

MATAGORDA BAY MITIGATION TRUST

Final Report



Carancahua Bay Oyster Reef Restoration



Submitted by:

Matagorda Bay Foundation

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Carancahua Bay Oyster Restoration Project — Final Report

This report summarizes the proposed restoration and enhancement of a 6-acre submerged oyster reef (locally known as Blackstone Reef) near Port Alto, Texas. The Matagorda Bay Foundation (MBF) proposes a project that will restore habitat, improve water quality, and increase oyster broodstock and population resiliency in Carancahua Bay. The effort builds on lessons from previous regional restoration efforts and is designed to provide ecological and socioeconomic benefits for local communities.

Organizational background and mission

The Matagorda Bay Foundation is dedicated to the wise stewardship of the Matagorda Bay ecosystem and the coastal watersheds that sustain it. MBF promotes understanding of the relationship between freshwater inflow and coastal productivity, advocates for habitat conservation, and supports sustainable fisheries and wildlife resources for the use and enjoyment of current and future generations. MBF focuses on estuaries in central Texas that historically receive less attention and conservation investment than larger bay systems.

Project rationale and need

Oyster reefs in the Gulf of Mexico have experienced large-scale loss; The Nature Conservancy estimates that 50–85% of reefs have been lost or degraded. Texas oyster populations have declined since the early 2000s, with pronounced losses in Galveston Bay that likely shifted harvest pressure to southern bays including Matagorda and Carancahua. Local observations over the past 10–15 years document increased commercial harvest activity by out-of-town harvesters and smaller vessels, concurrent with reported declines in recreational oyster and fishing success at community reef sites.

State and agency data corroborate these trends. Texas Parks and Wildlife Department (TPWD) data from Carancahua Bay indicate a long-term, steady decline in oyster catches from 1995 to 2018. The decline has occurred alongside altered freshwater inflows, drought, disease, pollution, and climate-driven changes in bay conditions. Both Carancahua Bay and West Carancahua Creek are listed as impaired water bodies under EPA 303(d), adding urgency to interventions that can support water quality recovery.

Ecological and community value of oysters

Oysters and oyster reefs are critical to coastal ecosystems: they provide three-dimensional hard-bottom habitat unique in Texas bays, support diverse assemblages of estuarine invertebrates and finfish, and serve as important nursery and foraging areas for recreationally and commercially important species. As filter feeders, oysters reduce turbidity and remove particulates from the water column, providing measurable water quality benefits. Restored oyster biomass in Carancahua Bay could help improve water quality in tidal flows to West Matagorda Bay and support broader bay health.

Precedent and expected performance

Halfmoon Reef in West Matagorda Bay represents the only large-scale oyster restoration completed in the bay system. Constructed with large rock to create a stable, three-dimensional structure, Halfmoon Reef was rapidly colonized by oysters, encrusting organisms, and resident invertebrates. Recreational anglers reported improved catches of spotted seatrout, sheepshead, and black drum, and Texas Sea Grant surveys documented high angler satisfaction and clear economic benefits to local communities.

Given similarities in hydrology and salinity, and recent state measures restricting commercial harvest in Carancahua Bay, MBF anticipates the proposed restoration of Blackstone Reef will perform similarly to the Halfmoon Reef. TPWD salinity data for Carancahua Bay indicate near-ideal salinity conditions for oyster

growth and survival, which supports a favorable outlook for rapid recruitment and reef development following restoration.

Project description

The project will restore and enhance approximately 6 acres of submerged oyster reef located less than 0.5 miles from the Port Alto community. Restoration will employ proven methods used at Halfmoon Reef, including placement of structurally stable cultch and rock material capable of replicating natural reef complexity and withstanding local wave energy. The design emphasizes three-dimensional habitat complexity to promote rapid colonization and support diverse assemblages of estuarine organisms.

Goals and objectives

The project pursues three interrelated goals with associated objectives:

- **1) Habitat enhancement for resident and transient species**
 - o Create essential habitat for ecologically and economically significant finfish and invertebrates, including blue crab, stone crab, spotted seatrout, black drum, and sheepshead.
 - o Restore historic fishing success at the reef to benefit local recreational anglers and coastal economies.
 - o Increase the filtration capacity of oysters in Carancahua Bay to support improved water clarity and quality.
 - o Contribute to remediation of 303(d)-listed impaired waters prior to flows into West Matagorda Bay.
- **2) Improve water quality**
 - o Increase oyster biomass and filtration to reduce turbidity and particulate loads locally and improve downstream water conditions.
 - o Support monitoring to quantify water quality changes attributable to reef restoration.
- **3) Broodstock and oyster population enhancement**
 - o Establish a resilient oyster population that contributes to natural recruitment and regional larval supply.
 - o Promote genetic and demographic diversity to increase resilience to disease, salinity fluctuations, and climate variability.

Anticipated outcomes and monitoring

Anticipated short-term outcomes include rapid colonization of cultch and rock by oysters and associated organisms, improved habitat structure, and increased recreational fishing success. Medium-term outcomes include measurable increases in oyster biomass, filtration capacity, and detectable improvements in water clarity and select water quality metrics. Long-term outcomes include enhanced recreational and commercial value of the bay, strengthened local stewardship, and contribution to regional oyster population resilience.

MBF will implement biological and water quality monitoring to document recruitment, survival, community composition, and water quality changes. Monitoring will help guide adaptive management and provide data for stakeholders and resource managers.

Conclusion

- a. Restoring the 6-acre Blackstone Reef offers a proven approach to rebuilding critical habitat, improving water quality, and supporting local fisheries and economies. Leveraging favorable salinity conditions, prior successes at Halfmoon Reef, and recent regulatory measures that reduce harvest pressure, the proposed project is well positioned to deliver ecological, recreational, and socioeconomic benefits to Carancahua Bay and surrounding communities. Create a broodstock sanctuary to enhance recruitment in Carancahua Bay
- b. Supplement wild spawn and expedite oyster recovery

- c. Enhance adjacent habitats
- 2) **Promote education and understanding of oyster habitat**
 - a. Engage public in restoration activities
 - b. Provide monitoring updates
 - c. Inform future restoration and oyster management

Task 1. MBF contracted with Compass Environmental Services to conduct required site surveys, develop design specifications, complete all state and federal permitting required by several regulatory agencies, including the Texas Parks and Wildlife Department (TPWD), United States Army Corps of Engineers (USACE), to take the project to construction-ready status.

Site assessments, bathymetric surveys, oyster and seagrass surveys, conceptual project designs were completed on time and according to contractual agreements.

Task 2. MBF conducted public meetings for residents of the Carancahua Bay area, CCA and other interested stakeholder groups to discuss proposed project site, discuss project needs, and solicit public input on design, implementation, and future monitoring efforts. General Stakeholder meetings were held in Palacios, to solicit input on project design and location. MBF meetings with CCA were held approximately 1 year after the project was initiated, and in June of 2026.

Task 3 MBF coordinated material selection with Compass Environmental Services, CCA Texas, and resource agency staff to identify the most suitable construction materials. CCA Texas has committed \$1 million to assist with material acquisition and placement.

Task 4. MBF held meetings with engineers, resource agency staff and stakeholder groups as progress was made on the project.

Impact the project will have on the areas it benefits and the longevity of those benefits.

In 2015 the TPWD approved a ban on commercial oyster harvest in Carancahua Bay. The commercial harvest ban will allow the restoration project to evolve as an undisturbed, “natural reef” with associated ecosystem benefits. The new harvest restrictions will in effect create an “oyster sanctuary” that can be used to evaluate the effects of commercial

harvest on reef health and resilience.

Based on oyster filtration rate estimates developed by The Nature Conservancy, the 6-acre restored reef, once fully colonized, would filter an estimated 1.4 billion gallons of water each day – the equivalent of the water use rates in 20,000 single family homes.

Spawning potential at the restored site should increase as the cultch becomes colonized by oysters. Oyster spawn at the reef will supplement wild spawn and may facilitate the success of planned oyster restoration and living shoreline construction efforts located a few miles from the proposed project site at the mouth of Carancahua Bay.

The Half Moon reef restoration in West Matagorda Bay has become an extremely popular recreational fishing destination for guides and private anglers, alike. Oyster reefs, particularly those with 2-3 feet of vertical relief off the bottom serve as important habitat for finfish. A TPWD unpublished study demonstrated a significant relationship between spotted seatrout and 3-dimensional oyster reef structures. The same study indicated that finfish communities collected at reef habitats were significantly different than those found along shoreline habitats (seagrasses and marsh edge). While the nature of relationships is not clear, the importance of oyster habitats to estuarine finfish is.

Reef crown elevation is also an important factor in reef resilience. Historically, most reefs on the Texas coast displayed significant vertical relief off the bottom as generation upon generation of oysters settled on their antecedent generations. Commercial harvest systematically removes oysters and substrates from reef structures, reducing crown height and making them vulnerable to sedimentation during storms. Reefs with elevated crown are less susceptible to being buried and will maintain levels of ecosystem benefit.

Finally, if the project is funded it will be the second oyster reef restoration of any scale in the Matagorda Bay ecosystem. Oyster reef restoration is a relatively new conservation tool and this project will help to inform and refine techniques for future oyster enhancement projects in Matagorda Bay.

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PART V – ATTACHMENTS



TEXAS GENERAL LAND OFFICE

COASTAL SURFACE LEASE NO. SL20250069

STATE OF TEXAS

§

KNOW ALL MEN BY THESE PRESENTS:

§

COUNTY OF CALHOUN

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This Coastal Surface Lease SL20250069, ("Lease"), is granted by virtue of the authority granted in Section 51.121, et seq., TEX. NAT. RES. CODE ANN., 31 TEX. ADMIN. CODE, Chapter 13, Land Resources, et seq., and all other applicable statutes and rules, as the same may be amended from time to time, and is subject to all applicable regulations promulgated from time to time.

ARTICLE I. PARTIES

1.01. In consideration of the mutual covenants and agreements set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the STATE OF TEXAS, acting by and through the Commissioner of the General Land Office, on behalf of the Permanent School Fund of the State of Texas (the "State"), hereby grants to **Matagorda Bay Foundation**, whose address is 15918 CR 946, Brazoria, TX, 77422 ("Lessee"), the right to use the surface estate of certain Permanent School Fund land (the "Leased Premises") for the purposes identified in Article V below.

ARTICLE II. LEASED PREMISES

2.01. The Leased Premises is described below and further described or depicted on Exhibits attached hereto and collectively incorporated by reference for all purposes:

A portion of State Tracts 212, 213, 223, and 224, Carancahua Bay, Calhoun County, Texas

2.02. **LESSEE HAS INSPECTED THE PHYSICAL AND TOPOGRAPHIC CONDITION OF THE LEASED PREMISES AND ACCEPTS SAME "AS IS" IN ITS EXISTING PHYSICAL AND TOPOGRAPHIC CONDITION. LESSEE IS NOT RELYING ON ANY REPRESENTATION OR WARRANTY OF THE STATE REGARDING ANY ASPECT OF THE LEASED PREMISES, BUT IS RELYING ON LESSEE'S OWN INSPECTION OF THE LEASED PREMISES. THE STATE DISCLAIMS ANY AND ALL WARRANTIES OF HABITABILITY, MERCHANTABILITY, SUITABILITY, FITNESS FOR ANY PURPOSE, AND ANY OTHER WARRANTY WHATSOEVER NOT EXPRESSLY SET FORTH IN THIS LEASE. THE STATE AND LESSEE HEREBY AGREE AND ACKNOWLEDGE THAT THE USE OF THE TERMS "GRANT" AND/OR "CONVEY" IN NO WAY IMPLIES THAT THIS LEASE OR THE LEASED PREMISES ARE FREE OF LIENS, ENCUMBRANCES AND/OR PRIOR RIGHTS. LESSEE IS HEREBY PUT ON NOTICE THAT ANY PRIOR GRANT AND/OR ENCUMBRANCES MAY BE OF RECORD AND LESSEE IS ADVISED TO EXAMINE ALL RECORDS OF THE STATE AND COUNTY IN WHICH THE LEASED PREMISES ARE LOCATED. THE PROVISIONS OF THIS SECTION SHALL SURVIVE THE EXPIRATION OR EARLIER TERMINATION OF THIS LEASE.**

ARTICLE III. TERM

3.01. This Coastal Surface Lease No. SL20250069 is for a term of ten (10) years, commencing on November 1, 2025 and terminating on October 31, 2035, unless earlier terminated as provided herein. The State reserves the right to review, amend, cancel, or otherwise modify this Lease at any time during its term upon 30-day written notice to Lessee as prescribed in Article XI. Renewal of this Lease is at the sole discretion of the State, and no right to renew is implied or provided for herein.

ARTICLE IV. CONSIDERATION

4.01. A. As consideration ("Consideration") for the granting of this Lease, Lessee shall pay rent ("Rent") to the State (payable to the Commissioner of the General Land Office at Austin, Texas) the sum of **Two Thousand And 00/100 Dollars (\$2,000.00)**.

B. Consideration for this Lease shall be payable in ten (10) installments, in advance, of **Two Hundred And 00/100 Dollars (\$200.00)**. The first annual installment shall be made upon the execution hereof and subsequent annual installments are to be made on or before each anniversary of the effective date hereof.

C. Past due Rent and other past due payments shall bear interest from maturity at the per annum rate provided under Section 51.301, TEX. NAT. RES. CODE ANN. from the due date until the date they are actually paid. If Lessee fails to make a payment by its respective due date, then the State will have the option to make all payments due and payable immediately.

ARTICLE V. USE OF THE LEASED PREMISES

5.01. The Leased Premises may be used by Lessee solely for maintenance of a **HABITAT CREATION PROJECT CONSISTING OF FOURTEEN (14) 0.614 ACRE INDIVIDUAL REEFS (8.6 ACRES) WITHIN A 20 ACRE (871,200 SQUARE FOOT) LEASED AREA** and for no other purpose. The Leased Premises are to remain in their current topographical and hydrologic condition during the term of the Lease. Lessee is specifically prohibited from modifying the Leased Premises in any manner not authorized herein, and from using, or allowing the use by others, of the Leased Premises for any other purpose.

5.02. Lessee shall not use, or permit the use of, the Leased Premises for any illegal purpose. Lessee will comply with, and will cause its officers, employees, agents and invitee to comply with, all applicable federal, State and local laws, ordinances and rules concerning the use of the Leased Premises.

5.03. The State reserves the exclusive right to grant easements, rights-of way and/or other grants of interest authorizing use of the Leased Premises, provided such use does not unreasonably interfere with Lessee's use thereof.

5.04. Lessee shall not grant other rights in or to the Leased Premises to any other person or entity, and any attempt to do so shall be void and of no effect and shall constitute a default by Lessee hereunder.

5.05. The State reserves the right to enter upon the Leased Premises at any time with or without prior notice to Lessee to inspect the condition thereof and/or take action authorized by this Lease.

5.06. The Leased Premises are subject to prospecting, production and development of oil, gas and other minerals and other materials of commercial value by the State, its lessees, permittee, licensees or other agents, assigns or representatives. Lessee shall not interfere with such use of the Leased Premises and shall allow any lessee, permit holder, licensee or other agent, assignee or representative of the State and/or the School Land Board the right of ingress and egress over, across and through, and the use of, the Leased Premises for any and all purposes authorized by the State.

5.07. Lessee may not charge the State's authorized lessees, permit holders, licensees or other agents, assigns or representatives surface damages, or any other fee, for use of the Leased Premises; provided, however, the foregoing shall not limit the liability of any person or entity to Lessee for damages caused to property owned by Lessee.

5.08. Lessee's use of the Leased Premises is subject to and contingent upon compliance with the following covenants, obligations and conditions (the "Special Conditions")

1. Lessee is responsible for securing all permits required to develop the Leased Premises at its expense. Lessee must submit any and all applications and required documentation related to any permits it seeks to the State for approval in advance of submission for review or approval by any regulating entity. Lessee must also submit a copy of any reports submitted to any federal, state, or local agency concerning operations on the Leased Premises to the State as such reports are prepared.

2. Lessee shall not place any permanent structures or improvements anywhere on the Leased Premises.
3. Lessee is required to conduct a pre- and post-construction oyster survey for the project. Lessee shall provide the Texas General Land Office Corpus Christi Field Office with a two (2) week advance notice before beginning the pre-construction survey to enable State staff to participate if desired. Two (2) copies of the report containing findings of the pre-construction survey shall be submitted to the Texas General Land Office, Corpus Christi Field Office no more than ninety (90) days following completion of the survey.
4. Lessee shall provide the State, by providing the Texas General Land Office, Corpus Christi Field Office two (2) weeks advance notice before beginning the post-construction survey to enable State staff to participate if desired. The post-construction survey shall be performed within twelve (12) weeks of completion of the activity authorized herein. Two copies of the report summarizing results of the post-construction survey shall be submitted to the Texas General Land Office, Corpus Christi Field Office no more than ninety (90) days following completion of the survey.
5. The boundary of the created oyster reef shall be clearly marked using temporary navigation aids (posts, pilings, poles, buoys, flags, etc.) so that construction crews can properly delineate boundaries of the authorized work area and avoid impacts to state-owned land and resources adjacent to the project site. All materials used to mark the work area shall be removed by the Lessee and properly disposed of on private upland property within thirty (30) days following completion of construction.
6. Lessee shall not place any material that has not been pre-approved by the State on the Leased Premises without prior approval of the State. Pre-approved materials are reefing materials that meet national and state guidelines for durable, stable, and complex reef materials and are agreed to in advance by Lessee and the State. The initial agreed list of approved reefing materials includes crushed limestone, river rock, rock, recycled crushed concrete, and/or oyster shell. Materials can be added to the list of pre-approved materials by mutual written agreement between the Lessee and the State. No less than thirty (30) days prior to placement of any habitat-building structure material on the Leased Premises, Lessee shall provide the State with advance notification of the proposed materials to be placed if they are not listed as pre-approved materials. The State will review the proposed material to determine whether there will be any unacceptable impacts to mineral or wind energy research, exploration, or development, other State resources and within thirty (30) days provide written comments or approval or denial of the proposed placement. The State will not approve the placement of material containing human remains.
7. Lessee is prohibited from selling, exchanging, or otherwise transferring credits for mitigation purposes related to its activities on the Leased Premises without the express consent and involvement of the State.
8. At the termination of the lease, lessee will not be required to remove pre-approved oyster reef material that has been placed according to the terms and conditions of the lease.
9. Lessee shall maintain markers (aids to navigation) according to U.S. Coast Guard regulations.

ARTICLE VI. ASSIGNMENTS

6.01. Lessee shall not assign the Leased Premises or the rights granted herein, in whole or part, to any third party for any purpose without the prior written consent of the State, which may be granted or denied in the State's sole discretion. Any unauthorized assignment shall be void and of no effect and such assignment shall not relieve Lessee of any liability for any obligation, covenant, or condition of this Lease. This provision, and the prohibition against assignment contained herein, shall survive expiration or earlier termination of this Lease. For purposes of this Lease, an assignment is any transfer, including by operation of law, to another of all or part of the property, interest or rights herein granted.

ARTICLE VII. PROTECTION OF NATURAL AND HISTORICAL RESOURCES

7.01. Lessee shall take no action on the Leased Premises which results in the discharge of any solid or liquid material. Lessee shall use the highest degree of care and all appropriate safeguards to: (i) prevent pollution of air, ground, and water in and around the Leased Premises, and (ii) to protect and preserve natural resources and wildlife habitat. Lessee shall comply with all applicable rules and regulations of the General Land Office and other governmental agencies responsible for the protection and preservation of public lands and waters. In the event of pollution or an incident that may result in pollution of the Leased Premises or adjacent property which is the result of Lessee's (or Lessee's employees, contractors, invitees and agents) acts or omissions, Lessee shall immediately notify the State, use all means reasonably available to recapture any pollutants which have escaped or may escape, and mitigate for any and all natural resources damages caused thereby.

7.02. LESSEE IS EXPRESSLY PLACED ON NOTICE OF THE NATIONAL HISTORICAL PRESERVATION ACT OF 1966, (PB-89-66, 80 STATUTE 915; §470) AND THE ANTIQUITIES CODE OF TEXAS, CHAPTER 191, TEX. NAT. RES. CODE ANN. IN THE EVENT THAT ANY SITE, OBJECT, LOCATION, ARTIFACT OR OTHER FEATURE OF ARCHEOLOGICAL, SCIENTIFIC, EDUCATIONAL, CULTURAL OR HISTORIC INTEREST IS ENCOUNTERED DURING ANY ACTIVITY ON THE LEASED PREMISES, LESSEE WILL IMMEDIATELY CEASE SUCH ACTIVITIES AND WILL IMMEDIATELY NOTIFY THE STATE AND THE TEXAS HISTORICAL COMMISSION, P.O. BOX 12276, AUSTIN, TEXAS 78711, SO THAT ADEQUATE MEASURES MAY BE UNDERTAKEN TO PROTECT OR RECOVER SUCH DISCOVERIES OR FINDINGS, AS APPROPRIATE.

ARTICLE VIII. INDEMNITY

8.01. LESSEE SHALL BE FULLY LIABLE AND RESPONSIBLE FOR ANY DAMAGE, OF ANY NATURE, ARISING OR RESULTING FROM ITS OWN ACTS OR OMISSIONS RELATED TO ITS EXERCISE OF THE RIGHTS GRANTED HEREIN. LESSEE AGREES TO AND SHALL INDEMNIFY AND HOLD THE STATE, THE STATE'S OFFICERS, AGENTS, AND EMPLOYEES, HARMLESS FROM AND AGAINST CLAIMS, SUIT, COSTS, LIABILITY OR DAMAGES OF ANY KIND, INCLUDING STRICT LIABILITY CLAIMS, WITHOUT LIMIT AND WITHOUT REGARD TO CAUSE OF THE DAMAGES OR THE NEGLIGENCE OF ANY PARTY, EXCEPT FOR THE CONSEQUENCES OF THE NEGLIGENT ACTS OR WILLFUL MISCONDUCT OF THE STATE, THE STATE'S OFFICERS, AGENTS, EMPLOYEES, OR INVITEES, ARISING DIRECTLY OR INDIRECTLY FROM LESSEE'S USE OF THE LEASED PREMISES (OR ANY ADJACENT OR CONTIGUOUS PSF LAND) OR FROM ANY BREACH BY LESSEE OF THE TERMS, COVENANTS OR CONDITIONS CONTAINED HEREIN. THE PROVISIONS OF THIS SECTION SHALL SURVIVE EXPIRATION OR EARLIER TERMINATION OF THIS LEASE.

ARTICLE IX. DEFAULT, TERMINATION AND EXPIRATION

9.01. If, following thirty (30) days prior written notice from the State specifying a default or breach, Lessee fails to pay any money due hereunder or is in breach of any term or condition of this Lease, the State shall have the right, at its option and its sole discretion, to terminate this Lease and all rights inuring to Lessee herein by sending written notice of such termination to Lessee in accordance with ARTICLE XI of this Lease. Upon sending of such written notice, this Lease shall automatically terminate, and all rights granted herein to Lessee shall revert to the State. Such termination shall not prejudice the rights of the State to collect any money due or to seek recovery on any claim arising hereunder.

9.02. If Lessee fails to remove its personal property from the Leased Premises within the time specified in Section 9.01 above, or if Lessee fails to remove improvements placed or constructed on the Leased Premises by or behalf of Lessee pursuant to a notice by the State to do so pursuant to Section 9.01 above, then the State may, at its sole option, remove and dispose of such property (with no obligation to sell or otherwise maintain such property in accordance with the Uniform Commercial Code), at Lessee's sole cost and expense, or the State may elect to own such property by filing a notice of such election pursuant to Section 51.302, et seq., TEXAS NATURAL RESOURCES CODE ANNOTATED. If the State elects to remove Lessee's property and dispose of it pursuant to this section, then in such an event Lessee shall be obligated to reimburse the State for the reasonable costs of such removal and disposal within ten (10) days of the State's demand for reimbursement. **THE TERMS OF THIS SECTION SHALL SURVIVE EXPIRATION OR EARLIER TERMINATION OF THIS LEASE.**

9.03. In addition to the above, Lessee shall pay and discharge any and all taxes, general and special assessments, and other charges which during the term of this Lease may be levied on or assessed against the Leased Premises or the Improvements constructed thereon, provided such taxes result from Lessee's use under this Lease. Lessee shall pay such taxes, charges, and assessments not less than five (5) days prior to the date of delinquency thereof directly to the authority or official charged with the collection thereof. Lessee shall have the right in good faith at its sole cost and expense to contest any such taxes, charges, and assessments, and shall be obligated to pay the contested amount only if and when finally determined to be owed.

9.04. **LESSEE AGREES TO AND SHALL PROTECT AND HOLD THE STATE HARMLESS FROM LIABILITY FOR ANY AND ALL SUCH TAXES, CHARGES, AND ASSESSMENTS, TOGETHER WITH**

ANY PENALTIES AND INTEREST THEREON, AND FROM ANY SALE OR OTHER PROCEEDING TO ENFORCE PAYMENT THEREOF.

ARTICLE X. HOLDOVER

10.01. If Lessee holds over and continues in possession of the Leased Premises after expiration or earlier termination of this Lease, Lessee will be deemed to be occupying the Leased Premises on the basis of a month-to-month tenancy subject to all of the terms and conditions of this Lease, except that as liquidated damages by reason of such holding over, the amounts payable by Lessee under this Lease shall be increased such that the Consideration payable under Section 4.01 of this Lease and any other sums payable hereunder shall be two hundred percent (200%) of the amount payable to the State by Lessee for the applicable period immediately preceding the first day of the holdover period. Lessee acknowledges that in the event it holds over, the State's actual damages will be difficult, if not impossible, to ascertain, and the liquidated damages herein agreed to be paid are reasonable in amount and are payable in lieu of actual damages and are not a penalty. Lessee further acknowledges that acceptance of hold over Consideration does not imply the State's consent to hold over.

10.02. The tenancy from month-to-month described above may be terminated by either party upon thirty (30) days written notice to the other.

10.03. The Consideration due after notice of termination has been given is to be calculated according to Section 10.01 hereinabove on a pro rata basis. If upon notice of termination by the State, Lessee pays Consideration in excess of the amount due and payable and the State accepts such payment, the acceptance of such payment will not operate as a waiver by the State of the notice of termination unless such waiver is in writing and signed by the State. Any such excess amounts paid by Lessee and accepted by the State shall be promptly refunded by the State after deducting therefrom any amounts owed to the State.

ARTICLE XI. NOTICE

11.01. Any notice which may or shall be given under the terms of this Lease shall be in writing and shall be either delivered by hand, by facsimile, or sent by United States first class mail, adequate postage prepaid, if for the State to the Director of the Permanent School Fund Income Division, addressed to 1700 North Congress Avenue, Austin, Texas 78701-1495, Fax (512) 463-5304, and if for Lessee, to Matagorda Bay Foundation, 15918 CR 946, Brazoria, TX 77422. Any party's address may be changed from time to time by such party by giving notice as provided above, except that the Leased Premises may not be used by Lessee as the sole notice address. No change of address of either party shall be binding on the other party until notice of such change of address is given as herein provided.

11.02. For purposes of the calculation of various time periods referred to in this Lease, notice delivered by hand shall be deemed received when delivered to the place for giving notice to a party referred to above. Notice mailed in the manner provided above shall be deemed completed upon the earlier to occur of (i) actual receipt as indicated on the signed return receipt, or (ii) three (3) days after posting as herein provided.

ARTICLE XII. INFORMATIONAL REQUIREMENTS

12.01. A. Lessee shall provide written notice to the State of any change in Lessee's name, address, corporate structure, legal status or any other information relevant to this Lease.

B. Lessee shall provide to the State any other information reasonably requested by the State in writing within fifteen (15) days following such request or such other time period approved by the State (such approval not to be unreasonable withheld).

ARTICLE XIII. MISCELLANEOUS PROVISIONS

13.01. With respect to terminology in this Lease, each number (singular or plural) shall include all numbers, and each gender (male, female or neuter) shall include all genders. If any provision of this Lease shall ever be held to be invalid or unenforceable, such invalidity or unenforceability shall not affect any other provisions of the Lease, but such other provisions shall continue in full force and effect.

13.02. The titles of the Articles in this Lease shall have no effect and shall neither limit nor amplify the provisions of the Lease itself. This Lease shall be binding upon and shall accrue to the benefit of the State, its successors and assigns, Lessee, Lessee's successors and assigns (or heirs, executors, administrators and assigns, as the case may be); however, this clause does not constitute a consent by the State to any assignment by Lessee, but instead refers only to those instances in which an assignment is hereafter made in strict compliance with Article VI above, or in the case of a deceased natural person Lessee, refers to the instances previously referred to in this sentence and also circumstances in which title to Lessee's interest under this Lease passes, after the demise of Lessee, pursuant to Lessee's will or the laws of intestate succession. The words "hereof," "herein," "hereunder," "hereinafter" and the like refer to this entire instrument, not just to the specific article, section or paragraph in which such words appear.

13.03. Neither acceptance of Consideration (or any portion thereof) or any other sums payable by Lessee hereunder (or any portion thereof) to the State nor failure by the State to complain of any action, non-action or default of Lessee shall constitute a waiver as to any breach of any covenant or condition of Lessee contained herein nor a waiver of any of the State's rights hereunder. Waiver by the State of any right for any default of Lessee shall not constitute a waiver of any right for either a prior or subsequent default of the same obligation or for any prior or subsequent default of any other obligation. No right or remedy of the State hereunder or covenant, duty or obligation of Lessee hereunder shall be deemed waived by the State unless such waiver be in writing, signed by a duly authorized representative of the State.

13.04. No provision of this Lease shall be construed in such a way as to constitute the State and Lessee joint ventures or co-partners or to make Lessee the agent of the State or make the State liable for the debts of Lessee.

13.05. In all instances where Lessee is required hereunder to pay any sum or do any act at a particular indicated time or within an indicated period, it is understood that time is of the essence.

13.06. Under no circumstances whatsoever shall the State ever be liable hereunder for consequential damages or special damages. The terms of this Lease shall only be binding on the State during the period of its ownership of the Leased Premises, and in the event of the transfer of such ownership interest, the State shall thereupon be released and discharged from all covenants and obligations thereafter accruing, but such covenants and obligations shall be binding during the Lease term upon each new owner for the duration of such owner's ownership.

13.07. All monetary obligations of the State and Lessee (including, without limitation, any monetary obligation for damages for any breach of the respective covenants, duties or obligations of either party hereunder) are performable exclusively in Austin, Travis County, Texas.

13.08. The obligation of Lessee to pay all Consideration and other sums hereunder provided to be paid by Lessee and the obligation of Lessee to perform Lessee's other covenants and duties under this Lease constitute independent, unconditional obligations to be performed at all times provided for hereunder, save and except only when an abatement thereof or reduction therein is expressly provided for in this Lease and not otherwise. Lessee waives and relinquishes all rights which Lessee might have to claim any nature of lien against, or withhold or deduct from or offset against, any Consideration or other sums provided hereunder to be paid to the State by Lessee. Lessee waives and relinquishes any right to assert, either as a claim or as a defense, that the State is bound to perform or is liable for the nonperformance of any implied covenant or implied duty of the State not expressly set forth in this Lease.

13.09. In the event any provision of this Lease is more restrictive than any administrative rule promulgated by the General Land Office and/or the School Land Board, this Lease shall control.

ARTICLE XIV. ENTIRE AGREEMENT

14.01. This Lease, including any exhibits to the same, constitutes the entire agreement between the State and Lessee; no prior written or prior oral contemporaneous oral promises or representations shall be binding. The submission of this Lease for examination by Lessee or the State and/or execution thereof by the Lessee or the State does not constitute a reservation of or option for the Leased Premises and this Lease shall become effective only upon execution of all parties hereto and deliver of a fully executed counterpart thereof by the State to the Lessee. This Lease shall not be amended, changed or extended except by written instrument signed by both parties thereto.

IN TESTIMONY WHEREOF, witness my hand and the Seal of Office.

LESSOR:
THE STATE OF TEXAS

By: _____
DAWN BUCKINGHAM, M.D.
Commissioner, General Land Office

Date: _____

APPROVED:

Contents:  AN _____

Legal: _____

Deputy Director: _____

Executive: _____

LESSEE:

Matagorda Bay Foundation

By: _____

(Signature)

William A. Balboa

(Printed Name)

Executive Director

(Title)

Date: _____

10 - 22 - 2025

ACKNOWLEDGMENT

STATE OF _____

Texas

§

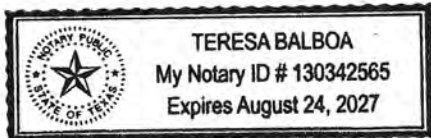
COUNTY OF _____

Brazoria

§

§

This instrument was acknowledged before me on the 22nd day of October, 2025,
by William Balboa for Matagorda Bay Foundation.



Notary Stamp

Teresa Balboa

(Notary Signature)

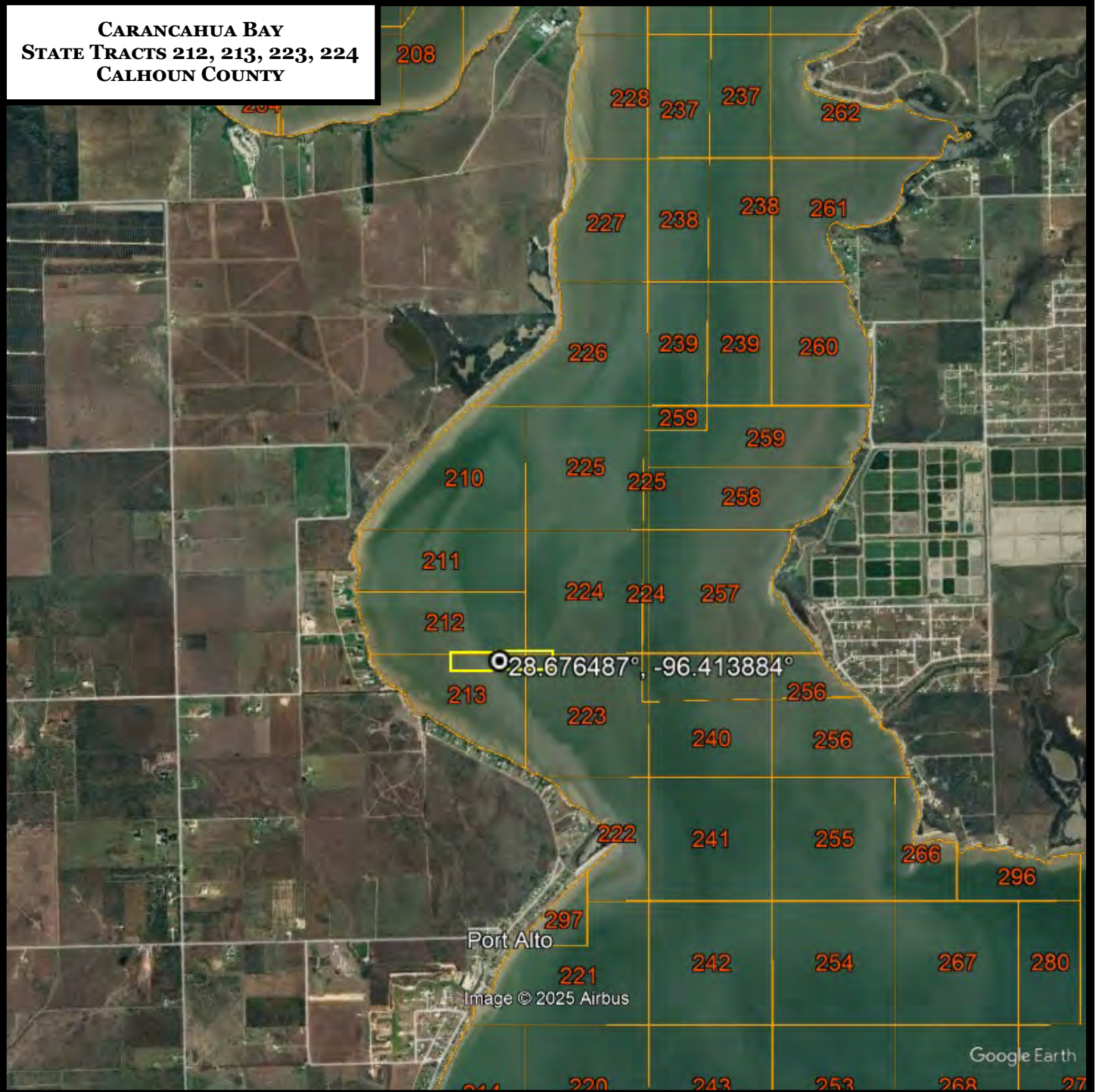
Notary Public, State of _____

Texas

My commission expires: _____

8-24-2027

**CARANCAHUA BAY
STATE TRACTS 212, 213, 223, 224
CALHOUN COUNTY**



Matagorda Bay Foundation

SL20250069



The Texas General Land Office makes no representations or warranties regarding the accuracy or completeness of the information depicted on this map or the data from which it is produced. This map IS NOT suitable for navigational purposes and does not purport to depict or establish boundaries between private and public land.

Scale: NTS

Date of Review: 9/16/2025

Exhibit A

CARANCAHUA BAY
STATE TRACTS 212, 213, 223, 224
CALHOUN COUNTY



Matagorda Bay Foundation

SL20250069



The Texas General Land Office makes no representations or warranties regarding the accuracy or completeness of the information depicted on this map or the data from which it is produced. This map IS NOT suitable for navigational purposes and does not purport to depict or establish boundaries between private and public land.

Scale: NTS

Date of Review: 9/16/2025

Exhibit B



CARANCAHUA BAY

State Tract 211

State Tract 224

State Tract 212

Unvegetated
Submerged

Leased Area for Oyster
Habitat Creation (20 acres)

Approx. 1,100 ft.

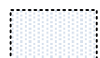
Approx. 2,200 ft.

★ -4' HWM

State Tract 213

State Tract 223

Legend



Lease area - 871,200 square feet (20 acres)



Oyster Reef Mounds - 374,616 square feet (8.6 acres)
Fourteen (14) - 0.614 acre individual reefs

Project Purpose

To help establish oyster habitat within the area and allow for sustainable population growth within the bay to reestablish a healthy population of oysters and other marine resources within the area

Coordinates for Leased Area

Center: 28.676487, -96.413884
NW Corner: 28.676912, -96.417286
SW Corner: 28.675834, -96.417277
SE Corner: 28.675923, -96.410398
NE Corner: 28.67702, -96.410404

TITLE: Matagorda Bay Foundation / SL20250069

DATE OF REVIEW: September 16, 2025

COMPANY: Texas General Land Office

CREATOR: rpardo

DRAWING SCALE: Not to scale

EXHIBIT C



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT
2000 FORT POINT ROAD
GALVESTON, TEXAS 77550

May 5, 2025

Central Branch

SUBJECT: Permit No. SWG-2024-00721; Nationwide Permit Verification

Matagorda Bay Foundation
Bill Balboa
15918 CR 946
Brazoria, Texas 77422
Sent via email to: bbalboa@matbay.org

Dear Mr. Balboa:

This is in reference to your request, dated March 21, 2025, submitted on your behalf by Compass Environmental, to discharge 28,000 cubic yards of fill material into 8.6 acres of open bay bottom of Carancahua Bay for the restoration of an oyster reef. Restoration activities require the discharge of a 12-inch thick layer of 3 - 5 inch crushed limestone or clean concrete topped with a single layer of 18-inch crushed stone or clean concrete placed on top. A biodegradable / natural fiber underlayment will be placed beneath the reef materials. The material will be discharged into 14 cells measuring 60-foot by 360-foot in water depths of 4 to 5 feet. The project site is located in Carancahua Bay, approximately 0.84-mile west of southwest of the intersection of Tiger Shark Lane and Porpoise Drive, in Port Lavaca, Calhoun County, Texas.

This request is verified by Nationwide Permit (NWP) 27 pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. This NWP verification is valid provided the activity is compliant with the enclosed plans, in 5 sheets. In addition, the activity must be in compliance with the NWP General/Regional Conditions, Section 401 Water Quality Certification, and the Coastal Management Program, which can be found at:

<https://www.swg.usace.army.mil/Missions/Regulatory/Permits/Nationwide-General-Permits/>, a hard copy can be provided to you upon request.

NWP 27. Aquatic Habitat Restoration, Enhancement, and Establishment Activities: Activities in waters of the United States associated with the restoration, enhancement, and establishment of tidal and non-tidal wetlands and riparian areas.

The NWP verification is valid until the NWP is modified, reissued, or revoked. The subject NWPs authorized in 2026 are scheduled to be modified, reissued, or revoked prior to March 15, 2031. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant NWP is modified or revoked, you will have 12 months from the date of the

modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP.

The following special condition has been added to your authorization:

The permittee shall comply with the Endangered Species Act and implement all of the mitigating measures identified in the enclosed National Marine Fisheries Service Letter of Concurrence (SERO-2025-01586, dated 27 April 2026) and National Marine Fisheries Service Request for Expedited Informal Consultation letter (dated 17 September 2025, with revisions noted and dated 29 January 2026), including those ascribed to the Corps therein (Attachment A). If you are unable to implement any of these measures, you must immediately notify the Corps and the National Marine Fisheries Service so we may consult as appropriate, prior to initiating the work, in accordance with Federal law.

This verification does not address nor include any consideration for geographic jurisdiction on aquatic resources and shall not be interpreted as such. If you have any questions, please contact Zechariah Turk by telephone at 409-766-3974 or by electronic mail (email) Zechariah.J.Turk@USACE.Army.Mil. Please notify the Galveston District Regulatory Division in writing by email at CESWGRegulatoryInbox@USACE.Army.Mil, upon completion of the authorized project.

FOR THE DISTRICT COMMANDER:

A handwritten signature in blue ink, appearing to read "K Marie Taylor".

K. Marie Taylor
Leader, Central Branch

cc w/Encl.

Matt Chastain, Compass Environmental; Sent via email to:
mchastain@compassenvs.com

Eighth Coast Guard District, New Orleans, LA

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Coast & Geodetic Survey, Silver Spring, MD

Texas Commission on Environmental Quality

Texas General Land Office



Legend

★ Project Location

Prepared By:



Prepared For:

**Matagorda Bay
Foundation, Inc.**

**Figure 1.0
Vicinity Map**

Calhoun County, TX

Project: Carancahua Bay Survey & Permitting

Project No: 0156

Date Drawn: 3/7/2025

Source: ESRI World Street Map

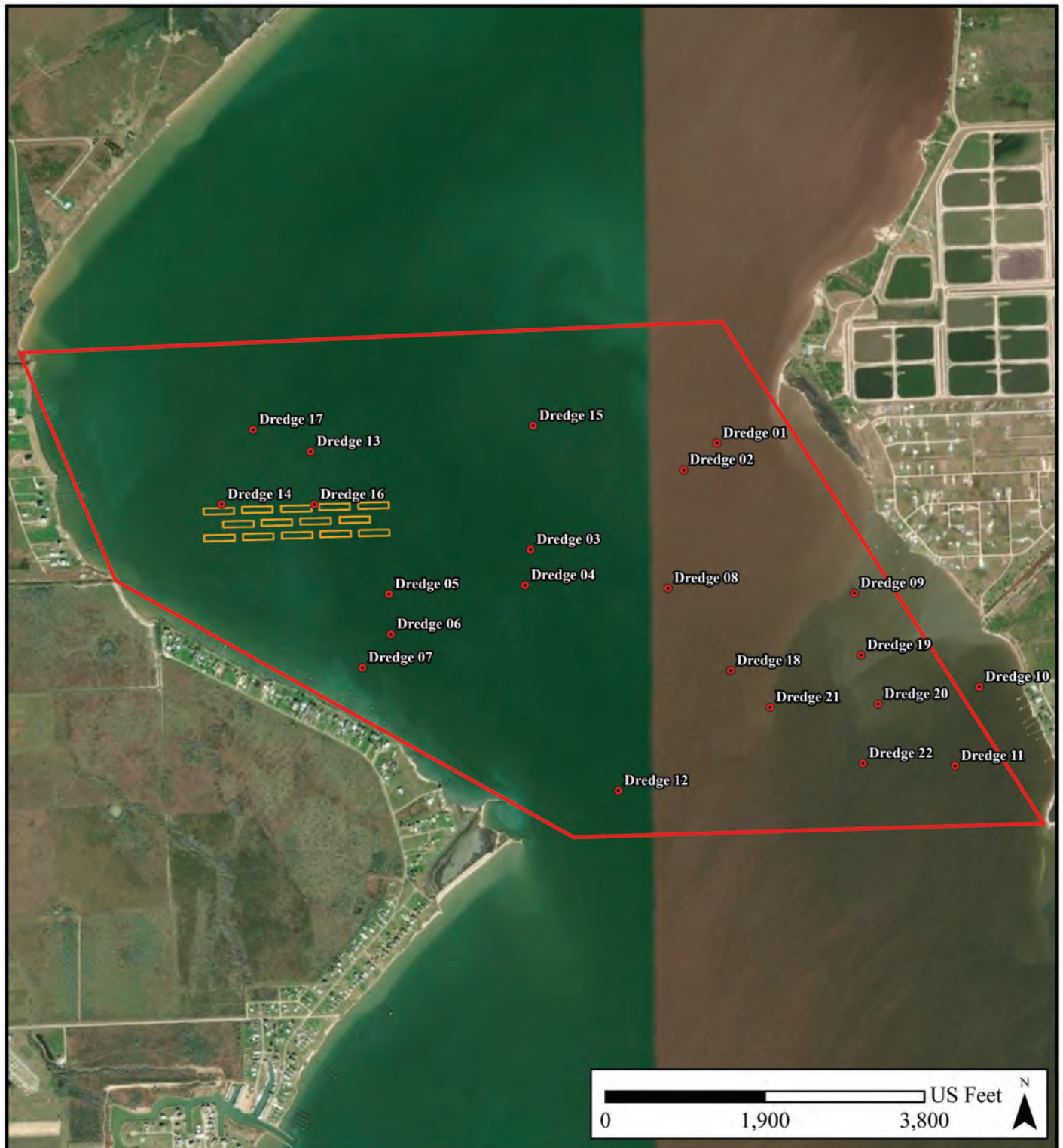
Scale: 1:300,000

Projection: NAD 1983 State Plane Texas
South Central FIPS 4204 Feet

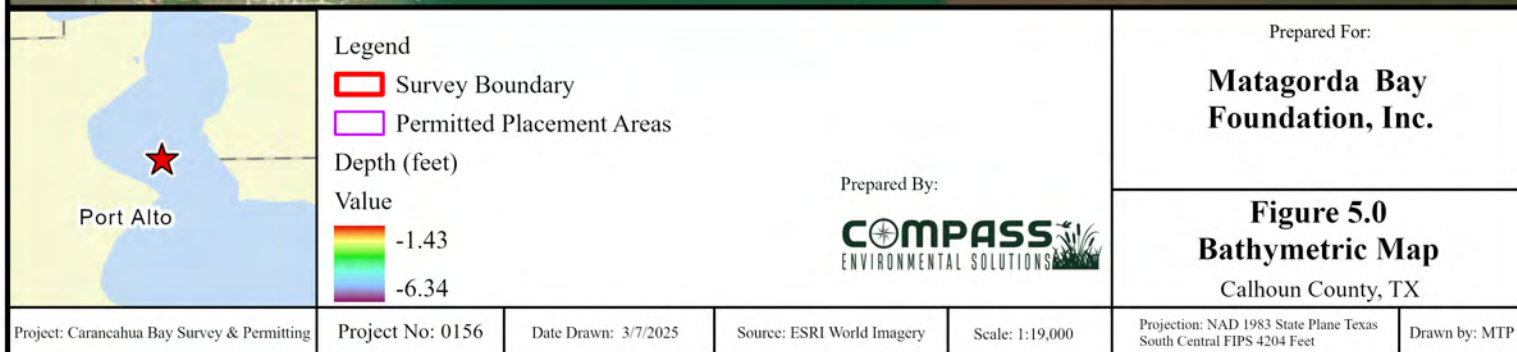
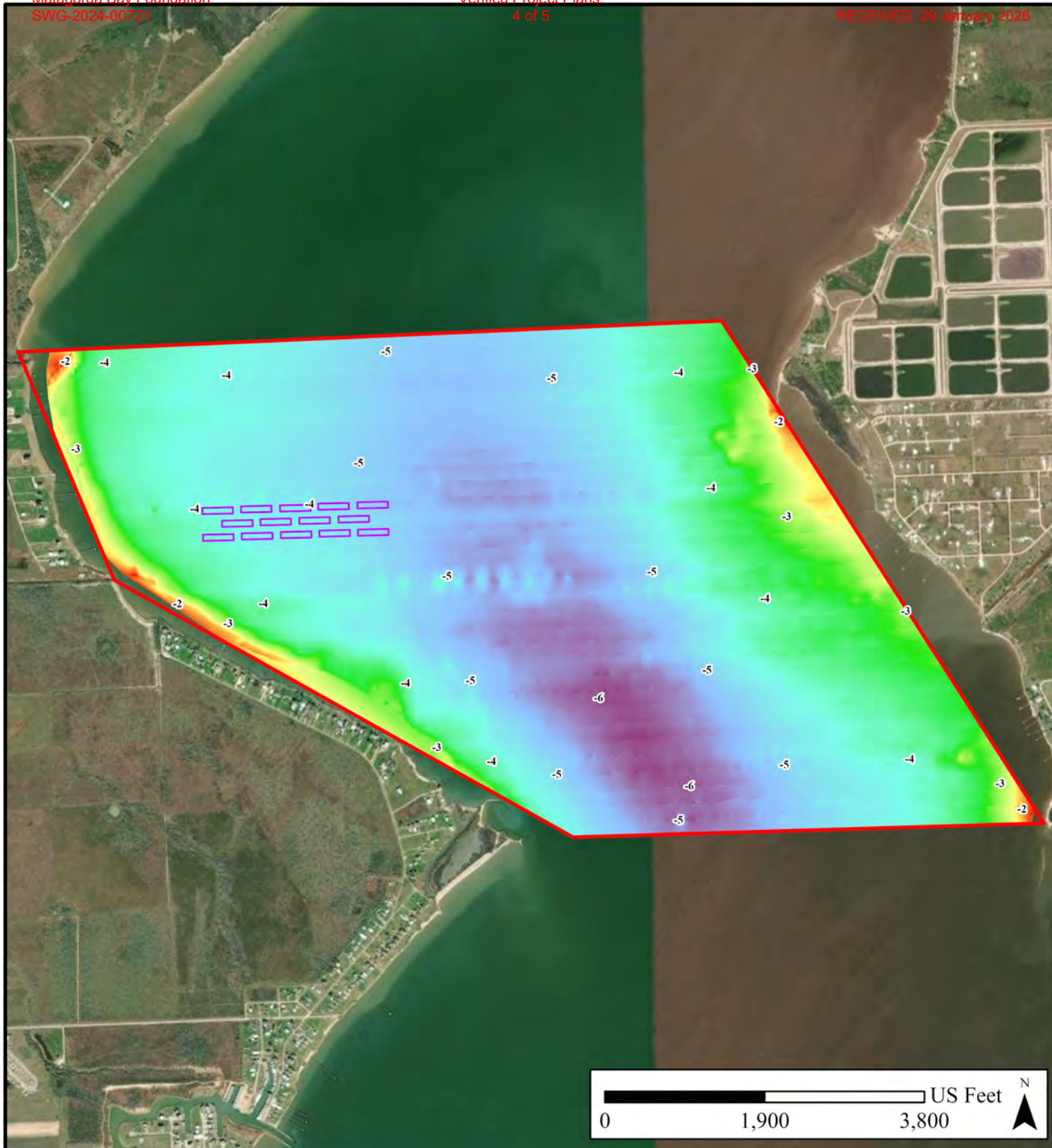
Drawn by: MTP

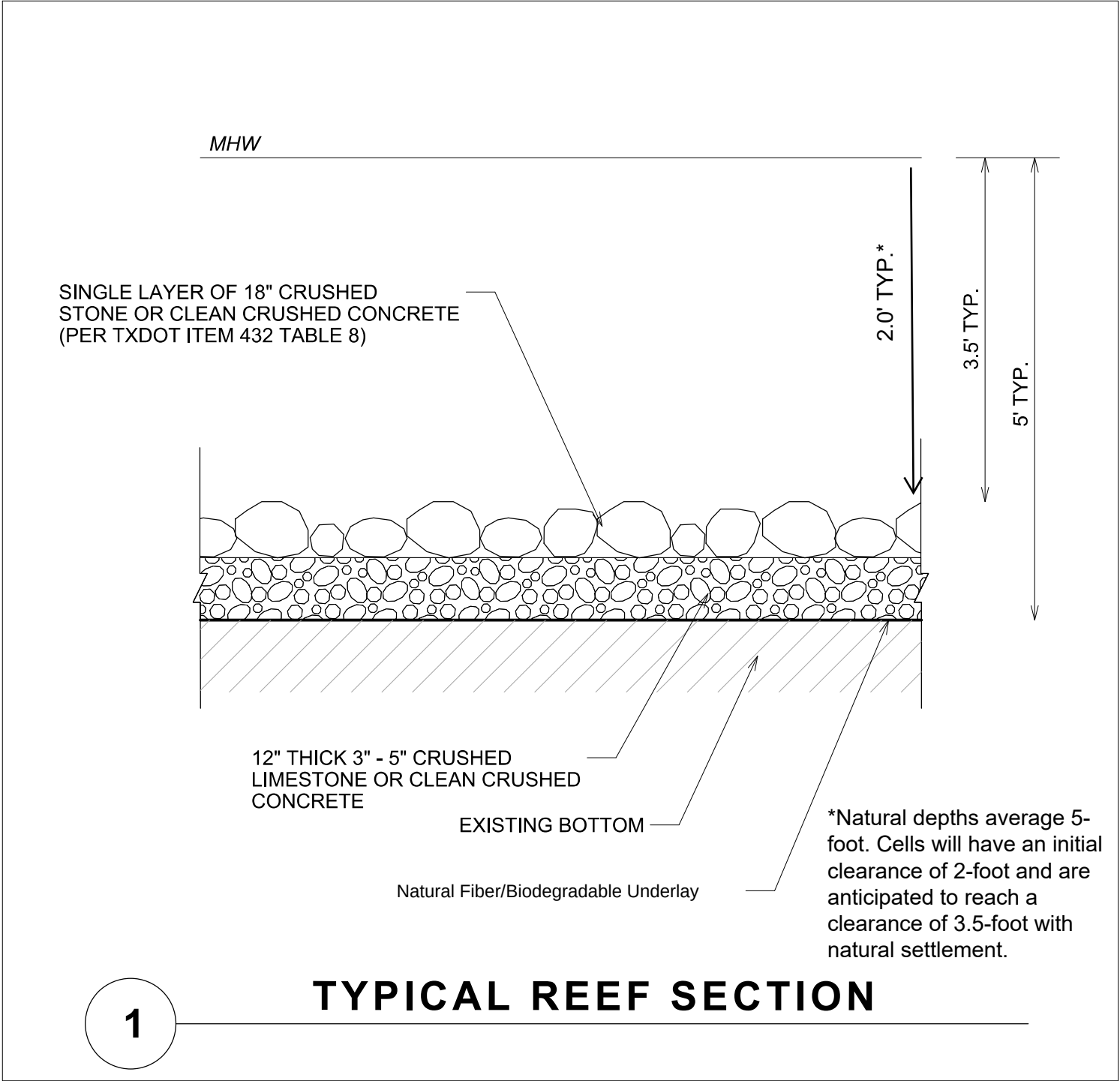


 Port Alto	Legend  Survey Boundary  Permitted Placement Areas Cells Measure 60-foot by 360-foot Prepared By: 				Prepared For: Matagorda Bay Foundation, Inc.	
					Figure 2.0 Location Map Calhoun County, TX	
Project: Carancahua Bay Survey & Permitting	Project No: 0156	Date Drawn: 3/7/2025	Source: ESRI World Street Map	Scale: 1:50,000	Projection: NAD 1983 State Plane Texas South Central FIPS 4204 Feet	Drawn by: MTP



 Port Alto	Legend  Survey Boundary  Permitted Placement Areas  Dredge Sample Location Prepared By: 				Prepared For: Matagorda Bay Foundation, Inc.	
					Figure 3.0 Aerial Map Calhoun County, TX	
Project: Carancahua Bay Survey & Permitting	Project No: 0156	Date Drawn: 3/7/2025	Source: ESRI World Imagery	Scale: 1:19,000	Projection: NAD 1983 State Plane Texas South Central FIPS 4204 Feet	Drawn by: MTP







UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
<https://www.fisheries.noaa.gov/region/southeast>

04/27/2026

F/SER31:MA/ZH
SERO-2025-01586

Zechariah Turk
Regulatory Specialist
Galveston District Corps of Engineers
Department of the Army
2000 Fort Point Road
Galveston, Texas 77553

Ref.: SWG-2024-00721, Matagorda Bay Foundation, Carancahua Bay Oyster Reef Project, Port Lavaca, Calhoun County, Texas – EXPEDITED TRACK

Dear Zechariah Turk,

This letter responds to your September 17, 2025, request and January 29, 2026, clarifying response pursuant to Section 7 of the Endangered Species Act (ESA) for consultation with the National Marine Fisheries Service (NMFS) on the subject action.

We reviewed the action agency's consultation request document and related materials. Based on our knowledge, expertise, and the action agency's materials, we concur with the action agency's conclusions that the proposed action is not likely to adversely affect the NMFS ESA-listed species and/or designated critical habitat.

On January 15, 2026, we sent an email notifying the action agency of our non-concurrence with their not likely to adversely affect (NLAA) determination due to the usage of an estimated 10 tons of plastic geotextile fabric as part of the proposed action. In an email dated January 29, 2026, the action agency stated that the applicant would instead use only natural fiber underlayment for the placement of reef materials, thus resulting in an NLAA determination for the ESA-listed species and critical habitat considered as part of this consultation.

Lastly, we would like to clarify that the terminology "destroy or adversely modify" is used exclusively for actions that are likely to adversely affect (LAA) critical habitat. The original consultation request letter stated, "Therefore, the Corps believes the project will not destroy or adversely modify green sea turtle proposed critical habitat"; however, an NLAA determination was specified in Table 2 for the proposed critical habitat. Please do not use LAA language in future expedited informal consultation request letters.

On March 30, 2026, in *Center for Biological Diversity v. Burgum*, No. 24-cv-04651 (N.D. Cal.), the U.S. District Court for the Northern District of California vacated aspects of four provisions from the 50 CFR part 402 regulations governing interagency consultation under section 7 of the Endangered Species Act and reinstated the provisions that were previously in effect. The four provisions are: 1) the definition of "destruction or adverse modification" (50 CFR 402.02); 2) the definition of "effects of the action" (50 CFR 402.02); 3) the provision addressing consideration of beneficial actions (50 CFR 402.14(g)(8)); and 4) the provision governing reinitiation of



consultation (50 CFR 402.16(a)). Some of the information and analyses considered in this document were prepared under the version of the 50 CFR part 402 regulations in effect prior to the Court's order. We have reviewed the information and analyses and confirm that the content of that information and those analyses, including the identification and analyses of effects, would be the same under either version of the applicable regulations.

This concludes your consultation responsibilities under the ESA for species and/or designated critical habitat under NMFS's purview. Reinitiation of consultation is required and shall be requested by the action agency where discretionary Federal action agency involvement or control over the action has been retained or is authorized by law and: (a) take occurs; (b) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in this consultation; (c) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not previously considered in this consultation; or (d) if a new species is listed or critical habitat designated that may be affected by the action.

We look forward to further cooperation with you on other projects to ensure the conservation of our threatened and endangered marine species and designated critical habitat. If you have any questions on this consultation, please contact Melissa Alvarez, Consultation Biologist, by email at Melissa.Alvarez@noaa.gov.

Sincerely,

WUNDERLICH.MARY.JANE.1400345488
88
Digitally signed by
WUNDERLICH.MARY.JANE.140
0345488
Date: 2026.04.27 19:55:53 -04'00'

for

Dennis Klemm
Acting Assistant Regional Administrator
for Protected Resources

File: 1514-22.f.8



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT
2000 FORT POINT RD
GALVESTON, TEXAS 77553

September 17, 2025

Evaluation Branch

SUBJECT: Request for Initiation of Expedited Informal Consultation under section 7(a)(2) of the Endangered Species Act for Department of the Army Permit Application SWG-2024-00721, Matagorda Bay Foundation

Mr. David Bernhart
Assistant Regional Administrator for Protected Resources
National Marine Fisheries Service (NMFS)
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505

Dear Mr. Bernhart:

The U.S. Army Corps of Engineers (Corps) has received an application, submitted on March 21, 2025, from Matagorda Bay Foundation for a Nationwide Permit pursuant to Section 404 of the Clean Water Act (CWA) of 1972, as amended (33 U.S.C. § 1344), and Section 10 of the Rivers and Harbors Act (RHA) of 1899, as amended (33 U.S.C. § 403). The proposed project consists of creating and maintaining oyster reef habitat and is located in Carancahua Bay, approximately 0.84-mile west of southwest of the intersection of Tiger Shark Lane and Porpoise Drive, in Port Lavaca, Calhoun County, Texas. Specifically, the project is located at 28.674366 North, -96.404888 West.

The Corps has determined that the proposed project may affect but is not likely to adversely affect (NLAA) federally-listed species, as described in our supporting analysis herein. As such, the Corps is requesting initiation of informal consultation pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. § 1536), and the consultation procedures at 50 C.F.R. Part 402.

Pursuant to our request for informal consultation, the Corps is providing the following information:

- A description of the action to be considered;
- A description of the action area;
- A description of any listed species or critical habitat that may be affected by the action; and,
- An analysis of the potential routes of effect on any listed species or critical habitat.

1. Proposed Action

Project Purpose

The purpose of the project is to restore and maintain oyster within Carancahua Bay. The clean clutch should re-vitalize the oyster habitat by enhancing and placing hard substrate which is required by oyster larvae for settlement and growth.

Project Description

The applicant proposes to discharge a maximum of 16,800 cubic yards of fill material in an 18-inch layer into 8.6 acres of bay bottom for the restoration of degraded oyster reef. Reef material would consist of crushed stone or clean crushed concrete or other similar material. The maximum percent of fines and excluded materials will be less than 5% by weight. A uniform layer of material will be placed into 14 adjacent cells measuring 60-foot by 360-foot. ~~Geotextile fabric will be utilized to prevent the sinking of material beneath the sediment surface.~~ Biodegradable fiber will be utilized to prevent sinking. -ZT

According to NOAA nautical charts, water depths across the site range from 4 feet to 7 feet at mean high water (MHW). The material will be placed by utilizing a 50-foot or smaller barge with a maximum draft of 3-foot. The barge will leave from Matagorda Bay and be towed to Carancahua Bay during two trips. The barge will be hauled to the project area by a 50-foot or less tugboat with a top speed of under 5 knots. The barge will be held in place utilizing spuds or anchors if the wind conditions require stabilization. Excavators will be used to place material onto the bay bottom. A small vessel of 32-foot or less with a 3-foot or less draft will be used to travel back and forth to the barge. This vessel will take more than 5 trips to the project area. All vessels will have an observer present and operate during daylight hours only. The duration of work is anticipated to last for several days during the oyster spawn season from March until June depending on weather conditions and reef material availability.

Project plans are enclosed in 4 sheets.

Conservation Measures and Best Management Practices (BMPs)

The Matagorda Bay Foundation will adhere to the *Protected Species Construction Conditions* (NMFS 2021) and *Vessel Strike Avoidance Measures* (NMFS 2021). Additionally, work will only be permitted to occur during daylight hours. Work will only occur during daylight hours between 7AM and 5PM between the months of March and June to ensure no work is conducted in low-light conditions.

2. Action Area

Pursuant to 50 C.F.R. § 402.02, the term *action area* is defined as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action.” *Effects of the action* are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. Accordingly, the action area typically includes the affected jurisdictional waters and other areas affected by the authorized work or structures within a reasonable distance. The ESA regulations recognize that, in some circumstances, the action area may extend beyond the limits of the Corps’ regulatory jurisdiction.

For the purposes of this consultation, the Corps has defined the action area to include approximately 8.6 acres of Carancahua Bay that will be affected by the proposed activity, as shown in Sheet 1 of the attached project plans.

Existing Conditions

The proposed project would occur within the open bay bottom of Carancahua Bay, 1.2 miles west from the degraded “Half Moon” oyster reef. The project area has an unconsolidated sand and cay bottom with sparse patches of mud and buried, dead shell throughout the footprint. Several surveys were conducted throughout the months of May-June 2024 to determine the presence/absence of seagrasses within the project area. The results determined that there are no seagrasses within the area. The proposed restoration site has been subject to several anthropogenic factors that have led to the reduction of oyster populations including over-harvesting. Recent hurricane activity in the area has caused high levels of silt to accumulate on previously degraded reefs, leading to a decrease in suitable habitat availability for oyster spat.

3. Potentially Affected ESA-Listed Species and Critical Habitat

The Corps has assessed the listed species that may be present in the action area, and our determination of the project’s potential effects on these species is provided in Table 1 below. The action area overlaps critical habitat(s) and our determination of the project’s potential effects to the/each habitat is provided in Table 2 below.

Table 1. ESA-listed Species in the Action Area and Effect Determination(s)				
Species	ESA Listing Status ¹	Listing Rule/Date	Most Recent Recovery Plan/Outline Date	Effect Determination (Species) ²
Sea Turtles				
Green (North Atlantic DPS)	T	81 FR 20057/ April 6, 2016	October 1991	NLAA
Kemp's ridley	E	35 FR 18319/ December 2, 1970	September 2011	NLAA
Loggerhead (Northwest Atlantic [NWA] DPS)	T	76 FR 58868/ September 22, 2011	December 2008	NLAA
Fish				
Giant manta ray	T	83 FR 2916/ January 22, 2018	December 2019	NLAA
¹ E = endangered; T = threatened				
² NLAA = may affect, not likely to adversely affect; NE = no effect				

Table 2. Critical Habitat(s) in the Action Area and Effect Determination(s)			
Species	Critical Habitat in the Action Area	Critical Habitat Rule/Date	Effect Determination (Critical Habitat) ¹
Green sea turtle (North Atlantic DPS)	Proposed - TX01	88FR4657; July 19, 2023	NLAA
¹ NLAA = may affect, not likely to adversely affect; NE = no effect			

4. Effects of the Proposed Action on ESA-listed Species

Direct effects to sea turtles and giant manta ray include the risk of physical injury during the placement of the large clutch material. Due to the species' ability to move away from the project site if disturbed, the short construction timeframe during the placement of clutch material the risk of physical injury is discountable. The applicant's implementation of the *Protected Species Construction Conditions* (NMFS 2021) and *Vessel Strike Avoidance Measures* (NMFS 2021) will further reduce this risk.

Sea turtles may and giant manta ray also be affected if they are temporarily unable to use the site due to avoidance of construction activities and related noise. Although species will be temporarily unable to access the construction areas, these effects will be insignificant, given the project's limited footprint and availability of similar habitat at other locations within Carancahua Bay. Since construction activities will occur only during

daylight hours, sea turtles and giant manta ray will be able to resume normal activities at night.

While geotextile fabric degradation and potential leaching pose a risk to sea turtles and giant manta rays, several factors mitigate this concern. The fabric will be rapidly buried and covered with sediment, minimizing contact with marine species. Furthermore, water depth and reef shading will limit UV degradation, extending the fabric's lifespan.

Once construction is complete, Carancahua Bay will provide approximately 8.6 acres of restored oyster habitat that will enhance available habitat for fish and other wildlife. As Carancahua Bay recovers, it is expected that the entire Carancahua Bay complex will benefit from improved water quality. The restoration and enhancement of this degraded oyster habitat is expected to increase prey availability in Carancahua Bay, thereby resulting in a beneficial effect to some of the listed sea turtle species and giant manta ray.

5. Route(s) of Effect to Critical Habitat

The project is located within the boundary of proposed Green Sea turtle critical habitat. The following physical or biological features essential for the conservation of the species are present in TX01: benthic foraging/resting essential features. In Texas, juvenile and subadult turtles forage on macroalgae, seagrass, and invertebrates. While there is no seagrass within the action area, oyster habitat can support macroalgae growth and provide invertebrate habitat. The proposed action would result in short term disturbance of benthic habitat; however, the purpose of the project is to restore lost oyster reef habitat and enhance existing oyster reef habitat. Long-term, this project would have an overall beneficial effect on benthic foraging/resting habitat in the critical habitat unit. Therefore, the Corps believes the proposed action will not destroy or adversely modify green sea turtle proposed critical habitat.

6. Determination

The Corps has reviewed the proposed project for its impacts to ESA-listed species and their critical habitat. Based on the analysis above, the Corps has determined that the proposed action is not likely to adversely affect any listed species or critical habitat under NMFS's jurisdiction. This analysis was prepared based on the best scientific and commercial data available.

The Corps is requesting NMFS's written concurrence with this determination. The Corps appreciates your cooperation in completing this informal Section 7 consultation by concurring with the Corps' effect determinations in a timely manner. If NMFS disagrees with the Corps' effect determination(s) and requests formal Section 7 consultation, please contact the Project Manager referenced below to discuss suggested modifications to the action to avoid potential adverse effects and NMFS' additional information needs. The Corps will continue to coordinate with NMFS office via email to provide the requested information and, if warranted, a revised effects determination.

If you have questions, please contact the Project Manager, Zechariah Turk, at the letterhead address, by email at Zechariah.J.Turk@usace.army.mil, or by telephone at 409-766-3974. Please reference file number **SWG-2024-00721** in all correspondence related to this consultation.

Sincerely,

A handwritten signature in black ink, appearing to read 'Zechariah Turk', with a stylized flourish at the end.

Zechariah Turk
Regulatory Specialist
Galveston District

cc w/Encls.
Matt Chastain, Compass Environmental Solutions

William Balboa, The Matagorda Bay Foundation

Literature Cited:

NMFS. 2021. Protected species construction conditions, NOAA Fisheries Southeast Regional Office. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Regional Office, revised May 2021, Saint Petersburg, FL

NOAA Fisheries Section 7 Consultation Guidance, located at:

<https://www.fisheries.noaa.gov/southeast/consultations/section-7-consultation-guidance>

NOAA Fisheries ESA Section 7 Mapper, located at:

<https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=b184635835e34f4d904c6fb741cfb00d>

NOAA Fisheries Threatened and Endangered Species and Critical Habitats, located at:

<https://www.fisheries.noaa.gov/southeast/consultations/threatened-and-endangered-species-and-critical-habitats>

NOAA Fisheries Endangered Species Act Section 7 Biological Opinions in the Southeast

<https://www.fisheries.noaa.gov/content/endangered-species-act-section-7-biological-opinions-southeast>



Legend

★ Project Location

Prepared By:



Prepared For:

**Matagorda Bay
Foundation, Inc.**

**Figure 1.0
Vicinity Map**
Calhoun County, TX

Project: Carancahua Bay Survey & Permitting

Project No: 0156

Date Drawn: 3/7/2025

Source: ESRI World Street Map

Scale: 1:300,000

Projection: NAD 1983 State Plane Texas
South Central FIPS 4204 Feet

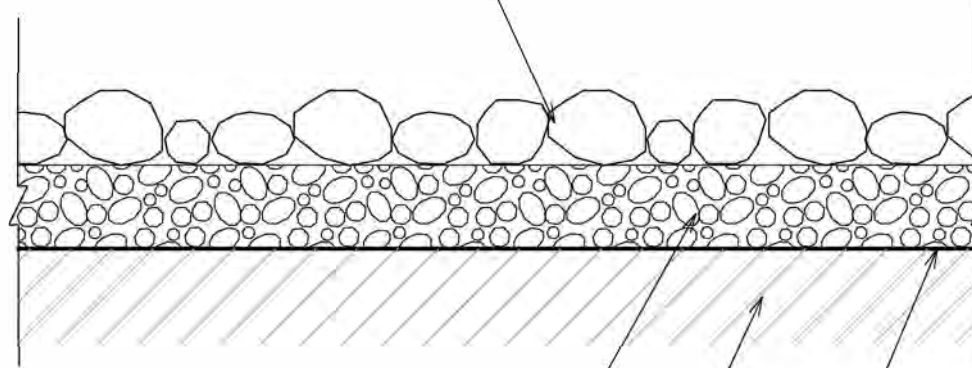
Drawn by: MTP



 Port Alto	Legend  Survey Boundary  Permitted Placement Areas Cells Measure 60-foot by 360-foot Prepared By: 				Prepared For: Matagorda Bay Foundation, Inc.	
					Figure 2.0 Location Map Calhoun County, TX	
Project: Carancahua Bay Survey & Permitting	Project No: 0156	Date Drawn: 3/7/2025	Source: ESRI World Street Map	Scale: 1:50,000	Projection: NAD 1983 State Plane Texas South Central FIPS 4204 Feet	Drawn by: MTP



SINGLE LAYER OF 18" CRUSHED
STONE OR CLEAN CRUSHED CONCRETE
(PER TXDOT ITEM 432 TABLE 8)



12" THICK 3" - 5" CRUSHED
LIMESTONE OR CLEAN CRUSHED
CONCRETE

EXISTING BOTTOM

Biodegradable/Natural Fiber Underlayment

?

TYPICAL REEF SECTION