

Naples Island Seawalls Update and El Niño Considerations

October 15, 2026

Review of Today's Discussion & Presentation

- Background and Executive Summary– Naples Seawalls Conditions and Vulnerabilities
- Recommended Repair Plans
- Current Active Projects at Naples Island
  - Vista Del Golfo Tiebacks Project
  - Sorrento Trail Phase 1
  - Naples Seawall Phase 3
- El Niño Considerations and Recommendations
  - Sea Level considerations
  - Dock considerations

Executive Summary/Background

- Long Beach's coastal resources and waterfront, including the Naples Island seawalls, are a major public asset
- **2009,** Original Seawalls Conditions Report created the phasing plan and identified Phase 1 and 2 Seawalls as in most critical condition due to observed sulfate deterioration and base scouring.
- **On-going,** The City completed these two major seawalls replacement efforts (Phase 1 and Phase 2) and have been implementing the required compensatory mitigation for that project (eelgrass, subtidal, public access requirements)
- **2024,** the Seawalls Conditions/Inspections Report was updated and provides further recommendations
- **2025-Present,** began design and permitting of the Seawalls Tiebacks at Vista del Golfo and began engineering designs/plans for Sorrento Trail Segment One



Naples Seawalls Vulnerabilities (2024 Report Findings)

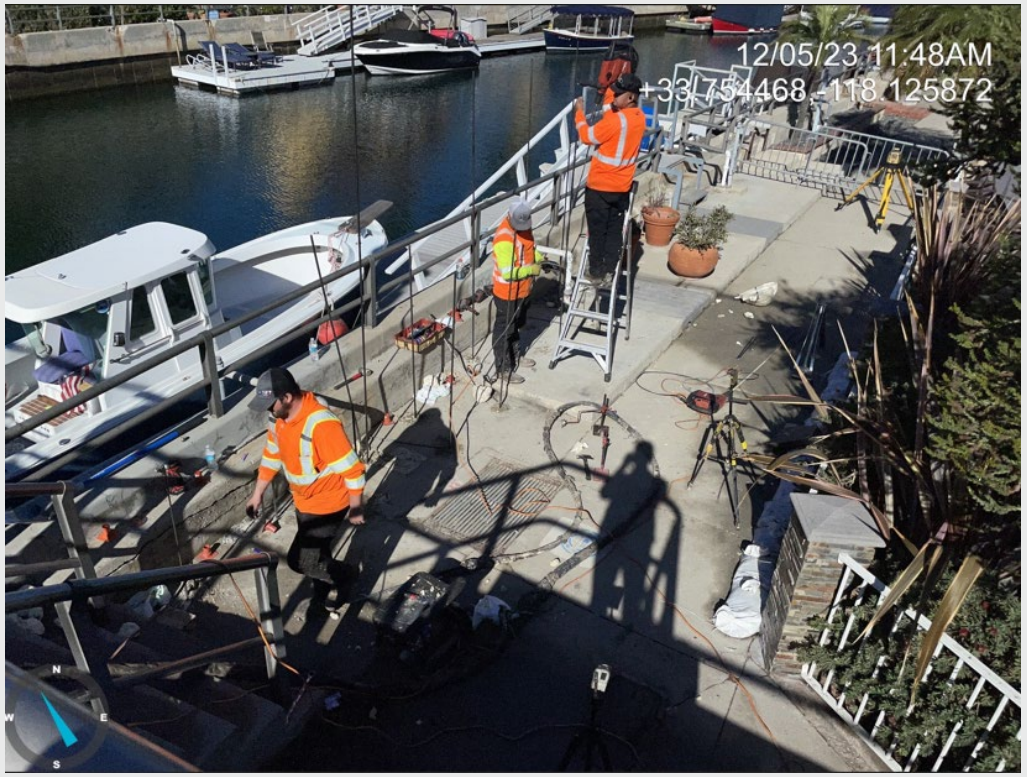
- The 2024 Tetra Tech Report recommended a full replacement of the Naples Seawalls.
- The seawalls are **stable under static load, but at risk during a seismic event** as they were not designed to current seismic codes or standards.
- The pile caps have worsened as evidenced by large longitudinal spalls and cracking along the outer caps.
- The quantity and severity of voids behind the seawall panels have increased due to missing “grout beads” between tongue-and-groove paneling.
- Over time, this has resulted in water intrusion and soil loss behind the walls.



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2024 Additional Recommendations: Priority Repairs

- Priority Repair #1 - **Install tiebacks along convex areas**
- Priority Repair #2 – **Conduct street end and stormdrain repairs, which contribute to sunny-day flooding of street ends**
- Priority Repair #3 – **Seawall cap repairs prioritizing those in later seawall replacement phases**
- Priority Repair #4 – **Address soil loss through grouting improvements**
- Priority Repair #5 **– Sidewalk repair for areas with moderate damage to reduce trip hazards/promote accessibility**



Injection grouting (2023)

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What Do Some of These Priority Repairs Look Like?

Example of Completed Priority #2 Street End Repairs:

- Completed street-end and catch basin repairs at six(locations with nine remaining per 2024 report



Sicilian Walk Street Ends (2024)



Savona Walk Street Ends (2024)


Rivo Alto Cap (2018)

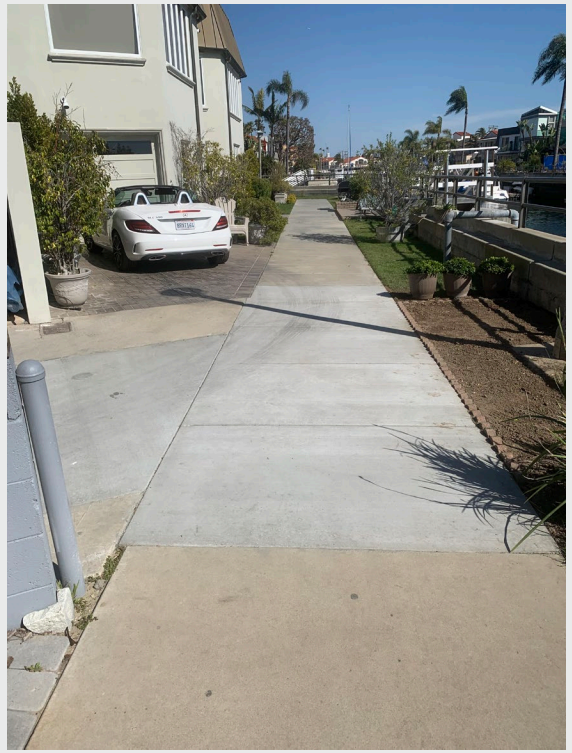
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What Do Some of These Priority Repairs Look Like?

Example of Completed “Grouting” or Priority #4 Repairs and Priority #2 Storm Drain Repairs



Rivo Alto Sidewalk/Drain (2023)





Rivo Alto Storm Drains (Jan 2023)

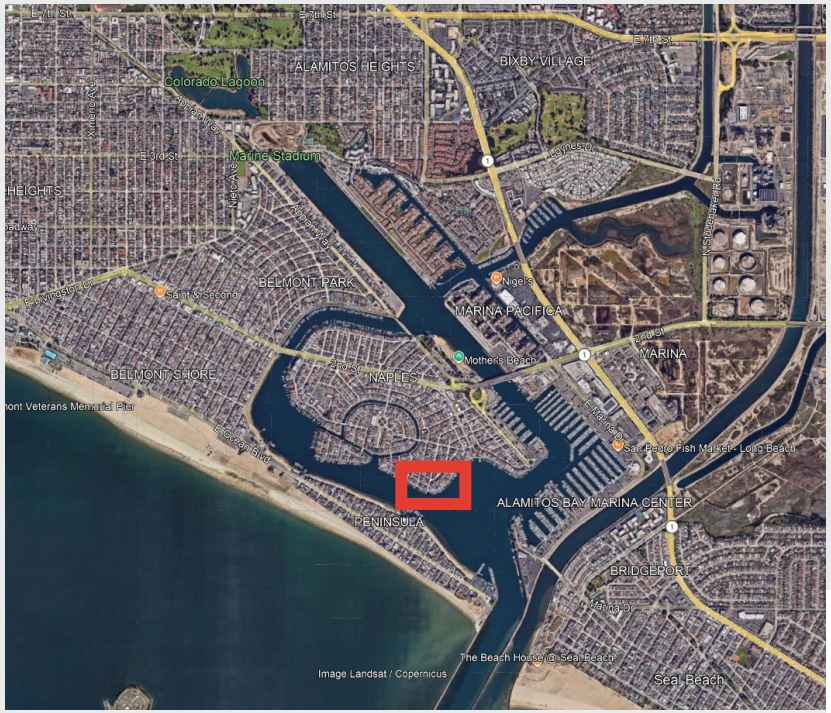
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Tiebacks Project - Overview

Construct Priority Repair #1 as recommended in the 2024 assessment

Overview: Construct concrete cap repairs to Naples Seawall from 11 – 31 Vista Del Golfo

Install tiebacks anchors from 23 – 31 Vista Del Golfo



Project Vicinity Map



Project Limits

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Tiebacks Project – Cap Repair Scope

Existing wall cap features significant concrete spalls and cracks

All unsound material will be removed and replaced with new concrete and painted.

Improvements protect the structure and provide visual uniformity



Examples of Concrete Spalls



Example of repaired and painted wall

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Tiebacks Project – Tieback Scope

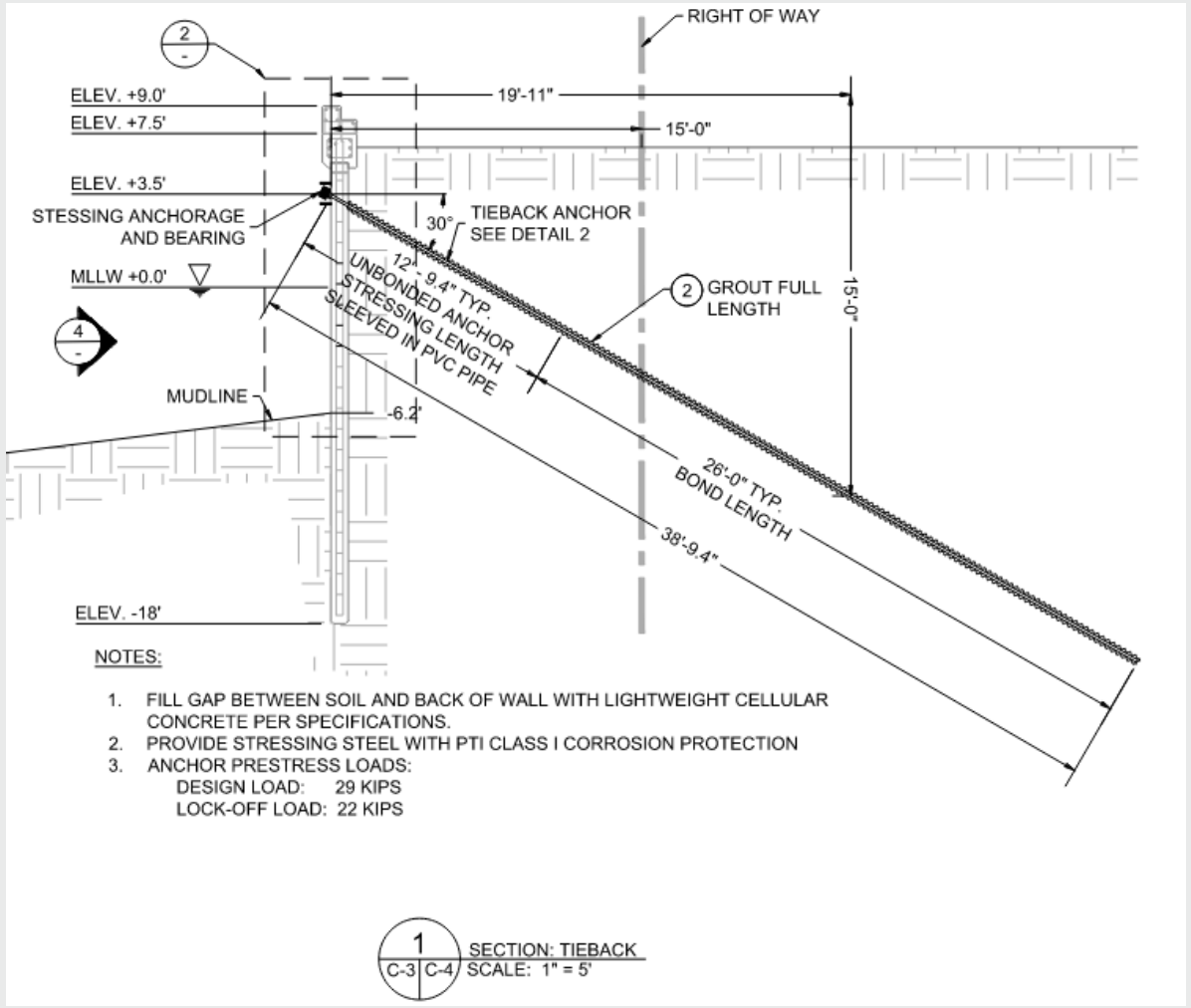
Limits: 23-31 Vista Del Golfo (5 Residences)

Temporary relocation of docks and boats

Install Grouted Tieback Anchors

- ~39’ long, spaced at 4’-8”
- Stabilizes the seawall and enhances long term structural integrity





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Tiebacks Project – Funding & Timeframe

SUMMARY OF PROJECT USES	AMOUNT
Construction and Contingency	$3.25M
Project Delivery Costs (Design/Engineering, PM-CM, Inspections, Labor Compliance, Regulatory Permitting, etc)	$1.0M
Total Project Costs Project and Available Funding	**$4.25M**

MILESTONE	TIMING
Complete Design and Permitting Coordination with homeowners	Spring 2026 – Fall 2026
Bid Advertisement (Re-Bid)	Late 2026
Contract Award and Begin Construction **Subject to viable and responsive bid*	Early 2027*

Agency Requirements for All Naples Seawalls Phases

- Established mitigation program at Colorado Lagoon for required soft-bottom subtidal for **all six phases**; completed partial eelgrass mitigation for Phase 1, 2 and 3; contingent on eelgrass growth in canal prior to construction.



Figure 4-7. Eelgrass Cover mapped in Naples Seawall Shallow Subtidal Mitigation area in 2024.

On-going monitoring and reporting of established mitigation for Naples Seawalls



Naples Phase 1

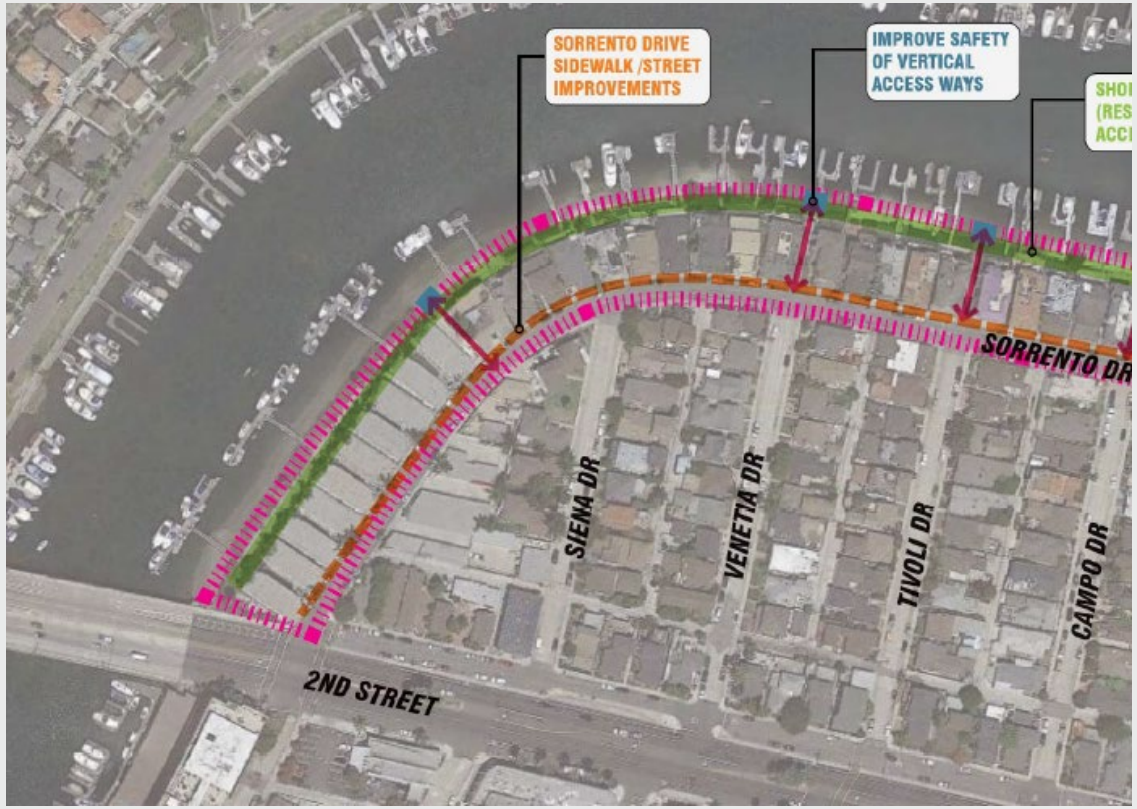


Naples Phase 2

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Agency Requirements for All Naples Seawalls Phases

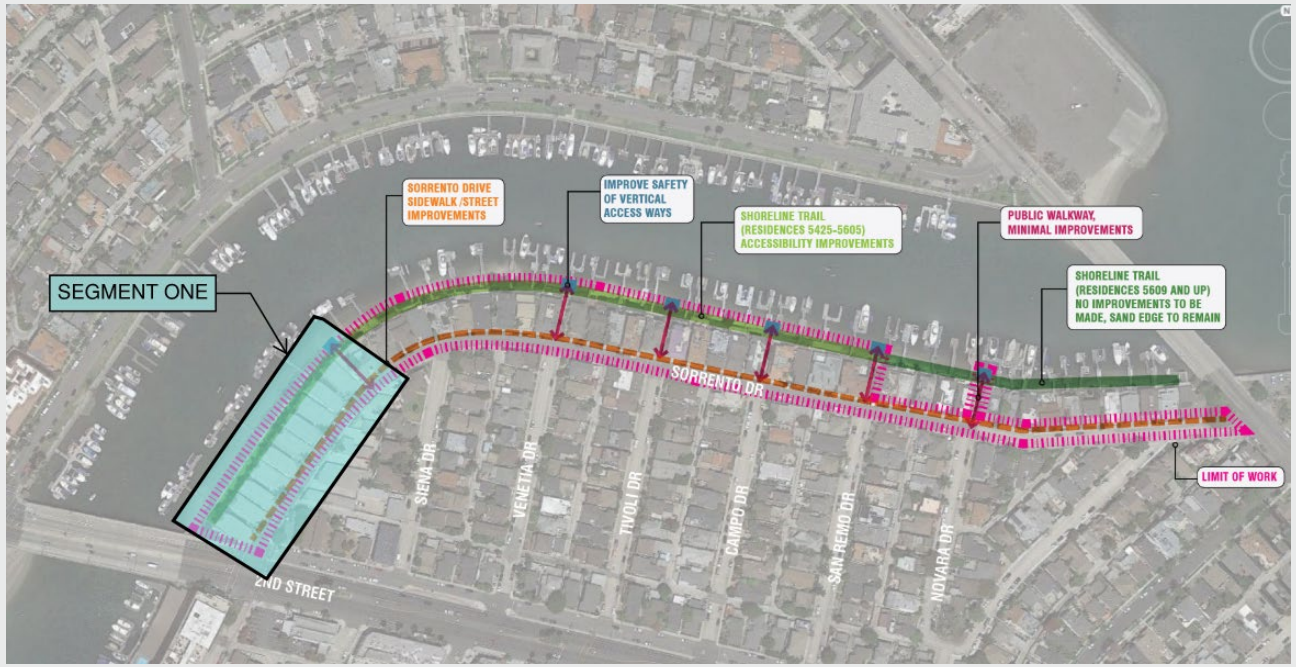
- Each Phase of the Naples Seawalls is tied to completion of improvements at Sorrento.
- Coastal Development Permit No. 5-11-085-A1 requires Segment One of the Sorrento Shoreline Trail to be constructed *prior* to the submittal of the Phase 3 Seawalls CDP application.
- Segment Two of Sorrento must be completed prior to the submittal of the Phase 4 Seawalls CDP Application, and so forth.
- [Copies of Naples Seawalls permits can be found on the Phase 1 and Phase 2 Project pages]



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Sorrento Trail – Segment 1 - Background

- Coastal Development Permit No. 5-11-085-A1/A2 **requires** Segment One of the Sorrento Shoreline Trail **to be constructed prior to the submittal of the Phase 3 Seawalls CDP application**
- The CCC requires the City of Long Beach to construct a public walkway within the fifteen-foot wide public-right-of-way that runs along the northwest shoreline of Naples Island.
- Segment One is the first phase of the overall project to implement a new public walkway on the Sorrento Drive shoreline.
- This project focus on the Segment One, which includes **425 feet of the waterside trail** from 5425 to 5455 of Sorrento Drive.



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Sorrento Trail – Segment 1 – Existing Conditions

Undefined Trail: Existing pedestrian path consists of sand and dirt with no defined accessible route.

Bollards : Existing bollards and access points do not meet current accessibility standards

Aging Amenities: Existing BBQs, tables, and site furnishings have exceeded their useful life

Shoreline Erosion: Existing shoreline erosion requires stabilization to protect the trail corridor.









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Sorrento Trail – Segment 1 – Proposed Improvements

Restored Access
- Reconstruction of Pedestrian Access Route from Sorrento Drive and 5’ Wide Walkway
- New viewing platform area

Increased Landscaping
- Install new low-growing native plants

Shoreline Stabilization
- Provide vegetation and riprap to stabilize assist with erosion control

Replace Existing Amenities
- New BBQ gas grills
- New tables and chairs

New Subtle Lighting
- Reduce existing harsh lighting with more eco-friendly lighting



Sorrento Trail – Segment One - Funding

SUMMARY OF PROJECT COSTS	USES
Estimated Construction Costs	$600,000
Estimated Total Project Delivery Costs (e.g. Design/Engineering, PM-CM, Inspections, Labor Compliance, Regulatory Permitting, etc)	$450,000
Estimated Total Project Costs and Available Funding (TF)	$1,050,000

Sorrento Trail – Segment One - Schedule

MAJOR ACTIVITIES	TARGET SCHEDULE
Community Outreach	Fall 2026
Plans/Engineering Documents	Late 2026
Bidding/Award	Late 2026 / Early 2027
Construction*	Summer 2027 *(*pending responsive and viable bid)*
Completion and Close out	Winter - Spring 2028

Phase 3 Seawalls Replacement

Current Status:

- On-boarded Consultant Project Management Team to support project delivery.

Next Steps:

- Project initiation and controls
- RFQ/RFP for Seawalls Permitting and Engineering/Design services from our On-Call Coastal and Marine Structures Engineers (early 2027)
- Submit for Coastal Permit applications *after* Sorrento Trail Segment one is completed

Naples Seawalls Phase 3 Initiation

Remaining Work - Rough Order Magnitude Cost Estimates

ROM Seawall Replacement Costs & Special Conditions	ROM Cost
Phase 3 - Replacement Northwest Quadrant	32.2M
Phase 4 - Naples Canal	32.8M
Phase 5 - Southeast Quadrant	18.0M
Phase 6 – Bayfront	28.9M
Street End Repair	1.1M
CCC Special Conditions (Trail, Street, Sidewalks, Utilities, Regulatory Coordination)	12.0M
Approximate Total	**$ 125.0M***
**2022-2025 Market Adjustment Factor Used*	

Funding Approved Across Multiple Budget Years

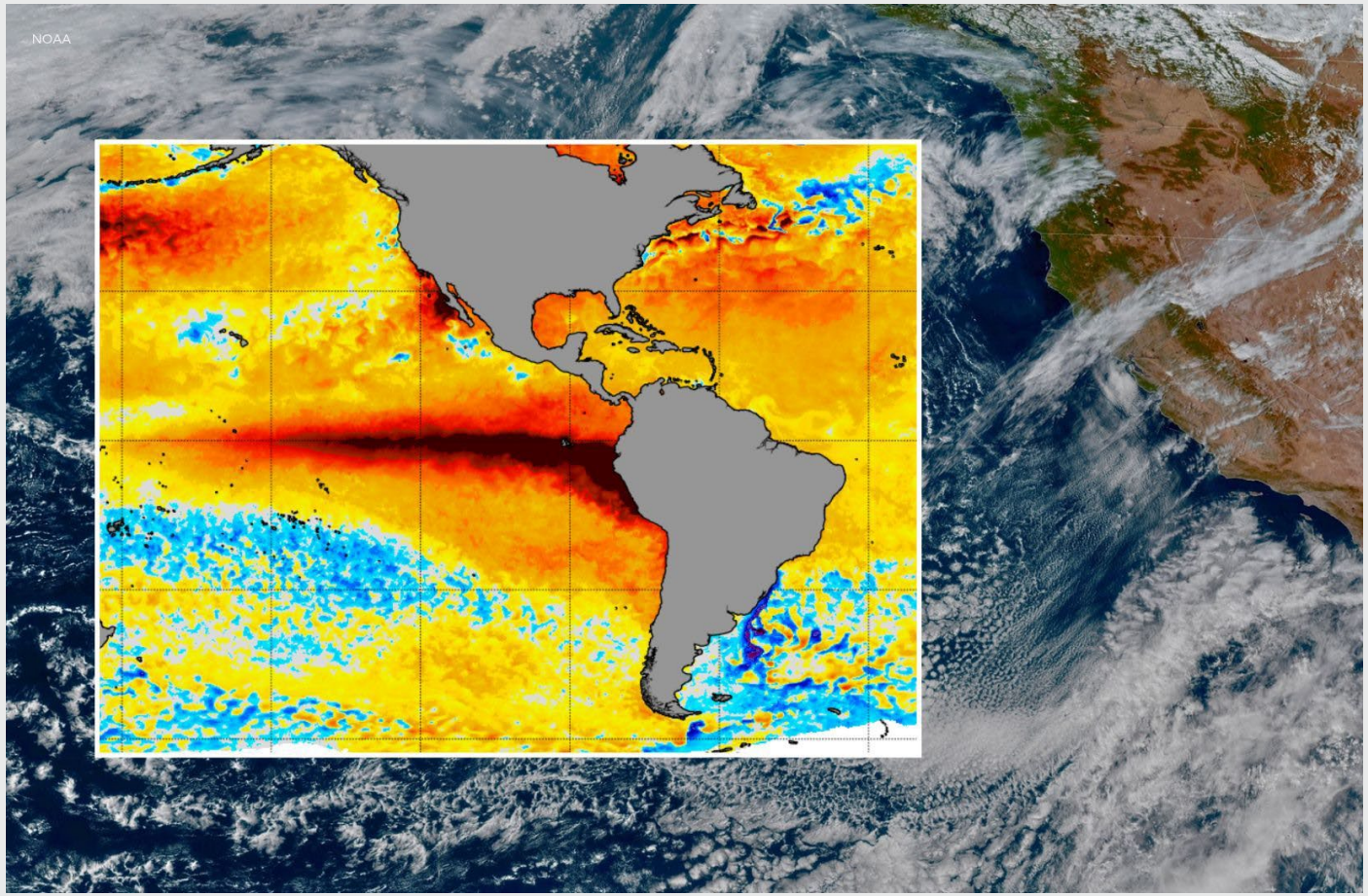
Fiscal Years	Projects	Allocated Amounts
Prior FY11	Phase 1 - Replacement Northeast Quadrant	14.0M
FY12-FY16	Establishment/Construction of Mitigation at Colorado Lagoon	5.0M*
FY12-19	Phase 2 - Replacement Treasure Island/Colonnade/Canal Entrance	18.0M
FY14	Sorrento Drive and Walkway	1.05M*
FY20	Maintenance - Cap Repairs and Grouting (Various)	215K
FY22 & FY23	Maintenance - Street End and Grouting Repairs (Various)	700K
FY23, FY24 & FY25	Seawalls Inspections Report and Phase 3 Planning & Design (NW Quadrant)	1.75M
FY25	Naples Seawalls Phase 3 – Set aside	1.5M
FY25	Priority Repair 1 - Seawall Tiebacks and Cap Repairs (Vista del Golfo)	750K
FY26	Priority Repair 1 - Seawall Tiebacks and Cap Repairs (Vista del Golfo)	2.5M
FY27	Naples Seawalls Phase 3 – Set aside	500K
Annual	Annual Agency Required Mitigation Monitoring & Reporting for Naples	600K*
	Approximate Total Funds Approved to Date	**$ 46.56M**

**Updated Fall 2026*

El Niño Considerations and Recommendations

Topics

- Existing Wall Types
- Q&A
- Dock Considerations



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Naples Wall Types













Unreplaced Walls

Phase 1 Walls

Phase 2 Walls

El Niño Considerations and Recommendations

Questions and Answers

Q: Have we experienced any tides that overtop the wall?

A: Not to date. Top of typical (unreplaced) wall is at +9’ to +9.2’ MLLW (Phase 1&2 walls at +10’ MLLW).

Significant high tides are forecast in the coming months, specifically:

- 10/24 – 10/30, peaking 10/27 at 6.9’ @ 9:51 AM
- 11/22 - 11/28, peaking 11/25 at 7.2’ @ 8:33 AM
- 12/20 – 12/28, peaking 12/24 at 7.4’ @ 8:26 AM

Additionally, recent observed tides have been trending ~12” to 18” higher than forecast levels. Sea level may come very close to overtopping during these events.

El Niño Considerations and Recommendations

Questions and Answers

Q: What is the elevation of the top of wall at the unimproved seawall? Is that consistent or does it vary? Are any areas more susceptible to overtopping?

A: The typical wall elevation is +9’ (slightly conservative, closer to 9.1’ - 9.2’ on average), but for the most part the wall is consistent with no significant variation that would make certain areas more vulnerable to overtopping.

Q: Do you think the high tides could make any of the existing damage to the sea walls worse?

A: The impacts of tidal fluctuations on the unimproved seawalls were discussed in a City memo with the Updated Comprehensive Conditions Report attached and are due to gradual soil loss; but the El Nino or Super El Nino tides do not specifically create more risk to the walls. The high tides do not pose any acute risks but they do contribute to the chronic fatigue on the wall.

Q: Who owns the Docks adjacent to the seawall?

A: Docks are privately owned.

El Niño Considerations and Recommendations

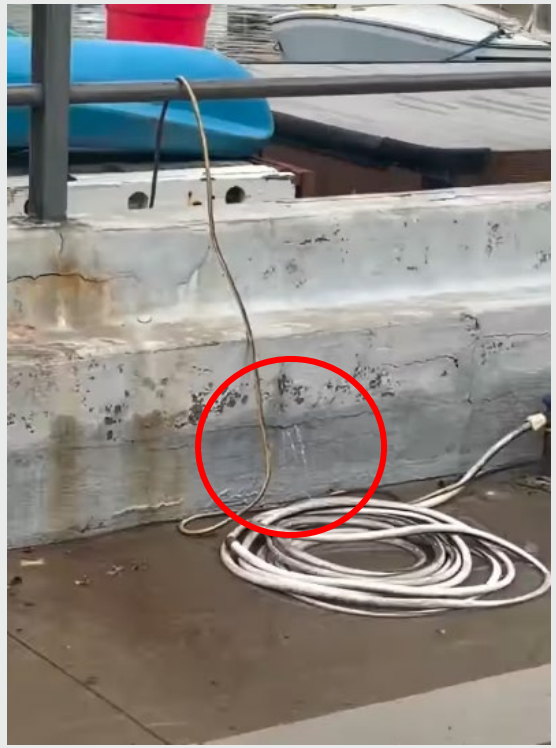
Questions and Answers

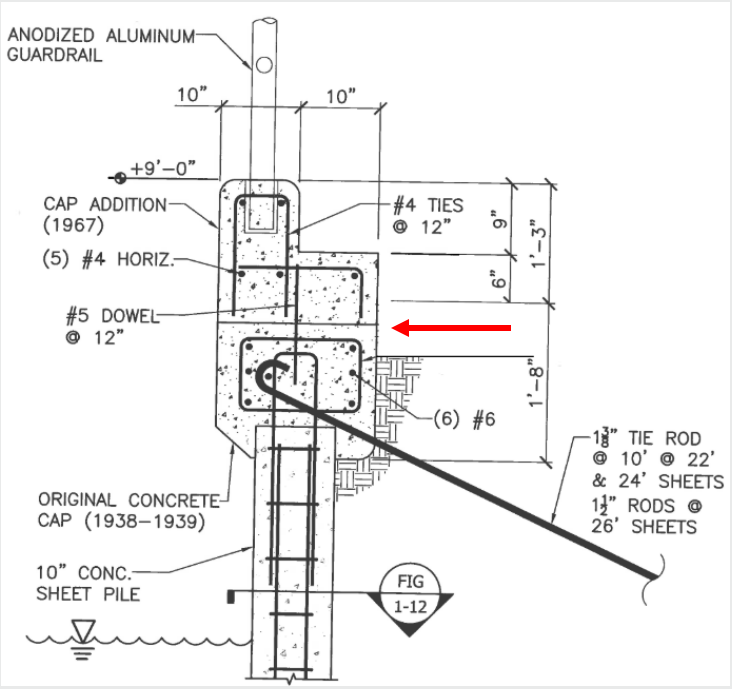
Q: We are seeing water come through the caps of the sea walls. Are the cracks mostly the on caps or is the cracks in the actual walls?

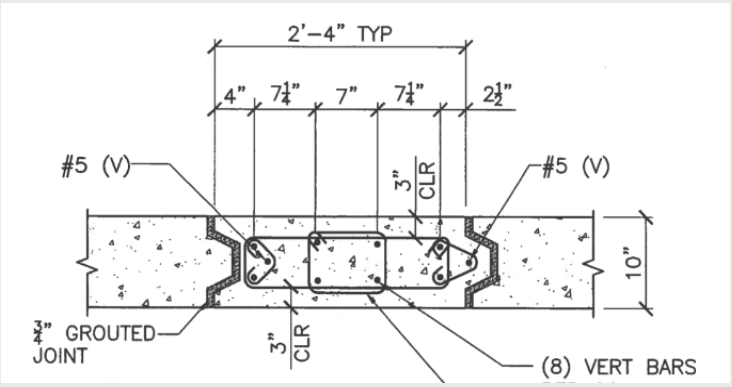
A: Places that water is observed "coming through the wall" is at:

- Longitudinal joint (cold joint) between old cap and cap extension (1960s/19070s).
- Vertical expansion joints in cap.

Flooding that comes from the ground up comes from the gaps in the panels (weeping action).







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El Niño Considerations and Recommendations

Questions and Answers

Q: Can/should we place sandbags to prevent overtopping?

A: Sandbags would be most efficiently used at strategic locations along any vulnerable areas on private property or at any observed low spots on the wall.

- Sandbags provide additional overburden (weight), adding to the structural load on the wall.
- Sandbags on the wall will not prevent water intrusion from weeping and cold joint.
- Sandbags would need to be placed along the entire length of the wall to be effective for global effectiveness.

Sandbags are available at Fire Station 14 - 5200 E. Eliot St. & Claremont Beach Parking Lot - 5400 E. Ocean Blvd



El Niño Considerations and Recommendations

Questions and Answers

Q: Can/should we place sandbags to prevent overtopping?

A: See previous slide. The image it to show various private property conditions and adjacencies.



El Niño Considerations and Recommendations

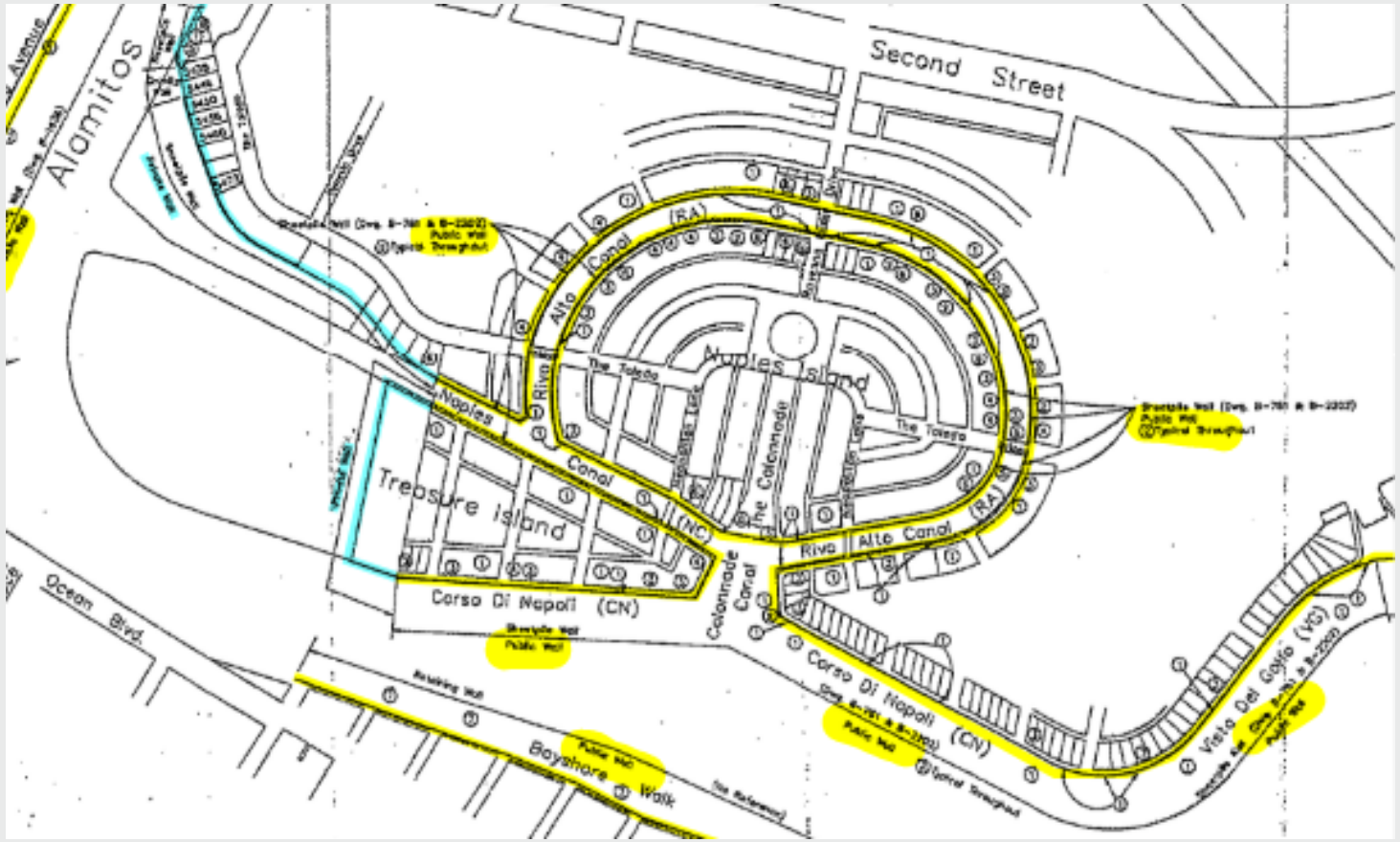
Questions and Answers

Q: Are the seawalls Private or Public?

A: The majority of the walls are public walls (yellow) but there are some private walls (blue).

Q: What is the elevation of private seawalls?

A: A 2016 Coastal Development Permit for one property along Sea Isle Drive shows the seawalls are to be constructed at +9.5 ft MLLW.



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El Niño Considerations and Recommendations

Dock Considerations

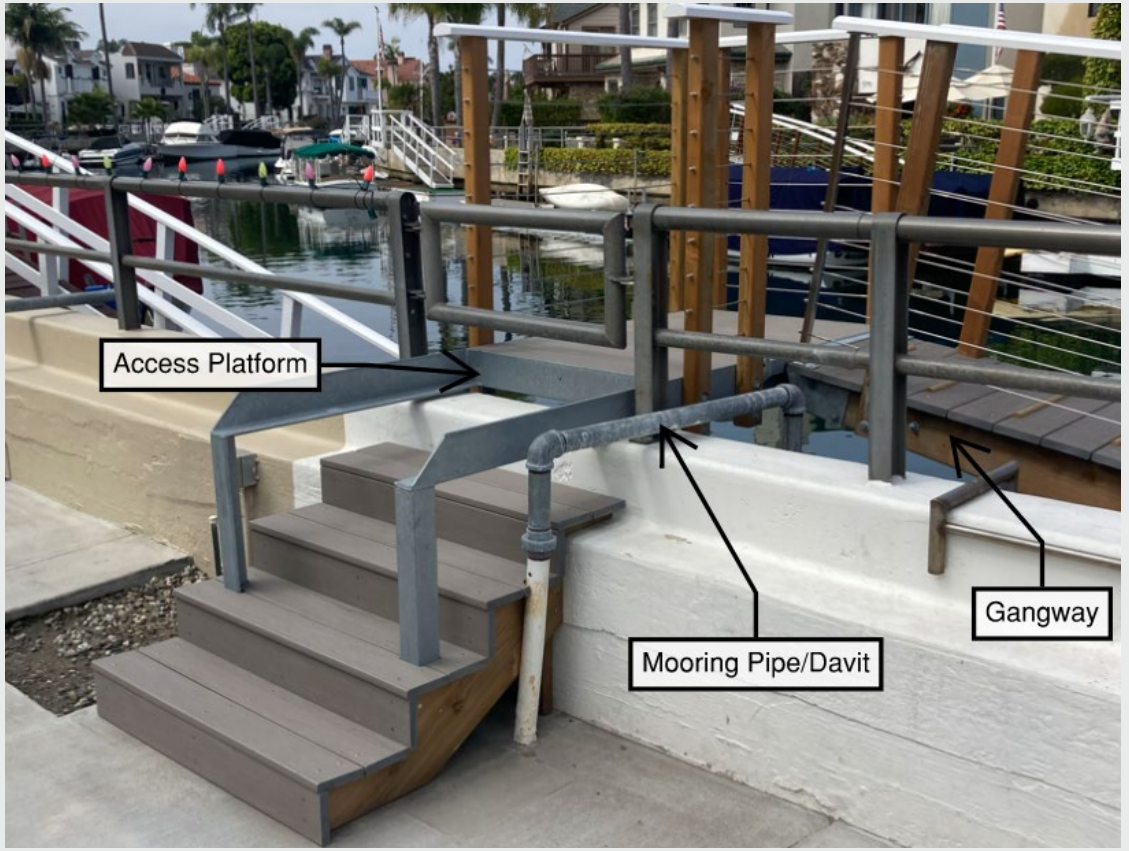
Dock owners should consider "pinch points" with coming high tides.

Mooring pipes and **access platforms/ gangways** often sit flush with the top of the wall and may pinch and the docks down

- Typical dock freeboard is 12"-14".
- If tides are around 8.5' (7' predicted + 12 to 18" additional trend), top of dock could be at 9.5' to 10', which extends above the top of the seawall.

Dock owners should consider raising the mooring pipes and ways to minimize dock conflict with underside of access platform.

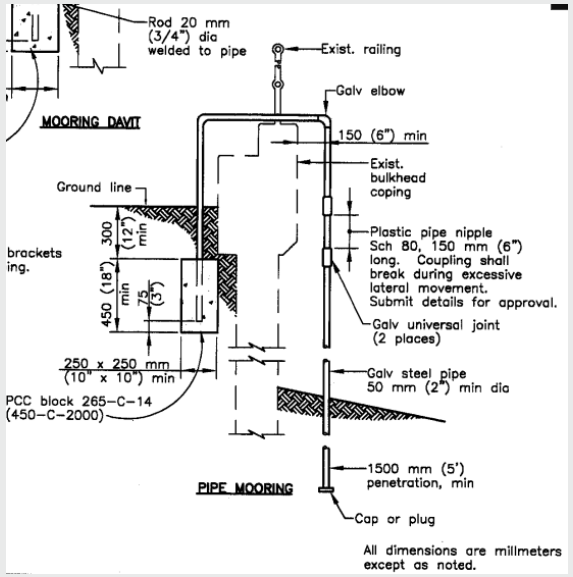
Dock owners should **disconnect utilities** feeding docks if pinching is anticipated.

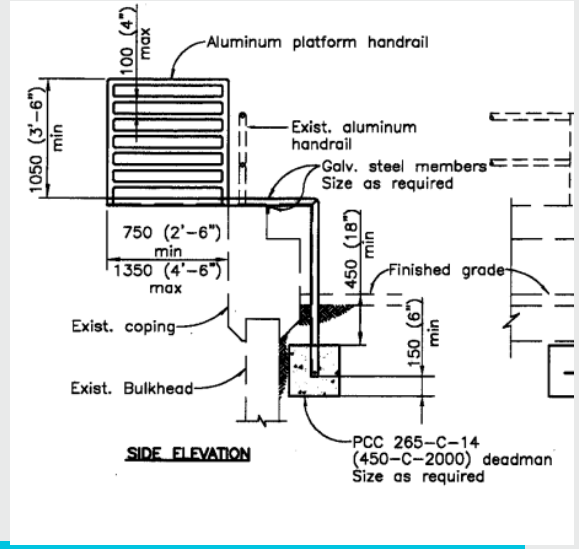


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El Niño Considerations and Recommendations







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El Niño Considerations and Recommendations

Dock Considerations

Dock owners should evaluate the **concrete guide piles**.

Some existing guide piles only extend to +9’ or +10’.

If the water level gets near 8’-9’, docks with 12” freeboard may have potential for the docks to “float over” their guides.

Dock owners should evaluate their existing pile height and may consider extending their guide piles.



Thank you

Department of Public Works

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