



Seawall Inspection Report

Waterside on the Intracoastal

Property Address:
2881 NE 32nd St
Fort Lauderdale FL 33306



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Sample Report

1. Seawall or Bulkhead

This Seawall Inspection is one of the most complete underwater inspections in the Market. The inspector will describe to you the type of Seawall or marine construction that you have. T-Pile, Coral Rock, King Pile, Aluminum, or Wood Seawall. The inspector will inspect the seawall components, including but not limited to, the seawall CAP, bulkhead or panels, piles, footings, and any other components which is visible from the land side or waterside of the structure. The inspector will dive the the bottom and take extensive photos and record underwater video of the seawall to show you what he sees in a report that you can access online. The inspector will report on the evidence of structural deterioration, failure, or inadequacy in the seawall structural components below land side or waterside grade. Our Seawall Inspectors may offer an opinion as to the structural adequacy, life expectancy, or expansion potential of any seawall but customers are advised to seek opinion in writing from a qualified marine engineer or reputable marine contractor.

Styles & Materials

Seawall Type: Vertical	Seawall Construction: T-Pile Seawall	Sewall Cap: Concrete
Cap Hight to Water Line: Extra Info : 3-4 LF at the tide	Cap Height to Berm: Extra Info : +/- 10 LF	Tide at Inspection Time: Extra Info : Mid point

Items

- 1.0 Grounds
- Inspected, Repair/Replace

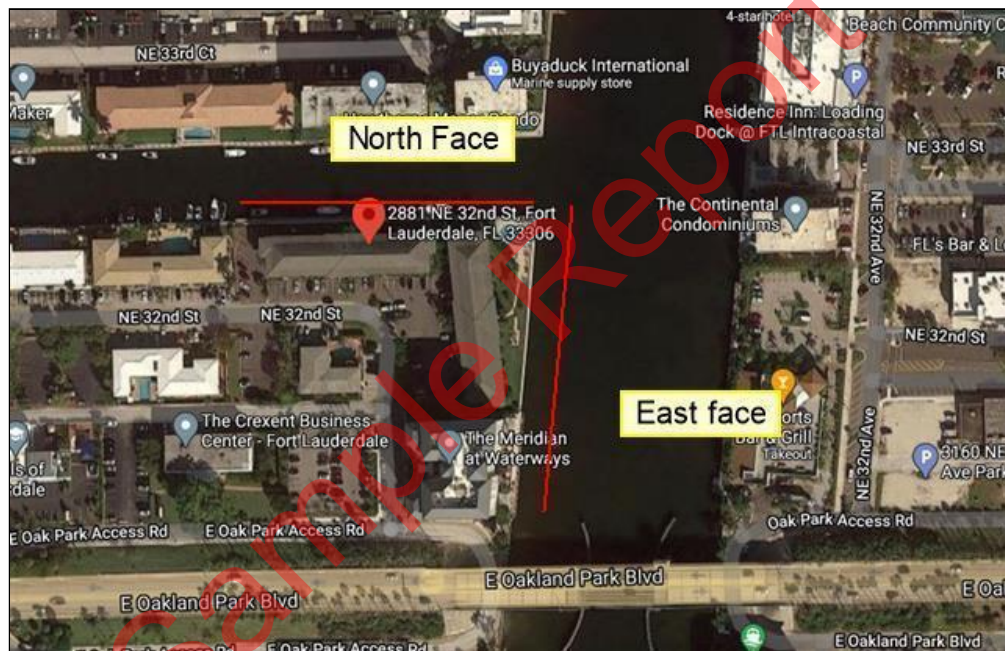
Waterside on the Intracoastal is located on a busy waterfront corner off of the main "intracoastal waterway" in Fort Lauderdale, approximately 500 lineal feet North of the E Oakland Park Blvd bridge. The corner is bordered on the North face by a finger canal and on the East face by the main intracoastal waterway. Item 1(Picture)

The seawall measures approximately 700 LF and is exposed to heavy boat traffic, strong wave, and wind action. The inspection was done from both, the water and the landside of the seawall. Water visibility was +/- 4LF depth at the wall, +/- 6 LF depth outside of the dock piles, clear skies.

Inspector observed the grounds along the North and East faces of the seawall. Inspector found the grounds to be leveled and well kept. However, inspector found widespread signs of erosion and/or soil de-stabilization on both faces of the seawall. Item 2(Picture) Item 3(Picture) Item 4(Picture) Item 5(Picture) Item 6(Picture) Item 7(Picture) Item 8(Picture)

Inspector also found minor signs of soil de-stabilization around the pool area at the time of the inspection. Item 12(Picture) Item 13(Picture) Item 14(Picture)

See item specific recommendation on the following paragraphs.



1.0 Item 1(Picture)



1.0 Item 2(Picture)



1.0 Item 3(Picture)



1.0 Item 4(Picture)



1.0 Item 5(Picture)



1.0 Item 6(Picture)



1.0 Item 7(Picture)



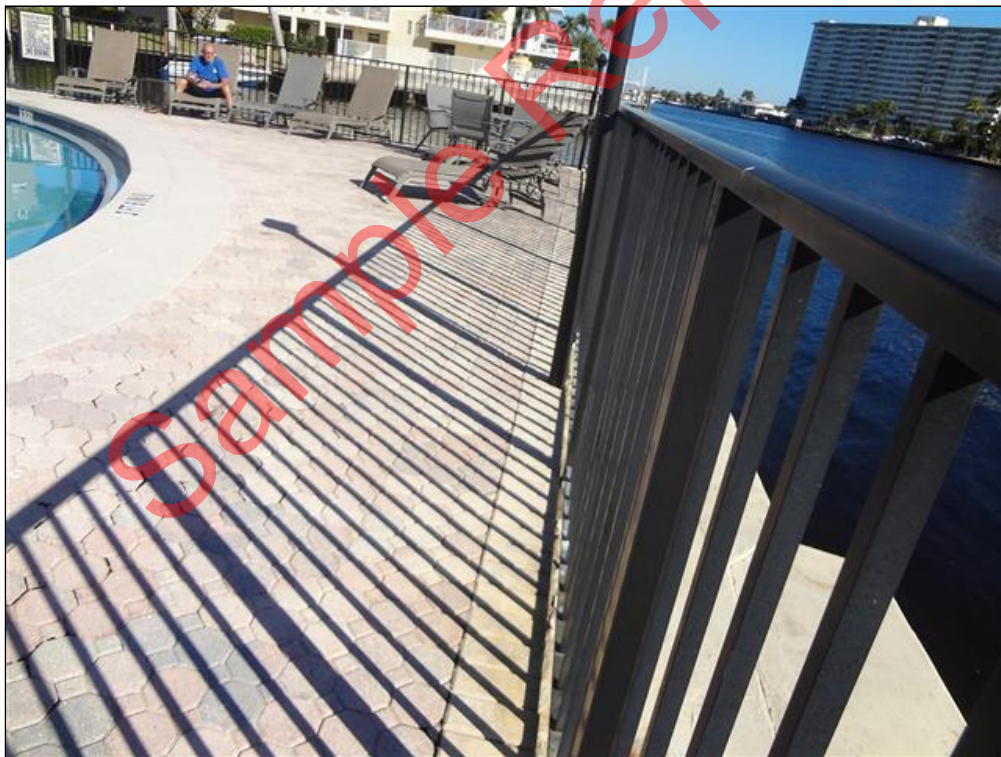
1.0 Item 8(Picture)



1.0 Item 9(Picture)



1.0 Item 10(Picture)



1.0 Item 11(Picture)



1.0 Item 12(Picture)



1.0 Item 13(Picture)



1.0 Item 14(Picture)

1.1 Seawall Face - Panel Condition

Inspected, Repair/Replace

Inspector observed the seawall North and East face (or panels condition) for signs of deterioration and horizontal cracks. Usually, aging, corrosion of concrete and reinforcing rod, and uneven hydrostatic pressure can cause concrete panels to crack. Slabs or panels develop horizontal cracks usually along the water line, and the panels eventually can break along these lines.

While in the water, inspector found signs of horizontal cracks on the East face of the seawall. Inspector found two panels on the East face of the seawall that exhibited minor horizontal cracks. Therefore, aging, corrosion and uneven hydrostatic pressures are beginning to take its toll on the East face. Item 1(Picture) Item 2(Picture) Item 3(Picture) This, along with the constant boat traffic that generates strong wave action could cause the East face of the seawall to further deteriorate. Inspector marked the damaged panels for ease of identification.

Inspector found no horizontal cracks on the North face. This is an indication that the North side of the property is better balanced than the East side Item 4(Picture) Item 5(Picture) Item 6(Picture) Item 7(Picture) Item 8(Picture) Item 9(Picture) Furthermore, the North side is not exposed to wave action as much as the East side.

RECOMMENDATIONS: Inspector recommend the damaged panels on the East face be repaired or reinforced as to prevent further deterioration and unwanted collapse.



1.1 Item 1(Picture)



1.1 Item 2(Picture)



1.1 Item 3(Picture)



1.1 Item 4(Picture)



1.1 Item 5(Picture)



1.1 Item 6(Picture)



1.1 Item 7(Picture)



1.1 Item 8(Picture)



1.1 Item 9(Picture)

1.2 Footings or foundation

Inspected, Repair/Replace

Inspector observed the bottom of the seawall for signs of erosion and presence of footers.

Inspector found a very short footer along the first 3/4 of the East face of the seawall while swimming North. The footer is made out of corrugated vinyl sheet pile and it measures only a short 3" - 6" above

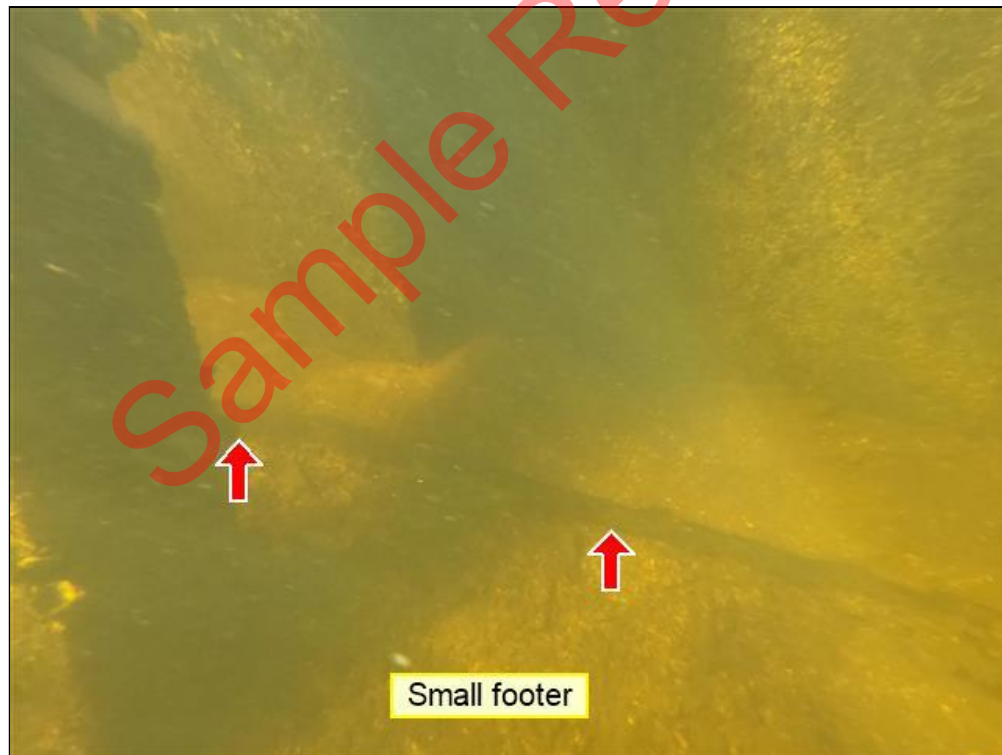
the berm (bottom of the canal). Item 1(Picture) Item 2(Picture) Item 3(Picture) Item 4(Picture) Item 5(Picture)

The small footer on the East face is filled with cement but is not effectively encapsulated and is allowing moderate levels of soil loss. Inspector probed the berm along the edges of the East face of the seawall for penetration. Probe was pushed as much as 6" without reaching the bottom of the panels. Although the panels seem well positioned into the East berm, the soil loss needs to be stopped with the addition of a new footer.

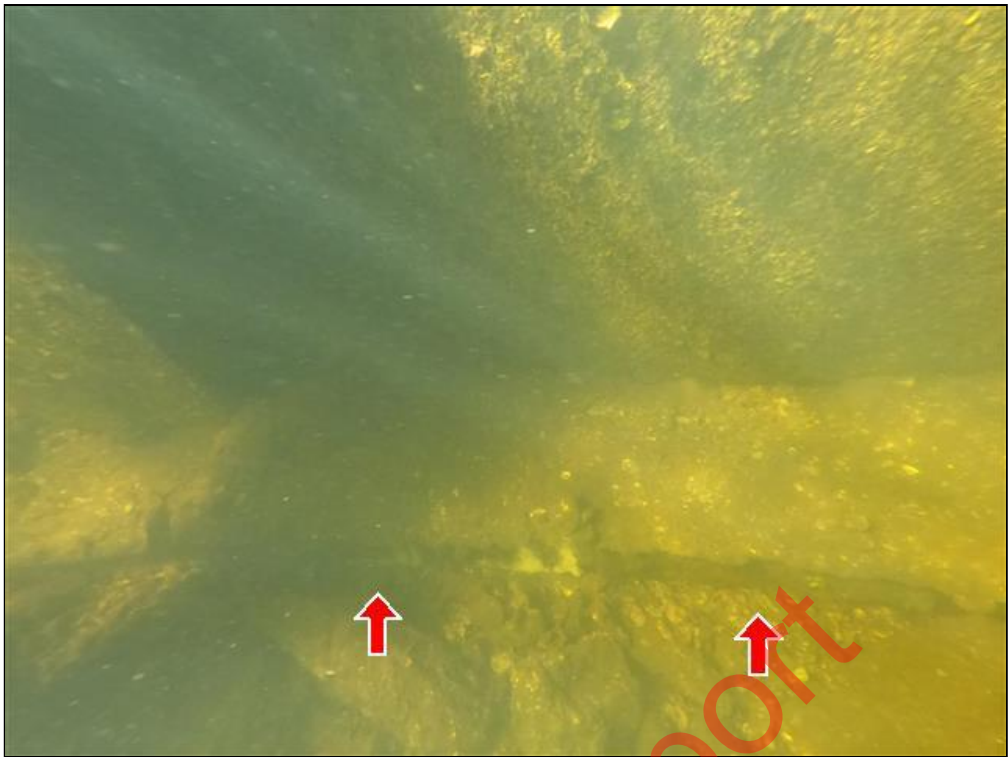
When approaching the last 1/4 of the East face (getting close to the corner) inspector found a taller (larger) footer (20-24") made out of the same material. Section of this sheet pile footer at the corner is allowing soil loss. Item 6(Picture) Item 7(Picture) Item 8(Picture) Item Item 17(Picture) 9(Picture) Item 10(Picture)

Inspector found no footer on the North face of the seawall. Inspector probed the berm along the edges of the North face of the seawall for penetration. Probe was pushed as much as 6" without reaching the bottom of the panels. Since the seawall does not get the same level of wave action that it gets on the East face, this section of the seawall does not appear to need a new footer at this time. Most of the erosion detected on the North face of the seawall seems to be attributed to seam seals and defective drainage system (see section under Seam Seals and Drainage).

RECOMMENDATION: Add a new footer on the East face that can deter the effects of strong wave action and possible toe erosion. That should provide better protection to the ongoing effects of wave action and stop current soil loss.



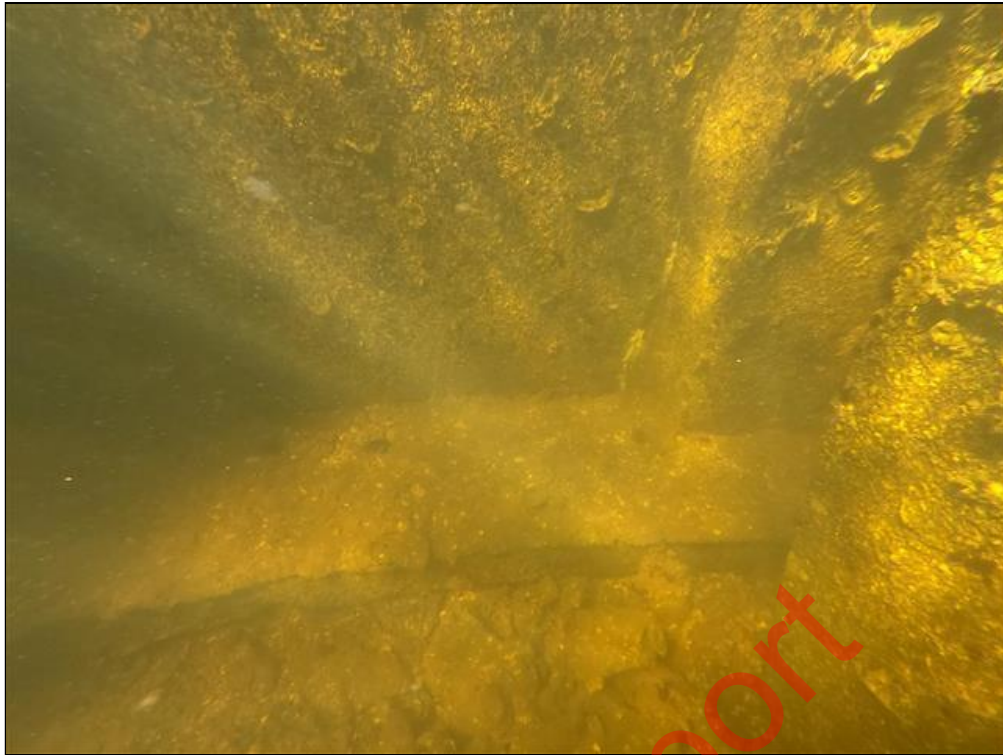
1.2 Item 1(Picture)



1.2 Item 2(Picture)



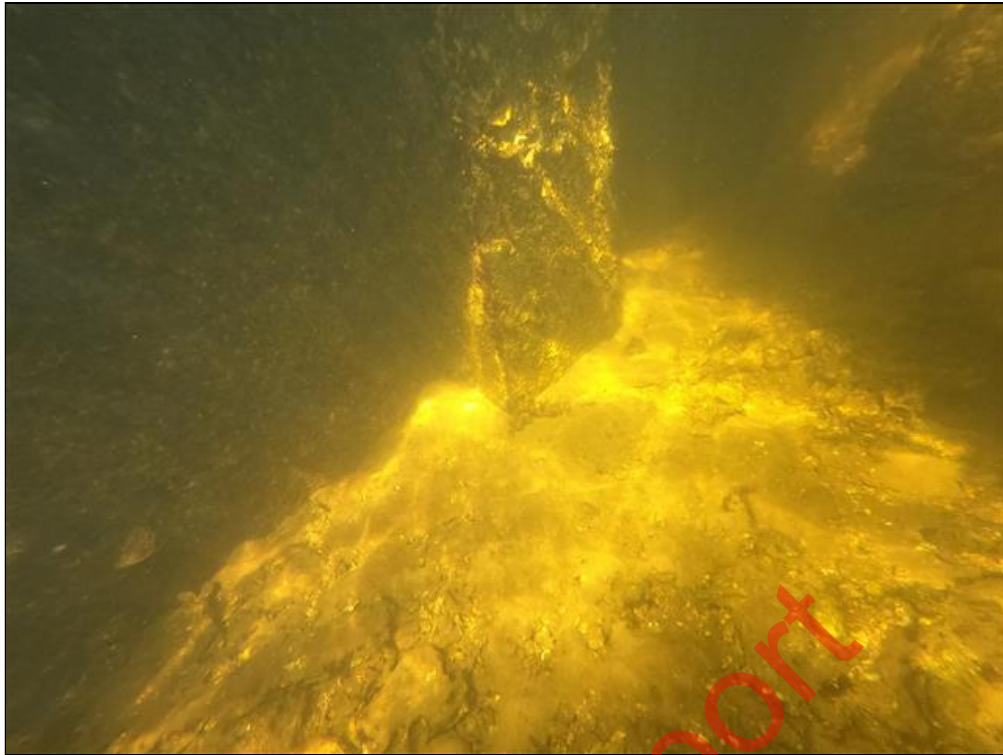
1.2 Item 3(Picture)



1.2 Item 4(Picture)



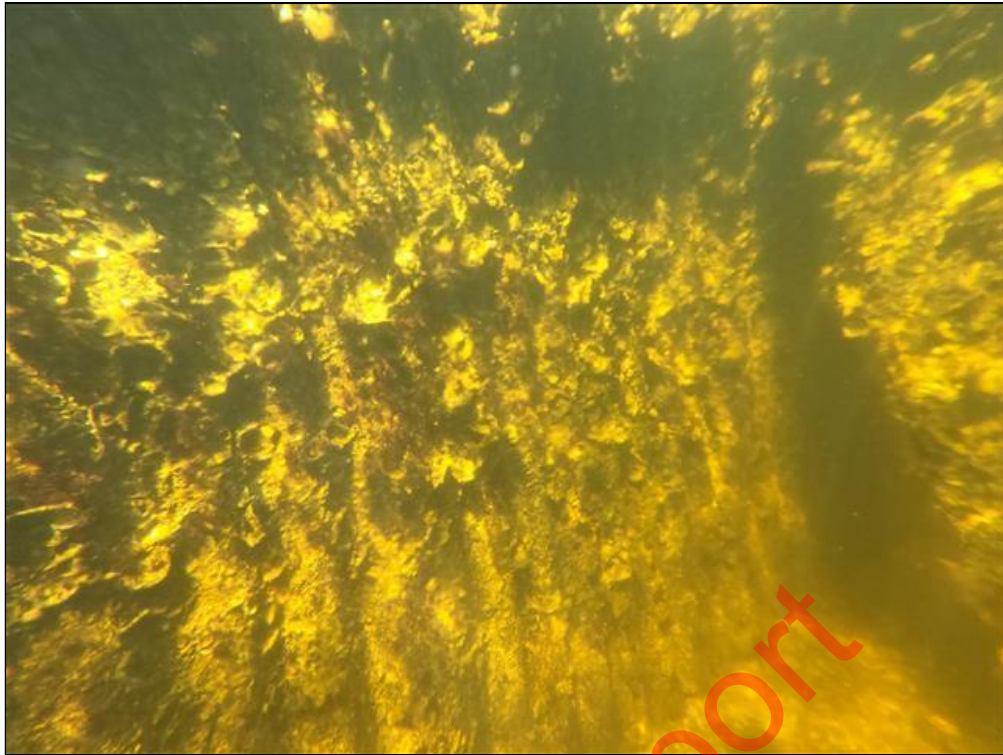
1.2 Item 5(Picture)



1.2 Item 6(Picture)



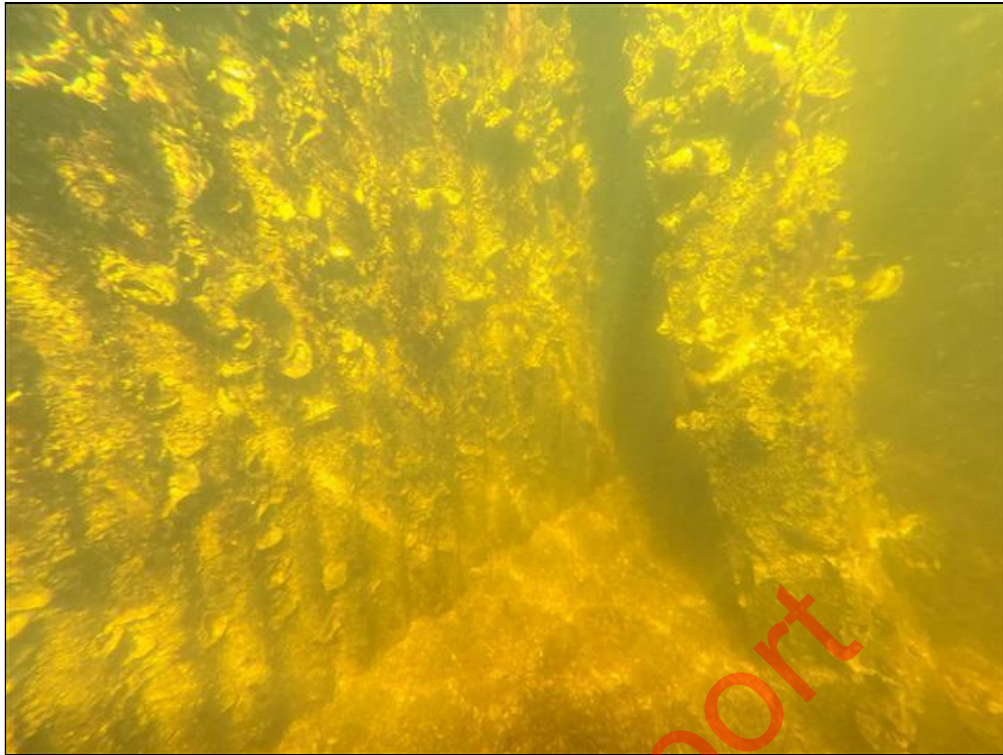
1.2 Item 7(Picture)



1.2 Item 8(Picture)



1.2 Item 9(Picture)



1.2 Item 10(Picture)

1.3 Seawall Cap

Inspected, Repair/Replace

Inspector observed the seawall CAP from both, the landside as well as the waterside. The CAP measures +/- 700 LF in length, 36" wide, and 12" tall. The CAP is +/- 10 LF high (tall) measuring from the berm (bottom of canal). There is no sign of CAP rotation or movement at this time. Item 1(Picture) Item 2(Picture)

Inspector found moderate to severe levels of deterioration along sections of the North CAP due to steel rod corrosion and concrete spalling on the splash zone. Item 3(Picture) Item 4(Picture) Item 5(Picture) Item 6(Picture) Item 7(Picture) Item 8(Picture) Item 9(Picture)

Inspector found moderate to severe levels of deterioration along a smaller portion of the East CAP due to steel rod corrosion and concrete spalling on the splash zone. Item 10(Picture) Item 11(Picture) Item 12(Picture) Item 13(Picture) Item 14(Picture)

RECOMMENDATIONS: Inspector recommend repairs of the North CAP (concrete restoration) by qualified marine contractor. CAP restoration that can repair/replace corroded steel rods and seal and/or encapsulate the cracks on the concrete CAP can extend seawall life expectancy.



1.3 Item 1(Picture)



1.3 Item 2(Picture)



1.3 Item 3(Picture)



1.3 Item 4(Picture)



1.3 Item 5(Picture)



1.3 Item 6(Picture)



1.3 Item 7(Picture)



1.3 Item 8(Picture)



1.3 Item 9(Picture)



1.3 Item 10(Picture)



1.3 Item 11(Picture)



1.3 Item 12(Picture)



1.3 Item 13(Picture)



1.3 Item 14(Picture)

1.4 Vertical Piles

Inspected

Inspector observed the Vertical piles above and below the water line. Vertical piling are the large concrete piles, driven at on a straight line into the canal bottom, in front of your seawall to support the seawall. Vertical piles are the first line of defense and hold the seawall panels in place. Inspector did not observe any major structural deficiencies with the condition of the vertical piles. Therefore, the vertical piles were in serviceable condition at the time of the inspection.

1.5 Batter Piles

Inspected, Repair/Replace

Inspector observed the batter piles above and below the water line on the East and North faces.

Batter piles are large concrete piles, driven at an angle into the canal bottom, in front of your seawall to prop it up and support the anchor system which may no longer adequately supporting the seawall. Batter piles prevent total failure from tieback fatigue by leaning against the seawall to hold it in place, to keep it from collapsing to make it last longer. Batter piling are top structural supports that are vital to saving existing structural supports from failing.

Inspector found moderate levels of deterioration in as many as 6-7 batter piles on the East face of the seawall. Most of the deterioration is located at the splash zone where the pile connects with the CAP. Item 1(Picture) Item 2(Picture) Item 3(Picture) Item 4(Picture) Inspector found no deficiencies with the condition of the batter piles underwater throughout the entire seawall.

RECOMMENDATIONS: Inspector recommend repairs of the deteriorating batter piles on the East face by qualified marine contractor.



1.5 Item 1(Picture)



1.5 Item 2(Picture)



1.5 Item 3(Picture)



1.5 Item 4(Picture)

1.6 Seam Sealing

Inspected, Repair/Replace

Inspector observed the seam seals above and below the water line on the East and North face.

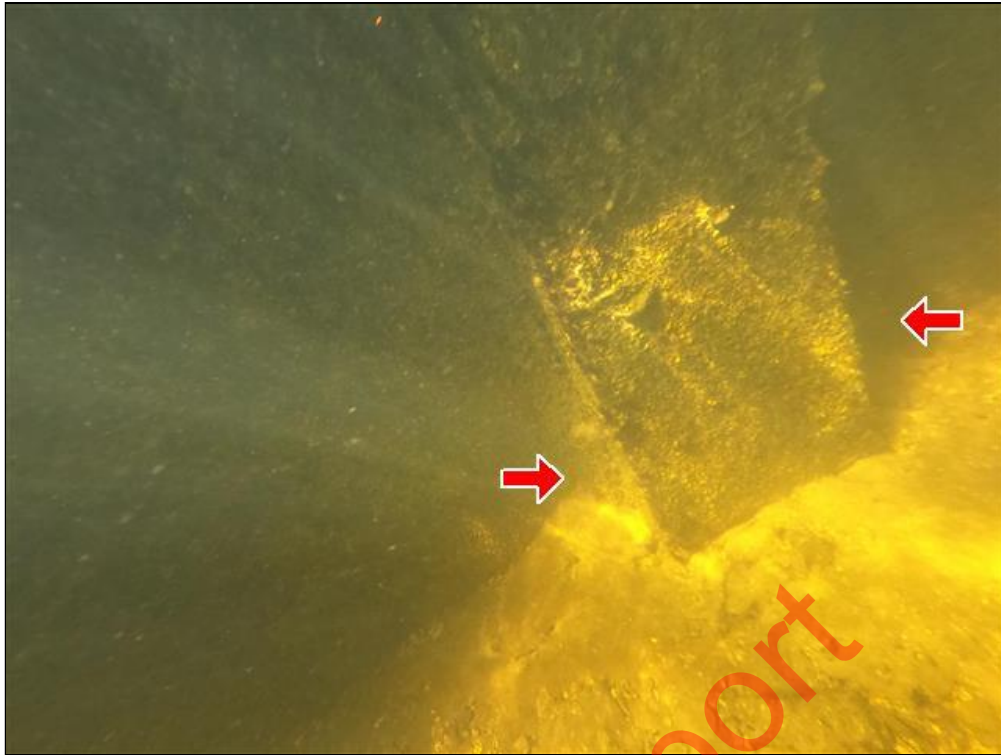
Seam sealing is needed in a interlocking type of seawall construction to prevent soil loss due to effects of wave and wind action.

Inspector found widespread damage and loss of seam seals along both faces of this seawall. Inspector marked the seawall for all areas where seam seal loss is leading to erosion. Most of the current soil loss that is evident of the land side is being caused by the failing seam seals. Approximately 70 vertical piles have deteriorating seals on both side.

RECOMMEDATIONS: Recommend re-sealing the entire seawall system by qualified marine contractors.



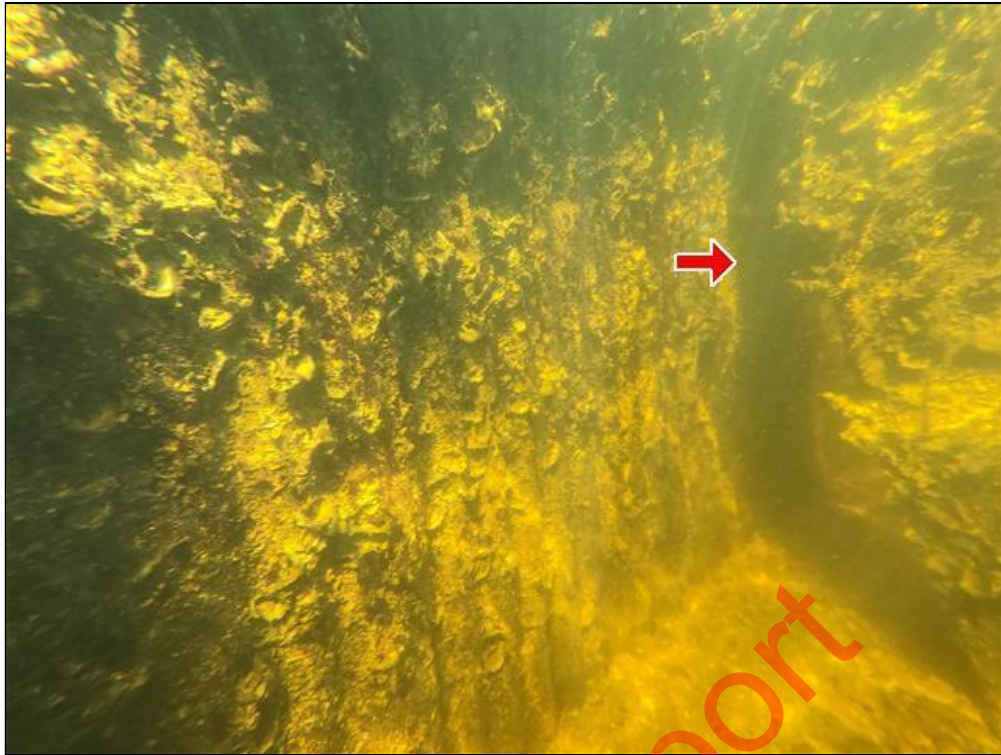
1.6 Item 1(Picture)



1.6 Item 2(Picture)



1.6 Item 3(Picture)



1.6 Item 4(Picture)



1.6 Item 5(Picture)



1.6 Item 6(Picture)



1.6 Item 7(Picture)



1.6 Item 8(Picture)



1.6 Item 9(Picture)



1.6 Item 10(Picture)



1.6 Item 11(Picture)



1.6 Item 12(Picture)



1.6 Item 13(Picture)



1.6 Item 14(Picture)



1.6 Item 15(Picture)

1.7 Reinforcements

Not Present

Inspector found no evidence of reinforcements on this seawall. Since the top wall section is not pushing out towards water, the existing tie rods and concrete anchor appear to be performing as intended. This means no reinforcements are needed at this time.

1.8 Tie-Backs

Not Inspected

Inspector found no evidence of deficiency with the condition of the tie-back rods as there are no signs of sagging on the monolithic structure or backfill settlement. Inspector disclaims responsibility for determining the precise condition of the tie-back rods because they are hidden underground.

1.9 Anchors**Not Inspected**

Inspector found no evidence of deficiency with the condition of the anchors as there are no signs of sagging or backfill settlement. Inspector disclaims responsibility for determining the precise condition of the anchors because they are hidden underground.

1.10 Drainage or Storm sewer**Inspected, Repair/Replace**

Inspector observed the drainage system. Inspector found only one storm drain along the the entire seawall. The drain appears to be damaged and is pouring large amounts of soil at the bottom of the canal.

RECOMMENDATIONS: Inspector recommend repair of this drain to stop further soil loss.



1.10 Item 1(Picture)



1.10 Item 2(Picture)

1.11 Underwater Videos

Inspected

Please click on the links below to watch underwater videos recorded during this Seawall Inspection.

<https://youtu.be/p4VYjhhs1tQ>

<https://youtu.be/4W0Jir6AvAU>

<https://youtu.be/a0TNX6IneyI>

<https://youtu.be/TGoLFgGEZSU>