

Coastal Texas Protection and
Restoration Feasibility Study
Final Feasibility Report

Appendix D – Annex 17:
*Map Book –
Galveston Ring Barrier Alignment*

August 2021

(This page left intentionally blank.)

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee

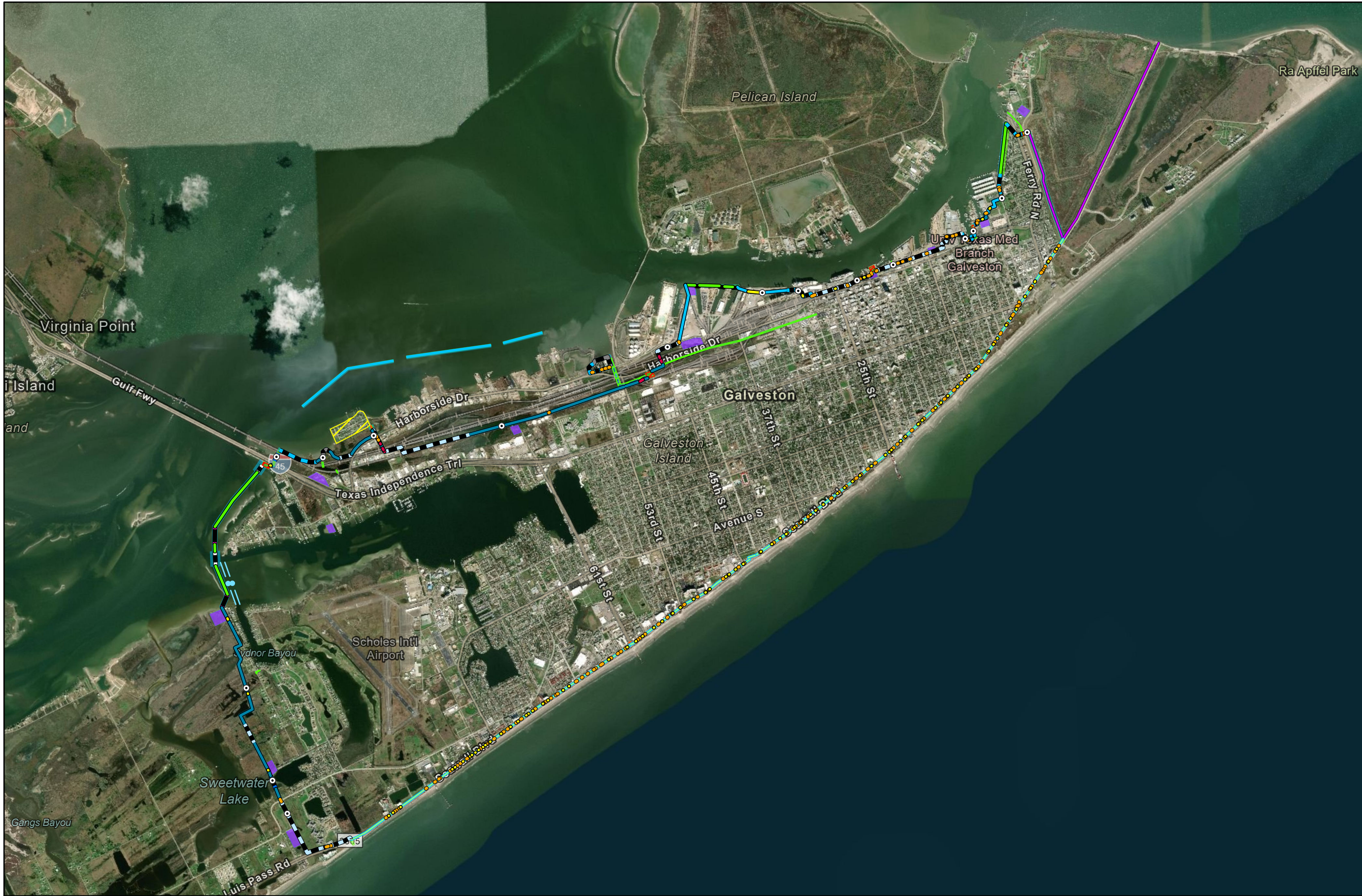
Transportation Access

- Access Gate
- Rail Closure
- Road Closure

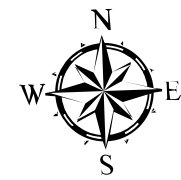
Floodwall

Approx. Stick Up Height

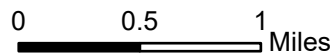
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



- ▨ Drainage Mitigation
- ▨ Elevated Roadway
- ▨ Nonstructural Improvements
- ▨ Permanent Easement
- ▨ Temporary Easement
- ▨ Pump Station
- ▨ Breakwater
- ▨ Cofferdam
- ▨ Temporary Staging



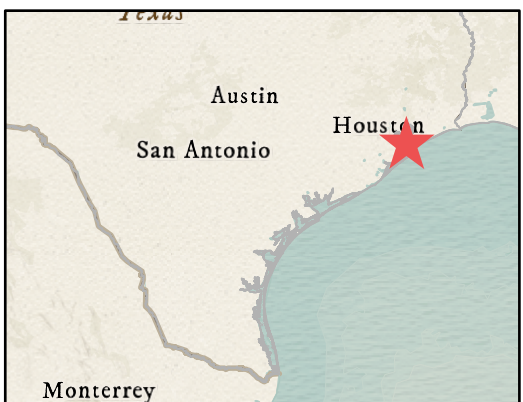
Basemap: ESRI World Imagery (Firefly)



Date: 29 April 2020

DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

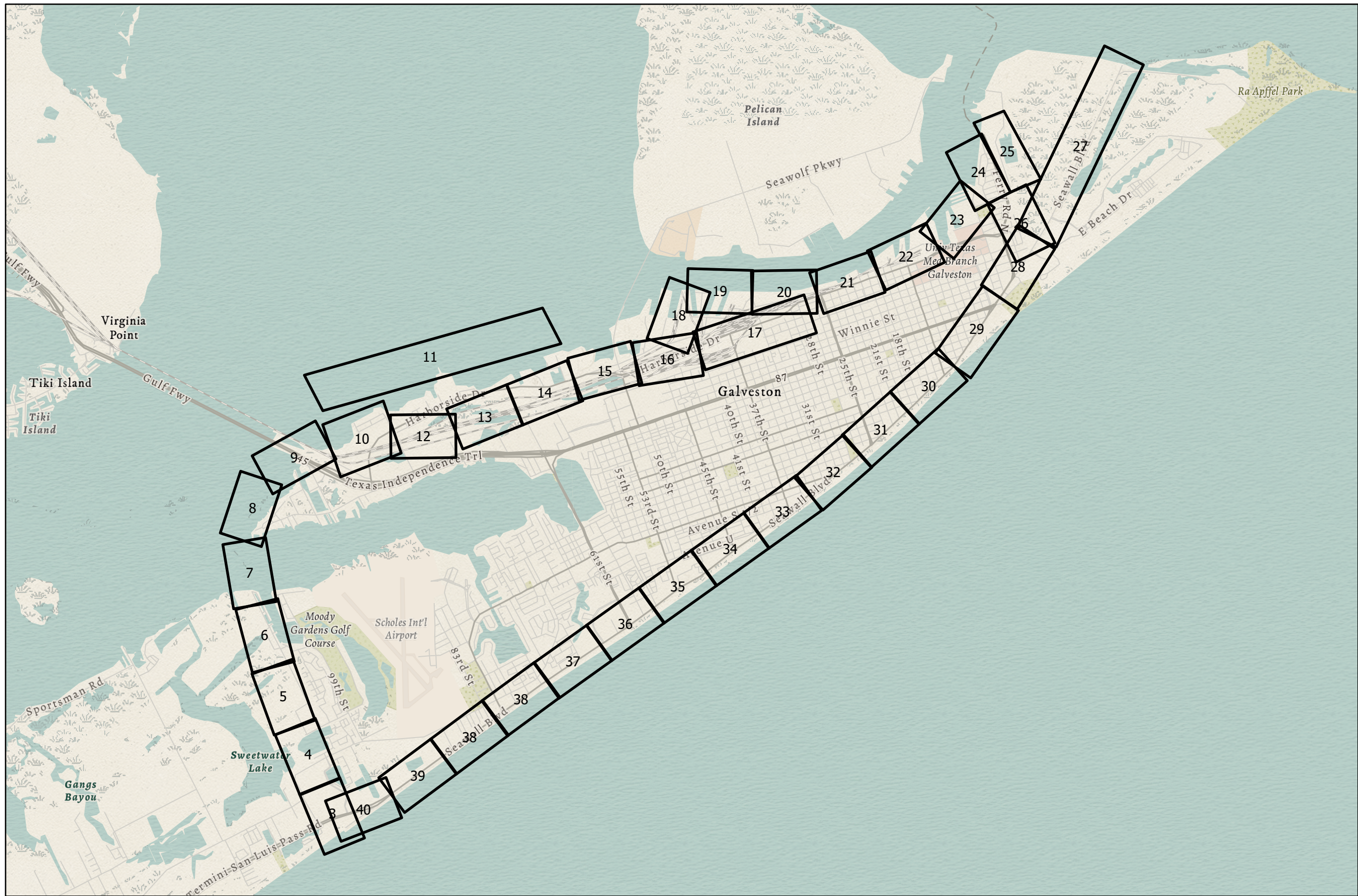
Page Number: 1



Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



- ▨ Drainage Mitigation
- ▨ Elevated Roadway
- ▨ Nonstructural Improvements
- ▨ Permanent Easement
- ▨ Temporary Easement
- ▨ Pump Station
- ▨ Breakwater
- ▨ Cofferdam
- ▨ Temporary Staging

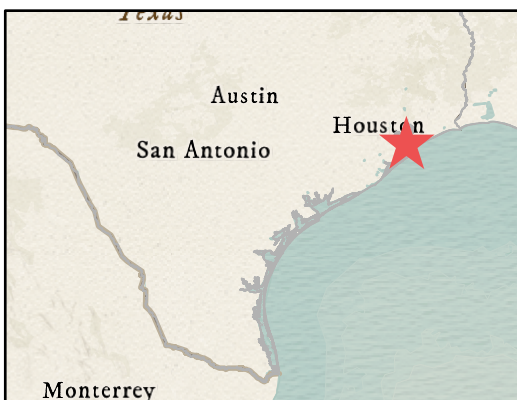
Basemap: ESRI World Imagery (Firefly)

0 0.5 1 Miles

DATE: 29 April 2020
 PROJECTION: STATE PLANE
 ZONE: TX-SC 4204

Date: 29 April 2020

Page Number: 2



Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



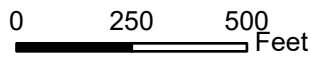
Basemap: ESRI World Imagery (Firefly)



- Drainage Mitigation
- Pump Station
- Temporary Staging
- Elevated Roadway
- Breakwater
- Temporary Easement
- Nonstructural Improvements
- Cofferdam
- Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 3

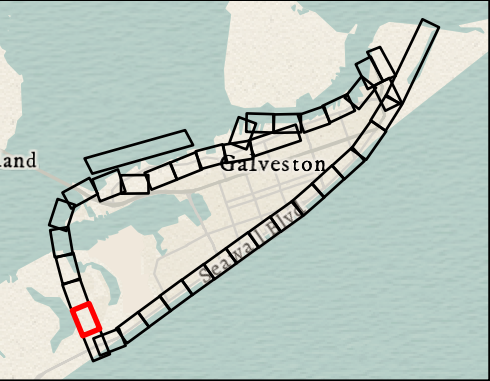
Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

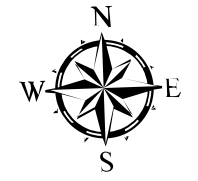
- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



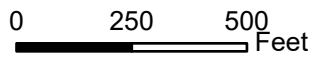
Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Pump Station
- ▨ Temporary Staging
- ▨ Elevated Roadway
- ▨ Breakwater
- ▨ Temporary Easement
- ▨ Nonstructural Improvements
- ▨ Cofferdam
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 4

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



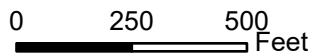
Basemap: ESRI World Imagery (Firefly)



- Drainage Mitigation
- Pump Station
- Temporary Staging
- Elevated Roadway
- Breakwater
- Temporary Easement
- Nonstructural Improvements
- Cofferdam
- Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 5

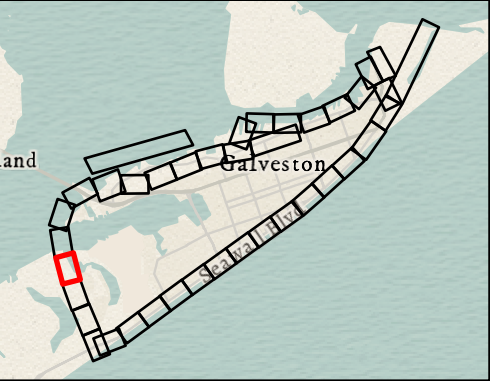
Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



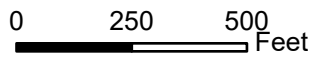
Basemap: ESRI World Imagery (Firefly)



- Drainage Mitigation
- Pump Station
- Temporary Staging
- Elevated Roadway
- Breakwater
- Temporary Easement
- Nonstructural Improvements
- Cofferdam
- Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 6

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



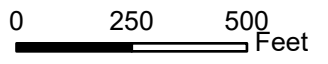
Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Pump Station
- ▨ Temporary Staging
- ▨ Elevated Roadway
- ▨ Breakwater
- ▨ Temporary Easement
- ▨ Nonstructural Improvements
- ▨ Cofferdam
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 7

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

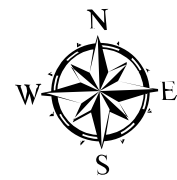
- Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



- | | | |
|----------------------------|--------------------|-------------------|
| Drainage Mitigation | Permanent Easement | Breakwater |
| Elevated Roadway | Temporary Easement | Cofferdam |
| Nonstructural Improvements | Pump Station | Temporary Staging |



0 0.05 0.1 Miles

DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

Date: 29 April 2020

Page Number: 8

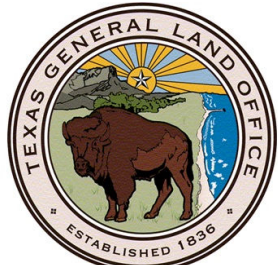
Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



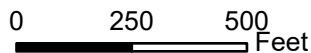
Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Pump Station
- ▨ Temporary Staging
- ▨ Elevated Roadway
- ▨ Breakwater
- ▨ Temporary Easement
- ▨ Nonstructural Improvements
- ▨ Cofferdam
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 9

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

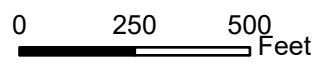
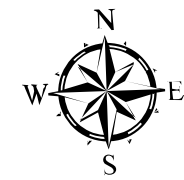
- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



- Drainage Mitigation
- Pump Station
- Temporary Staging
- Elevated Roadway
- Breakwater
- Temporary Easement
- Nonstructural Improvements
- Cofferdam
- Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

Date: 29 April 2020

Page Number: 10

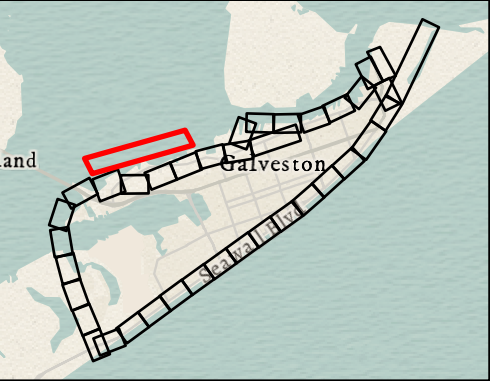
Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



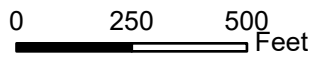
Basemap: ESRI World Imagery (Firefly)



- Drainage Mitigation
- Pump Station
- Temporary Staging
- Elevated Roadway
- Breakwater
- Temporary Easement
- Nonstructural Improvements
- Cofferdam
- Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 11

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



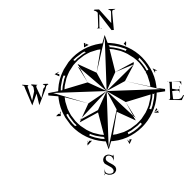
Basemap: ESRI World Imagery (Firefly)



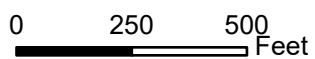
- Drainage Mitigation
- Elevated Roadway
- Nonstructural Improvements

- Pump Station
- Breakwater
- Cofferdam

- Temporary Staging
- Temporary Easement
- Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



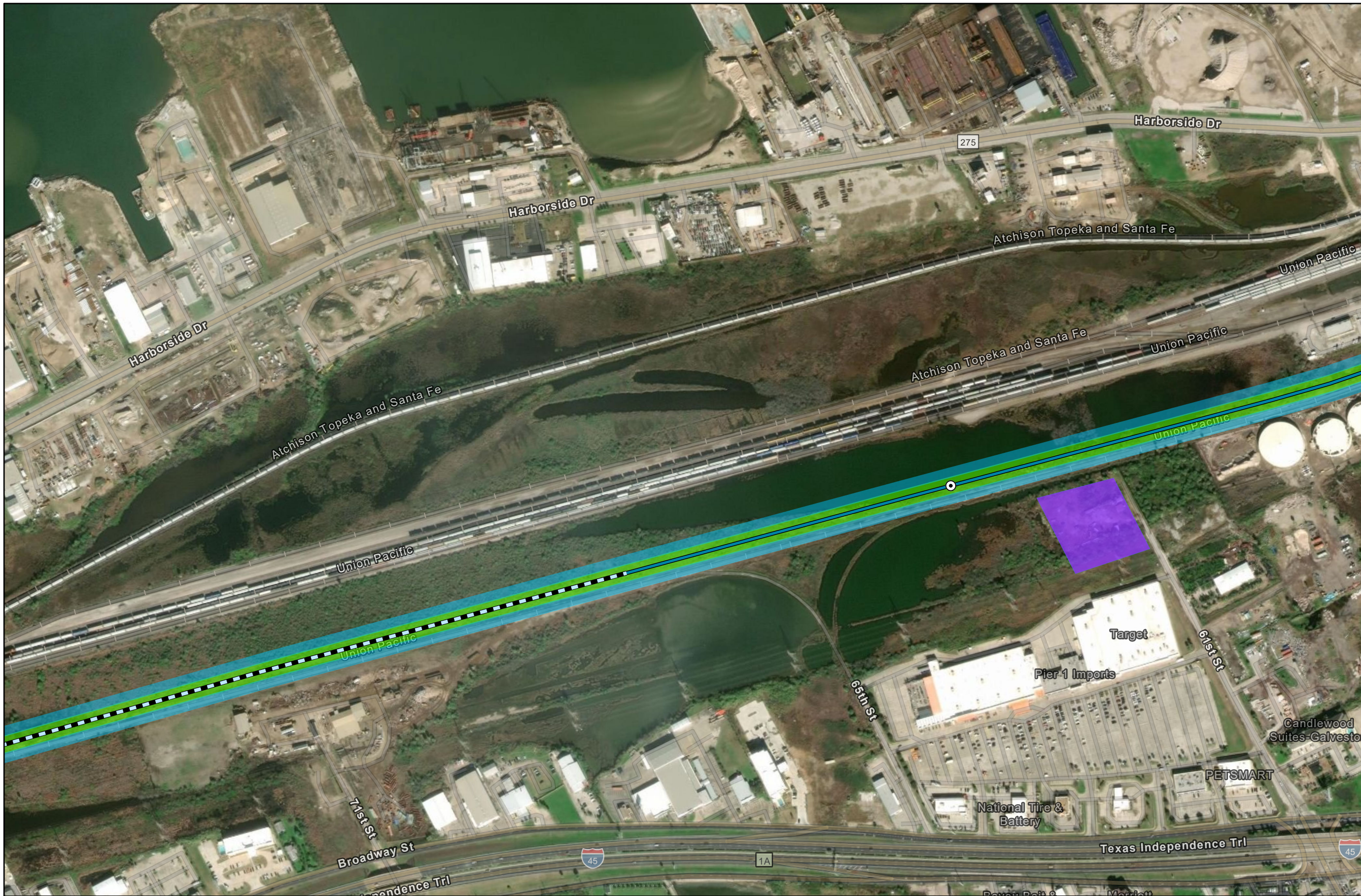
Date: 29 April 2020

Page Number: 12

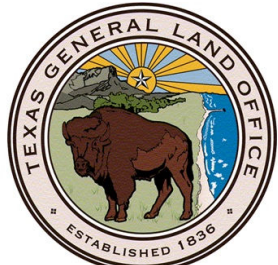
Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

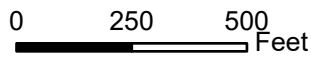
- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Pump Station
- ▨ Temporary Staging
- ▨ Elevated Roadway
- ▨ Breakwater
- ▨ Temporary Easement
- ▨ Nonstructural Improvements
- ▨ Cofferdam
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

Date: 29 April 2020

Page Number: 13

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee

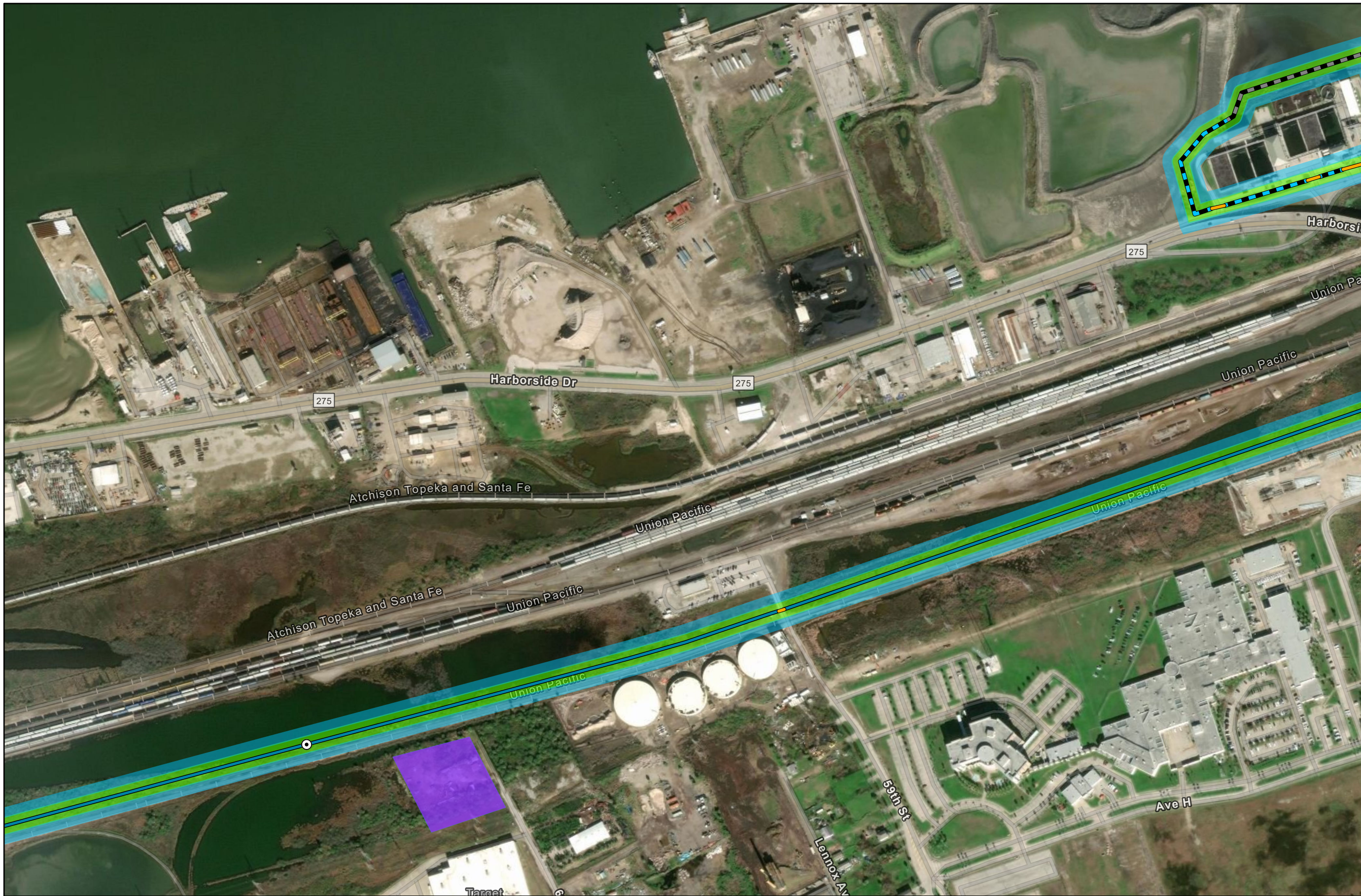
Transportation Access

- Access Gate
- Rail Closure
- Road Closure

Floodwall

Approx. Stick Up Height

- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



Drainage Mitigation

Elevated Roadway

Nonstructural Improvements

Pump Station

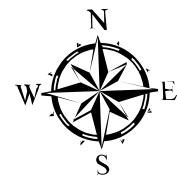
Breakwater

Cofferdam

Temporary Staging

Temporary Easement

Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

0 250 500 Feet

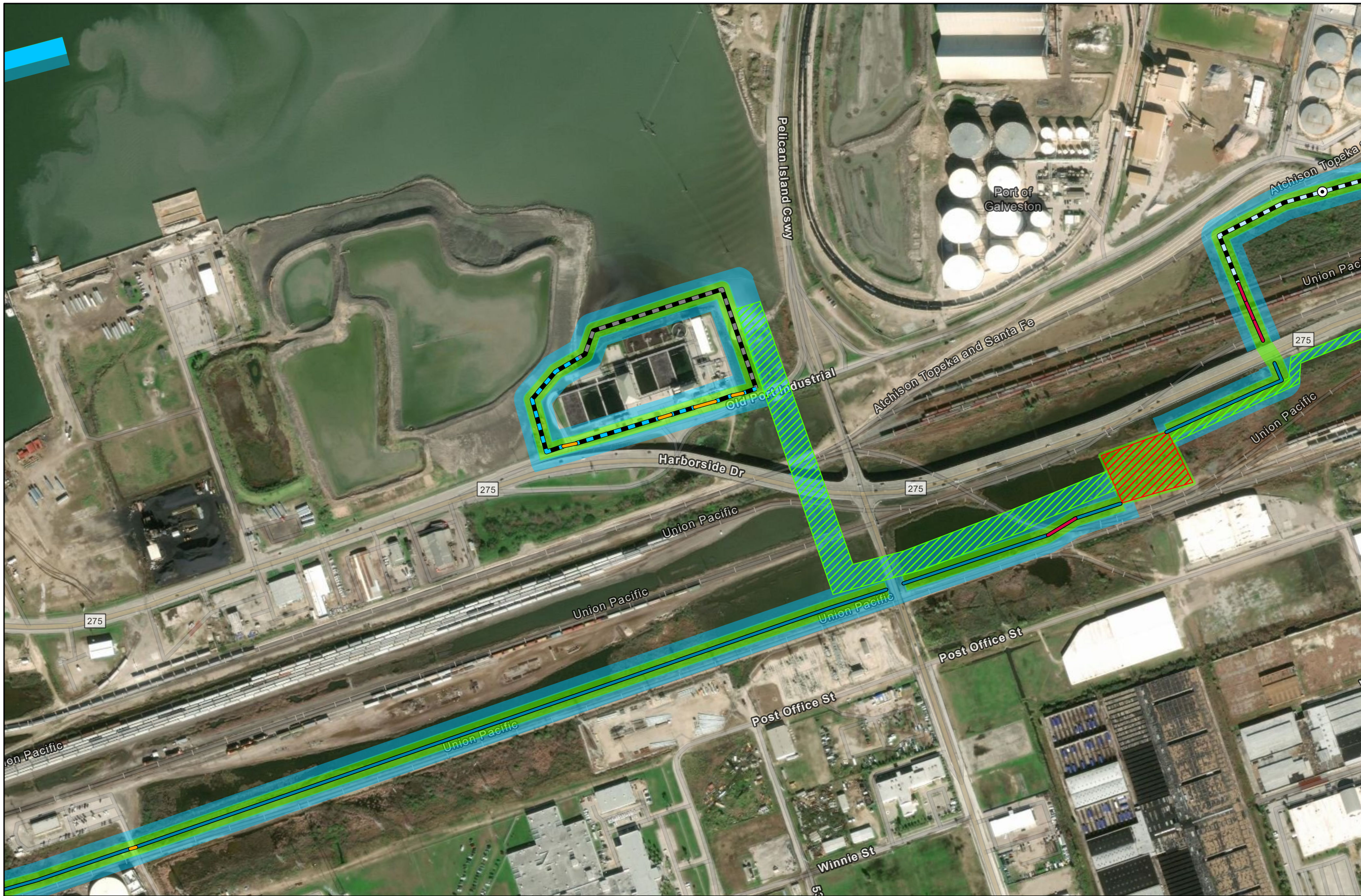
Date: 29 April 2020

Page Number: 14

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



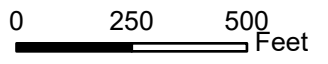
Basemap: ESRI World Imagery (Firefly)



- Drainage Mitigation
- Pump Station
- Temporary Staging
- Elevated Roadway
- Breakwater
- Temporary Easement
- Nonstructural Improvements
- Cofferdam
- Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



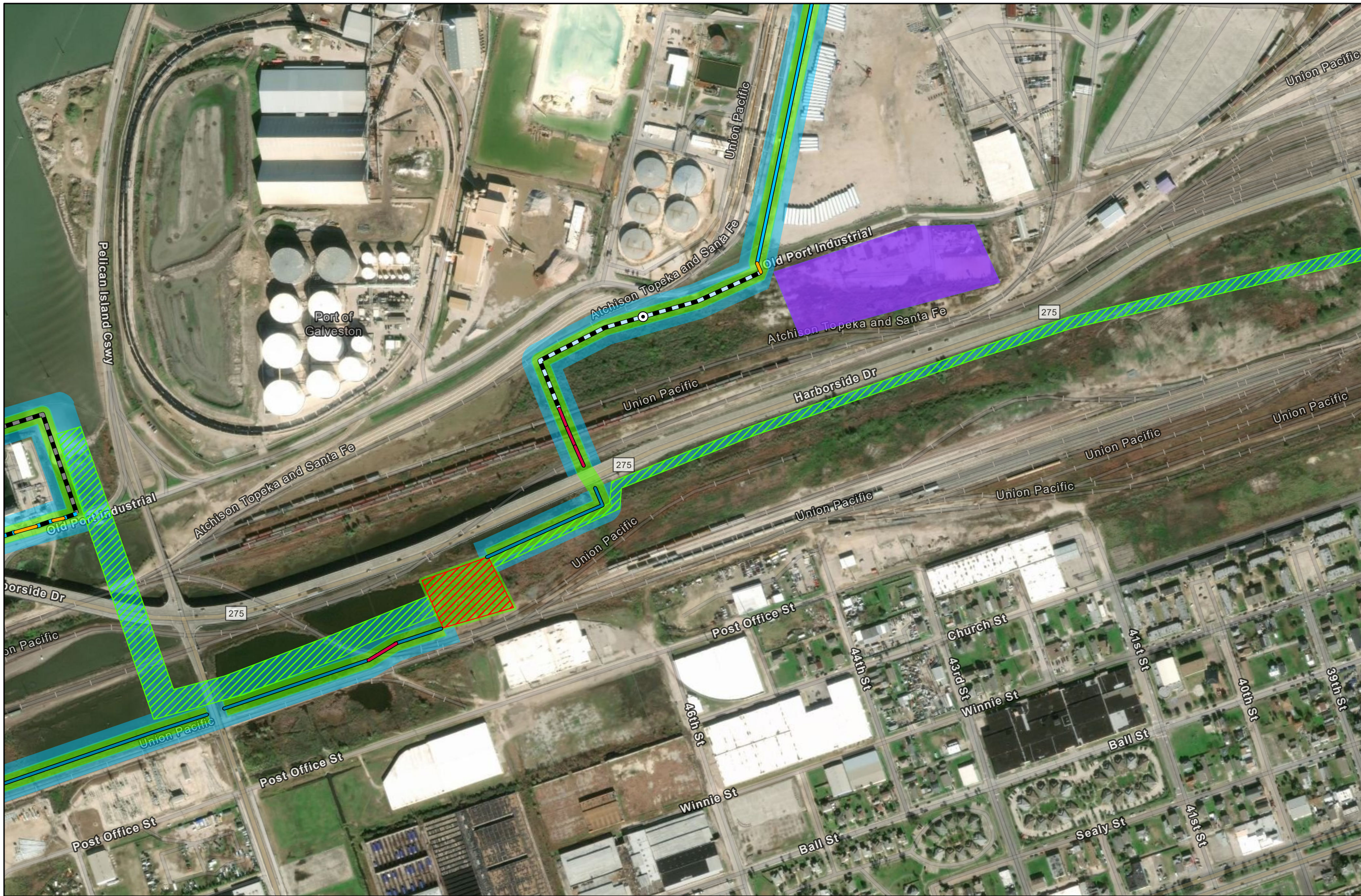
Date: 29 April 2020

Page Number: 15

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



Drainage Mitigation

Elevated Roadway

Nonstructural Improvements

Pump Station

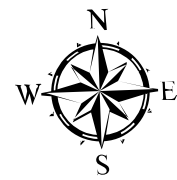
Breakwater

Cofferdam

Temporary Staging

Temporary Easement

Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

0 250 500 Feet

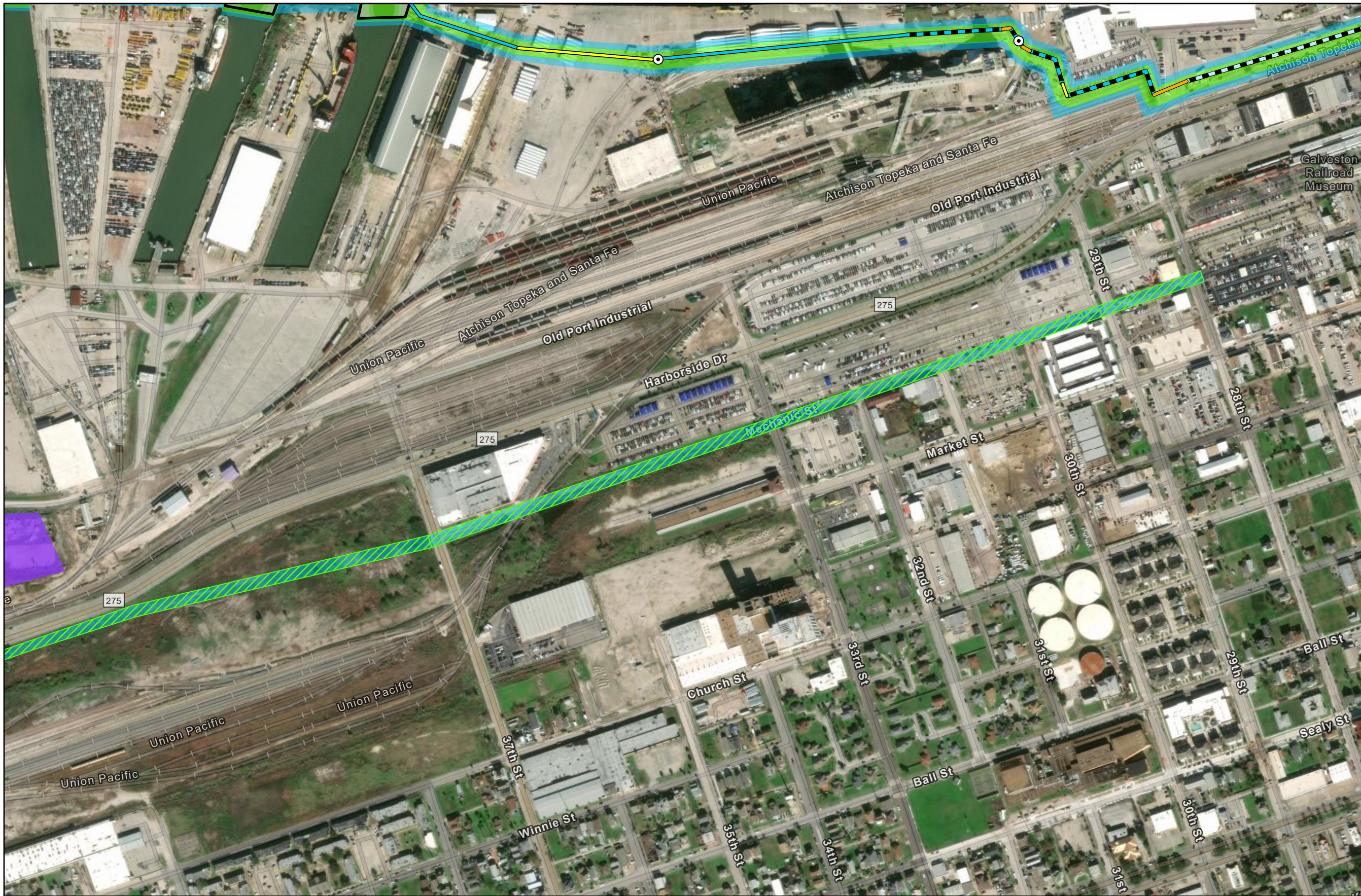
Date: 29 April 2020

Page Number: 16

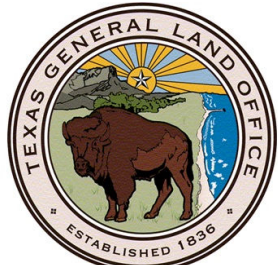
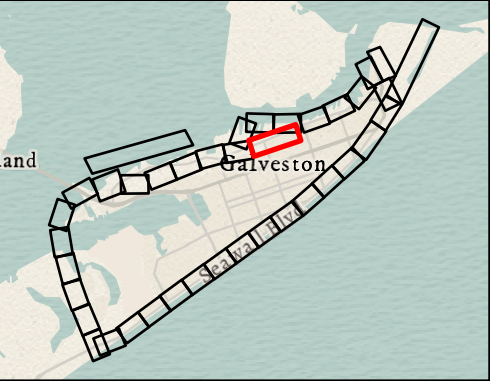
Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



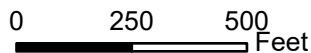
Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Pump Station
- ▨ Temporary Staging
- ▨ Elevated Roadway
- ▨ Breakwater
- ▨ Temporary Easement
- ▨ Nonstructural Improvements
- ▨ Cofferdam
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 17

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee

Transportation Access

- Access Gate
- Rail Closure
- Road Closure

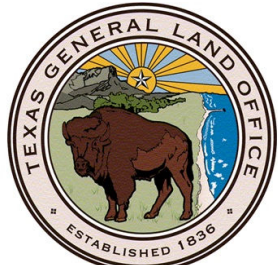
Floodwall

Approx. Stick Up Height

- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



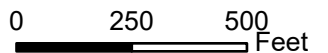
Basemap: ESRI World Imagery (Firefly)



- Drainage Mitigation
- Pump Station
- Temporary Staging
- Elevated Roadway
- Breakwater
- Temporary Easement
- Nonstructural Improvements
- Cofferdam
- Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 18

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Pump Station
- ▨ Temporary Staging
- ▨ Elevated Roadway
- ▨ Breakwater
- ▨ Temporary Easement
- ▨ Nonstructural Improvements
- ▨ Cofferdam
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

0 250 500 Feet

Date: 29 April 2020

Page Number: 19

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

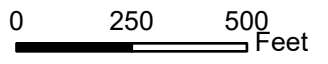
- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Pump Station
- ▨ Temporary Staging
- ▨ Elevated Roadway
- ▨ Breakwater
- ▨ Temporary Easement
- ▨ Nonstructural Improvements
- ▨ Cofferdam
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

Date: 29 April 2020

Page Number: 20

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



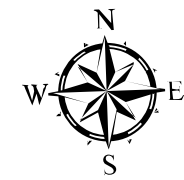
Basemap: ESRI World Imagery (Firefly)



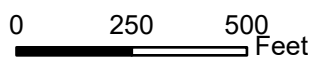
- Drainage Mitigation
- Elevated Roadway
- Nonstructural Improvements

- Pump Station
- Breakwater
- Cofferdam

- Temporary Staging
- Temporary Easement
- Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 21

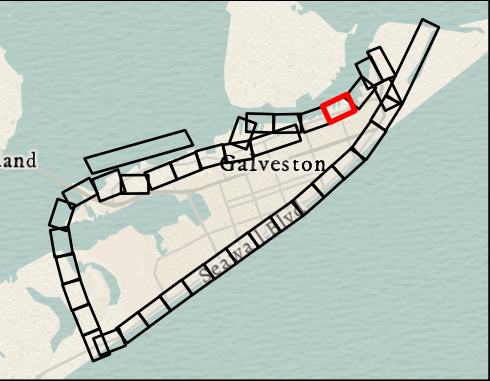
Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

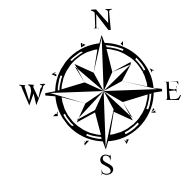
- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



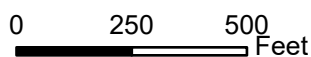
Basemap: ESRI World Imagery (Firefly)



- Drainage Mitigation
- Pump Station
- Temporary Staging
- Elevated Roadway
- Breakwater
- Temporary Easement
- Nonstructural Improvements
- Cofferdam
- Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 22

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee

Transportation Access

- Access Gate
- Rail Closure
- Road Closure

Floodwall

Approx. Stick Up Height

- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



Drainage Mitigation

Elevated Roadway

Nonstructural Improvements

Pump Station

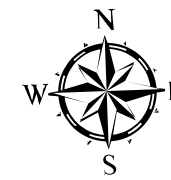
Breakwater

Cofferdam

Temporary Staging

Temporary Easement

Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

0 250 500 Feet

Date: 29 April 2020

Page Number: 23

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



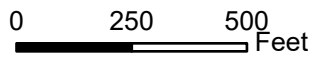
Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Elevated Roadway
- ▨ Nonstructural Improvements
- ▨ Pump Station
- ▨ Breakwater
- ▨ Cofferdam
- ▨ Temporary Staging
- ▨ Temporary Easement
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 24

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



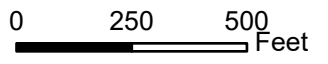
Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Pump Station
- ▨ Temporary Staging
- ▨ Elevated Roadway
- ▨ Breakwater
- ▨ Temporary Easement
- ▨ Nonstructural Improvements
- ▨ Cofferdam
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 25

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

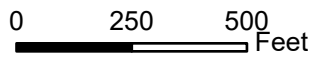
- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Pump Station
- ▨ Temporary Staging
- ▨ Elevated Roadway
- ▨ Breakwater
- ▨ Temporary Easement
- ▨ Nonstructural Improvements
- ▨ Cofferdam
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

Date: 29 April 2020

Page Number: 26

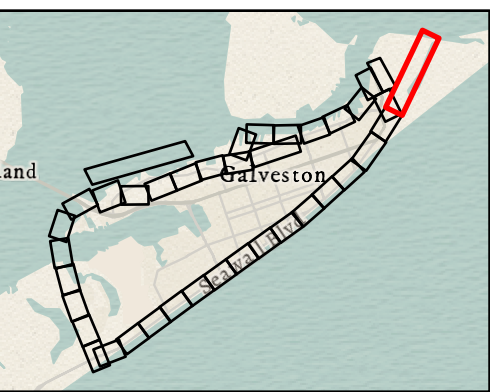
Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

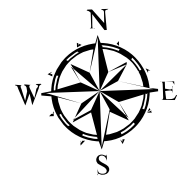
- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



- | | | |
|----------------------------|--------------|--------------------|
| Drainage Mitigation | Pump Station | Temporary Staging |
| Elevated Roadway | Breakwater | Temporary Easement |
| Nonstructural Improvements | Cofferdam | Permanent Easement |



0 500 1,000 Feet

DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

Date: 29 April 2020

Page Number: 27

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



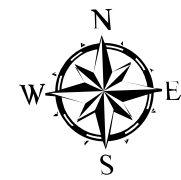
Basemap: ESRI World Imagery (Firefly)



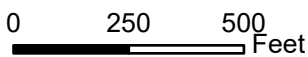
- ▨ Drainage Mitigation
- ▨ Elevated Roadway
- ▨ Nonstructural Improvements

- ▨ Pump Station
- ▨ Breakwater
- ▨ Cofferdam

- ▨ Temporary Staging
- ▨ Temporary Easement
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



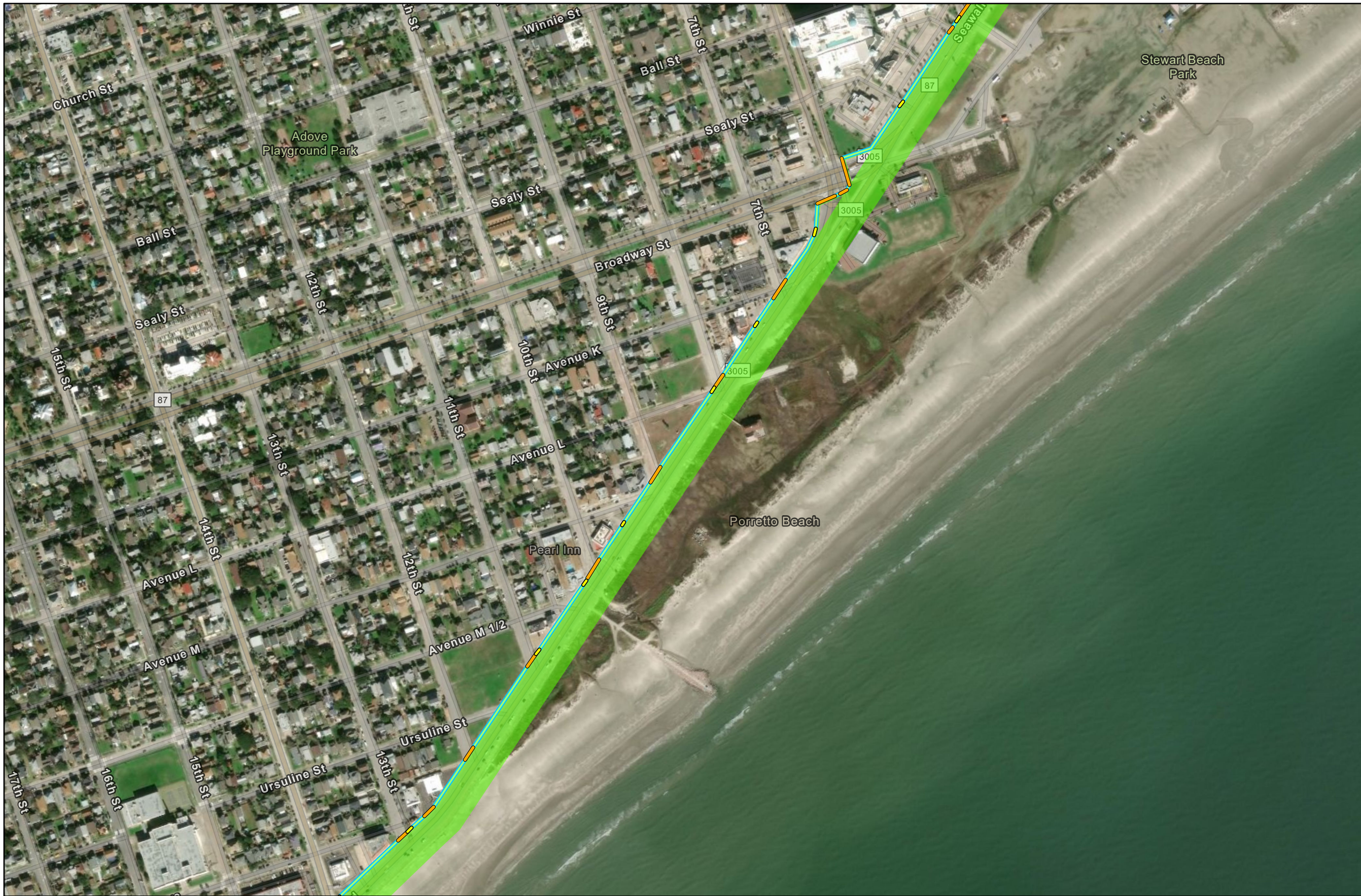
Date: 29 April 2020

Page Number: 28

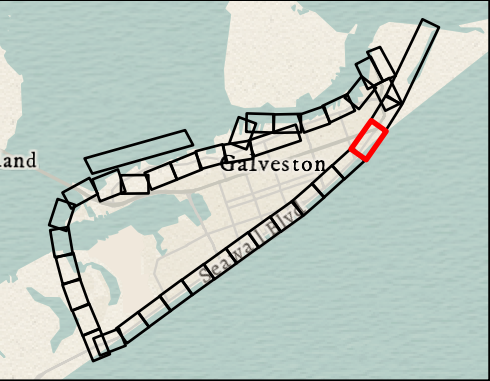
Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



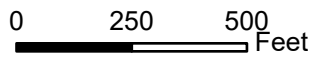
Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Pump Station
- ▨ Temporary Staging
- ▨ Elevated Roadway
- ▨ Breakwater
- ▨ Temporary Easement
- ▨ Nonstructural Improvements
- ▨ Cofferdam
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



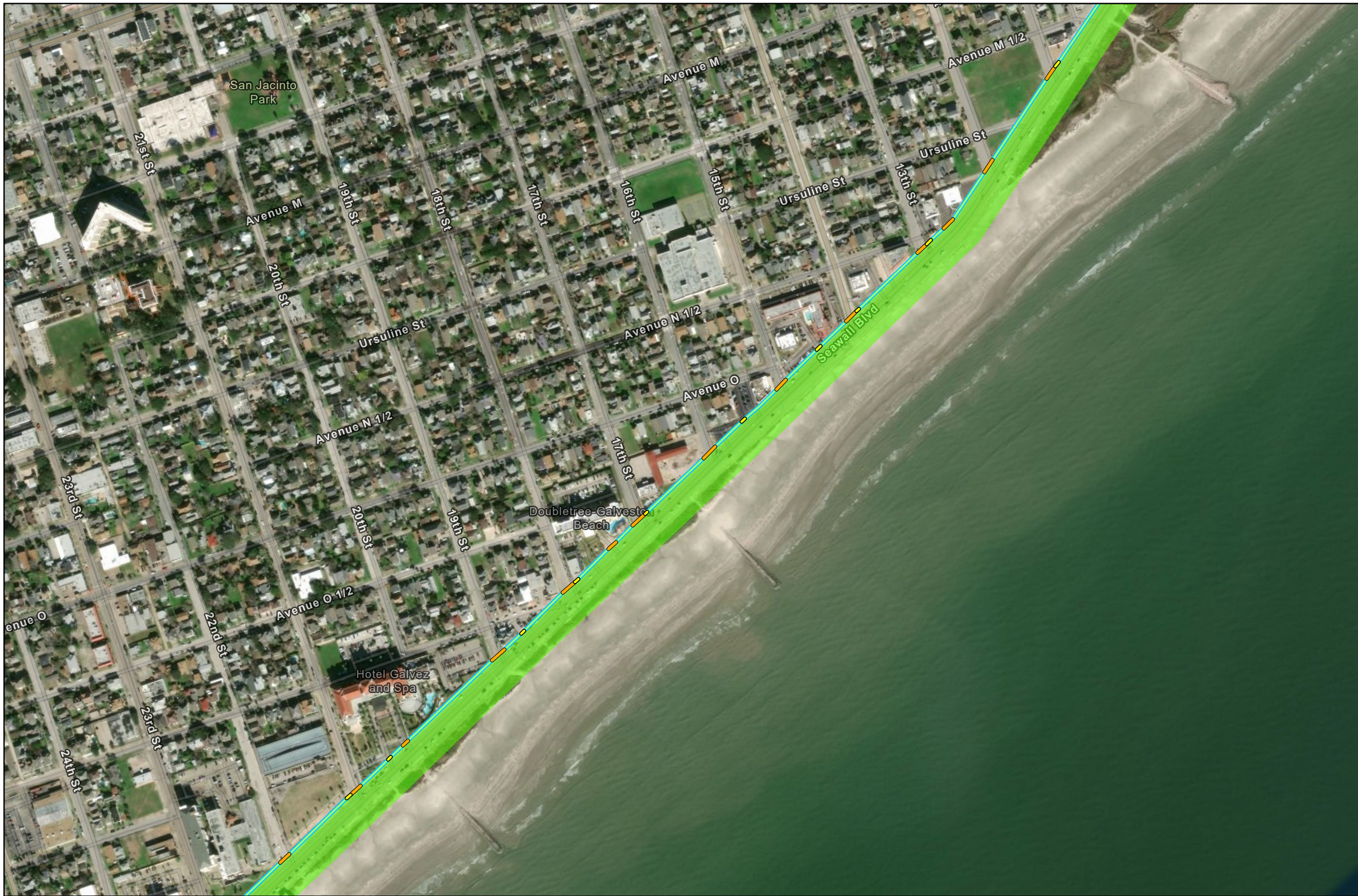
Date: 29 April 2020

Page Number: 29

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

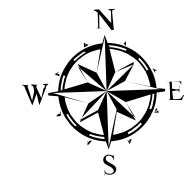
- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



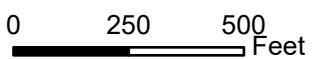
Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Pump Station
- ▨ Temporary Staging
- ▨ Elevated Roadway
- ▨ Breakwater
- ▨ Temporary Easement
- ▨ Nonstructural Improvements
- ▨ Cofferdam
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



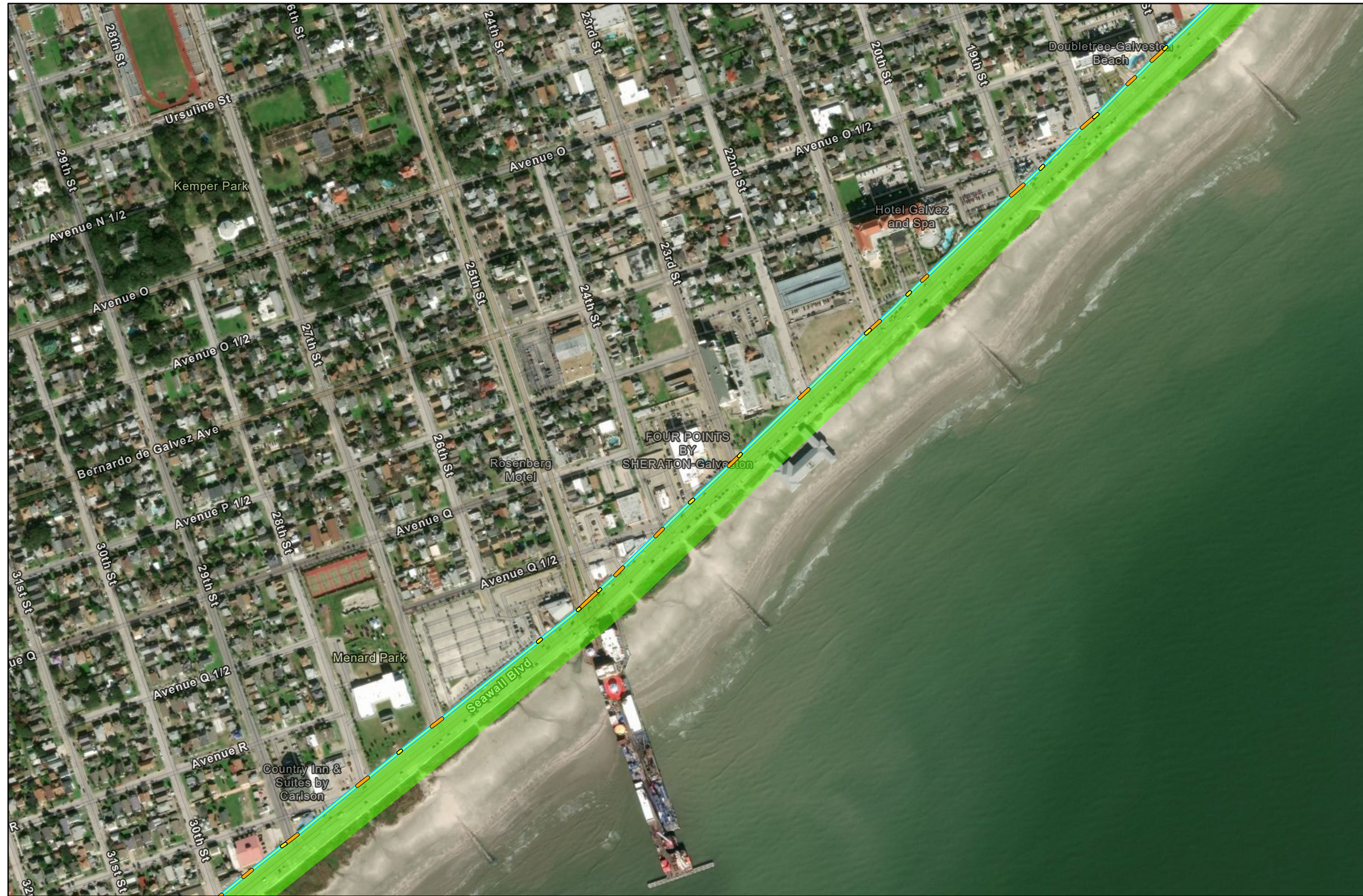
Date: 29 April 2020

Page Number: 30

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

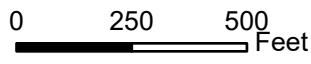
- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Pump Station
- ▨ Temporary Staging
- ▨ Elevated Roadway
- ▨ Breakwater
- ▨ Temporary Easement
- ▨ Nonstructural Improvements
- ▨ Cofferdam
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

Date: 29 April 2020

Page Number: 31

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee

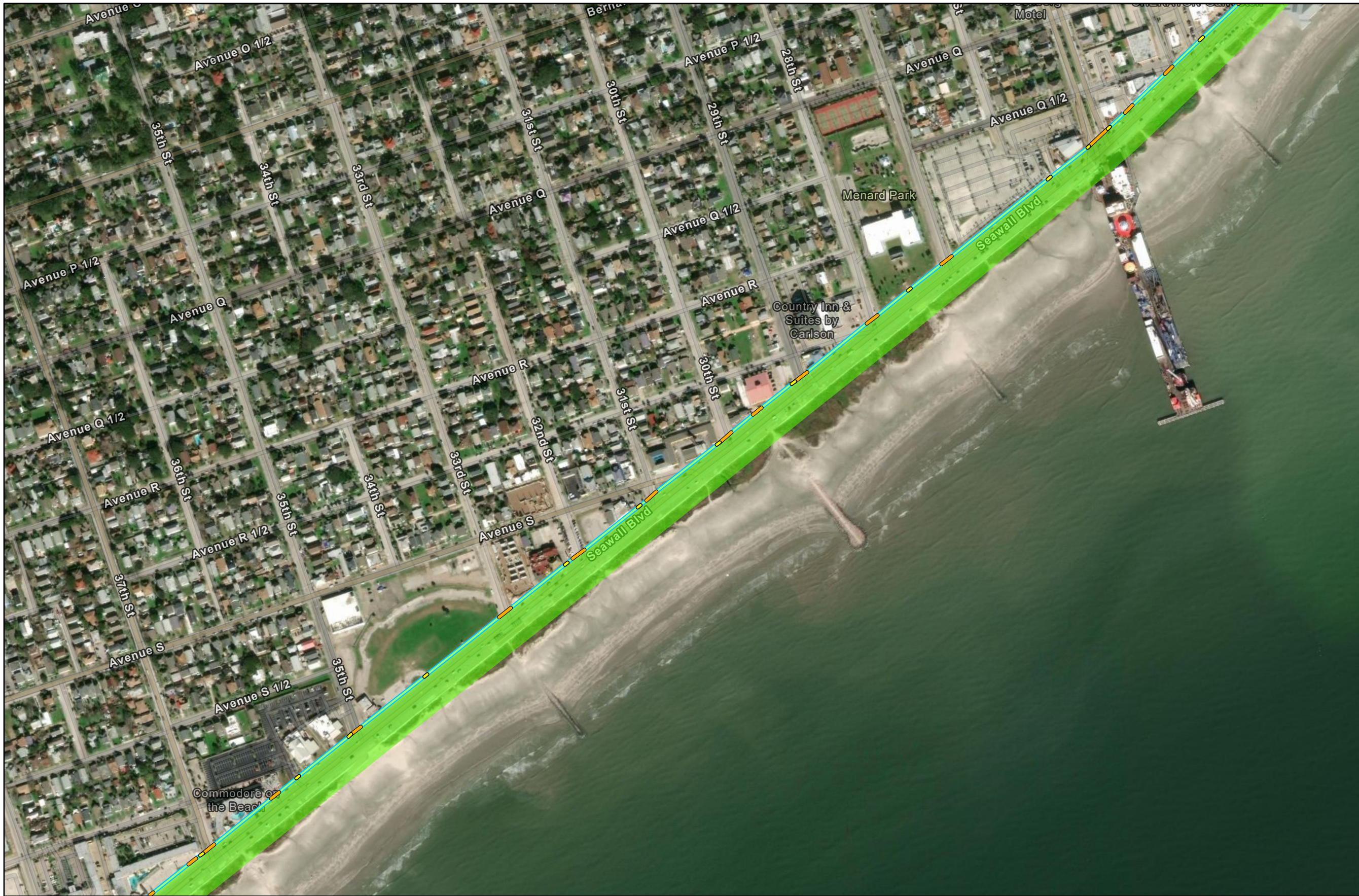
Transportation Access

- Access Gate
- Rail Closure
- Road Closure

Floodwall

Approx. Stick Up Height

- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



Drainage Mitigation

Elevated Roadway

Nonstructural Improvements

Pump Station

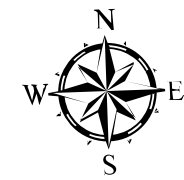
Breakwater

Cofferdam

Temporary Staging

Temporary Easement

Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

0 250 500 Feet

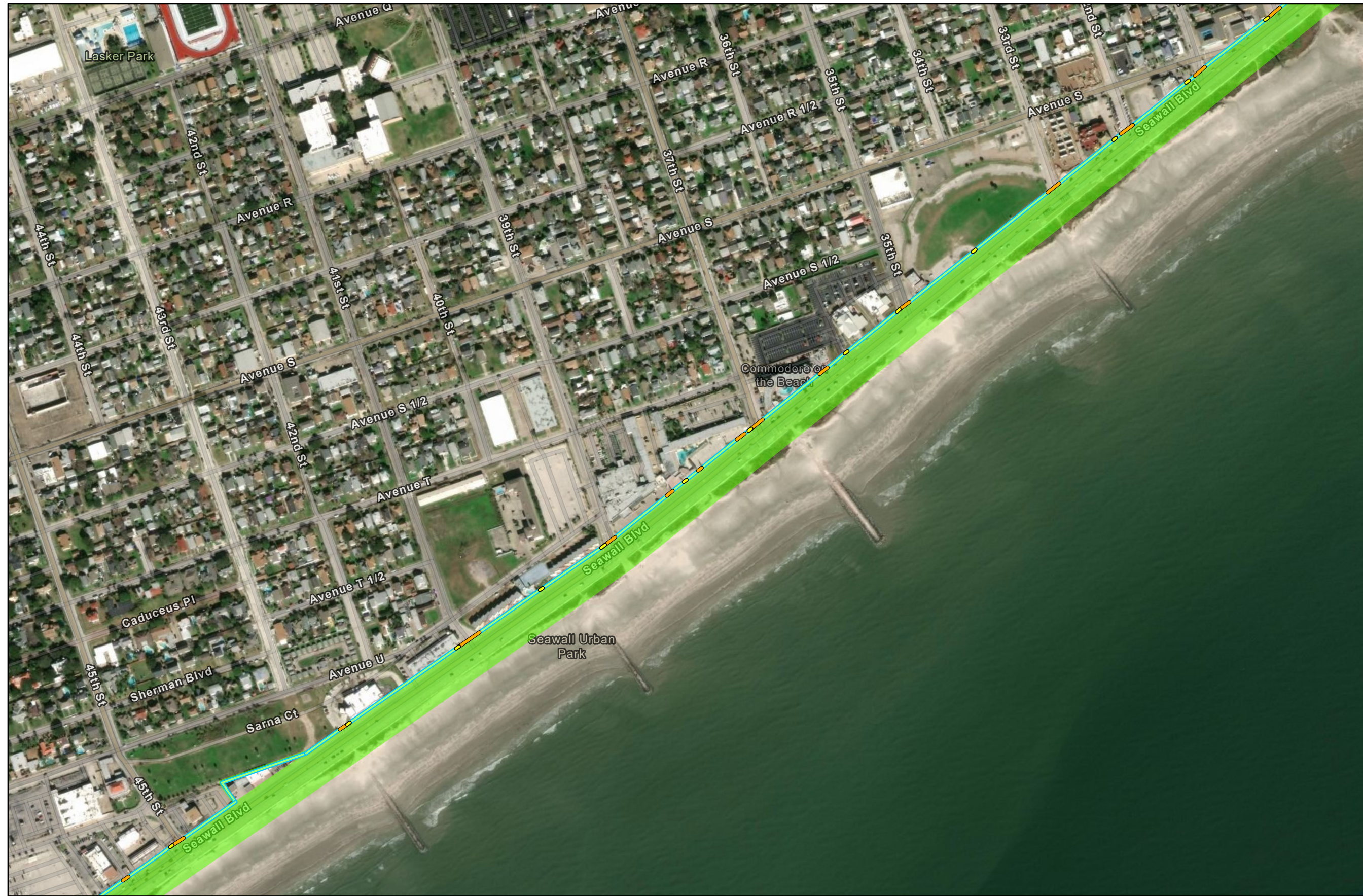
Date: 29 April 2020

Page Number: 32

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



Drainage Mitigation

Elevated Roadway

Nonstructural Improvements

Pump Station

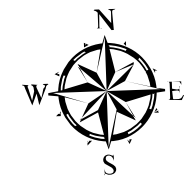
Breakwater

Cofferdam

Temporary Staging

Temporary Easement

Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

0 250 500 Feet

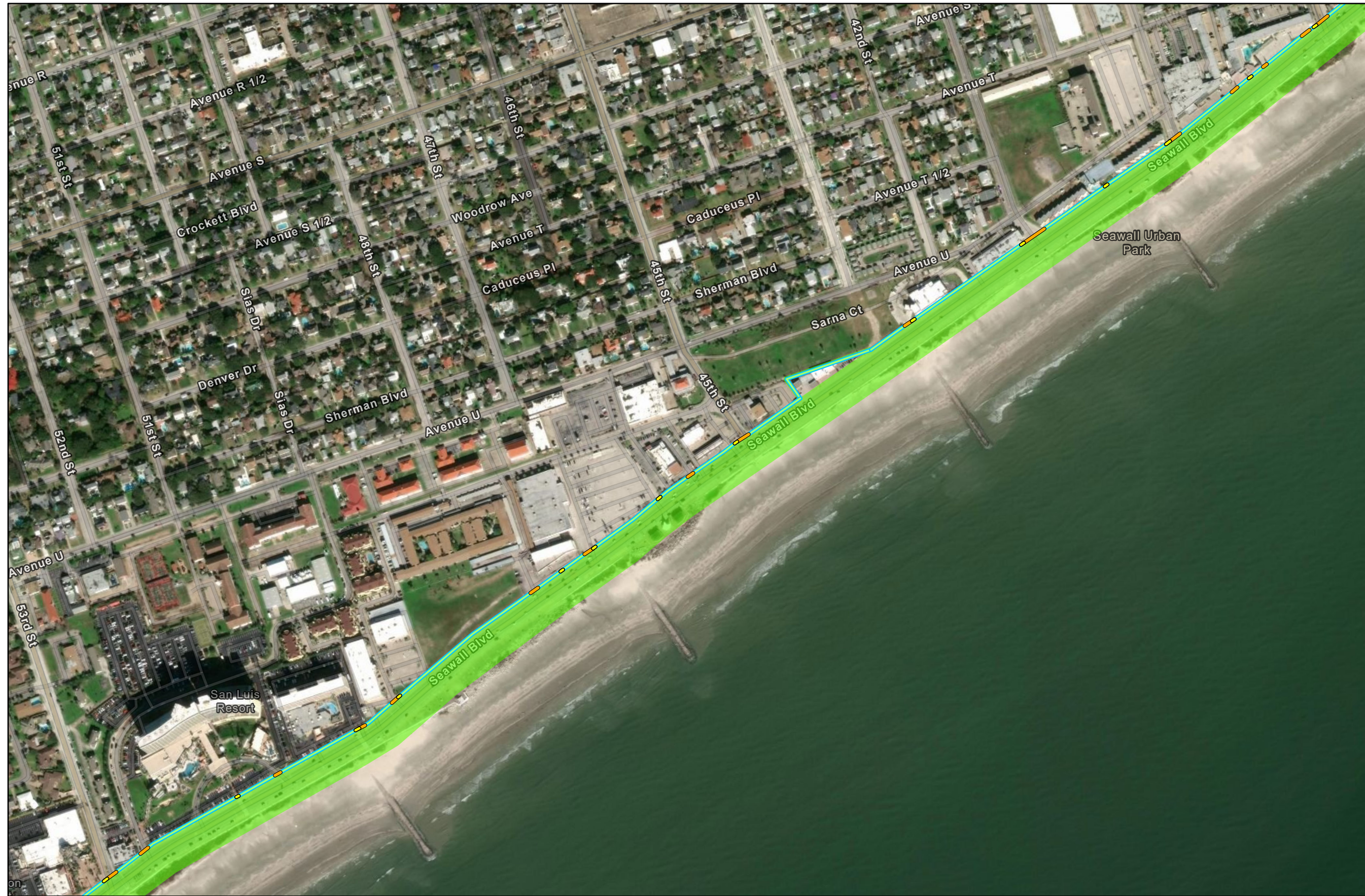
Date: 29 April 2020

Page Number: 33

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

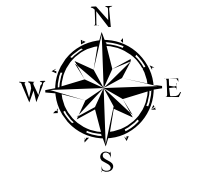
- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



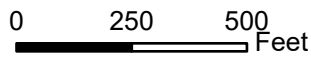
Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Pump Station
- ▨ Temporary Staging
- ▨ Elevated Roadway
- ▨ Breakwater
- ▨ Temporary Easement
- ▨ Nonstructural Improvements
- ▨ Cofferdam
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 34

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee

Transportation Access

- Access Gate
- Rail Closure
- Road Closure

Floodwall

Approx. Stick Up Height

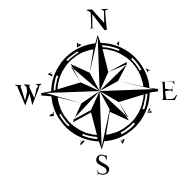
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Elevated Roadway
- ▨ Nonstructural Improvements
- ▨ Pump Station
- ▨ Breakwater
- ▨ Cofferdam
- ▨ Temporary Staging
- ▨ Temporary Easement
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

0 250 500 Feet

Date: 29 April 2020

Page Number: 35

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



Drainage Mitigation

Elevated Roadway

Nonstructural Improvements

Pump Station

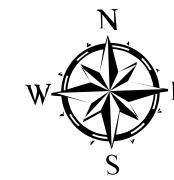
Breakwater

Cofferdam

Temporary Staging

Temporary Easement

Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

0 250 500 Feet

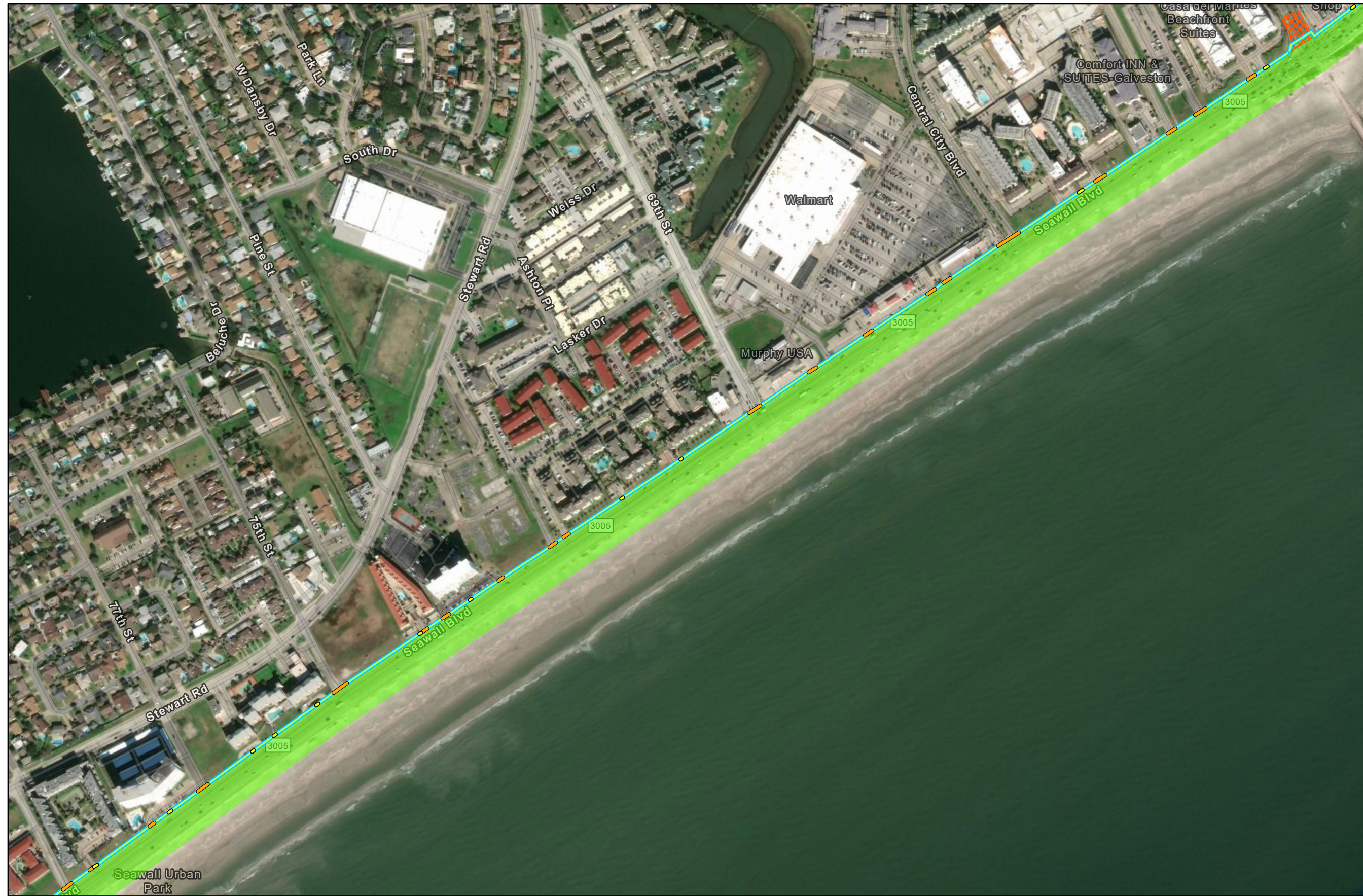
Date: 29 April 2020

Page Number: 36

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



 Drainage Mitigation

 Elevated Roadway

 Nonstructural Improvements

 Pump Station

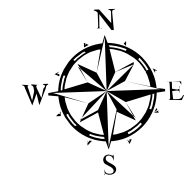
 Breakwater

 Cofferdam

 Temporary Staging

 Temporary Easement

 Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

0 250 500 Feet

Date: 29 April 2020

Page Number: 37

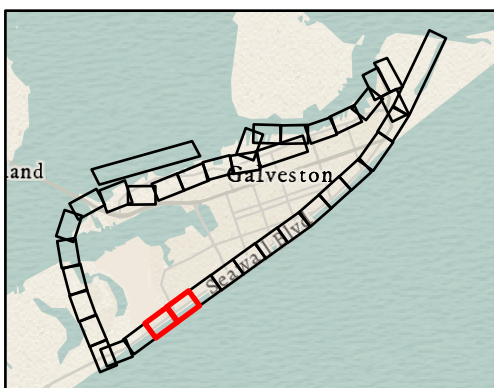
Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



 Drainage Mitigation

 Elevated Roadway

 Nonstructural Improvements

 Pump Station

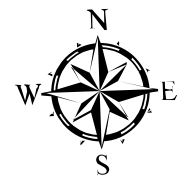
 Breakwater

 Cofferdam

 Temporary Staging

 Temporary Easement

 Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

0 250 500 Feet

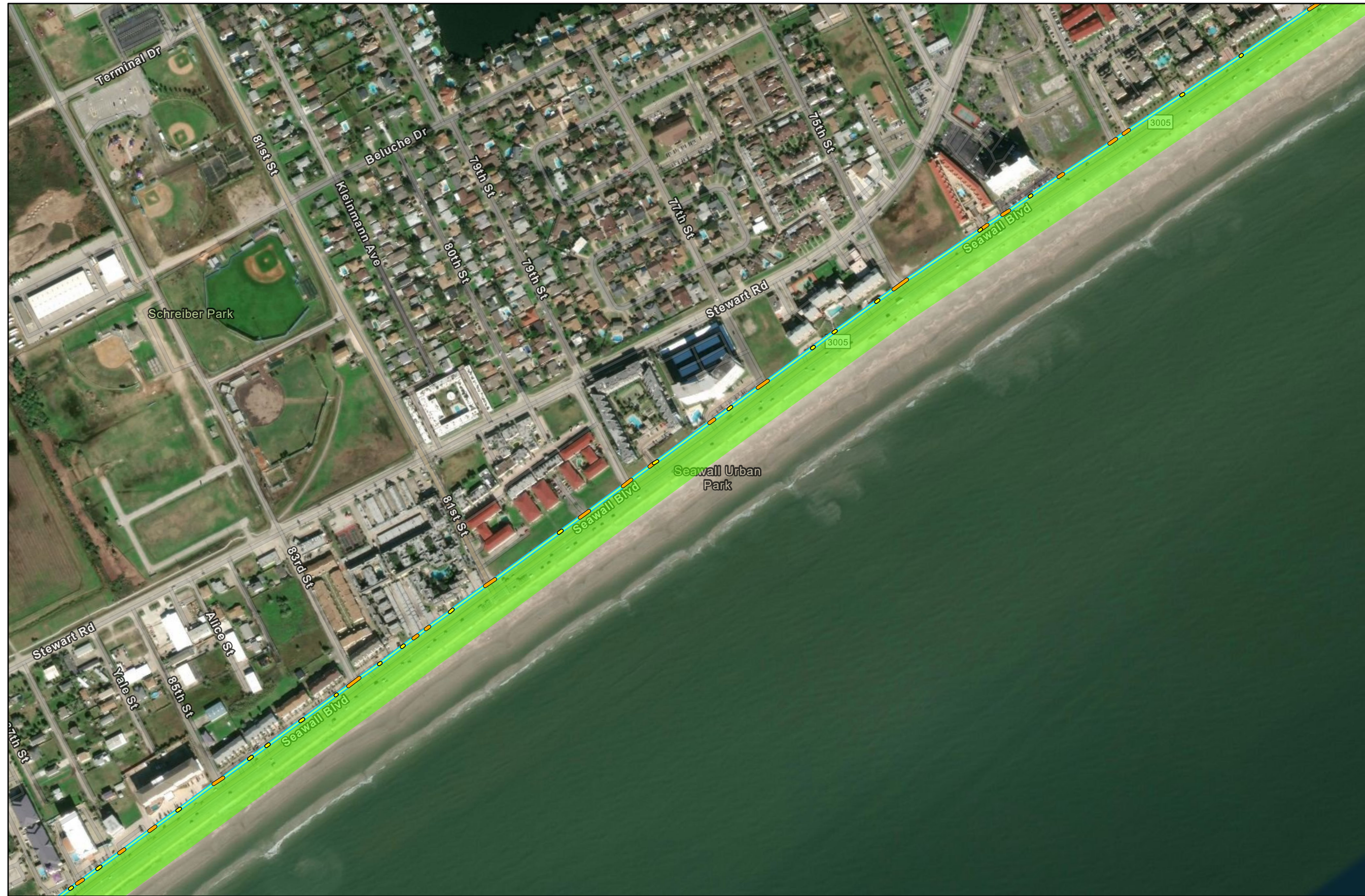
Date: 29 April 2020

Page Number: 38

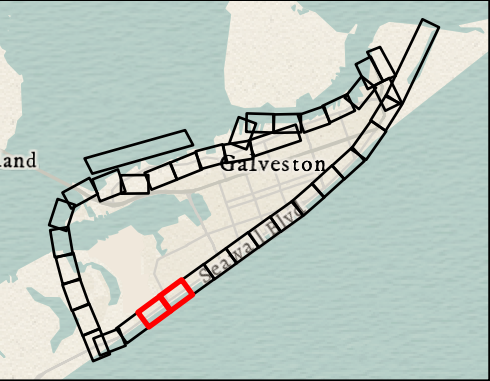
Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



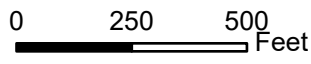
Basemap: ESRI World Imagery (Firefly)



- ▨ Drainage Mitigation
- ▨ Pump Station
- ▨ Temporary Staging
- ▨ Elevated Roadway
- ▨ Breakwater
- ▨ Temporary Easement
- ▨ Nonstructural Improvements
- ▨ Cofferdam
- ▨ Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204



Date: 29 April 2020

Page Number: 38

Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



 Drainage Mitigation

 Elevated Roadway

 Nonstructural Improvements

 Pump Station

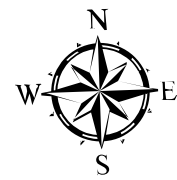
 Breakwater

 Cofferdam

 Temporary Staging

 Temporary Easement

 Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

0 250 500 Feet

Date: 29 April 2020

Page Number: 39

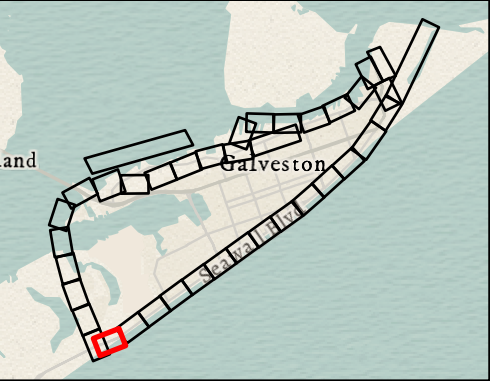
Coastal Texas Protection and Restoration Feasibility Study

City of Galveston Ring Barrier

- ⊙ Drainage Structure
- Combiwall
- Seawall Improvement
- Circulation Gate
- Navigation Gate
- New Channel
- Levee
- Transportation Access
- Access Gate
- Rail Closure
- Road Closure
- Floodwall
- *Approx.* Stick Up Height
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- 8 - 10 ft
- 10 - 12 ft
- 12 - 14 ft



Basemap: ESRI World Imagery (Firefly)



Drainage Mitigation

Elevated Roadway

Nonstructural Improvements

Pump Station

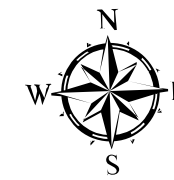
Breakwater

Cofferdam

Temporary Staging

Temporary Easement

Permanent Easement



DATUM: NAD 1983
PROJECTION: STATE PLANE
ZONE: TX-SC 4204

0 250 500 Feet

Date: 29 April 2020

Page Number: 40