approximate distance to closest point of Proposed Project to nearest mile.					

County	Department	No. of Stations	Approximate Distance to Project^a (miles)
Kenedy	No fire stations identified		-
Kleberg	Kingsville Fire Department	3	50
	Riviera Fire Department	1	65
Nueces	Agua Dulce Fire Department	1	40
	Bishop Fire Department	1	40
	Corpus Christi Fire Department	23	10 - 25
	Robstown Fire Department	3	25
San Patricio	Aransas Fire Department	1	2
	Gregory Fire Department	1	1
	Ingleside Fire Department	3	5
	Mathis Fire Department	1	30
	Sinton Fire Department	2	10
	Taft Fire Department	1	5
Aransas	Rockport Fire Department	3	10
Refugio	Austwell Fire Departments	1	45
	Bayside Fire Departments	1	12
	Refugio Fire Departments	2	30
	Tivoli Fire Departments	1	45
	Woodsboro Fire Departments	1	30
Calhoun	Port Lavaca Fire Department	4	65
	Port O'Connor Fire Department	1	80
	Seadrift Fire Department	1	60
	Thomaston Fire Department	1	95

Source: USA Cops 2019.
^a Approximate distance to closest point of Proposed Project.

Police

All seven counties within the study area have a Sherriff's Office (SO) and all but Kenedy County have municipal police departments (PDs) (see Table 10-7).

County	Department	Location	Approximate Distance to Project^a (miles)
Kenedy County	Kenedy County Sherriff's Office (SO)	175 Cuellar Avenue Sarita, TX 78385	70
Kleberg County	Kleberg County SO	1500 East King Avenue Kingsville, TX 78363	50
	Kingsville Police Department (PD)	1700 East King Avenue Kingsville, TX 78363	50
Nueces County	Nueces County SO	901 Leopard Street Corpus Christi, TX 78401	15
	Aransas Pass PD	600 W Cleveland Aransas Pass, TX 78336	2
	Bishop PD	115 South Ash Avenue Bishop, TX 78343	40
	Corpus Christi City Marshals	120 North Chaparral Corpus Christi, TX s 78401	13
	Corpus Christi PD	321 John Sartain Street Corpus Christi, TX 78401	13
	Driscoll PD	130 West Avenue D PO Box 178 Driscoll, TX 78351	35
	Nueces County Constable Corrections Department	10110 Compton Road Corpus Christi, TX 78418	28
	Port Aransas PD	705 West Avenue A Port Aransas, TX 78373	2
	Robstown PD	430 East Main Street PO Box 626, Robstown, TX 78380	25
San Patricio County	San Patricio County SO	300 N Rachal PO Box 1382 Sinton, TX 78387	10
	Aransas Pass PD	600 West Cleveland Aransas Pass, TX 78336	2
	Gregory PD	206 West 4th Street PO Box 297 Gregory, TX 78359	1
	Ingleside PD	2425 8th Street PO Drawer 910 Ingleside, TX 78362	5
	Mathis PD	214 North Nueces Mathis, TX 78368	30
	Portland PD	1902 Bill G Webb Portland, TX 78374	5
	Sinton PD	217 East Market Street Sinton, TX 78387	10
	Taft PD	501 Green Avenue Taft, TX 78390	5

County	Department	Location	Approximate Distance to Project^a (miles)
Aransas County	Aransas County SO	301 N Live Oak Street Rockport, TX 78382	10
	Rockport PD	714 E. Concho Street Rockport, TX 78382	10
Refugio County	Refugio County SO	PO Box 1022 Refugio, TX 78377	30
	Refugio PD	601 Commerce Street Refugio, TX 78377	30
	Woodsboro PD	121 Wood Avenue Woodsboro, TX 78393	30
Calhoun County	Calhoun County SO	211 S. Ann Street Port Lavaca, TX 77979	65
	Calhoun County Constable Precinct 2	201 W Austin Street Port Lavaca, TX 77979	65
	Point Comfort PD	108 Jones Street Point Comfort, TX 77978	70
	Port Lavaca PD	201 N Colorado Street Port Lavaca, TX 77979	65
	Seadrift PD	501 S Main Street Seadrift, TX 77983	60

Source: USA Cops 2019.

^a Approximate distance to closest point of Proposed Project to nearest mile.

Coast Guard

In the South Texas Coastal Bend, the USCG Sector Corpus Christi is responsible for enhancing the safety and security of the Maritime Transportation System, enforcing maritime boundaries, conducting search and rescue operations, ensuring the safety of the boating public and commercial interests, and protecting the environment. The Sector includes 662 Active Duty, Reserve, and Civilian Personnel assigned to four Coastal Patrol Boats, two Marine Safety Detachments, one Aids to Navigation construction tender, three small boat stations, three Aids to Navigation teams, Air Station, Sector Headquarters, and nearly 400 volunteer Coast Guard Auxiliarists. They conduct search and rescue operations, address oil rig leaks, provide maritime security, and provide emergency response/rescue services via ocean-going vessel and air support. The Coast Guard Air Station Corpus Christi is co-located with Sector Corpus Christi offices at Naval Air Station Corpus Christi and is staffed and experienced in providing appropriate response to emergency situations that could occur at the Proposed Project facilities (USCG 2017).

EDUCATION FACILITIES

There are no schools within 1,000 feet (ft) (304 meters [m]) of the Proposed Project. The closest school is 0.3 mi (0.5 km) west (Aransas Pass Independent School District) of the Onshore Pipelines in Aransas Pass. Table 10-8 provides a summary of school information for the study area.

Table 10-8: Schools in the Socioeconomic Study Area

County	Number of Schools	Number of Students
Kenedy	1 public school	76
Kleberg	14 public schools	5,176
Nueces	116 public schools	62,937
San Patricio	32 public schools	14,753
Aransas	5 public schools	3,405
Refugio County	7 public schools	1,476
Calhoun County	7 public schools	4,179

Sources: Public School Review 2019a,b,c.

10.2.2.1.5 LABOR FORCE AND EMPLOYMENT

Characterization of the employment and economic sectors in the study area allows a means by which to gage whether the existing workforce can support construction, operation, and decommissioning of the Proposed Project. Further, the manner in which a project may result in beneficial or adverse impact to a community can be determined by consideration of level of education typical to the area, typical commute times/distances within the area, the local employment rate and size of civilian labor force, and median income within the area. A significant majority of the study area's labor availability has a high school diploma. Within the study area, an average of 74.8 percent of the population over the age of 25 hold a high school diploma, only slightly less than the state average at 82.8 percent (Table 10-9). In addition, an average of 16.2 percent of the population within the study area over the age of 25 hold a college degree (Table 10-9) (Census 2019m).

The availability of the regional work force to travel to work is often measured by the mean travel time to work. For the State of Texas, mean travel time to work is 26.1 minutes, but for the region it is 20.9 minutes (2013-2017 estimates; see Table 10-9). This indicates that the majority of housing is located near employment centers in the study area. A typical measure of the available workforce in an area is the civilian labor force, which is defined as employed civilians at least 16 years of age as well as unemployed civilians of the same age that are actively seeking work during the previous 4 weeks (Bureau of Labor Statistics 2019). The civilian labor force in the study area is 57.3 percent of the total population, which is slightly lower than the State of Texas (Table 10-9). The unemployment rate within the study area, 5.9 percent, is consistent with that of the state, 5.8 percent (Table 10-9). (Census 2019n)

The recent reduction in employment seen in Kenedy, Kleberg, and San Patricio Counties can be attributed to the general downturn in the energy market. Texas experienced a peak in 2014 of \$15.7 billion in annual oil and gas revenues. By 2015, that revenue peak was reduced to \$13.8 billion and in 2016, \$9.4 billion. Layoffs were frequent during this time throughout the State of Texas and for temporary employees who travel from one work location to another, some likely left the area (Houston Chronicle 2017).

Median household income in counties within the study area is slightly lower than that of the state, with the exception of Calhoun County, which is slightly higher than the state average, and the highly rural Kenedy County, which is half of that of the state. As seen in Table 10-9, Nueces County houses a significant portion (approximately 65.0 percent) of the employers within the study area. As expected, the majority of employment in the area also occurs in Nueces County (approximately 69.8 percent), with the least amount in Kenedy County (Table 10-9). This indicates that the majority of the work done within the study area occurs within Nueces County, likely in Corpus Christi and the immediate vicinity.

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Table 10-9: Education, Labor and Employment Indicators

Jurisdiction	Education: Percent of Persons Age 25 Years and Over, 2013-2017		Civilian Labor Force Aged 16 Years and Over Percent of Population, 2013-2017	Unemployment Rate (Percent) (2017)	Median Household Income (2017)	Total Employer Establishments			Total Employment			Commuting to Work: Mean travel time in minutes (2013-2017 Estimates)
	High school graduate or higher	Bachelor's degree or higher				2012	2016	% Change	2012	2016	% Change	
Texas	82.8 %	28.7 %	64.6 %	5.8 %	\$57,051	537,839	579,168	7.7 %	9,350,829	10,429,924	11.5 %	26.1
Kenedy County	41.3 %	6.5 %	44.9 %	0.0 %	\$24,800	13	20	53.8 %	105	173	64.8 %	n/a
Kleberg County	77.9 %	24.1 %	62.2 %	9.7 %	\$41,700	566	571	0.9 %	7,179	6,976	-2.8 %	17.6
Nueces County	82.2 %	20.9 %	63.5 %	5.9 %	\$53,317	7,765	7,974	2.7 %	132,179	146,343	10.7 %	19.6
San Patricio County	78.2 %	14.3 %	60.1 %	4.9 %	\$53,332	1,029	1,052	2.2 %	15,170	15,696	3.5 %	23.6
Aransas County	83.6 %	19.5 %	53.6 %	6.7 %	\$44,601	488	517	5.9 %	3,865	4,237	9.6 %	20.8
Refugio County	79.8 %	12.1 %	55.9 %	7.9 %	\$50,338	147	155	5.4 %	1,656	1,742	5.2 %	22.7
Calhoun County	80.5 %	16.2 %	60.9 %	6.3 %	\$58,788	423	453	7.1 %	7,780	8,339	7.2 %	20.9
Study Area Totals	-	-	-	-	\$326,876	\$10,431	\$10,742	-	\$167,934	\$183,506	-	-
Study Area Average	74.8 %	16.2 %	57.3 %	5.9 %	\$46,697	1,490	1,535	3.0 %	23,991	26,215	9.3 %	20.9

Notes: n/a = information not available

Source: Census 2019m,n,o,p,q

10.2.2.1.6 TAXES AND REVENUES

The State of Texas does not collect personal income tax. Local governments rely on property taxes and sales tax. The property taxes help fund the independent school districts as well. Sales tax is imposed on all retail sales, non-essential taxable services, and the leases and rentals of most goods. The cities, counties, and transit agencies have the authority to impose additional special purpose taxes. The statewide sales tax is 6.25 percent and each county has the option to add an additional percent up to 2.0 percent. Nueces County's sales tax is 6.25 percent, with the exception of Robstown and Banquete, which is 6.25 percent, Agua Dulce which is 7.75 percent, and Corpus Christi, Bishop, Port Aransas, Driscoll, and Chapman Ranch, which are 8.25 percent; Kleberg County's sales tax is primarily 6.75 percent with the exception of Kingsville which is 8.25 percent; San Patricio County's sales tax is 6.25 percent with the exception of Portland, Aransas Pass, Ingleside, Sinton, Mathis, and Gregory, which are 8.25 percent; Aransas County's sales tax is 6.75 percent, with the exception of Rockport and Fulton where it is 8.25 percent; Kenedy County's is 6.25 percent; Refugio County's is 6.25 percent, with the exception of Bayside which is 7.25 percent, and Refugio and Austwell, which are 8.25 percent; Calhoun County's sales tax is 6.75 percent, with the exception of Port Lavaca, Seadrift, Port O'Connor, and Point Comfort, where the sales tax is 8.25 percent (Sales Tax Handbook 2019).

Basic fiscal data for the seven counties that make up the study area is presented in Table 10-10.

A confidential cash-flow model which analyzes the economic impact as a result of the construction and operation of the Proposed Project has been prepared and submitted by BWTT. Project Financial Documents have been provided by BWTT in Volume IV (Confidential).

Table 10-10: Fiscal Data for The Study Area (2016 - 2019)			
Fiscal Data			
County	Total Revenues and Other Resources	Total Expenditures	Net Profit/Loss
2016/2017 Actual			
Aransas County	\$20,928,746	\$14,787,419	\$6,141,327
San Patricio County	\$39,828,075	\$36,286,815	\$3,541,260
Nueces County	\$196,466,199	\$178,841,683	\$17,624,516
Kleberg County	unavailable	unavailable	unavailable
Kenedy County	\$9,719,960	\$5,324,619	\$4,395,341
Refugio County	\$11,912,493	\$8,160,598	\$3,751,895
Calhoun County	\$41,446,392	\$24,116,810	\$17,329,582
2017/2018 Estimated Actual			
Aransas County	\$22,241,289	\$15,877,050	\$6,364,239
San Patricio County	\$36,651,479	\$35,059,661	\$1,591,818
Nueces County	\$183,067,569	\$177,735,377	\$5,332,192
Kleberg County	unavailable	unavailable	unavailable
Kenedy County	\$10,209,798	\$5,324,619	\$4,885,179
Refugio County	\$12,184,638	\$8,210,305	\$3,974,333
Calhoun County	\$37,788,784	\$24,278,953	\$13,509,831
2018/2019 Budget			
Aransas County	\$22,706,678	\$16,617,114	\$6,089,564
San Patricio County	\$35,140,628	\$40,159,320	-\$5,018,692
Nueces County	\$188,131,904	\$202,473,924	-\$14,342,020
Kleberg County	unavailable	unavailable	unavailable
Kenedy County	\$11,549,136	\$5,608,635	\$5,940,501
Refugio County	\$11,846,206	\$8,370,830	\$3,475,376
Calhoun County	\$38,960,887	\$24,673,818	\$14,287,069
Sources: Aransas County 2019; San Patricio County Texas 2019; Nueces County Government 2019; Kleberg County Texas 2019; Kenedy County Texas 2019, Calhoun County 2019, Refugio County Texas 2019.			

10.2.2.1.7 ONSHORE / INSHORE INDUSTRY

AGRICULTURE

With the exception of the approximately first 4.0 mi (6.4 km) of Onshore Pipelines which is located in an urban area, the land use in the region of the Onshore Pipelines is generally agriculture.

San Patricio County consists of 693 square mi (1,794 square km) of generally flat land with tall prairie grasses spotted by mesquite and live oak trees. Elevations range from sea level to 200 ft (60 m). Soils consist of light to dark loam on the surface, with clayey subsoils. The average growing season lasts 303 days, and within the footprint of the Proposed Project, and San Patricio County as a whole, agriculture has played an important role in local socioeconomics throughout the county's recorded history.

Records identify that by 1910 there were 470 farms in San Patricio County, and 757 farms by 1920. Though ranching of previous generations remained important, crop farming emerged during this period as the most important element of the agricultural economy. Many farmers produced vegetables for urban markets, but cotton became the area's most important crop, and by 1930 there were 1,626 farms in the county. However, in the 1930s the Great Depression occurred, and farmers suffered. Low prices, federal crop restrictions, and other factors combined to drive tens of thousands of acres out of production. Cropland declined from 179,279 acres (ac) in 1930 to 149,462 ac in 1940; cotton acreage fell by more than a third during this period. Hundreds of farmers were forced off the land, and by 1940 only 1,089 farms (and only 557 tenants) remained in the county. Agriculture revived during the 1940s, but farm mechanization and consolidation led to a continuing decrease in the number of farms. By 1959 there were only 816 farms (393 operated by tenants) in the county. Though cotton production remained relatively high, sorghum became an increasingly important crop. In 1982, 93 percent of the San Patricio County's land was in farms and ranches. About 68 percent of agricultural income was derived from crops, particularly sorghum grain, cotton, and corn, and lesser acreages of vegetables and feed crops. Livestock, especially cattle and hogs, also contributed to the local economy. The latest available data from the U.S. Department of Agriculture (USDA) identify that in 2007 there were 652 farms in the county, and 701 farms by 2012, identifying a slight (8 percent) increase over the 5-year period (Table 10-11). However, while data from the USDA identifies a slight increase in the number of farms over the 2007-2012 study period, it should be noted that the market value of products sold during this time dropped by 21 percent, a significant drop in value (Table 10-11) (Texas State Historical Association 2019; USDA 2019).

	2007	2012	Percent Change
Number of Farms	652	701	+ 8
Land in Farms	369,737 acres [ac]	374,100 ac	+ 1
Average Size of Farm	567 ac	534 ac	- 6
Market Value of Products Sold: Total	\$109,201,000	\$86,215,000 [Crop Sales: 79 percent; Livestock Sales: 21 percent]	- 21
Market Value of Products Sold: Average Per Farm	\$167,486	\$122,989	- 27
Government Payments: Total	\$8,744,000	\$3,794,000	- 57
Government Payments: Average Per Farm Receiving Payments	\$37,853	\$14,648	- 61
Source: USDA 2019.			

RECREATION AND TOURISM

There are numerous recreational and tourist amenities in the study area. Due to the coastal environment, many of the recreational activities are tied to the GOM and water activities. The beaches at Port Aransas and Padre Island are well known. The PINS is known throughout the country for its sandy beaches, vegetation, and birding activities. Golfing, hunting, and AA-baseball (for the Houston Astros) are also found here. Typical offshore activities include boating, recreational fishing, and sailing.

Corpus Christi is the sixth most popular tourist destination in Texas, with leisure-based visitors accounting for 81 percent of the total visitation volume by visitor days. Corpus Christi is home to the Texas State Aquarium,

Schlitterbahn Water Park, the Corpus Christi Museum of Science and History, and the Art Museum of South Texas/Art Center of Corpus Christi. An estimated total of 8.1 million visitors spent over 19 million days in the area in 2012-13, injecting over \$1.2 billion into the Corpus Christi economy. Total visitor spending in the area has increased nearly 55 percent from 2003. This may be partially due to the average visitor becoming increasingly older in age, with visitors aged 50 years and older more prevalent, and with this, more affluent (Lee 2014; Corpus Christi Convention & Visitors Bureau 2019).

Over the study area as a whole, in 2016, over 28,000 people were directly employed within the recreation and tourism industries (including arts, entertainment, and recreation, and accommodation and food services) (Census 2019d,e) (see Table 10-12).

Additional information regarding recreational activities can be found in Section 12: Coastal Zone Uses, Recreation, and Aesthetics.

RENEWABLE ENERGY INDUSTRY

The Proposed Project area is home to significant renewable energy industry, and specifically wind farm infrastructure. Multiple wind turbines belonging to the Papalote Creek Wind Farm are present within the disturbed lands crossed by the western portion of the Onshore Pipelines, as shown in Figure 10-3.

MARITIME INDUSTRIES

The study area is home to many different maritime industries. The maritime industry is comprised of enterprises that engage in designing, manufacturing, operating, repairing, or supplying vessels and their component parts. It also includes managing and operating shipping lines, shipyards, dry docks, and marine railways. The Union Pacific Railroad has a direct line to the Port of Corpus Christi (POCC) that runs north to major metropolitan centers including San Antonio, Houston, and Dallas, and outside the state. This railroad access supports the maritime industry and port activities.

Information regarding marine zone use, including offshore oil and gas activity, Offshore Pipelines and other submerged infrastructure, and marine shipping and commercial ports, is provided and discussed in Section 12: Coastal Zone Use, Recreation and Aesthetics.

Figure 10-4 provides an overview of the maritime and energy industries within the study area. As shown in Figure 10-4, the majority of maritime industry within the study area is located to the west of the Proposed Project, with a noticeable focus in and around Corpus Christi.

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Table 10-12: Recreation and Tourism Employment, Receipts, and Payroll Statistics 2016

Jurisdiction	Total For All Sectors 2016 ^a			Arts, Entertainment, And Recreation 2016 ^b					Accommodation And Food Services 2016 ^c				
	Number Of Establishments	Paid Employees	Annual Payroll (\$1,000)	Number Of Establishments	Paid Employees		Annual Payroll (\$1,000)		Number Of Establishments	Paid Employees		Annual Payroll (\$1,000)	
					No.	Percent Of Total For All Sectors	No.	Percent Of Total For All Sectors		No.	Percent Of Total For All Sectors	No.	Percent Of Total For All Sectors
Texas	579,168	10,429,924	526,782,643	7,308	144,598	1.4	4,254,204	0.8	54,188	1,177,398	11.3	20,649,987	3.9
Kenedy County	20	173	12,660	2	0-19	0-11	d	d	1	0-19	0-11	d	d
Kleberg County	571	6,976	212,585	6	21	0.3	815	0.4	78	1,325	19.0	20,110	9.5
Nueces County	7,974	146,343	5,848,529	101	1,926	1.3	38,098	0.7	896	23,019	15.7	316,101	5.4
San Patricio County	1,052	15,696	719,914	13	199	1.3	2,513	0.3	131	2,123	13.5	30,619	4.3
Aransas County	517	4,237	126,779	13	123	2.9	2,670	2.1	98	1,191	28.1	20,722	16.3
Refugio County	155	1,742	70,195	3	7	0.4	66	0.1	19	241	13.8	3126	4.5
Calhoun County	453	8,339	509,750	6	22	0.3	225	0.0	65	666	8.0	9594	1.9

Notes:

^a NAICS code 00: Total for all sectors.

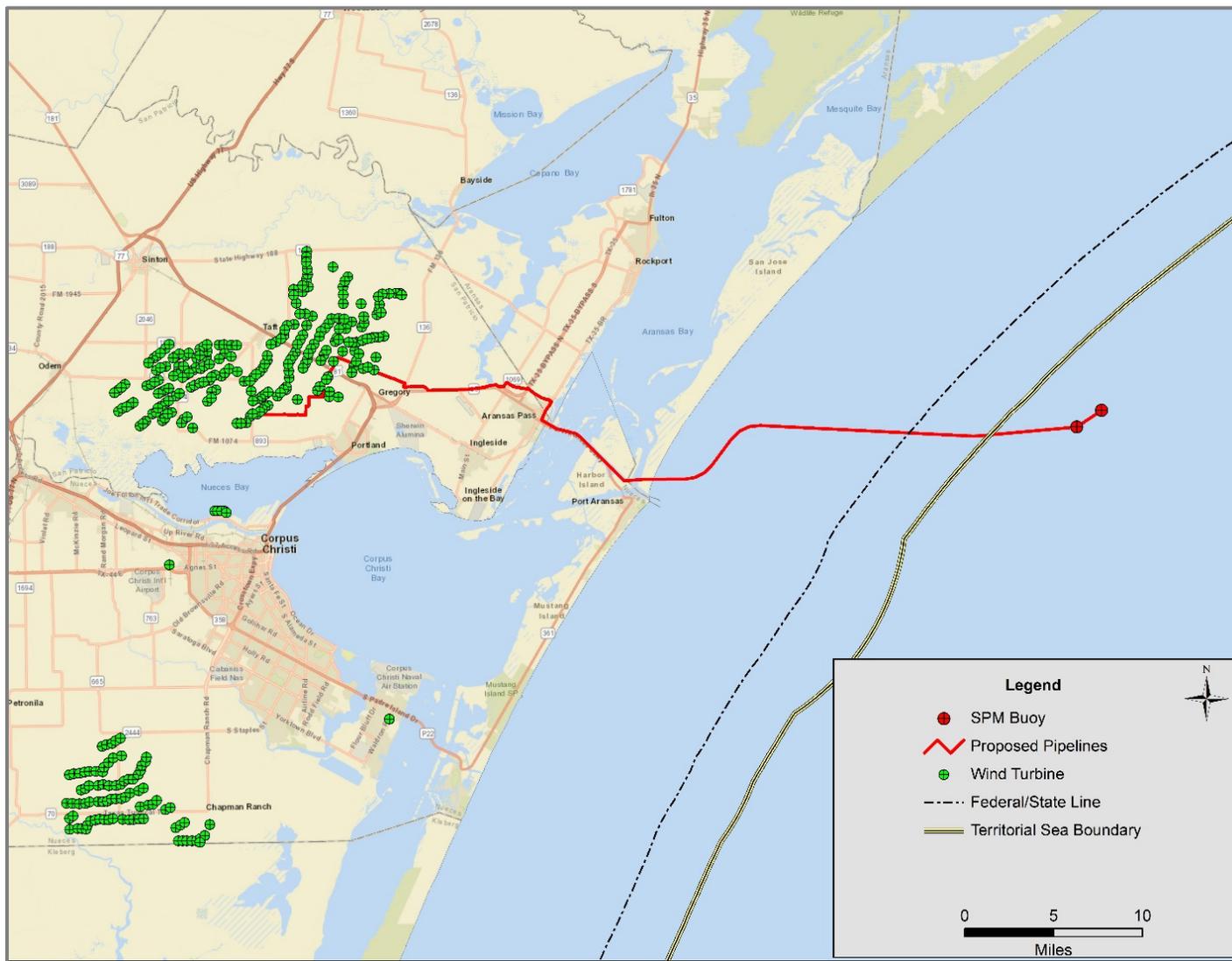
^b NAICS code 71: Arts, entertainment, and recreation: This sector comprises establishments that are involved in producing, promoting, or participating in live performances, events, or exhibits intended for public viewing; establishments that preserve and exhibit objects and sites of historical, cultural, or educational interest; and establishments that operate facilities or provide services that enable patrons to participate in recreational activities or pursue amusement, hobby, and leisure-time interests.

^c NAICS code 72: Accommodation and food services: The Accommodation and Food Services sector comprises establishments providing customers with lodging and/or preparing meals, snacks, and beverages for immediate consumption.

^d Withheld to avoid disclosing data for individual companies; data are included in higher level totals.

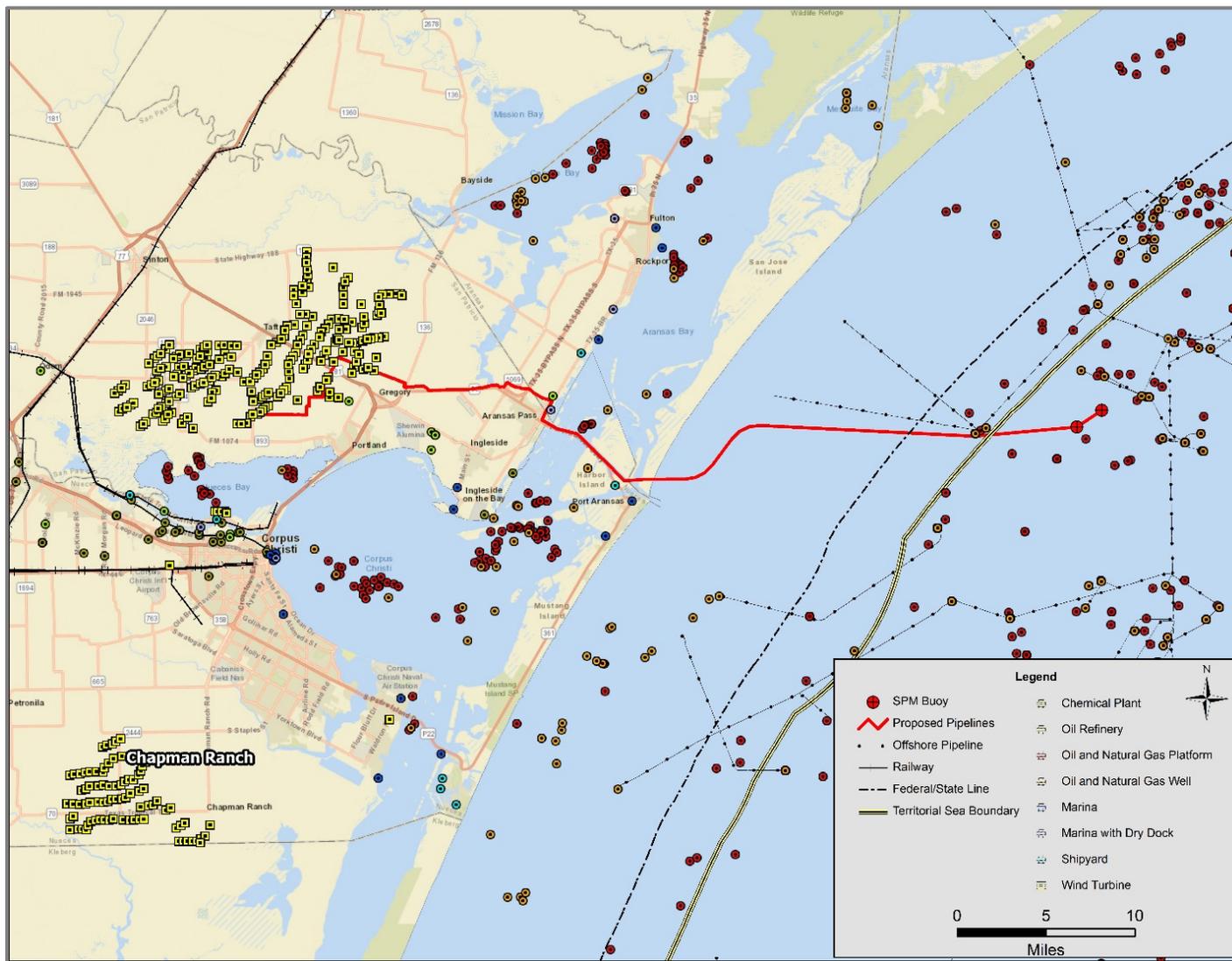
Sources: Census 2019d,e.

Figure 10-3: Wind Turbines within the Immediate Vicinity of the Proposed Project



Sources: Bureau of Ocean Energy Management (BOEM) 2019; U.S. Fish and Wildlife Service (USFWS) 2019; Google Earth 2019.

Figure 10-4: Maritime, Energy and Transportation Industries within the Study Area



Sources: BOEM 2019; OpenEI 2019; PikPuk.com 2019; the Texas General Land Office (GLO) 2019; USFWS 2019; Google Earth 2019.

10.2.2.2 Offshore

10.2.2.2.1 OFFSHORE INDUSTRY

OIL AND GAS INDUSTRY

A primary industry within Texas and the Coastal Bend Region is centered on the production and transport of oil and gas, both onshore and offshore. Thus, the Oil and Gas Industry in Texas and in the Coastal Bend Region, and indeed the study area, is one of the major employers. In fact, in October 2017 it was reported that Texas was producing 3.8 million barrels per day (bpd), which is more than China, the United Arab Emirates, or Kuwait (American Enterprise Institute 2018).

Understanding the number of persons employed by industry or occupation within the region will allow for assessment of the availability of employees in the area with skill sets transferrable to installation, operation, and decommissioning of the Proposed Project. The information provided in Table 10-13 provides the number of workers in industry and occupation categories that involve skill sets potentially transferrable to the Proposed Project, including the Offshore/Marine Components. This includes:

- onshore and offshore oil and natural gas extraction and support activities;
- Onshore and Offshore Pipelines construction;
- marine cargo handling;
- marine engineering and specialty services; and
- maritime specialists.

The information provided is from 2016 County Business Patterns, released in April 2018, by the Census, and the categories are defined by the North American Industry Classification System (NAICS), which are generally more accurate at the national and state level. The number of workers in Texas employed in the oil and gas industry categories make up a fairly large portion of the total national workforce in the same categories. Although the proportion of the total number of workers in Texas in the marine/maritime industries is not as large, a sizeable number of skilled workers are available in the state. Overall, the data provided in Table 10-13 suggests that there is a healthy size workforce, 4,651 to 6,580 workers, within the study area who possess skills which could be transferable to the Proposed Project, suggesting that there is potential for suitable workforce to support the Proposed Project within the study area.

The Railroad Commission of Texas database indicated that there are three gas transmission pipelines to the north of the Offshore Pipelines (Figure 10-4), however, based on a review of records, the Offshore Pipeline ROW does not cross any identified offshore pipelines or other submerged infrastructure (Railroad Commission of Texas 2019). For discussion on offshore pipelines or other submerged infrastructure, please refer to Section 12: Coastal Zone Use, Recreation and Aesthetics.

COMMERCIAL FISHING

Commercial fishing is any activity associated with taking or handling salt or freshwater aquatic products for pay, sale, or exchange. Due to its proximity to the GOM, the State of Texas and the counties which make up the study area are active in this industry. Commercial fishing is regulated by the Texas Parks and Wildlife Department (TPWD).

The commercial fishing establishments are categorized in two ways, either as a non-employer establishment or a business with paid employees. Non-employer establishments include sole-proprietorships, partnerships between two or more people, and incorporated business with no employees (only owners or partners). If the commercial fishing establishment is set up as a business with paid employees, then it is classified and tracked separately.

Table 10-13: Number of Employed Persons in Industry or Occupation Categories with Skill Sets Transferrable to the Proposed Project										
NAICS		Texas	Study Area Counties							Total within Study Area
NAICS Code	NAICS Title		Kenedy County	Kleberg County	Nueces County	San Patricio County	Aransas County	Refugio County	Calhoun County	
213112	Support Activities for Oil and Gas Operations	108,639	0	83	2,353	414	19	325	0	3,194
2212	Natural Gas Distribution	11,102	0	0 to 19	20 to 99	0 to 19	0	0 to 19	0	20 to 156
237120	Oil and Gas Pipeline Related Structures Construction	52,894	0	20 to 99	1,000 to 2,499	173	0 to 19	20 to 99	0 to 19	1,213 to 2,908
4238602 [423860]	Marine, Machinery, Equipment, and Supplies Merchant Wholesalers	4,317	0	0	20 to 99	0	0	0	0	20 to 99
48832	Marine Cargo Handling	6,687	0	0	157	0	0 to 19	0	0	157 to 176
493190	Other Warehousing and Storage	7,418	0	0	47	0	0	0	0	47
Totals		82,418	0	103 to 201	3,597 to 5,254	587 to 606	19 to 57	345 to 443	0 to 19	4,651 to 6,580

Note: Data from Census Data Set: CB1600A11 - Geography Area Series: County Business 2016 Business Patterns. Released on April 19, 2018.
Source: Census 2019p.

The Census collects data associated with the commercial fishing industry (NAICS code: 1141) which is defined by the NAICS as: “comprises establishments primarily engaged in the commercial catching or taking of finfish, shellfish, or miscellaneous marine products from a natural habitat, such as the catching of bluefish, eels, salmon, tuna, clams, crabs, lobsters, mussels, oysters, shrimp, frogs, sea urchins, and turtles” (Census 2019c).

Table 10-14 presents 2016 commercial fishing industry employment, receipts, and payroll statistics for the study area.

Jurisdiction	Non-Employer Establishments ^{a,b}		Paid Employee Establishments ^c		
	Number Establishments 2016	Receipts (\$1,000) 2016	Number of Establishments 2016	Paid Employees 2016	Annual Payroll (\$1,000) 2016
Texas	4,022	208,242	81	139	3,899
Kenedy County	d	d	0	0	0
Kleberg County	20	1029	0	0	0
Nueces County	121	4,409	2	0 to 19	d
San Patricio County	58	1,778	0	0	0
Aransas County	120	3,888	1	20 to 99	d
Refugio County	5	131	0	0	0
Calhoun County	176	10278	15	0	175
Study Area Total	>500	>21,513	18	20 to 118	>175

Notes:

^a Non-employer statistics originate from tax return information of the Internal Revenue Service. The data are subject to non-sampling error such as errors of self-classification by industry on tax forms, as well as errors of response, non-reporting and coverage. Values provided by each firm are slightly modified to protect the respondent’s confidentiality.

^b Non-employer establishments include all firms with no paid employees or payroll with receipts of \$1,000 or more and are subject to federal income tax.

^c Paid employee establishments include all operating establishments with one or more paid employee.

^d Withheld to avoid disclosing data for individual companies; data are included in higher level totals.

Source: Census 2019c.

Almost all of the commercial fishing establishments in the study area are non-employer establishments, and most are likely self-employed fishermen, although some may be partnerships or incorporated businesses with no employees. Similarly, the majority of the commercial fishing establishments in the states are non-employer establishments. In total, there are more than 500 non-employer establishments in the study area, approximately 12.4 percent of the non-employer establishments in Texas. The revenues generated by those 500+ non-employer establishments, approximately \$21.5 million, is about 10.3 percent of the total revenues generated by non-employer establishments in Texas in 2016. Only Nueces and Aransas Counties were recorded as having commercial fishing paid employee establishments, and even numbers in those two counties were small (two establishments employing 0 to 19 persons in each county). Given the small number of paid employee fishing establishments registered in Nueces and Aransas Counties, the total payroll at those establishments was withheld to avoid disclosing data for individual companies. Commercial fishing activity, including the catch data, species data, and trip data, are addressed in Section 12: Coastal Zone Uses, Recreation, and Aesthetics.

10.2.3 Proposed Project Construction Impacts

The Proposed Project will include installation of approximately 56.5 mi (90.9 km) of dual, 30-inch-diameter Onshore, Inshore, and Offshore Pipelines and two offshore SPM buoys that will be located in 88.5 to 89.5 (27.0 to 27.3 m) of water, within the Exclusive Economic Zone (EEZ).

The methodology for evaluating impacts to socioeconomics has identified consequence-producing factors within three distinct phases of the Proposed Project: Construction, Operation, and Decommissioning. Consequences are assessed to determine the magnitude of impact. Refer to Appendix A: Construction, Operation, and Decommissioning Procedures, for a detailed description of techniques, procedures, and phases of the Proposed Project that were used to evaluate environmental consequences in the following sections.

As discussed in Section 3: Project Description and Framework for Environmental Evaluation, the environmental consequences of the Proposed Project would vary in duration and significance. Four levels of impact duration were considered: temporary, short-term, long-term, and permanent. Temporary impacts generally occur during construction, with the resource returning to pre-construction conditions almost immediately afterward. Short-term impacts are considered to be those that may continue for up to 3 years following construction. Impacts are considered long-term if the resource would require more than 3 years to recover. A permanent impact could occur as a result of any activity that modified a resource to the extent that it would not return to pre-construction conditions during the life of the Proposed Project, such as within the footprint of Proposed Project. When determining the significance of an impact, we consider the duration of the impact, the geographic and biological context in which the impact would occur, and the magnitude and intensity of the impact. The duration, context, and magnitude of impacts vary by resource and therefore significance varies accordingly.

A summary of key socioeconomic indicators associated with the Proposed Project and utilized to undertake this assessment are presented in Table 10-15.

10.2.3.1 Population

Installation and commissioning of the Proposed Project will require engineering, construction management, and construction personnel with specialized skill sets for onshore, inshore, and offshore oil and gas pipeline construction. BWTT anticipates employing a workforce of 200 workers per month (average) for 18 months until the work is complete. The largest number of workers employed at one time (peak workforce) would be approximately 350 individuals.

Should the Proposed Project employ all or many of the required installation and commissioning workers from outside of the state, region, and study area, it is possible that the study area could see a temporary impact to population. However, the migration of such a small number of temporary workers to the local area would not result in any significant impact to the local population. Furthermore, due to the short average employment period for each worker, 17 months, it would be unlikely that workers would move their households to the local area.

Additionally, Texas has a strong work force in the oil and gas industry and Corpus Christi is a major maritime entity. Therefore, it is anticipated that the majority of workers needed for installation and commissioning will come from within the state, region, and study area.

Overall, the Proposed Project is anticipated to have a negligible impact to the population during installation and commissioning phases.

Period	Attribute Category	Attribute
Construction	Duration	18 months
	Average Monthly Workforce	200 workers
	Peak Workforce	350 workers
	Average Duration of Worker Employment	17 months
	Worker Origin	100 percent regional hire from Texas
	Worker Cycle	60 hr / week
	Average Annual Salary	\$140k / year
	Total Payroll	\$40 million
Operation	Duration	50 years
	Average Monthly Workforce	14 workers
	Peak Workforce	52 workers
	Average Duration of Worker Employment	480 months
	Worker Origin	100 percent regional hire from Texas
	Worker Cycle	Shift
	Average Annual Salary	\$112k / year
	Total Payroll	\$1.6 million/year
Decommissioning	Duration	5 months
	Average Monthly Workforce	85 workers
	Peak Workforce	85 workers
	Average Duration of Worker Employment	150 days (or 5 months)
	Worker Origin	80 percent regional hire from Texas / 20 percent non-local
	Worker Cycle	28 days on / 7 days off
	Average Annual Salary	\$42,000
	Total Payroll	\$1.5 million

10.2.3.2 Accommodation

An influx of migrant workers into an area can have an adverse impact to the availability of local housing, and in turn, can result in an increase in the cost of rental accommodation and property purchase prices. Increases in rental accommodation cost can result in a positive impact for landlords and increases in property prices can result in positive impact to property owners; however, there are also adverse impacts associated with a higher demand for housing. Increased rental accommodation costs and property purchase prices can also lead to an increase in the homeless population and crime rates.

However, as discussed above, the Proposed Project construction phase workforce is not anticipated to significantly impact population numbers within the study area due to the small numbers of required workers during the construction phase, short duration of the construction phase, and aim of employing, and availability of, a local workforce. As a result of this, the additional demand on local housing is likely to be limited, and the adverse housing impacts listed above are unlikely to result to any detectable significance.

For the small number of workers who are recruited from locations outside of commuting distance to the Proposed Project, and/or who chose to move closer to the area, housing is likely to be found within population centers in the study area such as Aransas Pass (adjacent to the onshore elements of the Proposed Project) and Corpus Christi (8 mi

[12.9 km] from the onshore elements of the Proposed Project). Construction and support vessels would likely be based out of the POCC, and available housing in Corpus Christi would also accommodate any temporary employees needed for the Offshore Components.

In addition, the study area has 120,799 hotel rooms and 7,611 RV spaces that can be used to support the construction workforce accommodation needs during the construction period (see Tables 10-3 and 10-4).

Overall, impacts to housing availability as a result of the construction phase of the Proposed Project are anticipated to be temporary and negligible.

10.2.3.3 Public Services

The Proposed Project could potentially impact local public services if the workforce and/or families exceeded providers' capacity.

10.2.3.3.1 MEDICAL SERVICES

Potential injuries and medical emergencies during the construction phase of the Proposed Project could include scratches, scrapes, bruises, burns, chemical burns, broken bones, concussions, heatstroke, crushed or severed limbs, wounds or gashes requiring stitches, inhalation of fumes, heart attack, and stroke. Treatment in a hospital or emergency room would be required for some of these conditions, while treatment in an urgent care facility would be adequate for others.

Of the 17 hospitals within the study area, 11 have adult-accepting emergency room facilities. The closest hospital with an accident and emergency facility to the onshore elements of the Proposed Project is the Care Regional Medical Center is located in Aransas Pass, 1.0 mi (1.6 km) west of the Onshore Pipelines. The closest hospital with an accident and emergency facility to the POCC, where construction and support vessels would likely be based, is the Christus Spohn Hospital Corpus Christi Shoreline (9.0 mi [14.5 km]).

In addition to the 17 hospitals, there are also multiple urgent care facilities within the study area. Urgent care facilities would be equipped to treat workers sustaining minor injuries on-the-job and off-the-job.

Given the small number of workers expected to relocate to the study area during the construction phase of the Proposed Project, the impact to community medical services during the construction phase is anticipated to be negligible.

10.2.3.3.2 SAFETY AND EMERGENCY RESPONSE

There are 57 fire stations in the study area. In case of an emergency during construction of the Proposed Project, the public services closest to the incident would be most likely to respond. Due to the history of the oil and gas industry in the area, these facilities include trained staff for such emergencies. However, a scenario in which local fire departments were called upon to address an incident associated with Proposed Project construction would be unlikely. Similarly, there are numerous police and other emergency responders in the study area, including the USCG Sector Corpus Christi that would be available to respond to emergencies during construction of the Proposed Project.

It is anticipated that compliance with safety Best Management Practices (BMP) and standard practices would avoid emergency incidents, but should they occur, available responders in the study area have adequate capacity and skills to respond appropriately.

BWTT will also coordinate with fire departments, police, and/or emergency service districts within the vicinity of the Proposed Project as part of its stakeholder engagement process and the Emergency Response, Safety, Security, and Fire Plans development process which will take place during the detail design phase of the Proposed Project.

Overall, the impact that the construction phase of the Proposed Project is anticipated to have on the emergency response capacity is considered to be negligible.

10.2.3.3.3 EDUCATION FACILITIES

During construction, the average term of employment during the Proposed Project construction phase is anticipated to be 17 months, as such, few-to-no additional school-age children are expected to move to the study area with parents employed during this phase of the Proposed Project.

Overall, impacts on the public-school systems within the study area during the construction phase of the Proposed Project are anticipated to be negligible.

10.2.3.4 Labor Force and Employment

Because the oil and gas and maritime industries are prevalent in the area, and due to the recent downturn in the energy industry, it is anticipated that a large portion of the workers needed for construction and commissioning would come from within the study area, and the majority (approximately 100 percent) would be regional Texas hires.

With the Proposed Project aiming to hire the workforce from the local area it is likely that some of the hires will be from the seven counties which make up the study area. The introduction of new work opportunities will be beneficial for the local area, especially for the counties within the study area that have unemployment rates that are higher than the state average.

Construction phase Project work opportunities would be relatively high-paying, averaging a wage of approximately \$11,667 per month (\$140,000 per annual [p/a]) for a salaried employee, when compared to the median household income within the study area (\$46,697 p/a for 2017 [Census 2019o]). However, the duration of the construction phase of the Proposed Project will be temporary, lasting approximately 18 months, with the average worker's duration of employment lasting 17 months.

Overall the construction phase of the Proposed Project is anticipated to result in a beneficial impact of minor to negligible significance on labor force and employment within the study area.

10.2.3.5 Taxes and Revenues

As part of the financial requirements for the issuance of a Deepwater Port License (DWPL), BWTT has prepared and submitted a confidential cash-flow model which analyzes the economic impact as a result of the construction and operation of the Proposed Project. Based on the results of the cash-flow modeling, the construction and operation of the Proposed Project is anticipated to result in beneficial impact to, and support the continued growth of, both U.S. and local economies.

10.2.3.6 Industry

10.2.3.6.1 AGRICULTURE

As discussed above, agriculture is an important industry within the study area. During the construction of the Onshore Pipelines, various land use types, including agricultural lands, will be temporarily disturbed within the 50-ft construction right-of-way (ROW). Once installation is complete, the Onshore Pipelines ROW will be seeded with a native grass mixture or with some other suitable reclamation mixture approved by the landowner and will be returned to a vegetated state.

While construction of the Onshore Pipelines will result in permanent land take for the footprint of the pipeline, the majority of the Onshore Pipelines route is located parallel to existing disturbances, including roadways and other pipeline ROWs. In addition, BWTT will coordinate with existing land and ROW holders prior to construction to further reduce impact to existing ROWs. Should there be any adverse impact to agricultural land as a result of the Onshore Pipelines it can be assumed that such impact would be minimum and would not result in an impact to the agricultural industry within the study area. As such, no impact to the agricultural industry is anticipated as a result of the Proposed Project.

10.2.3.6.2 RECREATION AND TOURISM

Impacts to recreation and tourism are discussed in Section 12: Coastal Zone Uses, Recreation, and Aesthetics. This section establishes that recreation and tourism in the immediate vicinity of the Proposed Project is likely to experience minor adverse impacts during construction resulting in changes in viewshed for nearshore recreational boaters and fishermen. This potential impact will be managed by planned mitigation measures, such as the use of horizontal directional drill (HDD) construction methods in open water areas where recreational boating and fishing could occur, and with such measures in place, impacts on the recreation and tourism economy is anticipated to be temporary and minor.

From an economic point of view, the timing of the construction phase of the Proposed Project will be important. In addition to other mitigating measures (such as site selection, the use of HDDs, BMPs, etc., as discussed in Section 12: Coastal Zone Uses, Recreation, and Aesthetics), the avoidance of construction during key public events and peak recreational times (such as public holidays) would help reduce adverse impacts on the local recreation and tourism economy.

While recreation and tourism in the immediate vicinity of the Proposed Project is likely to experience adverse impacts during the construction phase, it is not anticipated that significant adverse impacts will be experienced throughout the recreation and tourism economy of the study area.

With all planned mitigation measures in place, the recreation and tourism economy of the study area is anticipated to experience a temporary minor adverse impact during the Proposed Project construction phase.

10.2.3.6.3 OIL AND GAS INDUSTRY

Installation of the Proposed Project is not likely to affect offshore oil and gas activities in the vicinity of the Proposed Project. No active drilling will happen within the lease blocks that would be transected by the proposed Offshore Pipelines or within lease blocks 698 and 699, where the SPM buoys will be located (see Figure 12-4: Lease Blocks Intersected by the Proposed Project, within Section 12: Coastal Zone Use, Recreation, and Aesthetics). Any oil/gas exploration that would be proposed during installation of the Proposed Project would be aware of all activity, obstacles, and obstructions within their area of interest. As such, no impact is anticipated to offshore oil and gas activities as a result of the Proposed Project construction.

10.2.3.6.4 RENEWABLE ENERGY INDUSTRY

No renewable energy infrastructure is located in proximity to the Offshore Components of the Proposed Project.

The Onshore Pipelines will cross the access paths to wind turbines within the Papalote Creek Wind Farm. Installation of the Onshore Pipelines would result in a temporary obstruction to individual wind turbines, however construction is not anticipated to result in any direct adverse impact to any one wind turbine. On completion of Onshore Pipelines construction, the Onshore Pipeline ROW will be seeded with a native grass mixture or with some other suitable reclamation mixture approved by the landowner and will be returned to a vegetated state. To help minimize any adverse impact and/or inconvenience to landowners and wind turbine owners, BWTT will coordinate with existing land, ROW, and wind farm owners prior to construction.

While construction of the Onshore Pipelines will result in a temporary impact on access to and maintenance of wind turbines, no permanent impact to any individual wind turbine is anticipated as a result of the Proposed Project. In addition, no impact is anticipated to the renewable energy industry within the study area.

10.2.3.6.5 COMMERCIAL FISHING

Commercial fishermen who share the GOM with other industrial users could be impacted by construction activities. The study area has a civilian labor force of approximately 167,934 and the estimated number of commercial fishing establishments is over 500. Commercial fishermen are estimated to be a small percentage (less than [$<$] 1 percent) of the civilian labor force in the study area. However, for the families who depend upon fishing for income,

commercial fishing is not only extremely significant financially, it is also often holds a cultural and historic significance. Within the study area, most commercial fishermen are self-employed fishermen, partnerships, or business entities with no employees (only owners/partners), a trait which is often associated with family businesses and “inter-generational fishing”, the trend of passing on the tradition of commercial fishing from one generation to another. For those families who have depended on the fishing industry for generations, any impact to commercial fishing as a result of the Proposed Project could be seen as significant.

During the 16-weeks construction period of the SPM buoys, commercial fishing will be prohibited in the temporary safety zone. This will primarily affect commercial harvesters of shrimp but could also affect commercial fishermen targeting open water pelagic finfish like mackerels and dolphin fish. Fishermen who typically would fish in the area of the temporary safety zone could choose to fish in a new or more distant area, allowing them to maintain a similar harvest level. Although the removal of these fishing areas could negatively affect commercial fishermen through increased costs of recovering the same harvest levels and increased travel distances or expended effort to achieve similar harvest levels, there is no unique habitat located at the site of the SPM buoy systems that would attract commercial fishermen. Given the sufficient fishing habitat available in the adjacent, unrestricted areas and because harvest levels are typically set below estimated abundances, no impact to actual harvest levels and commercial fishing in the vicinity of Proposed Project are anticipated.

The Proposed Project’s potential impact on commercial fishing activities is further discussed in Section 7: Commercial and Recreational Fisheries, and Section 12: Coastal Zone Use, Recreation, and Aesthetics.

10.2.3.6.6 MARITIME INDUSTRIES

The Proposed Project is not being constructed in any portion of a major navigational fairway and as such impacts to offshore maritime industries would be limited to any increased use of the fairways by vessels supporting construction of Offshore Project Components during the 18-month construction period. This increased use of the fairways and any associated delays would be minor.

As described in Appendix A, the Inshore Pipelines will be constructed using the HDD and open-cut methods, however, no in-water trenching is proposed for these facilities. Four HDDs will be installed during construction of the Inshore Pipelines, each of which will be staged on land, avoiding in-water impacts and shoreline areas. Staging will occur on the mainland, Stedman Island, Harbor Island, and San Jose Island. As such, routine maritime activity is expected to continue undisturbed during all construction activity.

Establishment of a temporary safety zone during installation of the Proposed Project is not likely to significantly affect commercial shipping or activities at Port Aransas. Any vessels that would transit through the Proposed Project vicinity would be forced to navigate around the safety zones, increasing the time that it would take them to move through the area and reach their destination. Any vessels that would have utilized the areas that will be off-limits due to safety zones, could use established fairways or move around that area. It is unlikely that large commercial vessels would be transiting outside of established fairways. However, those that do would be affected only for the temporary duration of the construction period. With mitigation, such as stakeholder engagement and aids to navigation system, in place, construction is expected to have negligible effect to inshore industries.

10.2.3.7 Upsets and Accidents

Upsets and accidents during Proposed Project construction may cause temporary negligible impacts on the socioeconomic environment. The majority of the Inshore Pipelines ROW does not occur in immediate proximity to populated areas, and the SPM buoy locations are about 17.0 mi (27.4 km) offshore, widely separated from surrounding offshore infrastructure. The potential for upsets and accidents as well as measures intended to maintain safety and security are addressed in Section 14: Navigation, Safety, and Security.

10.2.4 Proposed Project Operation Impacts

10.2.4.1 Population

During Proposed Project operation, BWTT anticipates employing an average monthly workforce of 14 employees, with varying day staff or shift workers, with a peak workforce of 52 workers. Should the Proposed Project employ all or many of the required operation phase workers from outside of the state, region, and study area, it is possible that the study area could see a permanent impact to population. However, the number of workers employed for the operational phase of the Proposed Project is not anticipated to be significant and, as with the construction phase of the Proposed Project, BWTT will aim to employ workers from within the state, region, and study area. Thus, the change in population during operation is expected to be minor.

Overall, the Proposed Project is anticipated to have a negligible impact to population during Project operation.

10.2.4.2 Accommodation

As discussed previously, an influx of migrant workforce into an area can have an adverse impact to the availability of local housing, and in turn, can result in an increase in the homeless population and crime rates. However, BWTT expects to employ a local workforce where possible, and in addition, the number of workers employed for the operational phase of the Proposed Project is not anticipated to be significant enough to have a significant adverse impact on local housing availability.

Overall, impacts to housing availability as a result of Proposed Project operation are anticipated to be negligible.

10.2.4.3 Public Services

During the operational phase of the Proposed Project, the need for, and burden upon, local public services such as medical, fire, police, and educational facilities, is anticipated to be less than that during the construction phase due to the operational phase requiring a smaller workforce. Also, less onshore activities will occur as compared to the construction phase and the undertaking of routine activities rather than higher risk construction activities. As a result of this, impacts to public services during the operational phase of the Proposed Project are anticipated to be negligible.

10.2.4.4 Labor Force and Employment

Because the oil and gas and maritime industries are prevalent in the area, and due to the recent downturn in the energy industry, it is anticipated that a large portion of the workers needed for construction and commissioning would come from within the study area, and the majority (approximately 100 percent) would be regional Texas hires.

Since BWTT expects to hire the Proposed Project workforce from the local area, it is likely that some of the hires will be from the seven counties which make up the study area. The introduction of new work opportunities will be beneficial for the local area, especially for the counties within the study area that have unemployment rates that are higher than the state average.

Overall the operational phase of the Proposed Project is anticipated to result in a beneficial impact of minor to negligible significance on labor force and employment within the study area.

10.2.4.5 Taxes and Revenues

As part of the financial requirements for the issuance of a DWPL, BWTT has prepared and submitted a confidential cash-flow model which analyzes the economic impact as a result of the construction and operation of the Proposed Project. Based on the results of the cash-flow modeling, the construction and operation of the Proposed Project is anticipated to result in beneficial impact to, and support the continued growth of, both U.S. and local economies.

10.2.4.6 Industry

10.2.4.6.1 AGRICULTURE

The proposed Onshore Pipeline ROW has been chosen to minimize direct land take of existing agricultural land. On completion of the Onshore Pipeline construction, the Onshore Pipeline ROW will be seeded with a native grass mixture or with some other suitable reclamation mixture approved by the landowner and will be returned to a vegetated state. As such no impact is anticipated to any specific area of agricultural land nor to the agricultural industry within the study area as a result of the Proposed Project operation.

Should there be any required Onshore Pipeline maintenance, BWTT will coordinate with existing land and ROW holders prior to undertaking any routine maintenance. The potential for upsets and accidents as well as measures intended to maintain safety and security are addressed in Section 14: Navigation, Safety, and Security.

10.2.4.6.2 RECREATION AND TOURISM

Once operational, the Proposed Project is not anticipated to disrupt ongoing recreational activities in the study area. Although the 3,609-ft (1,100-m) radius safety zone around the SPM buoy systems will be unavailable for recreational fishing, as noted above, this area is not unique or specifically productive compared to the abundant similar resource in the study area. As discussed in Section 12: Coastal Zone Uses, Recreation, and Aesthetics, overall impact to recreational activities in the study area is anticipated to be negligible, thus related economic impacts would also be negligible.

10.2.4.6.3 OIL AND GAS INDUSTRY

EXPLORATION OR OPERATION OF PLATFORMS AND WELLS

The Proposed Project would hold the potential to impact oil and gas uses within the immediate vicinity by presenting an encumbrance to industry vessels that could otherwise access the safety zones to explore or drill from the surface of the water above the Outer Continental Shelf (OCS). However, the Proposed Project's impact would be negligible considering that the OCS lease blocks adjacent would still be available for leasing and could be accessed by horizontal drilling or other technology. In addition, at this time, there are no federal lease blocks with active leases traversed by the Proposed Project. The effects of operation of the Proposed Project on offshore oil and gas exploration or operation of platforms and wells would be negligible.

GLOBAL AND DOMESTIC CRUDE OIL MARKET

Based on a review of crude oil production in the U.S., as discussed in Section 1: Project Purpose and Need, the end of the Crude Oil Export Ban has allowed U.S. producers to market internationally for the export of crude oil. Advances in technologies has resulted in a surge of crude oil production within the U.S. Production of crude oil in the U.S. has surpassed processing and storage capacities of existing U.S. refineries, and forecasts indicate an approximate 4,000,000 bpd increase of U.S. crude oil production, of which 75 percent will be from the Permian and Eagle Ford Shales located in southwest Texas. As such, there is a growing need for the safe and efficient export of crude oil from the U.S. to support current and forecasted crude oil production. No negative impact is anticipated to offshore oil and gas activities as a result of the Proposed Project operation, and overall, the Proposed Project is anticipated to have a beneficial effect on the global and domestic crude oil market by fulfilling the need for a safe, efficient, and cost-effective outlet for abundant supplies of domestic crude oil from existing and future oil fields located in North America.

10.2.4.6.4 RENEWABLE ENERGY INDUSTRY

While the Onshore Pipeline ROW does cross the access paths of a number of wind turbines, it does not cross the footprint of any specific wind turbine. On completion of the Onshore Pipeline construction, the Onshore Pipeline ROW will be seeded with a native grass mixture or with some other suitable reclamation mixture approved by the landowner and will be returned to a vegetated state. As such no impact is anticipated to any specific windfarm, wind turbine, or the renewable energy industry within the study area as a result of the Proposed Project operation.

Should there be any required Onshore Pipeline maintenance, BWTT will coordinate with existing land and ROW holders prior to undertaking any routine maintenance. The potential for upsets and accidents as well as measures intended to maintain safety and security are addressed in Section 14: Navigation, Safety, and Security.

10.2.4.6.5 COMMERCIAL FISHING

During operation, a 3,609-ft (1,100-m) radius safety zone will be established around each of the SPM buoys. Activities such as commercial fishing will not be permitted within the safety zone and vessels will not be able to transit through the safety zone. This restricted area could have a negative, long-term impact on fishing opportunities by causing certain commercial fishermen to expend extra effort to maintain current harvest levels. However, given the location of the SPM buoys are considered to be a low vessel traffic area and the amount of unrestricted fishing area available in the vicinity of the Proposed Project, offshore of Texas, and the Gulf overall, the no-fishing zone associated with the SPM buoy systems would result in negligible impacts in commercial fishing activities. Further, the habitat within the restricted area is not unique or specifically productive for commercial fishing.

Once installation is complete, the Offshore and Inshore Pipelines will be buried and as such will not impede commercial fishing activities. Further, operation of the pipelines is not expected to impact fishery resource population-levels (see Section 7: Commercial and Recreational Fisheries, and Section 12: Coastal Zone Use, Recreation, and Aesthetics). Overall, negative effects on commercial fishing from operation of the Proposed Project will be negligible.

10.2.4.6.6 MARITIME INDUSTRIES

Typically, commercial vessels use the established fairway located to the south of the site. During operation, a 3,609-ft (1,100-m) radius safety zone will be established around the SPM buoy systems. Any vessels that would otherwise transit through the Proposed Project vicinity would be forced to navigate around the safety zones, increasing the time that it would take them to move through the area and reach their destination. Any vessels that would have utilized the areas that will be off-limits due to safety zones, could use established fairways or move around that area. It is unlikely that large commercial vessels would be transiting outside of established fairways.

Overall, operation of the Proposed Project at full buildout is anticipated to result in a negligible impact on marine shipping and commercial port activity. No impacts to the maritime industry are anticipated as a result of the Proposed Project during the operational phase.

10.2.4.7 Upsets and Accidents

Proposed Project upsets and accidents during operation may cause temporary negligible impacts on the socioeconomic environment. The majority of the Inshore Pipeline ROW does not occur in immediate proximity to populated areas, and the SPM buoys will be about 17.0 mi (27.4 km) offshore, widely separated from surrounding offshore infrastructure. The potential for upsets and accidents as well as measures intended to maintain safety and security are addressed in Section 14: Navigation, Safety, and Security.

10.2.5 Proposed Project Decommissioning Impacts

At the end of its useful life (50 years), Offshore Pipelines (from a point about 3,900 ft [1,188.7 m] offshore) will be removed, as will the SPM buoy systems. It is anticipated that the decommissioning process will take approximately 5 months, employ approximately 85 workers with an average duration of 150 days (or 5 months) of employment, and be comprised primarily of individuals from within the region (approximately 80 percent). The work cycle is anticipated to be 28 days on, 7 days off with an average annual salary of approximately \$42,000, which is within the average range for the five counties. Total payroll for the decommissioning process is expected to be approximately \$1.5 million.

Impacts to socioeconomics within the study area will be dependent upon the decommissioning plan and any changes in the socioeconomic environment at that time, however, with a full removal of all Project Components associated

with the Proposed Project, impacts to socioeconomics are likely to be similar to those described for the Proposed Project construction. This will be especially true if the decommissioning plan will include the removal of all pipelines and/or if the sensitivity of the Socioeconomic Study Area increases.

10.2.6 Summary of Proposed Project Impacts

10.2.6.1 Proposed Project Construction Impacts

With regards to population, it is anticipated that the majority of workers needed for construction of the Proposed Project will come from within the study area. Overall, the Proposed Project is anticipated to have a negligible and temporary impact to the population during construction given that the Project proposes to employ a limited number of workers (average of 200 workers per month) during the 18-month construction period, and that of those employed approximately 100 percent will be employed from within the State of Texas, minimizing the number of Project workers that are expected to emigrate to the study area. An influx of migrant workers into an area can also have an adverse impact to the availability of local housing; however, the study area has sufficient temporary accommodations available and impacts on these accommodations are anticipated to be temporary and negligible.

With regards public services, the Proposed Project could potentially impact local public services if the workforce and/or families exceeded local providers' capacity. However, given the small number of workers expected to relocate to the study area during construction, impacts on community and public services, including medical services, safety and emergency response, and educational facilities is anticipated to be negligible.

New jobs created for construction would be relatively high-paying, but would be restricted to the 18-month period of construction. Overall the construction phase of the Proposed Project is anticipated to result in a beneficial impact of negligible to minor significance on labor force and employment within the study area. Based on the results of the cash-flow modeling, construction of the Proposed Project is anticipated to result in beneficial impact to, and support the continued growth of, both U.S. and local economies.

While construction of the Onshore Pipelines will result in permanent land take for the footprint of the pipelines, the majority of the Onshore Pipelines route is located parallel to existing disturbances, including roadways and other pipeline ROWs. Should there be any adverse impact to agricultural land as a result of the Onshore Pipelines it can be assumed that such impact would be minimal and would not result in an impact to the agricultural industry within the study area. As such, no impact to the agricultural industry is anticipated as a result of the Proposed Project.

Recreation and tourism in the immediate vicinity of the Proposed Project are likely to experience adverse impacts during construction, such as changes in viewshed for nearshore recreational boaters and fishermen which could result in a decrease in the number of boaters utilizing the area in the immediate vicinity of the Proposed Project. However, with all planned mitigation measures in place, including the use of HDD construction methods in open water areas where recreational boating and fishing could occur, and the avoidance of construction during key public events and peak recreational times (such as public holidays), impacts on the recreation and tourism economy is anticipated to be temporary and minor.

The Proposed Project is not anticipated to directly impact oil and gas activities due to the distance of such facilities from the Proposed Project. Installation of the Project is not likely to affect offshore oil and gas activities in the vicinity of the Project due to the removed nature of the Project from existing facilities. As such, no impact is anticipated to offshore oil and gas activities as a result of construction. No renewable energy infrastructure is located in proximity to the Offshore Components of the Proposed Project and therefore no direct impacts on this infrastructure will occur. However, construction of the Onshore Pipelines will result in a temporary impact on access to, and possibly maintenance of, wind turbines.

The Proposed Project is not being constructed in any portion of a major navigational fairway, as such routine maritime activity is expected to continue undisturbed during all construction activity. Given the sufficient fishing

habitat available in the adjacent, unrestricted areas and because harvest levels are typically set below estimated abundances, no impact to actual harvest levels and commercial fishing in the vicinity of Project are anticipated. With mitigation, such as stakeholder engagement (notices to mariners and fishermen) and aids to navigation system (for the SPM buoy systems) in place, construction is expected to have negligible effect to commercial fishing and maritime industries.

The majority of the ROW for the Onshore Pipelines does not occur in immediate proximity to populated areas, and the SPM buoy systems are about 17.0 mi (27.4 km) offshore, widely separated from surrounding offshore infrastructure. Upsets and accidents during construction, while not anticipated, could cause temporary negligible impacts on the socioeconomic environment.

10.2.6.2 Proposed Project Operation Impacts

During operation of the Proposed Project, BWTT anticipates employing an average monthly workforce of 14 employees, with varying day staff or shift workers, with a peak workforce of 52 workers. Overall, the Proposed Project is anticipated to have a negligible impact to population, local housing, public services, and labor force and employment during Project operation.

As part of the financial requirements for the issuance of a DWPL, BWTT has prepared and submitted a confidential cash-flow model which analyzes the economic impact as a result of the construction and operation of the Proposed Project. Based on the results of the cash-flow modeling, the construction and operation of the Proposed Project is anticipated to result in beneficial impact to, and support the continued growth of, both U.S. and local economies.

On completion of the Onshore Pipelines construction, the Onshore Pipeline ROW will be seeded with a native grass mixture or with some other suitable reclamation mixture approved by the landowner and will be returned to a vegetated state. As such, no impact is anticipated to any specific area of agricultural land nor to the agricultural industry within the study area as a result of the Proposed Project's operation. Similarly, operations of the Onshore and Inshore Pipelines will have no impacts on other industries, such as the renewable energy industry, as they will be buried with minimal, if any, vegetative maintenance needed during operations. There are no wind farms within the vicinity of the offshore elements of the Project and as such no impact to the offshore renewable energy industry.

Once operational, the Project is not anticipated to disrupt ongoing recreational activities in the study area. Overall impact to recreational activities in the study area is anticipated to be negligible, thus related economic impacts would also be negligible.

The Project's impact to offshore oil and gas exploration or production will be negligible considering that the OCS lease blocks adjacent would still be available for leasing and blocks in the immediate vicinity of the Project could be accessed by horizontal drilling or other technology. In addition, at this time, there are no federal lease blocks with active leases traversed by the Proposed Project. Overall, the Proposed Project is anticipated to have a beneficial effect on the global and domestic crude oil market by fulfilling the need for a safe, efficient, and cost-effective outlet for abundant supplies of domestic crude oil from existing and future oil fields located in North America.

During operation, a 3,609-ft (1,100-m) radius safety zone will be established around each of the SPM buoys. However, given that the location of the SPM buoys are considered to be a low vessel traffic area and the amount of unrestricted fishing area available in the vicinity of the Project, offshore of Texas, and the Gulf overall, the no-fishing zone associated with the SPM buoy systems will result in negligible, but permanent, impacts in commercial fishing activities. Similarly, the safety zone will result in permanent but negligible impacts on maritime shipping and commercial port activity as vessels will use the established fairway to the south of the SPM buoy systems. Once installation is complete, the Offshore and Inshore Pipelines will be buried and as such will not impede commercial fishing activities.

Project upsets and accidents during operation, while not anticipated, could cause temporary negligible impacts on the socioeconomic environment. The majority of the route for the Inshore Pipelines does not occur in immediate proximity to populated areas, and the SPM buoys will be about 17.0 mi (27.4 km) offshore, widely separated from surrounding offshore infrastructure.

10.2.6.3 Proposed Project Decommissioning Impacts

At the end of its useful life, all components associated with the Project will be disassembled and brought to shore. It is anticipated that the decommissioning process will take approximately 5 months, employ approximately 85 workers, and be comprised primarily of individuals from within the region (approximately 80 percent). The work cycle is anticipated to be 28 days on, 7 days off with an average annual salary of approximately \$42,000, which is within the average range for the five counties. Total payroll for the decommissioning process is expected to be approximately \$1.5 million.

Impacts to socioeconomics are likely to be similar to those describe for the Project construction.

10.3 Alternative Project

The Alternative Project would include installation of approximately 48.6 mi (78.2 km) of dual, 30-inch-diameter pipeline and the offshore SPM buoy systems located in 88.5 to 89.5 ft (27.0 to 27.3 m) of water, within the EEZ. See Appendix A: Construction, Operation and Decommissioning Procedures, for a detailed description of techniques, procedures, and phases of the Alternative Project that were used to evaluate environmental consequences in the following sections.

10.3.1 Alternative Project Area

The Alternative Project would also include Onshore, Inshore, and Offshore Pipelines, as well as two offshore SPM buoys. The Alternative Onshore Pipelines would commence at the same point as the Proposed Onshore Pipelines, and would follow its path for the first 13.5 mi (21.7 km) prior to diverging to the southeast and following existing disturbance through agricultural and herbaceous or scrub-shrub lands, interspersed with smaller areas of developed and residential lands. Where crossing residential areas, the Alternative Onshore Pipelines would pass within 125 to 300 ft (38 to 100 m) of residences to the southwest and northeast. The Alternative Onshore Pipelines would end at Ingleside on the Bay within an industrial landscape, transitioning to the Alternative Inshore Pipelines as they cross the eastern portion of Corpus Christi Bay. The Alternative Inshore Pipelines would make landfall on Mustang Island, crossing undeveloped lands interspersed with oil and gas facilities and residences. The Alternative Offshore Pipelines, commencing just landward of Mustang Island's beach would transit offshore for about 15.4 mi (24.8 km) to the Alternative Project's SPM buoy systems, approximately 18.9 mi (30.4 km) southwest of the Proposed Project's SPM buoy systems.

Like the Proposed Project, the Alternative Project is also located within the seven county Socioeconomic Study Area (study area) as described in Section 10.2.1, as shown in Figure 10-5.

Figure 10-5: Socioeconomic Study Area with Project Alternative



10.3.1.1 Onshore/Inshore

10.3.1.1.1 POPULATION

With the exception of Kleberg and Refugio Counties, the region is experiencing steady growth as shown in Table 10-1. All seven of the counties that make up the study area are primarily rural and agricultural in nature, with the city of Corpus Christi in Nueces County the largest population center within the study area (325,605 [2017 Census population estimate]) (Census 2019a). The population within the study area is further discussed in Section 10.2.2.1.1.

10.3.1.1.2 ACCOMMODATION

HOUSING

With an occupied housing rate of 76.6 percent, there is over 23 percent of housing stock available in the study area (Census 2019d). Housing within the study area is discussed in Section 10.2.2.1.2.

HOTELS AND RV PARKS

Hotels and RV parks within the study area are discussed in Section 10.2.2.1.2. Assuming the trends presented in Table 10-4 would continue, it can be assumed that hotel occupancy within the study area would remain between 60 and 70 percent in 2018 and 2019, and that hotel room availability within Corpus Christi alone would be sufficient to accommodate the limited Project workforce. In addition, 108 RV parks and/or campsites were identified within the study area, providing over 7,600 RV and/or tent sites (this number excludes the ‘tent only’ spaces) (Table 10-4). Occupancy statistics for RV parks and/or campsites within the study area were not identified during the desktop review of publicly available information.

10.3.1.1.3 PUBLIC SERVICES

Public services within the study area include: medical facilities; emergency responders, including fire, police, and coast guard; and, educational facilities. A summary of the facilities within the study area is provided below.

MEDICAL SERVICES

Medical facilities located within the Alternative Project study area include hospitals, surgical centers, rehabilitation facilities, behavioral hospitals, and urgent care facilities. The most likely type of medical facility needed in immediate response to an emergency is a hospital. The majority of hospitals within the Alternative Project study area are located within Nueces County, primarily in and around Corpus Christi (Table 10-16). The closest hospital with an emergency room to the Project Alternative is Northshore Emergency Center, 3.0 mi (4.8 km) from the Onshore Pipelines located in Portland, and Care Regional Medical Center, which is in Aransas Pass, 4.0 mi (6.4 km) east of the Alternative Onshore Pipelines (see Table 10-16).

County	Hospital Name	Address	Approximate Distance to Project Alternative ^a (miles)	Emergency and Trauma Services	No. of Hospital Beds
Kenedy County	No hospitals identified		-	No	-
Kleberg County	CHRISTUS Spohn Hospital Kleberg	1311 General Cavazos Blvd Kingsville, TX 78363	40	Yes	50
Nueces County	Northwest Regional Emergency Department	13725 Northwest Blvd Corpus Christi, TX 78410	14	Yes	89
	Post Acute Medical Specialty Hospital of Corpus Christi South	6226 Saratoga Blvd Corpus Christi, TX 78414	13	No	68
	CHRISTUS Spohn Hospital Corpus Christi South	5950 Saratoga Blvd Corpus Christi, TX 78414	13	Yes	151
	Corpus Christi Rehabilitation Hospital	5726 Esplanade Drive Corpus Christi, TX 78414	13	No	35
	South Texas Surgical Hospital	6130 Parkway Drive Corpus Christi, TX 78414	13	No	33
	The Corpus Christi Medical Center - Bay Area Hospital	7101 S. Padre Island Drive Corpus Christi, TX 78412	11	Yes	583
	Driscoll Children's Hospital	3533 S. Alameda Street Corpus Christi, TX 78411	11	Yes [Infant Only]	189
	Doctors Regional Emergency Department	3315 S. Alameda Street Corpus Christi, TX 78411	11	Yes	416
	CHRISTUS Spohn Hospital Corpus Christi Shoreline	600 Elizabeth Street Corpus Christi, Texas 78404	9	Yes	557
	Post Acute Medical Specialty Hospital at Corpus Christi North	600 Elizabeth Street Suite 3C Corpus Christi, TX, 78404	9	No	22
San Patricio County	CHRISTUS Spohn Hospital Memorial	2606 Hospital Blvd Corpus Christi, TX 78405	9	Yes	397
	Northshore Emergency Center	1702 Highway 181 North Suite A-11 Portland, TX 78374	3	Yes	12
	Care Regional Medical Center	1711 West Wheeler Ave Aransas Pass, TX 78336	4	Yes	74
Aransas County	Code 3 Emergency Room and Urgent Care	400 Enterprise Blvd, Suite A Rockport, TX 78382	14	Yes	6
Refugio County	Refugio County Memorial Hospital District	107 Swift Street Refugio, TX 78377	24	Yes	20

County	Hospital Name	Address	Approximate Distance to Project Alternative^a (miles)	Emergency and Trauma Services	No. of Hospital Beds
Calhoun County	Memorial Medical Center	815 North Virginia Street Port Lavaca, Texas 77979	61	Yes	25
Sources: Texas Hospital Association 2019; Post Acute Medical 2019; Christus Spohn 2019; South Texas Surgical Hospital 2019; Driscoll Children's Hospital 2019; Corpus Christi Medical Center 2019; Code 3 Emergency Room and Urgent Care 2019; Refugio County Memorial Hospital 2019; Memorial Medical Center 2019.					
^a Approximate distance to closest point of Alternative Project to nearest mile.					

SAFETY AND EMERGENCY RESPONSE

Fire, police, and emergency response facilities are primarily located in or nearby population centers and are commensurate with the population and industrial activity in the study area for the Alternative Project.

Fire Fighting

Within the study area there are 22 fire departments and 57 firefighting stations, primarily located in or nearby population centers and are commensurate with the population and industrial activity in the area (see Table 10-5). These firefighting stations provide fire, water, auto rescue, and EMS services to the seven counties of the study area. The closest fire stations to the Onshore and Inshore elements of the Alternative Project would be Corpus Christi Fire Department - Station 16 located on Mustang Island, approximately 11.7 mi (18.8 km) south-southwest of the Alternative Project, the Naval Station Ingleside Texas Fire Department, located in Ingleside approximately 0.4 mi (~2,000 ft) from the Alternative Onshore Pipelines, and Ingleside Volunteer Fire Department located on 8th Street, Ingleside, approximately 200 ft (60 m) west of the Alternative Project Onshore Pipelines. Facilities within the study area are familiar with oil and gas activities and would be able to provide appropriate support for a fire at the Alternative Project facilities, including the Alternative Booster Station, Onshore and Inshore Pipelines.

All counties within the study area have firefighting stations, except Kenedy County. As discussed above, Kenedy County is mainly rural, and one of the lowest populated counties in Texas, and this is likely why this county is served by fire stations from the surrounding counties rather than having its own fire stations.

Details of firefighting stations within the Socioeconomic Study Area for the Alternative Project are provided in Table 10-17.

County	Department	No. of Stations	Approximate Distance to Project Alternative^a (miles)
Kenedy	No fire stations identified		-
Kleberg	Kingsville Fire Department	3	39
	Riviera Fire Department	1	49
Nueces	Agua Dulce Fire Department	1	32
	Bishop Fire Department	1	33
	Corpus Christi Fire Department	23	2
	Robstown Fire Department	3	14
San Patricio	Aransas Fire Department	1	5
	Gregory Fire Department	1	2
	Ingleside Fire Department	3	<1 (~300 ft [100 m])
	Mathis Fire Department	1	28
	Sinton Fire Department	2	11
	Taft Fire Department	1	4
Aransas	Rockport Fire Department	3	13
Refugio	Austwell Fire Departments	1	40
	Bayside Fire Departments	1	11
	Refugio Fire Departments	2	24
	Tivoli Fire Departments	1	43
	Woodsboro Fire Departments	1	20
Calhoun	Port Lavaca Fire Department	4	60
	Port O'Connor Fire Department	1	62
	Seadrift Fire Department	1	47
	Thomaston Fire Department	1	61

Source: USA Cops 2019.

^a Approximate distance to closest point of Proposed Project Alternative to nearest mile.

Police

All seven counties within the Alternative Project's study area have a Sherriff's Department and all but Kenedy County have municipal PDs (see Table 10-18).

Table 10-18: Law Enforcement Locations within the Socioeconomic Study Area			
County	Department	Location	Approximate Distance to Project Alternative^a (miles)
Kenedy County	Kenedy County Sherriff's Office (SO)	175 Cuellar Avenue Sarita, TX 78385	52
Kleberg County	Kleberg County SO	1500 East King Avenue Kingsville, TX 78363	38
	Kingsville Police Department (PD)	1700 East King Avenue Kingsville, TX 78363	38
Nueces County	Nueces Co SO	901 Leopard Street Corpus Christi, TX 78401	8
	Aransas Pass PD	600 W Cleveland Aransas Pass, TX 78336	5
	Bishop PD	115 South Ash Avenue Bishop, TX 78343	33
	Corpus Christi City Marshals	120 North Chaparral Corpus Christi, TX 78401	8
	Corpus Christi PD	321 John Sartain Street Corpus Christi, TX 78401	8
	Driscoll PD	130 West Avenue D PO Box 178 Driscoll, TX 78351	27
	Nueces County Constable Corrections Department	10110 Compton Road Corpus Christi, TX 78418	9
	Port Aransas PD	705 West Avenue A Port Aransas, TX 78373	8
	Robstown PD	430 East Main Street PO Box 626 Robstown, TX 78380	18
San Patricio County	San Patricio Co SO	300 N Rachal PO Box 1382 Sinton, TX 78387	11
	Aransas Pass PD	600 West Cleveland Aransas Pass, TX 78336	5
	Gregory PD	206 West 4th Street PO Box 297 Gregory, TX 78359	1
	Ingleside PD	PO Drawer 910 2425 8th Street Ingleside, TX 78362	<1 [0.06 mi] (~300 ft)
	Mathis PD	214 North Nueces Mathis, TX 78368	28
	Portland PD	1902 Bill G Webb Portland, TX 78374	3
	Sinton PD	217 East Market Street Sinton, TX 78387	11
	Taft PD	501 Green Avenue Taft, TX 78390	4

County	Department	Location	Approximate Distance to Project Alternative^a (miles)
Aransas County	Aransas County SO	301 N Live Oak Street Rockport, TX 78382	13
	Rockport PD	714 E. Concho Street Rockport, TX 78382	13
Refugio County	Refugio Co SO	807 Osage Street Refugio, TX 78377	24
	Refugio PD	601 Commerce Street Refugio, TX 78377	24
	Woodsboro PD	121 Wood Avenue Woodsboro, TX 78393	20
Calhoun County	Calhoun Co SO	211 S. Ann Street Port Lavaca, TX 77979	60
	Calhoun Co Constable Precinct 2	201 W Austin Street Port Lavaca, TX 77979	60
	Point Comfort PD	108 Jones Street Point Comfort, TX 77978	67
	Port Lavaca PD	201 N Colorado Street Port Lavaca, TX 77979	61
	Seadrift PD	501 S Main Street Seadrift, TX 77983	47
Source: USA Cops 2019			
^a Approximate distance to closest point of Proposed Project Alternative to the nearest mile.			

Coast Guard

In the South Texas Coastal Bend, the USCG Sector Corpus Christi is responsible for enhancing the safety and security of the Maritime Transportation System, enforcing maritime boundaries, conducting search and rescue operations, ensuring the safety of the boating public and commercial interests, and protecting the environment. USCG presence within the study area for the Alternative Project is similar to Proposed Project and further discussed above.

EDUCATION FACILITIES

The Alternative Project Onshore Pipelines pass directly outside of Ingleside Primary School, approximately 350 ft from the school building, and cross the main entrance to the school on Achievement Boulevard (Figure 10-6). No other schools are within 1,000 ft (305 m) of the Alternative Project. See Table 10-8 in the discussion above for the Proposed Project.

Figure 10-6: Vicinity of Ingleside Primary School to the Alternative Project



10.3.1.1.4 LABOR FORCE AND EMPLOYMENT

A significant majority of the study area’s labor availability has a high school diploma and an average of 16.2 percent of the population within the study area over the age of 25 hold a college degree (Census 2019m). The majority of the work done within the study area occurs within Nueces County, likely in Corpus Christi and the immediate vicinity. Labor force and employment within the study area is further discussed above for the Proposed Project.

10.3.1.1.5 TAXES AND REVENUES

Taxes and revenues within the study area is further discussed above for the Proposed Project.

A confidential cash-flow model which analyzes the economic impact as a result of the construction and operation of the Proposed Project has been prepared and submitted by BWTT. Project Financial Documents have been provided by BWTT in Volume IV (Confidential).

10.3.1.1.6 ONSHORE / INSHORE INDUSTRY

AGRICULTURE

With the exception of the approximately first 6.0 mi (9.7 km) of Alternative Onshore Pipelines which is located in an urban area, the land use in the region of the Alternative Onshore Pipelines traverses a generally agricultural landscape within San Patricio County. The agricultural landscape of San Patricio County is discussed above for the Proposed Project.

RECREATION AND TOURISM

The recreation and tourism industry within the study area is discussed above for the Proposed Project.

Over the study area as a whole, in 2016, over 28,000 people were directly employed within the recreation and tourism industries (including arts, entertainment, and recreation, and accommodation and food services) (Census 2019d,e) (see Table 10-12). Additional information regarding recreational activities can be found in Section 12: Coastal Zone Uses, Recreation, and Aesthetics.

RENEWABLE ENERGY INDUSTRY

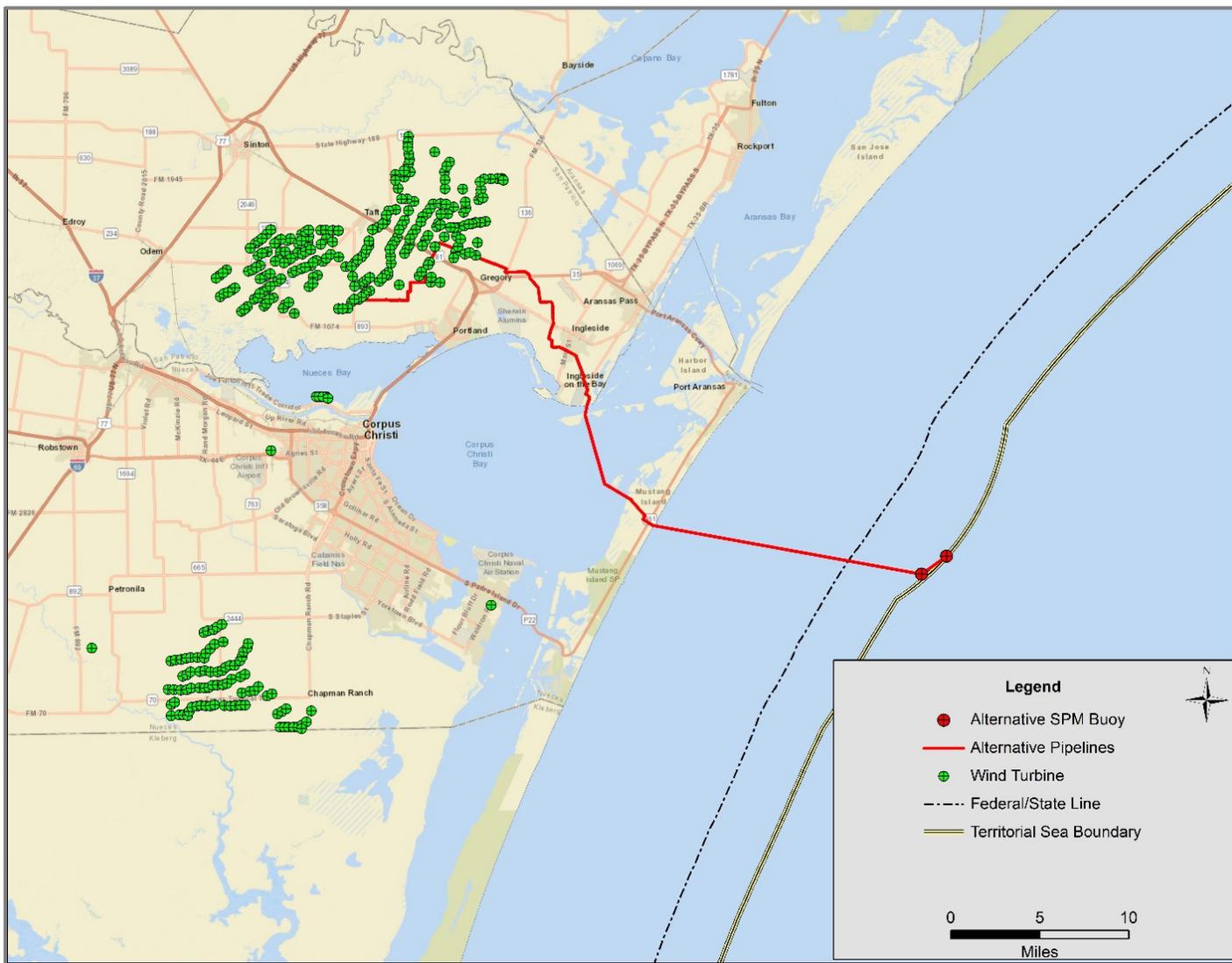
The Project area is home to significant renewable energy industry, and specifically wind farm infrastructure. Multiple wind turbines belonging to the Papalote Creek Wind Farm are present within the disturbed lands crossed by the western portion of the Alternative Onshore Pipelines, as shown in Figure 10-7.

MARITIME INDUSTRIES

The study area is home to many different maritime industries. The maritime industry is comprised of enterprises that engage in designing, manufacturing, operating, repairing, or supplying vessels and their component parts. It also includes managing and operating shipping lines, shipyards, dry docks, and marine railways. The Union Pacific Railroad has a direct line to the POCC that runs north to major metropolitan centers including San Antonio, Houston, and Dallas, and outside the state. This railroad access supports the maritime industry and port activities. Corpus Christi Bay shipping serves the petroleum, chemical, and agricultural industries. Information regarding marine zone use, including offshore oil and gas activity, Offshore Pipelines and other submerged infrastructure, and marine shipping and commercial ports, is provided and discussed in Section 12: Coastal Zone Use, Recreation and Aesthetics.

Figure 10-8 provides an overview of the maritime and energy industries within the study area and in relation to the Alternative Project.

Figure 10-7: Wind Turbines within the Immediate Vicinity of the Alternative Project



Sources: BOEM 2019; USFWS 2019; Google Earth 2019.

10.3.1.2 Offshore

10.3.1.2.1 OFFSHORE INDUSTRY

OIL AND GAS INDUSTRY

A primary industry within Texas and the Coastal Bend Region is centered on the production and transport of oil and gas, both onshore and offshore. Overall, the data suggests that there is potential for a suitable workforce to support the Alternative Project within the study area (Census 2019p) (see Table 10-13). Further discussion regarding the oil and gas industry is provided above for the Proposed Project.

The Railroad Commission of Texas database indicated that Alternative Project Offshore Pipelines cross two existing offshore pipelines (Figure 10-8). For discussion on offshore pipelines or other submerged infrastructure, please refer to Section 12: Coastal Zone Use, Recreation, and Aesthetics.

COMMERCIAL FISHING

Commercial fishing is any activity associated with taking or handling salt or freshwater aquatic products for pay, sale, or exchange. Due to its proximity to the GOM, the State of Texas and the counties which make up the study area are active in this industry. Almost all of the commercial fishing establishments in the study area are non-employer establishments, and most are likely self-employed fishermen, although some may be partnerships or incorporated businesses with no employees. The commercial fishing industry within the study area is further discussed above for the Proposed Project, and commercial fishing activity, including the catch data, species data, and trip data, is addressed in Section 12: Coastal Zone Uses, Recreation, and Aesthetics.

10.3.2 Alternative Project Construction Impacts

The Alternative Project would include installation of approximately 48.6 mi (78.2 km) of dual, 30-inch-diameter Onshore, Inshore, and Offshore Pipelines and two offshore SPM buoys that would be located in 88.5 to 89.5 ft (27.0 to 27.3 km) of water, within the EEZ.

A summary of key socioeconomic indicators associated with the Alternative Project and utilized to undertake this assessment are presented in Table 10-19. The key socioeconomic indicators detailed in Table 10-19 are the same for the Alternative Project as they are for the Proposed Project, with the exception of construction and decommissioning duration, and consequently, total payroll for construction and decommissioning.

Period	Attribute Category	Attribute
Construction	Duration	24 months
	Average Monthly Workforce	200 workers
	Peak Workforce	350 workers
	Average Duration of Worker Employment	22 months
	Worker Origin	100 percent regional hire from Texas
	Worker Cycle	60 hr/week
	Average Annual Salary	\$140k/year
	Total Payroll	\$56 million
Operation	Duration	50 years
	Average Monthly Workforce	14 workers
	Peak Workforce	52 workers
	Average Duration of Worker Employment	480 months
	Worker Origin	100 percent regional hire from Texas
	Worker Cycle	Shift
	Average Annual Salary	\$112k/year
	Total Payroll	\$1.6 million/year
Decommissioning	Duration	6 months
	Average Monthly Workforce	85 workers
	Peak Workforce	85 workers
	Average Duration of Worker Employment	150 days (or 5 months)
	Worker Origin	80 percent regional hire from Texas / 20 percent non-local
	Worker Cycle	28 days on / 7 days off
	Average Annual Salary	\$42,000
	Total Payroll	\$1.8 million

10.3.2.1 Population

Potential impacts to population within the study area are anticipated to be the same for the Alternative Project as they are for the Proposed Project as discussed in Section 10.2.3.1, although would occur over a slightly longer construction period (6 additional months). Overall, the Alternative Project is anticipated to have a negligible impact to the population during installation and commissioning phases.

10.3.2.2 Accommodation

Potential impacts to housing availability within the study area are anticipated to be the same for the Alternative Project as they are for the Proposed Project as discussed in Section 10.2.3.2, although would occur over a slightly longer construction period (6 additional months). Overall, impacts to housing availability as a result of the construction phase of the Alternative Project are anticipated to be temporary and negligible.

10.3.2.3 Public Services

The Alternative Project could potentially impact local public services if the workforce and/or families exceeded providers' capacity.

10.3.2.3.1 MEDICAL SERVICES

The closest hospital with an accident and emergency facility to the onshore elements of the Alternative Project is the Northshore Emergency Center, 3.0 mi (4.8 km) from the Onshore Pipelines located in Portland, and Care Regional Medical Center, which is in Aransas Pass, 4.0 mi (6.4 km) east of the Onshore Pipelines.

Potential impacts to medical services and resources within the study area are anticipated to be the same for the Alternative Project as they are for the Proposed Project as discussed in Section 10.2.3.3 but would occur over a longer period. Overall, impacts to medical service availability as a result of the construction phase of the Alternative Project are anticipated to be temporary and negligible.

10.3.2.3.2 SAFETY AND EMERGENCY RESPONSE

Potential impacts to safety and emergency response services and resources within the study area are anticipated to be the same for the Alternative Project as they are for the Proposed Project as discussed in Section 10.2.3.3 but would occur over a longer period. Overall, the impact that the construction phase of the Alternative Project is anticipated to have on the emergency response capacity is considered to be negligible.

10.3.2.3.3 EDUCATION FACILITIES

During construction, the average term of employment during the Alternative Project construction phase is anticipated to be 24 months. As discussed above, most Alternative Project employees would be hired from within Texas, and many from within the study area, as such few-to-no additional school-age children are expected to move to the study area during the construction phase. Consequently, impacts on the public-school systems within the study area during the 24-month construction phase for the Alternative Project are anticipated to be negligible. While significant impacts to education facilities are not anticipated during Alternative Project construction as a result of population influx, the Alternative Project does hold the potential to impact one school within the study area as a direct result of construction activities.

During the construction phase of the Alternative Project, the Alternative Onshore Pipelines pass directly outside of Ingleside Primary School, approximately 350 ft from the school building, crossing the school's main entrance which could result in an adverse impact to the school's access during construction. Temporary construction impacts could include increased levels of noise and dust, disturbance or removal of lawns, trees, landscaped shrubs, or similar vegetation. Such impacts would be mitigated through landowner notification of approximate timelines of active construction, maintaining property access, mitigation of noise and dust, and installation of safety fencing around any open trench. However, due to the sensitivity of the resource, a primary school, some residual impact is likely to remain.

Overall, Alternative Project would result in minor, temporary adverse impacts to the availability of education facilities within the study area during construction.

The potential for upsets and accidents as well as measures intended to maintain safety and security are addressed in Section 14: Navigation, Safety, and Security.

10.3.2.4 Labor Force and Employment

Because the oil and gas and maritime industries are prevalent in the area, and due to the recent downturn in the energy industry, it is anticipated that a large portion of the workers needed for construction and commissioning would come from within the study area, and all workers are expected to be from Texas.

With the Alternative Project aiming to hire the Project workforce from within the state, it is likely that some of the hires would be from one of the seven counties which make up the study area. The introduction of new work opportunities within the Project area would be beneficial for the local economies, especially for the counties that have unemployment rates higher than the state average.

Work opportunities during construction would be relatively high-paying, with an average wage of approximately \$11,667 per month (\$140,000 p/a) for a salaried employee, when compared to the median household income within the study area (\$46,697 p/a for 2017 [Census 2019o]). However, the duration of the construction phase of the Alternative Project would be temporary, lasting approximately 24 months, with the average worker's duration of employment lasting 22 months.

Overall the construction phase of the Alternative Project is anticipated to result in similar impacts on labor force and employment within the study area as the Proposed Project, however these impacts would occur over a longer period (6 more months).

10.3.2.5 Taxes and Revenues

As part of the financial requirements for the issuance of a DWPL, BWTT has prepared and submitted a confidential cash-flow model which analyzes the economic impact as a result of the construction and operation of the Alternative Project (refer to Volume IV {Confidential}). Based on the results of the cash-flow modeling, the construction and operation of the Alternative Project is anticipated to result in beneficial impact to, and support the continued growth of, both U.S. and local economies.

10.3.2.6 Industry

10.3.2.6.1 AGRICULTURE

Potential impacts to agriculture within the study area are anticipated to be the same for the Alternative Project as they are for the Proposed Project as discussed in Section 10.2.3.6.

While construction of the Alternative Onshore Pipelines would result in permanent land take for the footprint of the Onshore Pipelines, the majority of the Onshore Pipelines route is located parallel to existing disturbances, including roadways and other pipeline ROWs. In addition, BWTT would coordinate with existing land and ROW holders prior to construction to further reduce impact to existing ROWs. Should there be any adverse impact to agricultural land as a result of the Onshore Pipelines it can be assumed that such impact would be minimum and would not result in an impact to the agricultural industry within the study area. As such, no impact to the agricultural industry is anticipated as a result of the Alternative Project.

10.3.2.6.2 RECREATION AND TOURISM

Impacts to recreation and tourism resources are discussed in Section 12: Coastal Zone Uses, Recreation, and Aesthetics.

The Alternative Onshore Pipeline ROW is located approximately 0.3 mi (approximately 200 ft) east of Live Oak Park, a city park, approximately 90 ac in size, and the Alternative Inshore Pipeline on Mustang Island is located 2.0 mi southwest of Mustang Island State Park. The Alternative Project ROW would not require any direct land take from public parks, however the close proximity of the Alternative Onshore Pipeline ROW to Live Oak Park would result in impacts such as dust due to soil movement, artificial light from construction machinery, and increased levels of noise in the vicinity of active construction, which could create an annoyance for local recreational users and wildlife within the park. Construction is expected to move along the pipeline route, such that any single area experiences only a short duration of construction noise, light and dust impacts, and best practice measures would be used to minimize noise, light and dust impacts (as described in Section 13: Meteorology, Air Quality, and Noise).

Where the Alternative Project would traverse beaches or open water areas where recreational boating and fishing could occur, the Alternative Project would use a combination of HDD and open-cut methods. Recreational users of beaches within the immediate vicinity of the Alternative Project may experience disturbance due to artificial light from construction machinery and increased levels of noise in the vicinity of active construction. However impacts would be short-term and temporary and the availability of alternate recreational beach space within the immediate vicinity, but removed from the Alternative Project construction ROW, such as those within Mustang Island State

Park, could allow impacts to recreational beach goers to be minimized. Impacts on nearshore recreational boaters and fishermen could include changes in the viewshed due to the presence of construction activities and associated noise. Given the amount of boating and fishing opportunities in the near waters in the vicinity of the Alternative Project, boaters and fishermen could opt to recreate in nearby areas unaffected by construction.

From an economic point of view, the timing of the construction phase of the Alternative Project would be important. In addition to other mitigating measures (such as site selection, the use of HDD where possible, BMPs, etc., as discussed in Section 12: Coastal Zone Use, Recreation, and Aesthetics), the avoidance of construction during key public events and peak recreational times (such as public holidays) would help reduce adverse impacts on the local recreation and tourism economy. As the Alternative Project would be constructed by an open-cut method across the Corpus Christi Bay, some impacts to recreational fishermen and boaters within this area would remain.

While recreation and tourism in the immediate vicinity of the Alternative Project is likely to experience adverse impacts during the Alternative Project construction phase, it is not anticipated that significant adverse impacts would be experienced throughout the recreation and tourism economy of the study area.

With all planned mitigation measures in place, the recreation and tourism economy of the study area is anticipated to experience a temporary minor adverse impact during the Project construction phase. While still considered minor, impacts to the recreation and tourism industry from the Alternative Project would be of slightly higher significance than those anticipated by the Proposed Project, with the recreation and tourism industry experiencing greater impacts and over a longer (6 months longer) period of time.

10.3.2.6.3 OIL AND GAS INDUSTRY

Assessment indicates that there are no federal lease blocks with active leases traversed by the Alternative SPM buoys locations, however, the Alternative Offshore Pipelines traverse one active lease (Block 885) and the Alternative Inshore Pipelines traverse another active lease (Block 436). During construction the Alternative Project would hold the potential to impact oil and gas uses within the immediate vicinity of the Project by presenting an encumbrance to industry vessels that could otherwise access the safety zones to explore or drill from the surface of the water above the OCS. To help minimize potential adverse impacts, BWTT would undertake consultation with the lease holders of the blocks traversed by the Alternative Project to share information on proposed construction schedule and to further understand current activity within the leased blocks. Any new oil/gas exploration that would be proposed during installation of the Alternative Project would be aware of all activity, obstacles, and obstructions within their area of interest. As such, no impact is anticipated to offshore oil and gas activities as a result of the Alternative Project construction.

While the Alternative Project may result in a minor adverse impact to oil and gas exploration or operation of platforms within the active lease blocks impeded during the 24-month construction period, the overall effects on the offshore the oil and gas industry within the study area would be negligible.

10.3.2.6.4 RENEWABLE ENERGY INDUSTRY

No renewable energy infrastructure is located in proximity to the Offshore Components of the Alternative Project.

Potential impacts to the renewable energy industry within the study area are anticipated to be the same for the Alternative Project as they are for the Proposed Project as discussed in Section 10.2.3.6. While construction of the Alternative Onshore Pipelines would result in a temporary impact on access to and maintenance of wind turbines, no permanent impact to any individual wind turbine is anticipated as a result of the Alternative Project. In addition, no impact is anticipated to the renewable energy industry within the study area.

10.3.2.6.5 COMMERCIAL FISHING

The Alternative Offshore Pipelines traverse a major shipping fairway. During the installation of these pipelines, temporary safety zones would be established. The temporary safety zones would force vessels that would otherwise

transit through the offshore vicinity to navigate around the safety zones, increasing the time that it would take them to move through the area and reach their destination and limit fishing to outside of this area. Given the sufficient fishing habitat available in the unrestricted areas adjacent to the Alternative Project, and because harvest levels are typically set below estimated abundances, no impact to actual harvest levels and commercial fishing in the vicinity of Alternative Project are anticipated.

The Alternative Project's potential impact on commercial fishing activities is further discussed in Section 7: Commercial and Recreational Fisheries, and Section 12: Coastal Zone Use, Recreation, and Aesthetics.

10.3.2.6.6 MARITIME INDUSTRIES

As described in Appendix A, the Alternative Inshore Pipelines would be constructed across the Corpus Christi Bay using trench methods. Trench pipeline crossing methods involve direct excavation of the Alternative Inshore Pipeline ROW from the banks and bed of the Corpus Christi Bay. Corpus Christi Bay is an active area for shipping serving the petroleum, chemical, and agricultural industries. Due to the construction and required safety zone, adverse impacts on the movement of vessels within Corpus Christi Bay would be anticipated. With mitigation, such as stakeholder engagement and aids to navigation system, in place, construction activities within Corpus Christi Bay are expected to have a minor effect to maritime industries.

As discussed in Section 12: Coastal Zone Uses, Recreation, and Aesthetics, the Alternative Offshore Pipelines traverse a major shipping fairway and is likely to cause some delays in vessel traffic. During the installation of these pipelines, temporary safety zones would be established. The temporary safety zones would force vessels that would otherwise transit through the offshore vicinity to navigate around the safety zones, increasing the time that it would take them to move through the area and reach their destination. The temporary safety zones for the Alternative Offshore Pipelines would be in effect for approximately 24 months. Any vessels that would have utilized the areas that would be off-limits due to safety zones, could use other nearby established fairways or move around that area. Similar to the Proposed Project, the BWTT would mitigate impacts on vessel traffic through stakeholder engagement and use of aids to navigation system. As such, construction of the Alternative Offshore Pipelines would result in minor impacts in the form of delays to offshore maritime industries.

10.3.2.7 Upsets and Accidents

Upsets and accidents during construction of the Alternative Project may cause temporary negligible impacts on the socioeconomic environment. While the SPM buoy locations would be 15.4 mi (24.8 km) or more offshore, widely separated from surrounding offshore infrastructure, the Alternative Pipelines (Onshore, Inshore, and the origin of the Offshore Pipelines) are in close proximity to sensitive socioeconomic resources. The Alternative Onshore Pipeline ROW passes within 200 ft (60 m) of residential areas and directly crosses the main entrance to Ingleside Primary School on Achievement Boulevard, and the Alternative Inshore Pipelines ROW crosses Mustang Island in an area of residential and vacation homes, in proximity to the origin of the Alternative Offshore Pipelines.

The potential for upsets and accidents as well as measures intended to maintain safety and security are addressed in Section 14: Navigation, Safety, and Security.

10.3.3 Alternative Project Operation Impacts

10.3.3.1 Population

Potential impacts to population within the study area during Alternative Project operation are anticipated to be the same for the Alternative Project as they are for the Proposed Project as discussed in Section 10.2.4.1. Overall, the Alternative Project is anticipated to have a negligible impact to the population during installation and commissioning phases.

10.3.3.2 Accommodation

Potential impacts to accommodations within the study area during operation are anticipated to be the same for the Alternative Project as they are for the Proposed Project as discussed in Section 10.2.4.2. Overall, impacts to housing availability as a result of the construction phase of the Alternative Project are anticipated to be temporary and negligible.

10.3.3.3 Public Services

As with the Proposed Project, during the operational phase of the Alternative Project, the need for, and burden upon, local public services such as medical, fire, police, and educational facilities, is anticipated to be less than that during the construction phase given the smaller operational workforce. Also, the operational workforce would be undertaking routine activities rather than higher risk construction activities. As a result of this, impacts to public services during the operational phase of the Alternative Project are anticipated to be negligible.

Should there be any required Alternative Onshore Pipelines maintenance in the vicinity of Ingleside Primary School, BWTT would coordinate with existing land and ROW holders and the school prior to maintenance work. The potential for upsets and accidents as well as measures intended to maintain safety and security are addressed in Section 14: Navigation, Safety, and Security.

10.3.3.4 Labor Force and Employment

Potential impacts to labor force and employment within the study area during Alternative Project operation are anticipated to be the same for the Alternative Project as they are for the Proposed Project as discussed in Section 10.2.4.4. Overall the operational phase of the Alternative Project is anticipated to result in a beneficial impact of minor to negligible significance on labor force and employment within the study area.

10.3.3.5 Taxes and Revenues

As part of the financial requirements for the issuance of a DWPL, BWTT has prepared and submitted a confidential cash-flow model which analyzes the economic impact as a result of the construction and operation of the Proposed Project. Based on the results of the cash-flow modeling, the construction and operation of the Alternative Project is anticipated to result in beneficial impact to, and support the continued growth of, both U.S. and local economies.

10.3.3.6 Industry

10.3.3.6.1 AGRICULTURE

Potential impacts to agriculture within the study area during Alternative Project operation are anticipated to be similar to the impacts discussed above for the Proposed Project (Section 10.2.4.6). Overall no impact is anticipated to any specific area of agricultural land nor to the agricultural industry within the study area as a result of the Alternative Project operation.

Should there be any required Alternative Onshore Pipelines maintenance, BWTT would coordinate with existing land and ROW holders prior to performance of maintenance. The potential for upsets and accidents as well as measures intended to maintain safety and security are addressed in Section 14: Navigation, Safety, and Security.

10.3.3.6.2 RECREATION AND TOURISM

Once operational, the Alternative Project is not anticipated to disrupt ongoing recreational activities in the study area. Although the 3,609-ft (1,100-m) radius safety zone around the SPM buoy systems would be unavailable for recreational fishing, as noted above, this area is not unique or specifically productive compared to the abundant similar resource in the study area. As discussed in Section 12: Coastal Zone Uses, Recreation, and Aesthetics, overall impact to recreational activities in the study area is anticipated to be negligible, thus related economic impacts would also be negligible.

10.3.3.6.3 OIL AND GAS INDUSTRY

EXPLORATION OR OPERATION OF PLATFORMS AND WELLS

Assessment indicates that there are no federal lease blocks with active leases traversed by the Alternative SPM buoys locations, however, the Alternative Offshore Pipelines traverse one active lease (Block 885) and the Alternative Inshore Pipelines traverse another active lease (Block 436). The Alternative Project has the potential to impact oil and gas uses within the immediate vicinity of the Project by presenting an encumbrance to industry vessels that could otherwise access the safety zones to explore or drill from the surface of the water above the OCS. However, the OCS lease blocks adjacent would still be available for leasing and could be accessed by horizontal drilling or other technology. Overall, while the Alternative Project may result in a minor adverse impact to oil and gas exploration or operation of platforms within the active lease blocks crossed by the Alternative Project, the effects of operation of the Alternative Project on offshore the oil and gas industry within the study area would be negligible.

GLOBAL AND DOMESTIC CRUDE OIL MARKET

Based on a review of crude oil production in the U.S., as discussed in Section 1: Project Purpose and Need, the end of the Crude Oil Export Ban has allowed U.S. producers to market internationally for the export of crude oil. Advances in technologies have resulted in a surge of crude oil production within the U.S. Production of crude oil in the U.S. has surpassed processing and storage capacities of existing U.S. refineries, and forecasts indicate an approximate 4,000,000 bpd increase of U.S. crude oil production of which 75 percent would be from the Permian and Eagle Ford Shales located in southwest Texas. As such, there is a growing need for the efficient export of crude oil from the U.S. to support current and forecasted crude oil production. No negative impact is anticipated to offshore oil and gas activities as a result of the Alternative Project operation, and overall, the Alternative Project is anticipated to have a beneficial effect on the global and domestic crude oil market by fulfilling the need for a safe, efficient, and cost-effective outlet for abundant supplies of domestic crude oil from existing and future oil fields located in North America.

10.3.3.6.4 RENEWABLE ENERGY INDUSTRY

Potential impacts to the renewable energy industry within the study area during Alternative Project operation are anticipated to be the same for the Alternative Project as they are for the Proposed Project as discussed in Section 10.2.4.6. Overall, no impact is anticipated to any specific windfarm, wind turbine, or the renewable energy industry within the study area as a result of the Alternative Project operation.

Should there be any required Alternative Onshore Pipelines maintenance, BWTT would coordinate with existing land and ROW holders prior to performing maintenance. The potential for upsets and accidents as well as measures intended to maintain safety and security are addressed in Section 14: Navigation, Safety, and Security.

10.3.3.6.5 COMMERCIAL FISHING

During operation, a 3,609-ft (1,100-m) radius safety zone would be established around each of the Alternative Project SPM buoys. Activities such as commercial fishing or vessel transits would not be permitted within the safety zones, except for the very large crude carriers (VLCC) serving the Deepwater Port (DWP). This restricted area could have a negative, long-term impact on fishing opportunities by causing certain commercial fishermen to expend extra effort to maintain current harvest levels. However, given the location of the SPM buoy systems is considered to be a low vessel traffic area and the amount of unrestricted fishing area available in the vicinity of the Project, offshore of Texas, and the GOM overall, the no-fishing zone associated with the SPM buoy systems would result in, permanent but negligible impacts in commercial fishing activities. Further, the habitat within the restricted area is not unique or specifically productive for commercial fishing.

Once installation is complete, the Alternative Offshore and Inshore Pipelines would be buried and as such would not impede commercial fishing activities. Further, operation of pipelines is not expected to impact fishery resource population-levels (see Section 7: Commercial and Recreational Fisheries, and Section 12: Coastal Zone Use,

Recreation, and Aesthetics). Overall, negative effects on commercial fishing from operation of the Alternative Project would be negligible.

10.3.3.6.6 MARITIME INDUSTRIES

Typically, commercial vessels use the established fairway located to the south of the Alternative SPM buoy systems. During operation, a 3,609-ft (1,100-m) radius safety zone would be established around the Alternative SPM buoy systems. Any vessels that would otherwise transit through the Alternative Project vicinity would be forced to navigate around the safety zones, increasing the time that it would take them to move through the area and reach their destination. Any vessels that would have utilized the areas that would be off-limits due to safety zones, could use established fairways or move around that area.

Once installation is complete, the Alternative Offshore and Inshore Pipelines would be buried and as such would not impede vessel traffic in the vicinity of the Alternative Project.

Overall, operation of the Alternative Project at full buildout is anticipated to result in a negligible impact on marine shipping and commercial port activity.

10.3.3.7 Upsets and Accidents

The potential for upsets and accidents during operation of the Alternative Project would generally be similar to those described above for the Proposed Project. However, the Alternative Inshore and Onshore Pipelines are in closer proximity to populated areas, as compared to the Proposed Project. Specifically, the Alternative Inshore Pipelines cross Mustang Island in an area of residential and vacation homes, and the Onshore Pipelines proximity to residential areas (within 200 ft [60 m]), as well as its crossing of the main entrance way to Ingleside Primary School on Achievement Boulevard.

The potential for upsets and accidents as well as measures intended to maintain safety and security are addressed in Section 14: Navigation, Safety, and Security.

10.3.4 Alternative Project Decommissioning Impacts

At the end of its useful life (50 years), all components associated with the Alternative Project would be disassembled and brought to shore. At this time, it is anticipated that the decommissioning process would take approximately 6 months, employ approximately 85 workers with an average employment duration of 150 days, and the workforce would be comprised primarily of individuals from within the region (approximately 80 percent). The work cycle is anticipated to be 28 days on, 7 days off with an average annual salary of approximately \$42,000, which is within the range of mean household incomes for the five counties. Total payroll for the decommissioning process is expected to be just under \$1.8 million.

Impacts to socioeconomics within the study area would be dependent upon the decommissioning plan and any changes in the socioeconomic environment at that time, however, with a full removal of all Project Components associated with the Alternative Project, impacts to socioeconomics are likely to be similar to those described for the Alternative Project construction. This would be especially true if the decommissioning plan would include the removal of all Pipelines and/or if the sensitivity of the Socioeconomic Study Area increases.

10.3.5 Summary of Alternative Project Impacts

The Alternative Project is anticipated to result in similar impacts to the socioeconomic environment, with the exception of minor potential impacts to education facilities, recreation and tourism, exploration or operation of platforms and wells, and the local maritime industry.

10.3.5.1 Alternative Project Construction Impacts

Potential impacts to population within the study area are anticipated to be the same for the Alternative Project as they are for the Proposed Project, although would occur over a slightly longer construction period (6 additional months). The Alternative Project is anticipated to have a negligible and temporary impact to the population during construction given that the Alternative Project proposes to employ a limited number of workers (average of 200 workers per month) during the 24-month construction period, and that of those employed, approximately 100 percent would be employed from within the State of Texas, minimizing the number of workers that are expected to emigrate to the study area. An influx of migrant workers into an area can also have an adverse impact to the availability of local housing; however, the study area has sufficient temporary accommodations available and impacts on these accommodations are anticipated to be temporary and negligible.

With regards to public services, the Alternative Project could potentially impact local public services if the workforce and/or families exceeded local providers' capacity. However, given the small number of workers expected to relocate to the study area during construction, impacts on community and public services due to introduction of Alternative Project workforce in the local area, including medical services and safety and emergency response facilities, is anticipated to be negligible. Education services, however, could be impacted by construction activities associated with the Alternative Project. During the construction phase of the Alternative Project, the Alternative Onshore Pipelines pass directly outside of Ingleside Primary School, approximately 350 ft from the school building, crossing the school's main entrance which could result in an adverse impact to the school's access during construction. Temporary construction impacts could include increased levels of noise and dust, disturbance or removal of lawns, trees, landscaped shrubs, or similar vegetation. Such impacts would be mitigated through landowner notification of approximate timelines of active construction, maintaining property access, mitigation of noise and dust, and installation of safety fencing around any open trench. However, due to the sensitivity of the resource, a primary school, some residual impact is likely to remain. Overall, the Alternative Project would result in minor, temporary adverse impacts to the availability of education facilities within the study area during construction.

New jobs created for construction would be relatively high-paying, but would be restricted to the 24-month period of construction. Overall the construction phase of the Alternative Project is anticipated to result in a beneficial impact of negligible to minor significance on labor force and employment within the study area. Based on the results of the cash-flow modeling, construction of the Alternative Project is anticipated to result in beneficial impact to, and support the continued growth of, both U.S. and local economies.

While construction of the Alternative Onshore Pipelines would result in permanent land take for the footprint of the pipelines, the majority of the Alternative Pipelines route is located parallel to existing disturbances, including roadways and other pipeline ROWs. Should there be any adverse impact to agricultural land as a result of the Alternative Onshore Pipelines, it can be assumed that such impact would be minimal and would not result in an impact to the agricultural industry within the study area. As such, no impact to the agricultural industry is anticipated as a result of the Alternative Project.

Recreation and tourism in the immediate vicinity of the Alternative Project are likely to experience adverse impacts during construction, such as changes in viewshed for nearshore recreational boaters and fishermen, and construction noise, dust, and light impacts experienced by local park and beach users, which could result in a decrease in the number of recreational users and tourists utilizing the area in the immediate vicinity of the Alternative Project. With all planned mitigation measures in place, such as use of BMPs for dust, noise, and light emissions, and the avoidance of construction during key public events and peak recreational times (such as public holidays), the recreation and tourism economy of the study area is anticipated to experience a temporary minor adverse impact during the Alternative Project construction phase. As the Alternative Project would be constructed by an open-cut method across the Corpus Christi Bay, some impacts to recreational fishermen and boaters within this area would remain. While still considered minor, impacts to the recreation and tourism industry from the

Alternative Project would be of slightly higher significance than those anticipated by the Proposed Project, with the recreation and tourism industry experiencing greater impacts and over a longer (6 months longer) period of time.

The Alternative Inshore and Offshore Pipelines do cross federal lease blocks with active leases, as such a minor adverse impact to oil and gas exploration or operation of platforms within the active lease blocks impeded during the 24-month construction period could occur. However, the overall effects on the offshore oil and gas industry within the study area would be negligible. No renewable energy infrastructure is located in proximity to the Offshore Components of the Alternative Project and therefore no direct impacts on this infrastructure would occur. However, construction of the Alternative Onshore Pipelines would result in a temporary impact on access to, and possibly maintenance of, wind turbines, no permanent impact to any individual wind turbine is anticipated as a result of the Alternative Project. In addition, no impact is anticipated to the renewable energy industry within the study area.

The Alternative Offshore Pipelines traverses a major shipping fairway. During the installation of these pipelines, temporary safety zones would be established. The temporary safety zones would force vessels that would otherwise transit through the offshore vicinity to navigate around the safety zones, increasing the time that it would take them to move through the area and reach their destination. With mitigation, such as stakeholder engagement and use of aids to navigation system, in place, the construction of the Alternative Offshore Pipelines is anticipated to result in minor impacts in the form of delays to offshore maritime industries. Given the sufficient fishing habitat available in the unrestricted areas adjacent to the Alternative Project, and because harvest levels are typically set below estimated abundances, no impact to actual harvest levels and commercial fishing in the vicinity of Alternative Project are anticipated. The Alternative Inshore Pipelines would be constructed across the Corpus Christi Bay using trench methods. Trench pipeline crossing methods involve direct excavation of the Alternative Inshore Pipeline ROW from the banks and bed of the Corpus Christi Bay. Corpus Christi Bay is an active area for shipping serving the petroleum, chemical, and agricultural industries. Due to the construction and required safety zone, adverse impacts on the movement of vessels within Corpus Christi Bay would be anticipated. With mitigation, such as stakeholder engagement and aids to navigation system, in place, construction activities within Corpus Christi Bay are expected to have a minor effect to maritime industries.

While the Alternative Project SPM buoy locations would be 15.4 mi (24.8 km) or more offshore, widely separated from surrounding offshore infrastructure, the Alternative Pipelines (Onshore, Inshore, and the origin of the Offshore Pipelines) are in close proximity to sensitive socioeconomic resources. The Alternative Onshore Pipeline ROW passes within 200 ft (60 m) of residential areas and directly crosses the main entrance to Ingleside Primary School on Achievement Boulevard, and the Alternative Inshore Pipelines ROW crosses Mustang Island in an area of residential and vacation homes, in proximity to the origin of the Alternative Offshore Pipelines. The potential for upsets and accidents as well as measures intended to maintain safety and security are addressed in Section 14: Navigation, Safety and Security.

10.3.5.2 Alternative Project Operation Impacts

During operation of the Alternative Project, BWTT anticipates employing an average monthly workforce of 14 employees, with varying day staff or shift workers, with a peak workforce of 52 workers. Overall, the Alternative Project is anticipated to have a negligible impact to population, local housing, public services, and labor force and employment during Project operation.

As part of the financial requirements for the issuance of a DWPL, BWTT has prepared and submitted a confidential cash-flow model which analyzes the economic impact as a result of the construction and operation of the Alternative Project. Based on the results of the cash-flow modeling, the construction and operation of the Alternative Project is anticipated to result in beneficial impact to, and support the continued growth of, both U.S. and local economies.

On completion of the Onshore Pipelines construction, the Onshore Pipelines ROW would be seeded with a native grass mixture or with some other suitable reclamation mixture approved by the landowner and would be returned

to a vegetated state. As such, no impact is anticipated to any specific area of agricultural land nor to the agricultural industry within the study area as a result of the Alternative Project's operation. Similarly, operations of the Onshore and Inshore Pipelines would have no impacts on other industries, such as the renewable energy industry, as they would be buried with minimal, if any, vegetative maintenance needed during operations. There are no wind farms within the vicinity of the offshore elements of the Project and as such no impact to the offshore renewable energy industry.

Once operational, the Project is not anticipated to disrupt ongoing recreational activities in the study area. Overall impact to recreational activities in the study area is anticipated to be negligible, thus related economic impacts would also be negligible.

Assessment indicates that there are no federal lease blocks with active leases traversed by the Alternative SPM buoys locations; however, the Alternative Offshore Pipelines traverse one active lease (Block 885) and the Alternative Inshore Pipelines traverse another active lease (Block 436). The Alternative Project has the potential to impact oil and gas uses within the immediate vicinity of the Project by presenting an encumbrance to industry vessels that could otherwise access the safety zones to explore or drill from the surface of the water above the OCS. However, the OCS lease blocks adjacent would still be available for leasing and could be accessed by horizontal drilling or other technology. Overall, while the Alternative Project may result in a minor adverse impact to oil and gas exploration or operation of platforms within the active lease blocks crossed by the Alternative Project, the effects of operation of the Alternative Project on offshore the oil and gas industry within the study area would be negligible.

The Alternative Inshore and Offshore Pipelines do cross federal lease blocks with active leases, as such a minor adverse impact to oil and gas exploration or operation of platforms within the active lease blocks impeded during the 24-month construction period could occur. However, the overall effects on the offshore oil and gas industry within the study area would be negligible. The Alternative Offshore Pipelines traverse a major shipping fairway and it is likely to cause some delays in vessel traffic. With mitigation, such as stakeholder engagement and use of aids to navigation system, in place, the construction of the Alternative Offshore Pipelines is anticipated to result in minor impacts in the form of delays to offshore maritime industries.

During operation, a 3,609-ft (1,100-m) radius safety zone would be established around each of the SPM buoys. However, given that the location of the SPM buoys are considered to be a low vessel traffic area and the amount of unrestricted fishing area available in the vicinity of the Project, offshore of Texas, and the Gulf overall, the no-fishing zone associated with the SPM buoy systems would result in negligible, but permanent, impacts in commercial fishing activities. Similarly, the safety zone would result in permanent but negligible impacts on maritime shipping and commercial port activity as vessels would use the established fairway to the south of the SPM buoy systems. Once installation is complete, the Alternative Offshore and Inshore Pipelines would be buried and as such would not impede commercial fishing activities.

Project upsets and accidents during operation, while not anticipated, could cause temporary negligible impacts on the socioeconomic environment. The majority of the route for the Alternative Inshore Pipelines does not occur in immediate proximity to populated areas, and the SPM buoys would be 15.4 mi (24.8 km) or more offshore, widely separated from surrounding offshore infrastructure.

10.3.5.3 Alternative Project Decommissioning Impacts

At the end of its useful life (50 years), all components associated with the Project would be disassembled and brought to shore. It is anticipated that the decommissioning process would take approximately 6 months, employ approximately 85 workers, and be comprised primarily of individuals from within the region (approximately 80 percent). The work cycle is anticipated to be 28 days on, 7 days off with an average annual salary of approximately \$42,000, which is within the average range for the five counties. Total payroll for the decommissioning process is expected to be approximately \$1.8 million.

Impacts to socioeconomics are likely to be similar to those describe for the Project construction.

10.4 Environmental Justice

Environmental justice (EJ) refers to a federal policy established by E.O. 12898 (59 FR 7629) under which each federal agency identifies and addresses, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority or low-income populations. The USEPA and the CEQ emphasize the importance of incorporating EJ reviews in analyses triggered by NEPA and other federal agency reviews. The CEQ developed the guidance document, “Environmental Justice: Guidance Under the National Environmental Policy Act” (1997), followed by the USEPA’s “Final Guidance for Incorporating Environmental Justice Concerns in USEPA’s NEPA Compliance Analyses” (1998), to help federal agencies identify EJ communities and address potential impacts. According to these guidance documents, the basic components of an EJ assessment include:

- A demographic assessment of the affected community to identify minority and/or low-income populations that may be present;
- An assessment of all potential impacts of the Project to determine whether any would result in a significant adverse impact on the affected environment; and
- An integrated assessment to determine whether any high and adverse impacts would disproportionately affect minority and low-income groups present in the study area.

According to the guidance documents for EJ analyses, a low-income population should be identified in an affected area when the percentage with incomes below the poverty level either exceeds 50 percent or is meaningfully greater than in the general population of the larger surrounding area (CEQ 1997; USEPA 1998). In addition, a minority population should be identified when the percentage of minorities in an affected area either exceeds 50 percent or is meaningfully greater than in the general population of the larger surrounding area (CEQ 1997; USEPA 1998). For the purposes of EJ analyses, minority groups may be African American, American Indian, Asian American, Pacific Islander, some other race, two or more races, or ethnically Hispanic. Table 10-20 provides the racial and ethnic percentages in the study area, and Table 10-21 provides percentage of persons with incomes below the poverty line.

Table 10-20: Population Distribution by Race (2013 - 2017)

Race	State of Texas	Kenedy County	Kleberg County	Nueces County	San Patricio County	Aransas County	Refugio County	Calhoun County
White Alone	74.60 %	95.90 %	87.50 %	88.70 %	92.30 %	87.80 %	79.60 %	86.60 %
Black or African American Alone	12.00 %	0.00 %	3.80 %	3.80 %	1.70 %	1.60 %	5.30 %	2.70 %
American Indian and Alaska Native Alone	0.50 %	0.00 %	0.40 %	0.50 %	0.30 %	0.40 %	0.20 %	0.10 %
Asian Alone	4.50 %	0.20 %	2.00 %	2.00 %	1.00 %	2.00 %	0.10 %	5.10 %
Native Hawaiian and other Pacific Islander Alone	0.10 %	0.00 %	0.00 %	0.10 %	0.00 %	0.00 %	0.00 %	0.10 %
Some Other Race	5.80 %	3.90 %	4.40 %	3.30 %	2.20 %	3.50 %	8.20 %	1.70 %
Two or More Races	2.60 %	0.00 %	1.90 %	1.70 %	2.40 %	4.70 %	6.60 %	3.90 %
Hispanic or Latino (of any race)	38.90 %	88.50 %	72.30 %	63.00 %	56.80 %	27.00 %	49.70 %	48.10 %
White Alone, not Hispanic or Latino	42.90 %	11.30 %	21.00 %	30.30 %	39.40 %	67.70 %	42.30 %	43.20 %

Census Data Set: DP05 - ACS Demographic and Housing Estimates more information 2013-2017 American Community Survey 5-Year Estimates Source: Census 2019r.

Table 10-21: Income and Poverty

	State of Texas	Kenedy County	Kleberg County	Nueces County	San Patricio County	Aransas County	Refugio County	Calhoun County
Median Household Income (in 2016 dollars) 2012-2016	\$54,727	\$24,000	\$41,469	\$51,882	\$52,659	\$44,851	\$50, 145	54,167
Persons in Poverty, %	13.0 %	16.1 %	15.3 %	12.8 %	11.8 %	11.5 %	16.3 %	17.0 %

Source: Census 2019s

In compliance with E.O. 12898 (referenced in Section 10.1: Applicable Laws and Regulations) a review of Census data covering the study area was conducted with the aim of identifying any potential EJ areas. In reviewing population, income, and ethnic distribution data for the study area, it could be concluded that some communities could be considered EJ communities, while others are not based on their demographics. The majority population in the study area are Hispanic or Latino. While there are people of other races that are non-white, they are small in numbers. The median household income is above the poverty threshold for all seven counties in the study area (Table 10-21).

Four of the seven counties in the study area have Hispanic and/or Latino populations greater than (>) 50 percent of the total population which is an identifier of an EJ community. However, as an indicator alone, the high Hispanic and/or Latino population of the study area is not exclusive to the seven counties of the study area, and statewide Hispanic and/or Latino population is nearly 40 percent. In 2015 the Texas State Demographer reported that by 2020 (the next Census) the Hispanic and/or Latino populations will be greater than white non-Hispanic and/or Latino populations, and by 2042 the majority of the U.S. population will be Hispanic and/or Latino (Texas Demographic Centre 2015). So, while the current snapshot of the counties appears as though these are EJ communities, it is in relative conformance with the state's population distribution.

A large portion of the Project is to be located offshore, and as such, direct impacts to any populated area, including EJ communities, will be limited. Impacts resulting from the onshore elements of the Project are not anticipated to disproportionately impact EJ communities, as, within the direct vicinity of the onshore elements of the Project, 1,000 ft of the Project, there are no minority populations. In addition, socioeconomic impacts which have a further reach and hold the greatest potential to impact EJ communities, such as impacts to the local economy, are anticipated to be either negligible or of beneficial significance.

Overall, the Project is anticipated to have no disproportionate impact on EJ communities during its construction, operational, or decommissioning phase.

10.5 Summary of Impacts

Impacts to socioeconomics during the all phases of the Proposed Project are anticipated to range from negligible to no impact for most socioeconomic resources, with the potential for beneficial impacts to be experienced by labor force and employment and taxes and revenues within the study area. The Alternative Project is anticipated to result in similar impacts to the socioeconomic environment, with the exception of additional minor potential impacts to education facilities, the recreation and tourism industry, exploration or operation of platforms and wells, and the local maritime industry.

During the construction phase of the Alternative Project, the Alternative Onshore Pipelines passes directly outside of Ingleside Primary School, approximately 350 ft from the school building, crossing the school's main entrance which could result in an adverse impact to the school's access during construction. Temporary construction impacts such as noise and dust; disturbance or removal of lawns, trees, landscaped shrubs, or similar vegetation would be mitigated by residences through landowner notification of approximate timelines of active construction, maintaining property access, mitigation of noise and dust (as discussed in Section 13: Meteorology, Air Quality, and Noise), and installation of safety fencing around any open trench. Therefore, any potential impact to education resources within the study area during the construction of the Alternative Onshore Pipelines is anticipated to be reduced to a minor temporary adverse impact. During operation of the Alternative Onshore Pipelines, impact to educational facilities would be limited to ongoing maintenance of the ROW, which would be similar to maintenance of school grounds; as such, impacts are anticipated to be negligible.

Recreation and tourism in the immediate vicinity of the Alternative Project are likely to experience adverse impacts during construction, such as changes in viewshed for nearshore recreational boaters and fishermen, and construction noise, dust, and light impacts experienced by local park and beach users, which could result in a decrease in the number of recreational users and tourists utilizing the area in the immediate vicinity of the Project. With all planned mitigation measures in place, such as use of BMPs for dust, noise, and light emissions, and the avoidance of construction during key public events and peak recreational times (such as public holidays), the recreation and tourism economy of the study area is anticipated to experience a temporary minor adverse impact during the Alternative Project construction phase. As the Alternative Project would be constructed by an open-cut method across the Corpus Christi Bay, some impacts to recreational fishermen and boaters within this area would remain. While still considered minor, impacts to the recreation and tourism industry from the Alternative Project

would be of slightly higher significance than those anticipated by the Proposed Project, with the recreation and tourism industry experiencing greater impacts and over a longer (6 months longer) period of time.

The Alternative Inshore and Offshore Pipelines do cross federal lease blocks with active leases, as such, a minor adverse impact to oil and gas exploration or operation of platforms within the active lease blocks impeded during the 24-month construction period could occur. However, the overall effects on the offshore oil and gas industry within the study area would be negligible. The Alternative Offshore Pipelines traverse a major shipping fairway and it is likely to cause some delays in vessel traffic. With mitigation, such as stakeholder engagement and use of aids to navigation system, in place, the construction of the Alternative Offshore Pipelines is anticipated to result in minor impacts in the form of delays to offshore maritime industries.

A summary of impacts for the both the Proposed Project and Alternative Project is presented in Table 10-22 below. For the reasons summarized above, the Proposed Project is the Least Environmentally Damaging Practicable Alternative (LEDPA) and is considered to be environmentally preferable to the Alternative Project.

Table 10-22: Summary of Impacts

		Construction	Operation	Decommissioning
Proposed Project	Onshore	<p><u>Population, Accommodation, & Public Services</u></p> <p>With mitigation in place, potential impacts to population, accommodation, and public services (including medical services, safety and emergency response, and educational facilities), are anticipated to be temporary and negligible during Proposed Project construction.</p>	<p><u>Population, Accommodation, & Public Services</u></p> <p>With mitigation in place, potential impacts to population, accommodation, and public services (including medical services, safety and emergency response, and educational facilities), are anticipated to be temporary and negligible during Proposed Project operation.</p>	<p><u>Population, Accommodation, & Public Services</u></p> <p>With mitigation in place, potential impacts to population, accommodation, and public services (including medical services, safety and emergency response, and educational facilities), are anticipated to be temporary and negligible during Proposed Project decommissioning.</p>
		<p><u>Labor Force and Employment</u></p> <p>The introduction of the Project is anticipated to result in a small number of local jobs, and in turn, a beneficial impact of minor to negligible significance on labor force and employment within the study area.</p>	<p><u>Labor Force and Employment</u></p> <p>The introduction of the Project is anticipated to result in a very limited number of local jobs, and in turn, a beneficial impact of negligible significance on labor force and employment within the study area.</p>	<p><u>Labor Force and Employment</u></p> <p>The introduction of the Project is anticipated to result in a small number of local jobs, and in turn, a beneficial impact of negligible significance on labor force and employment within the study area.</p>
		<p><u>Taxes and Revenues</u></p> <p>Based on cash-flow modeling, construction of the Proposed Project, is anticipated to result in beneficial impact to U.S. and local economies.</p>	<p><u>Taxes and Revenues</u></p> <p>Based on cash-flow modeling, operation of the Proposed Project is anticipated to result in beneficial impact to U.S. and local economies.</p>	<p><u>Taxes and Revenues</u></p> <p>Based on cash-flow modeling decommissioning of the Proposed Project is anticipated to result in beneficial impact to U.S. and local economies.</p>
		<p><u>Agriculture Industry, Oil and Gas Industry, & Renewable Energy Industry</u></p> <p>With mitigation in place, no impact is anticipated to the agricultural industry, the oil and gas industry, and the renewable energy industry.</p>	<p><u>Agriculture Industry & Renewable Energy Industry</u></p> <p>With mitigation in place, no impact is anticipated to the agricultural industry and the renewable energy industry.</p>	<p><u>Agriculture Industry, Oil and Gas Industry, & Renewable Energy Industry</u></p> <p>With mitigation in place, no impact is anticipated to the agricultural industry, the oil and gas industry, and the renewable energy industry.</p>
		<p><u>Tourism Industry</u></p> <p>With mitigation in place, potential impacts to the tourism industry are anticipated to be temporary and negligible.</p>	<p><u>Oil and Gas Industry</u></p> <p>Exploration or Operation of Platforms and Wells: With mitigation in place, potential impacts to exploration or operation of platforms and wells within the study area are anticipated to be negligible.</p>	<p><u>Tourism Industry</u></p> <p>With mitigation in place, potential impacts to the tourism industry are anticipated to be temporary and negligible.</p>

Table 10-22: Summary of Impacts				
		Construction	Operation	Decommissioning
			<p>Global and Domestic Crude Oil Market: The Proposed Project is anticipated to have a beneficial effect on the global and domestic crude oil market by fulfilling the need for a safe, efficient, and cost-effective outlet for abundant supplies of domestic crude oil from existing and future oil fields located in North America.</p> <p><u>Tourism Industry</u> With mitigation in place, potential impacts to the tourism industry are anticipated to be negligible.</p>	
	Inshore	<p><u>Inshore Resources and Industry</u> Potential inshore impacts associated with Population, Accommodation, & Public Services, Labor Force and Employment, Taxes and Revenues, Oil and Gas Industry, Renewable Energy Industry, Tourism Industry are as described for Onshore Impacts above.</p>	<p><u>Inshore Resources and Industry</u> Potential inshore impacts associated with Population, Accommodation, & Public Services, Labor Force and Employment, Taxes and Revenues, Oil and Gas Industry, Renewable Energy Industry, Tourism Industry are as described for Onshore Impacts above.</p>	<p><u>Inshore Resources and Industry</u> Potential inshore impacts associated with Population, Accommodation, & Public Services, Labor Force and Employment, Taxes and Revenues, Oil and Gas Industry, Renewable Energy Industry, Tourism Industry are as described for Onshore Impacts above.</p>
	Offshore	<p><u>Maritime Industry</u> With mitigation in place, potential impacts to the maritime industry are anticipated to be temporary and negligible.</p> <p><u>Commercial Fishing</u> Commercial fishermen who share the GOM with other industrial users could be impacted by construction activities as commercial fishing will be prohibited in the temporary safety zone during construction. Given the sufficient fishing habitat available in the adjacent, unrestricted areas and because harvest levels are typically set below estimated abundances, no impact to actual</p>	<p><u>Maritime Industry</u> No impact anticipated.</p> <p><u>Commercial Fishing</u> During operation, a 3,609-ft (1,100-m) radius safety zone will be established around each of the SPM buoy systems. This restricted area could have a negative, long-term impact on fishing opportunities by causing certain commercial fishermen to expend extra effort to maintain current harvest levels. However, given the location of the SPM buoy systems are considered to be a low vessel traffic area and the amount of unrestricted fishing area available in the vicinity of the Project, offshore of Texas, and the Gulf overall, the</p>	<p><u>Maritime Industry</u> With mitigation in place, potential impacts to the maritime industry are anticipated to be temporary and negligible.</p> <p><u>Commercial Fishing</u> Commercial fishermen who share the GOM with other industrial users could be impacted by construction activities as commercial fishing will be prohibited in the temporary safety zone during decommissioning. Given the sufficient fishing habitat available in the adjacent, unrestricted areas and because harvest levels are typically set below estimated abundances, no impact to actual</p>

Table 10-22: Summary of Impacts				
		Construction	Operation	Decommissioning
		<p>harvest levels and commercial fishing in the vicinity of Project are anticipated.</p> <p><u>Other Resources and Industries</u> Potential inshore impacts associated with Population, Accommodation, & Public Services, Labor Force and Employment, Taxes and Revenues, Oil and Gas Industry, Renewable Energy Industry, Tourism Industry are as described for Onshore Impacts above.</p>	<p>no-fishing zone associated with the SPM buoy systems would result in negligible impacts to the commercial fishing industry.</p> <p><u>Other Resources and Industries</u> Potential inshore impacts associated with Population, Accommodation, & Public Services, Labor Force and Employment, Taxes and Revenues, Oil and Gas Industry, Renewable Energy Industry, Tourism Industry are as described for Onshore Impacts above.</p>	<p>harvest levels and commercial fishing in the vicinity of Project are anticipated.</p> <p><u>Other Resources and Industries</u> Potential inshore impacts associated with Population, Accommodation, & Public Services, Labor Force and Employment, Taxes and Revenues, Oil and Gas Industry, Renewable Energy Industry, Tourism Industry are as described for Onshore Impacts above.</p>
Alternative Project	Onshore	<p>Impacts resulting from the Alternative Project are anticipated to be the same as those of identified above for the Proposed Project, with the following exception:</p> <p><u>Education Facilities</u> *The Alternative Project is anticipated to result in a minor temporary adverse impact to education facilities.</p>	<p>Impacts resulting from the Alternative Project are anticipated to be the same as those of identified above for the Proposed Project during the operation phase.</p>	<p>With mitigation in place, impacts to socioeconomics during the decommissioning phase are anticipated to range from negligible to no impact.</p>
	Inshore	<p>Impacts resulting from the Alternative Project are anticipated to be the same as those of identified above for the Proposed Project, with the following exceptions:</p> <p><u>Exploration or Operation of Platforms and Wells, & The Local Maritime Industry</u> *The Alternative Project is anticipated to result in a minor temporary adverse impact to the exploration or operation of platforms and wells, and the local maritime industry.</p>	<p>Impacts resulting from the Alternative Project are anticipated to be the same as those of identified above for the Proposed Project during the operation phase.</p>	<p>With mitigation in place, impacts to socioeconomics during the decommissioning phase are anticipated to range from negligible to no impact.</p>
	Offshore	<p>Impacts resulting from the Alternative Project are anticipated to be the same as those of identified above for the Proposed Project, with the following exceptions:</p>	<p>Impacts resulting from the Alternative Project are anticipated to be the same as those of identified above for the Proposed Project during the operation phase.</p>	<p>With mitigation in place, impacts to socioeconomics during the decommissioning phase are anticipated to range from negligible to no impact.</p>

Table 10-22: Summary of Impacts				
		Construction	Operation	Decommissioning
		<u>Exploration or Operation of Platforms and Wells, & The Local Maritime Industry</u> *The Alternative Project is anticipated to result in a minor temporary adverse impact to the exploration or operation of platforms and wells, and the local maritime industry.		
*indicates an environmental consequence that is significantly more impactful as compared to the other Project alternative.				

10.6 Mitigation of Proposed Project Impacts

The selection of the Project type and the siting of key Project facilities was made to avoid and minimize potential impacts on socioeconomics. Mitigation measures specific to socioeconomics include:

- **Local Project Employment:** BWTT will utilize a small workforce for the Project, approximately 100% of which will be employed from within the State of Texas and which will be comprised of local workers from the Project area, to the extent practicable.
- **Site selection:** A number of Alternative Project locations were considered prior to the selection of the Proposed Project location and pipelines route. During the alternatives review and selection process, consideration was given to the avoidance of sensitive resources, such as recreational and tourism areas. Section 2: Alternative Analysis offers detailed information regarding the site selection and alternatives review.
- **HDD:** BWTT will utilize HDD construction methods, rather than open cut methods, at coastal crossings (including those crossings of the San Jose Island and mainland coasts), and in open water areas where recreational boating and fishing could occur, to help reduce adverse impacts on the local recreation and tourism economy.
- **Stakeholder Consultation:** Ongoing communication with local stakeholders will be important to help identify and resolve any potential adverse impacts to socioeconomics. Stakeholders to be consulted include, but may not be limited to: local businesses and those involved in fishing and the tourism industry; fire departments, police, and/or emergency service districts within the vicinity of the Proposed Project; farmers, landowners, and wind turbine owners.
- **Best Management Practices:** BWTT will comply with safety BMP and standard practices (as detailed in Appendix V) to help avoid onsite Project emergency incidents and in turn minimize Project related pull on public services such as safety and emergency response facilities; to minimize dust, noise, and light emissions and any potentially related impact to local recreation and tourism economy; and to minimize potential impacts to land owners, farmers, wind turbine owners and other stakeholders.
- **Revegetating ROW:** On completion of Onshore Pipelines construction, the Onshore Pipeline ROW will be seeded with a native grass mixture or with some other suitable reclamation mixture approved by the landowner and will be returned to a vegetated state to help minimize any adverse impact and/or inconvenience to landowners and wind turbine owners.
- **Avoidance of Key Public Events:** BWTT will avoid of construction during key public events and peak recreational times (such as public holidays) to help reduce adverse impacts on the local recreation and tourism economy.

10.8 References

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Attachment 1: RV Parks within the Socioeconomic Study Area

Table A1: RV Parks within the Socioeconomic Study Area						
Park Type	Name	Address	Accommodation	No. of Spaces	No. of Pull-through Spaces	No. of Full Service Hookups
Aransas County, TX						
P	A Bay Breeze RV Park	175 Nell Street, Rockport TX 78382	RVs Only	30	10	30
P	Ancient Oaks RV Campground	1222 Highway 35 S, Rockport TX 78382	RVs and Tents	129	99	101
P	Anglers RV Retreat	1012 N Moline St, Rockport TX 78382	RVs	Unknown	Unknown	Unknown
P	Bahia Vista Waterfront RV Park	5801 FM 1781, Rockport TX 78382	RVs Only	Unknown	Unknown	Unknown
P	Bay View RV Resort	5451 Highway 35 N, Rockport TX 78382	RVs and Tents	371	50	370
SP	Bayfront - Goose Island State Park *	202 S Palmetto St., Rockport TX 78382	Tents Only	45	Unknown	44 elec-water hookups
P	Beacon RV Park and Marina	301 S Fulton Beach Rd, Rockport TX 78382	RVs and Tents	Unknown	Unknown	Unknown
P	Blue Lagoons RV Resort	717 N Fulton Beach Rd, Fulton TX 78382	RVs Only	110	9	109
P	Buffalo RV Park and Storage	468 Griffith Drive, Rockport TX 78382	RVs Only	50	Unknown	50
P	Circle W RV Ranch	1401 Smokehouse Road, Rockport TX 78382	RVs and Tents	Unknown	Unknown	Unknown
P	Coastal Oaks RV Resort	1031 N Hood St, Rockport TX 78382	RVs Only	50	Unknown	Unknown
P	Copano Bay RV Resort	3101 FM 1781, Rockport TX 78382	RVs Only	145	Unknown	Unknown
P	Drifters Resort RV Park	4401 Hwy 35 South, Rockport TX 78382	RVs Only	70	Unknown	Unknown
P	Driftwood RV Haven	701 Mesquite St, Fulton TX 78358	RVs Only	58	20	58
P	Enchanted Oaks RV Park	990 Hwy 35 Bypass, Rockport TX 78382	RVs	25	Unknown	Unknown
P	Estes RV Resort	140 Estes Road, Rockport TX 78382	RVs Only	28	Unknown	28
P	Happy Camper RV Resort	943 Holly Rd, Rockport TX 78382	RVs Only	Unknown	Unknown	Unknown

Park Type	Name	Address	Accommodation	No. of Spaces	No. of Pull-through Spaces	No. of Full Service Hookups
P	Hidden Oaks RV Resort	221 Palmetto St, Rockport TX 78382	RVs and Tents	51	Unknown	Unknown
P	Hooked Up RV Park	2020 N. Business Hwy 35, Aransas Pass TX 78366	RVs Only	60	Unknown	Unknown
P	Lagoons RV Resort	600 Enterprise Blvd, Rockport TX 78382	RVs Only	300	27	300
SP	Lantana Loop - Goose Island State Park *	202 S Palmetto St., Rockport TX 78382	Tents Only	57	Unknown	57 elec- water hookups
P	Last Resort Motel and RV Park	4321 Business Highway 35 South, Rockport TX 78382	RVs Only	90	Unknown	Unknown
P	Majestic Oak Resort	298 Texas 188, Rockport TX 78382	RVs and Tents	30	Unknown	Unknown
P	Marshalls Landing RV Resort	2707 Hwy 35 N, Aransas Pass TX 78366	RVs Only	12	Unknown	Unknown
P	Mobil Village RV Park	116 Freeman Ave., Aransas Pass TX 78336	RVs Only	17	Unknown	17
P	Palm Harbor RV Park	170 Port Ave, Rockport TX 78382	RVs Only	100	Unknown	100
P	Raintree RV Park	1924 W Terrace Blvd, Rockport TX 78382	RVs and Tents	80	20	80
P	Route RV Resort	606 W Market St, Rockport TX 78382	RVs Only	34	Unknown	Unknown
P	RV Haven	922 Mack Road, Aransas Pass TX 78336	RVs Only	13	4	13
P	Salt Water Flats RV Resort	4221 Business Hwy 35 South, Rockport TX 78382	RVs Only	53	Unknown	53

Table A1: RV Parks within the Socioeconomic Study Area						
Park Type	Name	Address	Accommodation	No. of Spaces	No. of Pull-through Spaces	No. of Full Service Hookups
P	Sandollar Resort and RV Park	919 N Fulton Beach Rd, Rockport TX 78382	RVs Only	100	30	100 50-amp sites
P	Seaport Village RV Park	5340 Texas 35, Rockport TX 78382	RVs Only	38	Unknown	Unknown
P	Southern Oaks Luxury RV Park LLC	1850 Highway 35 Byp, Aransas Pass TX 78336	RVs Only	65	Unknown	65
P	Taylor Oaks RV Park	707 S. Pearl St., Rockport TX	RVs and Tents	60	Unknown	Unknown
P	The Quiet One Travel Trailer Park	600 W James St, Rockport TX 78382	RVs and Tents	60	Unknown	Unknown
P	Wilderness Oaks RV Resort	4851 N Highway 35, Rockport TX 78382	RVs Only	170	21	170
SP	Wooded Area - Goose Island State Park *	202 S Palmetto St., Rockport TX 78382	Tents Only	25	Unknown	Unknown
P	Woody Acres Mobile Home and RV Resort	1202 West Mesquite St, Fulton TX 78358	RVs Only	350	19	350
San Patricio County, TX						
P	Aransas Bay RV Resort	501 North Avenue A, Aransas Pass TX 78336	RVs Only	70	Unknown	80
SP	Catfish Cove - Lake Corpus Christi State Park	Mathis TX 78368	RVs and Tents	35	Unknown	Unknown
P	Hamptons Landing	430 E Ransom Rd, Aransas Pass TX 78336	RVs	Unknown	Unknown	Unknown
P	Hitching Post RV Park	900 W Sinton St, Sinton TX 78387	RVs Only	40	12	40
P	Howdy Ranch RV	Mathis TX 78368	RVs Only	72	Unknown	Unknown
P	ICW RV Park	427 E. Ransom Rd., Aransas Pass TX 78336	RVs Only	135	Unknown	Unknown
SP	Javelina - Lake Corpus Christi State Park	Mathis TX 78368	RVs and Tents	25	Unknown	Unknown
P	Mathis Motor Inn and RV Park	1223 N Front St, Mathis TX 78368	RVs Only	45	15	45
SP	Mesquite - Lake Corpus Christi State Park	Mathis TX 78368	RVs and Tents	25	Unknown	Unknown
SP	Opossum Bend - Lake Corpus Christi State Park	Mathis TX 78368	RVs and Tents	23	Unknown	Unknown
P	Portobelo Village RV and Mobile Home Park	2009 West Wheeler Avenue, Aransas Pass TX 78336	RVs Only	125	20	125
P	Ransom Road RV Park	240 E Ransom Rd, Aransas Pass TX 78336	RVs Only	128	20	128

Table A1: RV Parks within the Socioeconomic Study Area						
Park Type	Name	Address	Accommodation	No. of Spaces	No. of Pull-through Spaces	No. of Full Service Hookups
P	Redfish Bay RV Resort	300 East Beasley Avenue, Aransas Pass TX 78336	RVs Only	63	Unknown	Unknown
P	Rob and Bessie Welder Park	North Hwy 181, Sinton TX 78387	RVs Only	60	Unknown	60
P	Sea Breeze RV Park	1026 Sea Breeze Ln, Portland TX 78374	RVs Only	142	34	140
P	Sunrise Beach	22825 Park Road 25, Mathis TX 78368	Tents Only	172	75	110
P	The Palms RV Park	2180 Demory Lane, Aransas Pass TX 78336	RVs Only	136	Unknown	Unknown
P	Wilderness Lakes RV Resort	Park Rd 25, Mathis TX 78368	RVs Only	133	30	34
Nueces County, TX						
P	Colonia Del Ray RV Park	1717 Waldron Rd, Corpus Christi TX 78418	RVs Only	210	85	210
P	Funtime RV Park	400 Avenue C, Port Aransas TX 78373	RVs Only	Unknown	Unknown	Unknown
P	Greyhound RV Park	5402 Leopard St, Corpus Christi TX 78408	RVs Only	90	50	90
P	Gulf Waters RV Resort	5601 Hwy 361, Port Aransas TX 78373	RVs Only	170	Unknown	Unknown
P	Hatch RV Park	3101 Up River Rd, Corpus Christi TX 78408	RVs Only	127	32	127
CP	IB Magee Beach Park *	321 North on the Beach, Port Aransas TX 78373	RVs and Tents	75	Unknown	Unknown
P	Island RV Resort	700 6th St., Port Aransas TX 78373	RVs Only	199	199	199
CP	Labonte Park	I-37 Exit 16, Corpus Christi TX	RVs and Tents	20	Unknown	Unknown
P	Lafittes Hideout	241 W Cotter Ave, Port Aransas TX 78373	RVs Only	96	5	96
P	Laguna Shore Village	3828 Laguna Shore Rd, Corpus Christi TX 78418	RVs Only	45	20	45
P	Leopard Mobile Home and RV Park	8225 Leopard Street, Corpus Christi TX 78409	RVs Only	30	Unknown	30
P	Marina Village Park	229 Naval Air Station Drive, Corpus Christi TX 78418	RVs Only	240	18	240
SP	Mustang Island State Park *	17047 State Hwy 361, Port Aransas TX 78373	RVs and Tents	48 RV / 300 Tents	Unknown	48 elec-water hookups
CP	North Packery Beach (JP Luby Surf Park)	Corpus Christi TX	RVs Only	Unknown	Unknown	Unknown
P	On The Beach RV Park	907 Access Rd 1a, Port Aransas TX 78373	RVs and Tents	58	41	60

Table A1: RV Parks within the Socioeconomic Study Area						
Park Type	Name	Address	Accommodation	No. of Spaces	No. of Pull-through Spaces	No. of Full Service Hookups
CP	Padre Balli Park	15820 Park Road 22, Corpus Christi TX 78418	RVs and Tents	66	50	54 elec-water hookups
P	Padre Palms RV Park	131 Skipper Ln, Corpus Christi TX 78418	RVs and Tents	81	76	81
P	Pioneer Beach Resort	120 Gulfwind Drive, Port Aransas TX 78373	RVs Only	361	86	361
P	Port A RV Resort	2600 TX-361, Port Aransas TX 78373	RVs Only	185	Unknown	185
CP	Port Aransas Beach	Port Aransas TX	RVs and Tents	Unknown	Unknown	Unknown
P	Puerto Del Sol RV Park	5100 Timon Blvd, Corpus Christi TX 78402	RVs and Tents	53	Unknown	Unknown
P	RV Park Of Corpus Christi	5115 Up River Rd, Corpus Christi TX 78407	RVs Only	70	Unknown	70
P	Shady Grove Mobile Home and RV Park	2919 Waldron Rd, Corpus Christi TX 78418	RVs Only	250	8	250
NAS	Shields Park NAS Recreation Site	Corpus Christi Naval Air Station, Corpus Christi TX 78418	RVs Only	90	Unknown	12
P	Surfside RV Resort	1820 S 11th St, Port Aransas TX 78373	RVs Only	45	28	45
P	Tropic Island RV Resort	315 Cut-Off Rd, Port Aransas TX 78373	RVs Only	136	22	136
Kleberg County, TX						
P	Bayview RV Park and Campground	662 South CR 1150, Riviera TX 78379	RVs	Unknown	Unknown	Unknown
NP	Bird Island Basin Campground - PINS	Malaquite Visitor Center, Corpus Christi TX 78480	Tents Only	Unknown	Unknown	Unknown
P	Country Estate RV Park	2336 FM 1717, Kingsville TX 78363	RVs and Tents	94	25	70
P	La Hacienda	3430 Hwy 77, Kingsville TX 78363	RVs Only	58	Unknown	Unknown
NP	Malaquite Campground - PINS	Malaquite Visitor Center, Corpus Christi TX 78480	Tents Only	50	Unknown	Unknown
NAS	Nasking Recreation Famcamp	Kingsville Naval Air Station, Kingsville TX 78072	RVs and Tents	18	Unknown	Unknown
P	Natures Own RV Resort	5151 S U.S. Highway 77, Kingsville TX 78363	RVs Only	72	50	70
NP	North Beach Campground - PINS	Malaquite Visitor Center, Corpus Christi TX 78480	Tents Only	Unknown	Unknown	Unknown
P	Seawind RV Resort on the Bay	1066 E FM 628, Riviera TX 78379	RVs and Tents	185	25	159

Table A1: RV Parks within the Socioeconomic Study Area						
Park Type	Name	Address	Accommodation	No. of Spaces	No. of Pull-through Spaces	No. of Full Service Hookups
NP	South Beach Campground - PINS	Malaquite Visitor Center, Corpus Christi TX 78480	Tents Only	Unknown	Unknown	Unknown
Kenedy County, TX						
NP	Yarborough Pass - PINS	Corpus Christi TX 78480	Tents Only	Unknown	Unknown	Unknown
Refugio County, TX						
P	Jeter RV Park	613 Commerce St, Refugio, TX 78377-3204	RVs and Tents	14	Unknown	14
P	Calhouns Riverside Retreat	125 Haerber Ln, Tivoli TX 77990	RVs only	12	Unknown	12
CP	Austwell City Park	Austwell, TX	RVs only	8	Unknown	8
Calhoun County, TX						
P	Beacon 7 RV Park	West Bay Avenue, Corpus Christi TX 77983	RVs only	8	Unknown	Unknown
P	Captains Quarters	201 Texas 185, Seadrift TX 77983	RVs only	13	Unknown	13
SP	Matagorda Island State Park	16th Street And Maples, Port OConnor TX 77982	Tents Only	13	Unknown	Unknown
P	Texas Gulf Coast RV Park	115 N Byers Dr, Port OConnor TX 77982	RVs Only	27	Unknown	27
P	Port O'Connor RV Park	110 Steve Street, Port O'Connor TX 77982	RVs Only	46	20	46
P	Beacon 44 RV Park	1982 W. Harrison, Port O'Connor TX 77982	RVs Only	43	Unknown	43
P	Oceanside RV Park	1162 North Ocean Drive, Port Lavaca TX 77979	RVs Only	18	9	9
P	Magnolia Beach Parking	Port Lavaca TX 77979	Tents Only	Unknown	Unknown	Unknown
P	Texas Lakeside RV Resort	2499 West Austin Street, Port Lavaca TX 77979	RVs Only	97	22	97
P	Lavaca Bay RV Park	1818 BRdway St, Port Lavaca TX 77979	RVs Only	51	50	51
P	Lighthouse Beach and Bird Sanctuary RV Park	Port Lavaca TX 77979	RV and Tents	55	Unknown	8
P	The Two RV Park	1402 Harrison, Port OConnor TX 77982	RVS Only	41	5	41
Notes: As of December 2018, closed due to 2018 hurricane damage. Unknown – Information was not available via desktop study as of December 2018 Park Types: P – Privately owned; NP – National Park; SP – State Park; CP – City or County Park; NAS – Naval Air Station.						

Sources: AllStays 2019; RVParkStore.com 2018; TPWD 2018a,b.