

Alternatives Analysis
The Estates at Caracol
Proposed 8.4-Acre Residential Development
Port O'Connor, Calhoun County, TX

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1.0 Introduction

1.1 Proposed Project

Port O'Connor is a highly desirable community located along the middle coast of Texas offering a multitude of opportunities for outdoor enthusiasts and those desiring a smalltown atmosphere. Informational websites classify Port O'Connor as "a wonderful oasis on the Texas Gulf Coast and known world-wide for fishing, hunting, birding, kayaking and the peaceful lifestyle enjoyed by those who have discovered the jewel of the Secret Coast (www.portoconnor.com)."

Moreover, the Chamber of Commerce whose mission is to promote business, enhance economic and community development, and serve as a means for improving the overall quality of life in the community states it is, "The Best Kept Secret on the Texas Coast." Port O'Connor draws visitors for its close proximity to outdoor recreation. Each year Port O'Connor hosts more than 20 inshore and offshore fishing tournaments. Tourism and outdoor recreation provide an economic cornerstone to the small community.

The applicant, Caracol Investors, LP, proposes to construct an 8.4-acre multi-lot single family residential canal development along the Gulf Intracoastal Waterway (GIWW) in Port O'Connor, TX. The proposed project includes the construction of a 1.35-acre canal/marina, 1,573.95-linear feet of bulkhead and/or sheetpile, and two piers. The placement of fill and excavation would result in 4.60-acres of wetlands and 0.05-acres of submerged aquatic vegetation (SAV) fill impacts and 1.09-acres of wetlands and 0.07-acres of SAV excavation impacts.

1.2 Purpose and Need Statement

The overall purpose of the proposed project is to provide an economically viable single family housing development with waterfront access to the GIWW, providing inshore and offshore vessels direct access to the Gulf of Mexico, and the many accessible coastal areas surrounding Port O'Connor.

1.3 Alternatives

Section 404 of the Clean Water Act (CWA) authorizes the USACE to issue permits for the discharge of dredged or fill materials into waters of the United States (waters of the U.S.), including wetlands (33 United States Code [U.S.C.] 1344). Waters of the U.S., defined at 33 Code of Federal Regulations (C.F.R). Part 328, include coastal and inland waters, lakes, rivers, and streams, including adjacent wetlands and tributaries.

The U.S. Environmental Protection Agency (USEPA) Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230 et seq.) are the substantive environmental criteria used by the USACE to evaluate permit applications. Under these guidelines, an analysis of practicable alternatives is the primary tool used to determine whether a proposed discharge can be authorized.

The Section 404(b)(1) Guidelines prohibit discharges of dredged or fill material into waters of the U.S. if a practicable alternative to the proposed discharge exists that would have less adverse impacts on the aquatic ecosystem, including wetlands, as long as the alternative does not have other significant adverse environmental impacts (40 C.F.R. Part 230[a]). An alternative is considered practicable if it is



available and capable of being implemented after considering cost, existing technology, and logistics in light of overall project purpose (40 C.F.R. Part 230[a][2]).

Considering cost, existing technology, logistics, and the overall project purpose, the applicant evaluated a no-action alternative as well as on- and off-site alternatives to determine there are no less damaging sites available and that all onsite impacts to waters of the United States have been avoided to the maximum extent practicable. The information provided, below, outlines the applicant's alternatives evaluation process in determining the least environmentally damaging practicable alternative (LEDPA).

2.0 Siting Criteria

The applicant proposes to dredge, place fill, install bulkhead and sheetpile to construct a single-family residential development with direct water access. As part of the 404(b)(1) guidelines, the applicant considered the No Action Alternative, Off-Site Alternatives, and On-Site Alternatives. In light of costs and logistics, several criteria needed to be met when selecting a site for the project. In order to be considered practicable, a site must satisfy all of the siting criteria described below.

1. GIWW frontage
2. Rapid deepwater access to the Gulf of Mexico (<10 miles to the Gulf of Mexico)
3. Rapid boat access to shallow bay fishing (<5 miles maximum from the development to bay fishing grounds)
4. Non-industrial setting with an ongoing focus on tourism and outdoor recreation
5. Reasonable proximity (i.e., maximum 3-hours) from major cities such as Houston, San Antonio, and Austin
6. A minimum of 5-acres and a maximum of 10-acres with the potential to have all lots or some of the residential lots have waterfront/water view
7. Reasonable proximity to existing road access and utilities (water, electricity, sewer, etc.)

3.0 No Action Alternative

This alternative involves not constructing the project. The no action alternative is not practicable alternative because even though no waters of the U.S. impacts would result from the No Action Alternative, it would not satisfy the economic and user demand for GIWW waterfront residential property along the Texas Coast. The No Action Alternative would also deprive Calhoun County of an increased tax base of approximately \$128,000-\$384,000 per year if the property was left in its present state and not used for any form of development. The No Action Alternative does not meet the goals of the applicant or Calhoun County and is not a viable option.

4.0 Evaluation of Alternatives

4.1 Off-Site Alternatives

The applicant is a long-time (i.e., 35 years) patron of Port O'Connor and purchased the proposed project site in December 2016 and, subsequently, off-site alternatives are not financially feasible for the applicant. However, historically, the applicant has evaluated the possibility of purchasing an undeveloped waterfront tract which would meet the project purpose. The following areas along the Texas Coast were evaluated.



4.1.1 Site 1: Freeport, TX

Provides rapid deepwater access to the Gulf of Mexico, is relatively close to shallow bay fishing, and is within reasonable proximity to major cities, roads, and utilities. However, Freeport is substantially industrialized, lacks an abundant shallow water recreation market and was rejected as a potential site.

4.1.2 Site 2: Palacios, TX

Less than 5-miles away from shallow bay fishing, a small-community with a focus on outdoor recreation, within reasonable proximity to major cities, roads, and utilities. However, it is approximately 20-miles away from the Gulf of Mexico and has no rapid deepwater access. It would take approximately two-hours to reach the Gulf of Mexico traveling at 10 knots. Palacios was rejected as a potential site due to the distance and travel time it would require reaching the Gulf and due to the lack of GIWW frontage properties.

4.1.3 Site 3: Matagorda, TX

Meets almost all the siting criteria listed above in Section 2.0 and is similar to the preferred community of Port O'Connor. It's approximately 7.5-miles from the Gulf of Mexico, close to shallow bay fishing, a small community with a focus on outdoor recreation, is of reasonable proximity to major cities, roads, and utilities. However, there is limited real estate available along the GIWW in Matagorda and it's also primarily made up of wetlands. Currently, there are no properties available along the GIWW that meet the siting criteria of being at least 5-acres. Matagorda was rejected as a potential site due to the lack of properties available and high density of wetlands adjacent to the GIWW. A GIWW frontage development would likely result in very similar impacts to sensitive resources.

4.1.4 Site 4: Port Lavaca, TX

Close to shallow bay fishing areas, within reasonable proximity to major cities, roads, and utilities. However, well-established industry is present within close proximity to the nearby shallow bay fishing, and it lacks GIWW frontage or any deepwater access. Port Lavaca is approximately 22-miles from the Gulf of Mexico. Port Lavaca was rejected as a potential site due to its lack of GIWW frontage properties, lack of rapid deepwater access, and the required travel distance to reach the Gulf.

In sum, Port O'Connor offers its residents and visitors a truly unique experience. Its small-town charm coupled with the vast, convenient recreational opportunities is what draws patrons from all over the state and beyond. The prolific nearshore and offshore fishing grounds host over 20 tournaments in Port O'Connor each year. Some of which have 25 and 50-year histories. Port O'Connor's permanent residents and tax base rely heavily on year-round visitors and semi-permanent residents looking to get away from urban areas and enjoy the outdoors. Port O'Connor is the preferred site because it is approximately 5-miles from the Gulf of Mexico, 3-miles or less from Espiritu Bay and Matagorda Bay for shallow bay fishing, offers GIWW frontage, within three-hours or less of Austin, Houston, and San Antonio, lacks industrial development, has an outdoor recreation focus, and close to established roads and utilities.



Table 1. Regional Alternatives Comparison Summary

Siting Criteria	Preferred Site- Port O'Connor	Alternative 1: Freeport	Alternative 2: Palacios	Alternative 3: Matagorda	Alternative 4: Port Lavaca
Rapid Boat Access to the Gulf of Mexico	X	X		X	
Rapid Boat Access to Shallow Bay Fishing	X	X	X	X	X
GIWW Frontage	X	X	X		
Reasonable Proximity to Major Cities	X	X	X	X	X
Non-industrial Setting	X		X	X	
5 – 10-acre tracts with waterfront/ water views	X			X	X
Reasonable Proximity to Roads and Utilities	X	X	X	X	X

4.2 Port O'Connor Alternatives

4.2.1 Site 1: 8.58-Acre Tract

Located at the northeast corner of Port O'Connor and is approximately 1.2-miles north of the preferred alternative (Exhibit A). It's an 8.58-acre tract located at the end of 3rd Street and is adjacent to Matagorda Bay. The site meets all siting criteria except for GIWW frontage and would require dredging to accommodate deeper draft offshore sportfishing vessels. This site is similar to the preferred alternative in that it almost completely undeveloped and, according to available desktop data, is comprised of approximately 7.39-acres (86%) of wetlands. This site would require a similar construction effort to develop lots at an appropriate elevation and excavate to accommodate the deeper draft vessels, resulting in similar, if not more, impacts to sensitive resources. Additionally, this site is currently not for sale by the owner. Due to these factors, this alternative was rejected.

4.2.2 Site 2: 6.28-Acre Tract

Site 2 is approximately 0.83-miles southwest of the preferred alternative (Exhibit A). It is a 6.28-acre tract located on Maple Street. This site contains seven buildings, a boat dock, and has a seawall spanning the length of the shoreline. This site meets all listed criteria and, according to available desktop data, is comprised of less sensitive resources (i.e., 1.56-acres of wetlands) than the preferred alternative site. Though this site meets the siting criteria, it's been owned by the U.S. Air Force since 2012 and is not for sale. Due to its long-term U.S. Military ownership, this site was deemed not a viable option.

4.2.3 Site 3: 8.87-Acre Tract

Site 3 is located approximately 1.24-miles southwest of the preferred alternative (Exhibit A). It's an 8.87-acre tract located on Maple Street. This site contains a boat ramp, dock, and metal building. This site meets all listed criteria and, according to available desktop data, is comprised of less sensitive resources



(i.e., 2.45-acres of wetlands) than the preferred alternative site. However, this property has been under the same owner since 2008 and is not for sale. Therefore, due to its unavailability, this site was rejected.

4.2.4 Site 4: 5.86-Acre Tract

Site 4 is located approximately 2.55-miles south of the preferred alternative (Exhibit A). It is a 5.86-acre tract situated near the end of Stella Street. Site 4, like Sites 1 and 5 (preferred alternative), is an undeveloped tract. This site meets all listed criteria. However, 52% of the site is comprised of wetlands (i.e., 3.03-acres) and substantial shoreline erosion is evident in aerial images. It is likely placement of fill in waters of the U.S. could result in similar impacts as the preferred alternative. Further, according to Calhoun County, this tract was held long-term by a family trust and transferred to West Side Calhoun County via warranty deed in 2021. Therefore, due to site erosion, construction considerations, potential similar impacts to sensitive resources, and lack of availability, this site was rejected as an alternative.

4.2.5 Site 5: 4.79-Acre Tract

Approximately 0.2-miles southwest of the preferred alternative (Exhibit A) is a 4.79-acre tract currently on the market for \$4.3M. Site 5 is located on the southwest corner of 7th and Commerce Street and fronting the GIWW. The 4.79-acre tract is highly developed with a popular motel, Coastal Inn, a bait shop/marina, restaurant, and 52 boat slips. The existing commercial structures have provided Port O'Connor with long-term economic support via permanent jobs, short term rentals, tax base including local sales tax and hotel/motel tax revenue, and outdoor recreation support services. This site meets most of the siting criteria except that it's a fully developed commercial property and not undeveloped. It is priced to sell as a well-established commercial property with many existing improvements, resulting in an economically infeasible option. Further, this site would not achieve the applicants basic and overall project purpose of providing an economically viable single family housing development with waterfront access to the GIWW.

4.2.6 Site 6: 3.73-Acre Tract

Site 6 is located approximately 0.60-miles southwest of the preferred alternative (Exhibit A) and is also currently listed for sale for \$3.9M. This 3.73-acre tract is located on the corner of 13th and Water Street and fronting the GIWW. Site 6 is also a well-established commercial property providing residents and visitors access to approximately 16 RV sites, fishing pier, fuel, boat ramp, trailer parking, and boat slip rentals. These services provide Port O'Connor and Calhoun County with valuable jobs and income (i.e., permanent jobs and sales tax revenue). This site does not meet the acreage criteria but meets all other siting criteria. Further, it is priced to sell as a well-established commercial property with existing improvements. As such, Site 6 is not an economically feasible option, and would not achieve the applicants basic and overall project purpose of providing an economically viable single family housing development with waterfront access to the GIWW.

4.2.7 Site 7 (Preferred Site): 8.40-Acre Tract

An approximately 8.4-acre undeveloped tract situated between and Caracol Drive and the GIWW (Exhibit A). As discussed above, the applicant is a long-time supporter of Port O'Connor and has owned the proposed project site since 2016 deeming any other available tracts financially infeasible. In 2016 at the time of purchase, there were no other available undeveloped tracts which would satisfy the siting criteria and overall project purpose (Table 2). This site meets all the applicant's siting criteria, is practicable, and will satisfy the overall project purpose. As such, it is the applicant's preferred site.



Table 2. Port O'Connor Alternatives Comparison Summary

Siting Criteria	Available for Acquisition ¹	Sufficient Size	Undeveloped Tract	GIWW Waterfront	Proximity to Infrastructure (i.e., roads, utilities, etc)	Approx. Waters of U.S. ²
Site 1: 8.58-Acres	No, No sale deed exchange 2017 & 2018	Yes	Yes	No	Yes	7.39 Acres (86%)
Site 2: 6.28-Acres	No, Owned by U.S. Air Force since at least 2012	Yes	No	Yes	Yes	1.56 Acres (25%)
Site 3: 8.87-Acres	No, Family ownership since at least 2008	Yes	Partial	Yes	Yes	2.45 Acres (28%)
Site 4: 5.86-Acres	No, Family ownership 1996-2021; Warranty deed to West Calhoun County in 2021	Yes	Yes	Yes	Yes	3.03 Acres (52%)
Site 5: 4.79-Acres	Yes (2022)	Yes	No	Yes	Yes	0.96 Acres (20%)
Site 6: 3.73-Acres	Yes (2022)	No	No	Yes	Yes	0.72 Acres (19%)
Site 7 (Preferred): 8.40-Acres	Owned by applicant since 2016	Yes	Yes	Yes	Yes	5.87 Acres (69%)

4.3 On-Site Alternatives

4.3.1 On-site Alternative 1:

Involved placing a high bulkhead along the GIWW frontage of the tract (Exhibit B). Fill would be placed behind the bulkhead to maximize waterfront acreage and create over-sized luxury residential lots. A 35-foot by 660-foot area would be dredged immediately adjacent to the bulkhead and would provide residents a mooring easement to construct waterfront amenities such as piers, boathouses, etc. and would accommodate larger, offshore fishing vessels, or smaller inshore fishing vessels. This alternative would provide residents immediate access to deepwater and/or shallow water recreational areas. Though this alternative would meet all siting criteria and maximize profit, it would also result in 7.30 acres impacts to sensitive resources. Due to the higher site impacts, this site was determined to not be the least environmentally damaging practicable alternative and was rejected.



4.3.2 On-Site Alternative 2:

Was the applicant's initial preferred site layout and was presented to the regulatory agencies during an August 2022 JEM (Exhibit B). This alternative converted sensitive resources to open water via excavation for a marina and reduced the impacts to sensitive resources by reducing the lot sizes. The habitat conversion to open water for a marina resulted in three, waterview/marina lots, and two GIWW frontage lots. To accommodate the loss of GIWW waterfront as illustrated in On-site Alternative 1, above, the applicant proposed two piers with terminal structures for the two lots. The pier structures would accommodate offshore fishing vessels, and/or smalling inshore fishing vessels. Further, the reduction in lot size resulted in avoidance of approximately 0.47-acres of sensitive resources. On-Site Alterntaive 2 resulted in 7.01-acres of impacts to sensitive resources (5.57-acres fill and 1.44-acres excavation) Compared to on-site alternative 1, this alternative would provide the second most profitable rate of return on investment. However, during the JEM, the regulatory agencies requested the applicant consider additional reduction in lot size to further minimize impacts to sensitive resources.

4.3.3 On-Site Alternative 3:

The applicant's preferred and least environmental damaging practicable alternative in light of costs, logistics, and the basic and overall project purpose (Exhibit B). Following the JEM, the applicant further reduced lot sizes, to the maximum extent practicable, to maximize the on-site avoidance of sensitive resources. The proposed development is oriented the same as On-Site Alternative 2 except lot sizes are reduced by expanding the distance between lot line and GIWW frontage. This modification results in approximately 6.03-acres (4.67-acres fill and 1.36-acres excavation) impacts to sensitive resource and the avoidance of approximately 1.18-acres of sensitive resources.



Exhibit A. Port O'Connor Alternatives





Legend

- Port O'Connor City Limits Boundary
 - Waterfront Properties Boundary
 - Land Parcels (2-Acres or less)
 - Land Parcels (2 - 4,99-Acres)
 - Land Parcels (5 - 10-Acres)
 - Land Parcels (10-Acres or Greater)
- National Wetland Inventory (NWI) Classifications**
- Estuarine and Marine Deepwater
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland



Waterfront Land Evaluation

8.4-Acre Proposed Project Area
 Port O'Connor, Calhoun County, Texas

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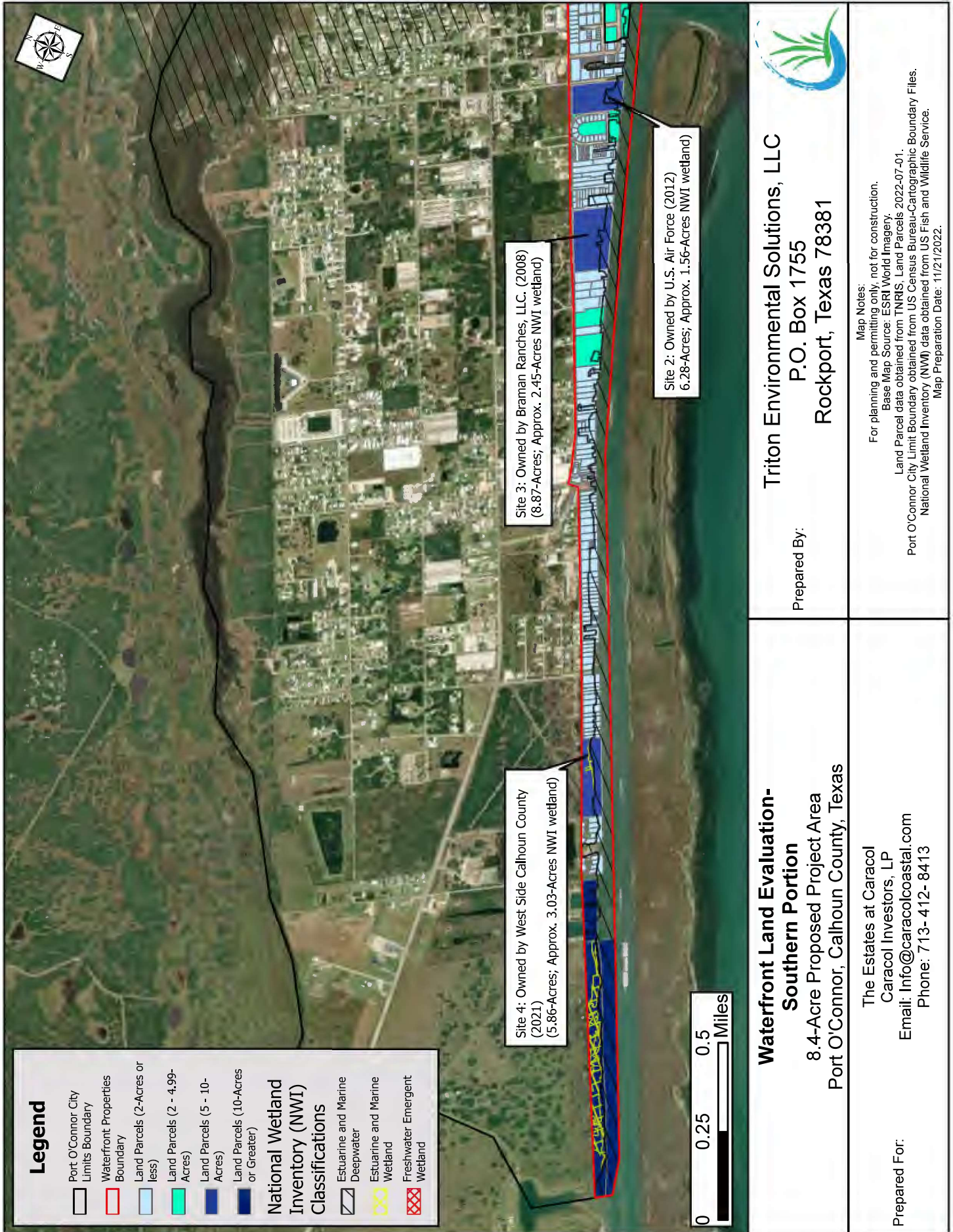
Prepared For:
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Map Notes:
 For planning and permitting only, not for construction.
 Base Map Source: ESRI World Imagery.
 Land Parcel data obtained from TNRIS, Land Parcels 2022-07-01.
 Port O'Connor City Limit Boundary obtained from US Census Bureau-Cartographic Boundary Files.
 National Wetland Inventory (NWI) data obtained from US Fish and Wildlife Service.
 Map Preparation Date: 11/21/2022.





<p>Triton Environmental Solutions, LLC P.O. Box 1755 Rockport, Texas 78381</p>	<p>Waterfront Land Evaluation Map- Northern Portion 8.4-Acre Proposed Project Area Port O'Connor, Calhoun County, Texas</p>
<p>Prepared By:</p> <p>Map Notes: For planning and permitting only, not for construction. Base Map Source: ESRI World Imagery. Land Parcel data obtained from TNRIS. Land Parcels 2022-07-01. Port O'Connor City Limit Boundary obtained from US Census Bureau-Cartographic Boundary Files. National Wetland Inventory (NWI) data obtained from US Fish and Wildlife Service. Map Preparation Date: 11/21/2022.</p>	<p>Prepared For:</p> <p>The Estates at Caracol Caracol Investors, LP Email: Info@caracolcoastal.com Phone: 713-412-8413</p>



Legend

- Port O'Connor City Limits Boundary
- Waterfront Properties Boundary
- Land Parcels (2-Acres or less)
- Land Parcels (2 - 4.99-Acres)
- Land Parcels (5 - 10-Acres)
- Land Parcels (10-Acres or Greater)

National Wetland Inventory (NWI) Classifications

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland

Waterfront Land Evaluation- Southern Portion
 8.4-Acre Proposed Project Area
 Port O'Connor, Calhoun County, Texas

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Map Notes:
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 Base Map Source: ESRI World Imagery.
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 Port O'Connor City Limit Boundary obtained from US Census Bureau-Cartographic Boundary Files.
 National Wetland Inventory (NWI) data obtained from US Fish and Wildlife Service.
 Map Preparation Date: 11/21/2022.

Exhibit B. On-Site Alternatives





Resource Type	Fill Impacts (Acres)	Excavation Impacts (Acres)
Wetlands	6.45	0.60
Seagrass	0.27	0.18
Open Water	0.05	0.29
Total	6.77	0.53

Note: Mooring easement will be dredged to minimum of -7 feet to accommodate offshore vessels.

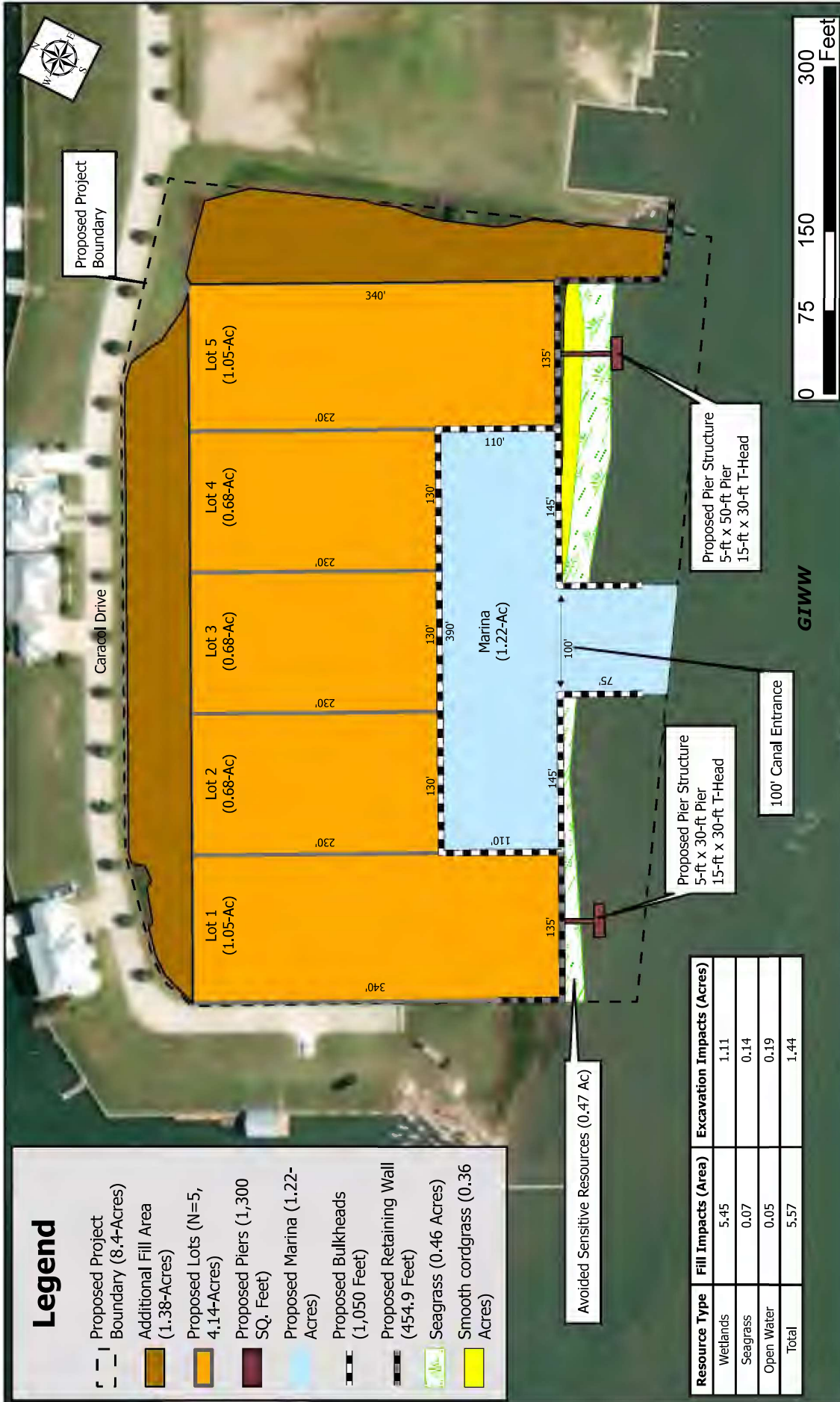
On-Site Alternative 1
8.4-Acre Proposed Project Site
Port O'Connor, Calhoun County, Texas

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Map Notes:
For planning and permitting only, not for construction.
Base Map Source: ESRI World Imagery.
Map Preparation Date: 11/22/2022 (SP).



Resource Type	Fill Impacts (Area)	Excavation Impacts (Acres)
Wetlands	5.45	1.11
Seagrass	0.07	0.14
Open Water	0.05	0.19
Total	5.57	1.44

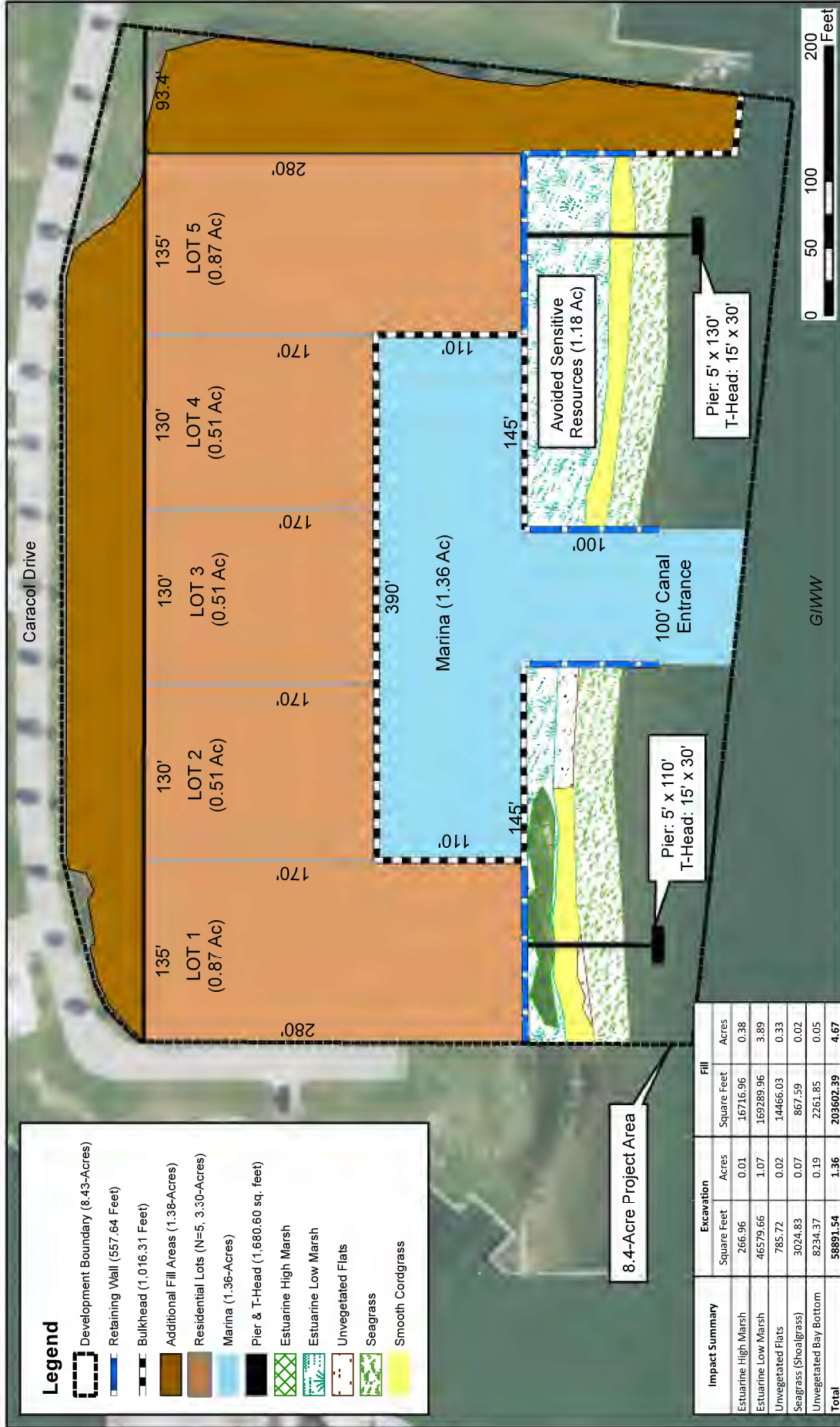
On-Site Alternative 2
8.4-Acre Proposed Project Site
Port O'Connor, Calhoun County, Texas

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Map Notes:
For planning and permitting only, not for construction.
Base Map Source: ESRI World Imagery.
Map Preparation Date: 11/23/2022 (SP).



On-Site Alternative 3: Preferred Site Plan
8.4-Acre Project Area
Port O'Connor, Calhoun County, Texas

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Map Notes:
For planning and permitting purposes only, not for construction.
Project boundary files provided by client.
Map Preparation Date: November 23, 2022 (ANB).
Base Map Source: United States Department of Agriculture (USDA).
Texas NAIP Imagery, 2018-12-31. Web, 2022-04-05.