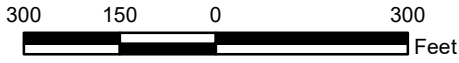


Conceptual Plan #1
Proposed Mitigation Site
Calhoun Port Authority
Powderhorn Lake, Texas



Notes:

- Prepared by Belaire Environmental, Inc., September 12, 2018 (RAM).
- Base map source: 0.5 meter NAIP obtained from TNRIS, Calhoun County, 2015.
- Elevation data collected on January 15, 2018.
- For planning and permitting purposes only, not for construction.



Legend

- Elevations ft NAVD88
- Proposed Armored Levee
- ▨ Proposed Excavation Channel for Levee
- Proposed Fill (Approx. 7.5 Ac.)
- ▨ Proposed Excavated Channels (5.28 Ac.)

Breakwater
 Armored Levee with Articulated Concrete Mat
 (Approx. 2,500 LF)
 OR
 Alternative Method
 Double Row Reef Balls (Approx. 2,500 ft.)
 (4 ft. x 4 ft. x 4 ft.)

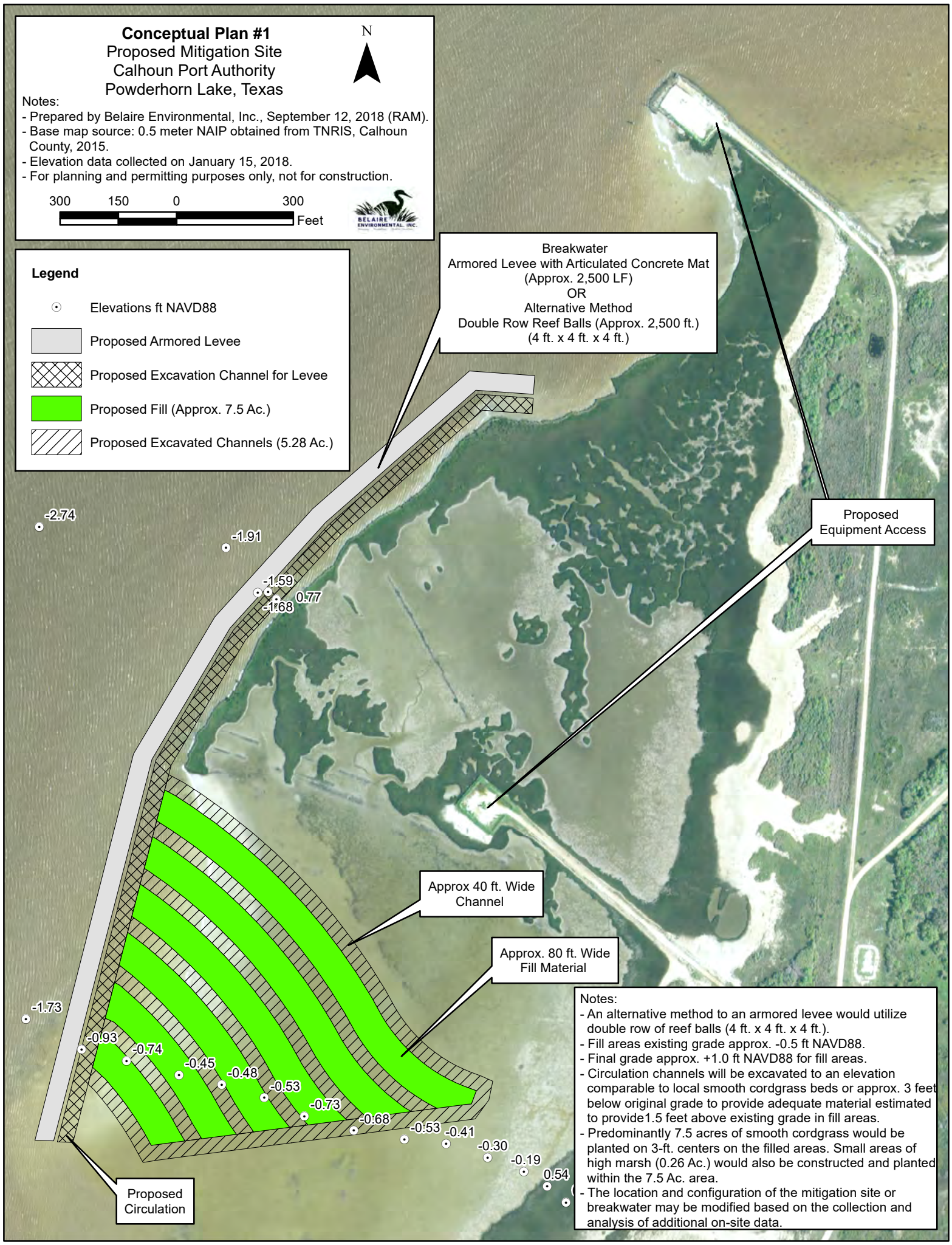
Proposed
 Equipment Access

Approx 40 ft. Wide
 Channel

Approx. 80 ft. Wide
 Fill Material

Proposed
 Circulation

- Notes:**
- An alternative method to an armored levee would utilize double row of reef balls (4 ft. x 4 ft. x 4 ft.).
 - Fill areas existing grade approx. -0.5 ft NAVD88.
 - Final grade approx. +1.0 ft NAVD88 for fill areas.
 - Circulation channels will be excavated to an elevation comparable to local smooth cordgrass beds or approx. 3 feet below original grade to provide adequate material estimated to provide 1.5 feet above existing grade in fill areas.
 - Predominantly 7.5 acres of smooth cordgrass would be planted on 3-ft. centers on the filled areas. Small areas of high marsh (0.26 Ac.) would also be constructed and planted within the 7.5 Ac. area.
 - The location and configuration of the mitigation site or breakwater may be modified based on the collection and analysis of additional on-site data.

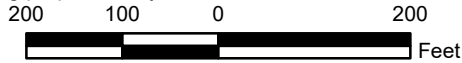


Conceptual Plan #2
Proposed Mitigation Site
Calhoun Port Authority

Bean Tract, Lavaca Bay, Calhoun County, Texas

Notes:

- Base map obtained from Pictometry International online dated January 28, 2015.
- Prepared by Belaire Environmental, Inc. on September 13, 2018 (RAM).
- Elevation data collected June 15, 2018.
- For planning purposes only.



Legend

- × Sample Point
- Proposed Hard Substrate Breakwater
- ▨ Proposed Circulation Channels (Approx. 2,600 LF)
- ▨ Proposed High Marsh (Approx. 0.26 Ac.)
- ▨ Proposed Low Marsh (Approx. 7.5 Ac.)

Lavaca Bay

Hard Substrate Breakwater
 Approx. 1,300 LF

Circulation Channel
 (Approx. 20 Ft. Wide)

Low Marsh Habitat
 (Approx. 2.39 Ac.)

Low Marsh Habitat
 (Approx. 3.19 Ac.)

High Marsh Habitat
 (Approx. 0.15 Ac.)

High Marsh Habitat
 (Approx. 0.11 Ac.)

Low Marsh Habitat
 (Approx. 2.06 Ac.)

Circulation Channel
 (Approx. 10 Ft. Wide)

+3.4/xxx/1.5/m_scatt live
 +3.2/xxx/0.5/m_scatt live
 +3.1/xxx/0.0/c_scatt stop
 +3.0/reef/0.0
 +2.3/reef/0.0
 +1.7/reef/0.0
 +1.6/reef/0.0
 +1.8/reef/0.0
 +1.9/xxx/0.0/sh

+2.8/xxx/1.7/m
 +2.7/xxx/2.3/m
 +2.5/xxx/1.8/m
 +2.6/xxx/1.7/m
 +2.4/xxx/1.3/m
 +2.4/xxx/1.8/m
 +2.3/xxx/0.6/m
 +2.1/xxx/1.5/m
 +1.7/xxx/0.5/m
 +1.3/xxx/1.0/m
 +1.0/xxx/0.1/c
 +1.1/xxx/0.6/m
 +3.4/reef/0.0/sh

Hwy 35

Sample Point Key
 Elevation/Seagrass/Depth of SS/Substrate Type

-Elevation estimates (NAVD88).

xxx=no seagrass present

Types of Substrate:
 m=mud
 s=sand
 c=clay
 sh=shell

Example
 -2.4/xxx/0.0/s
 Bay Bottom Elevation: -2.4 ft NAVD88
 xxx = 3 core samples of no seagrass
 Depth of Soft Sediment: 0.0
 s= sand substrate

Note: Smooth cordgrass was observed growing from +0.5 ft NAVD88 to +1.6 ft NAVD88.

Notes:

- Mitigation site may be relocated along the bean tract shoreline, if necessary, and where access conditions are more favorable.
- Further field investigations are needed to determine site conditions and bay bottom elevations deeper than -3.0 ft NAVD88.
- The site configuration is conceptual and will likely be modified based on actual site conditions and other factors.
- The breakwater will be constructed to approximately +5 ft NAVD88.
- Mitigation site construction will avoid oyster reefs to the extent practical.
- If oyster reef avoidance is not feasible, the oyster reefs will be relocated to another location, where elevations and substrates are suitable.
- It is anticipated that clean fill from the project dredging area will be hauled in to fill the site to elevations suitable for smooth cordgrass and high marsh plantings on 3 ft centers.
- Circulation channels will be approximately 2 ft below adjacent created marsh elevations. Fill grade approx. +1.0 ft NAVD88.