

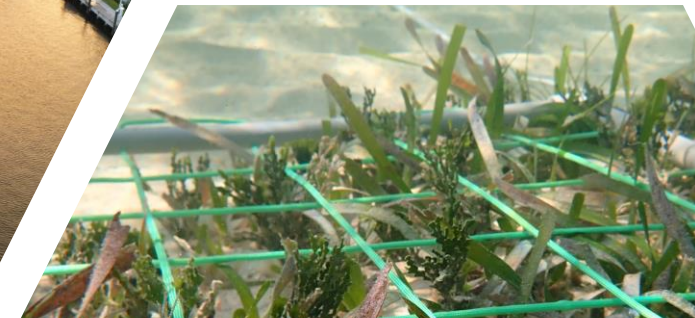
Post-Storm Emergency Coastal Armoring Case Study – Volusia County

February 8th, 2024

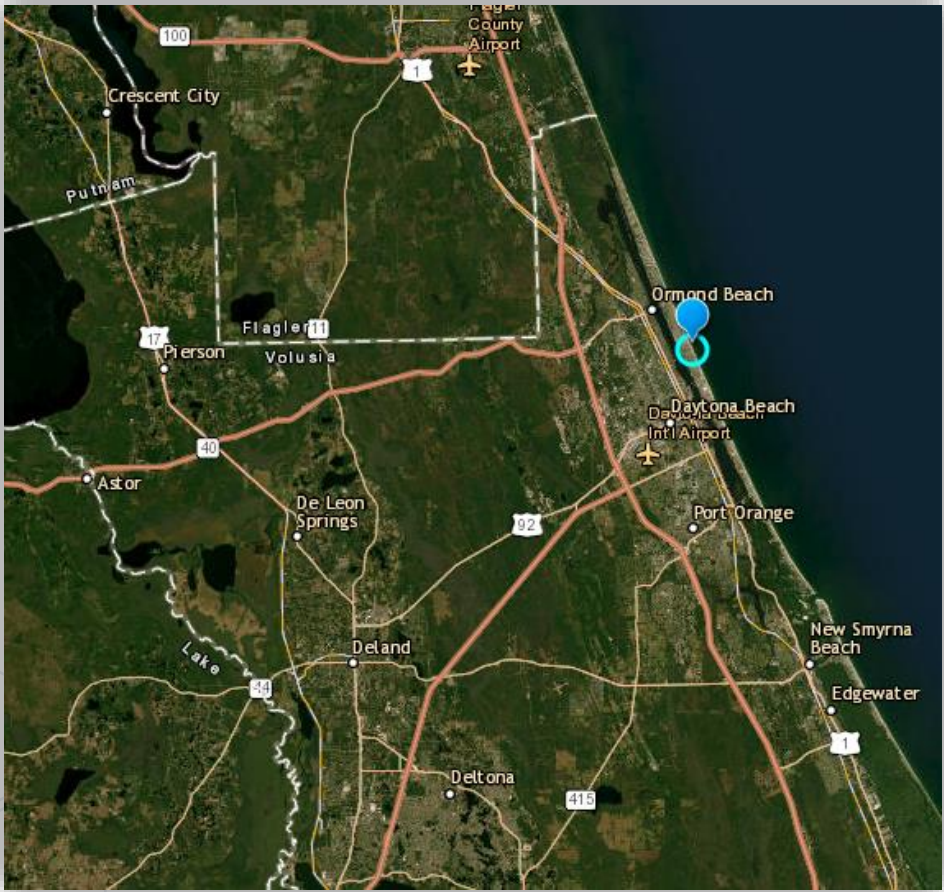
FSBPA Tech Conference

1:20pm

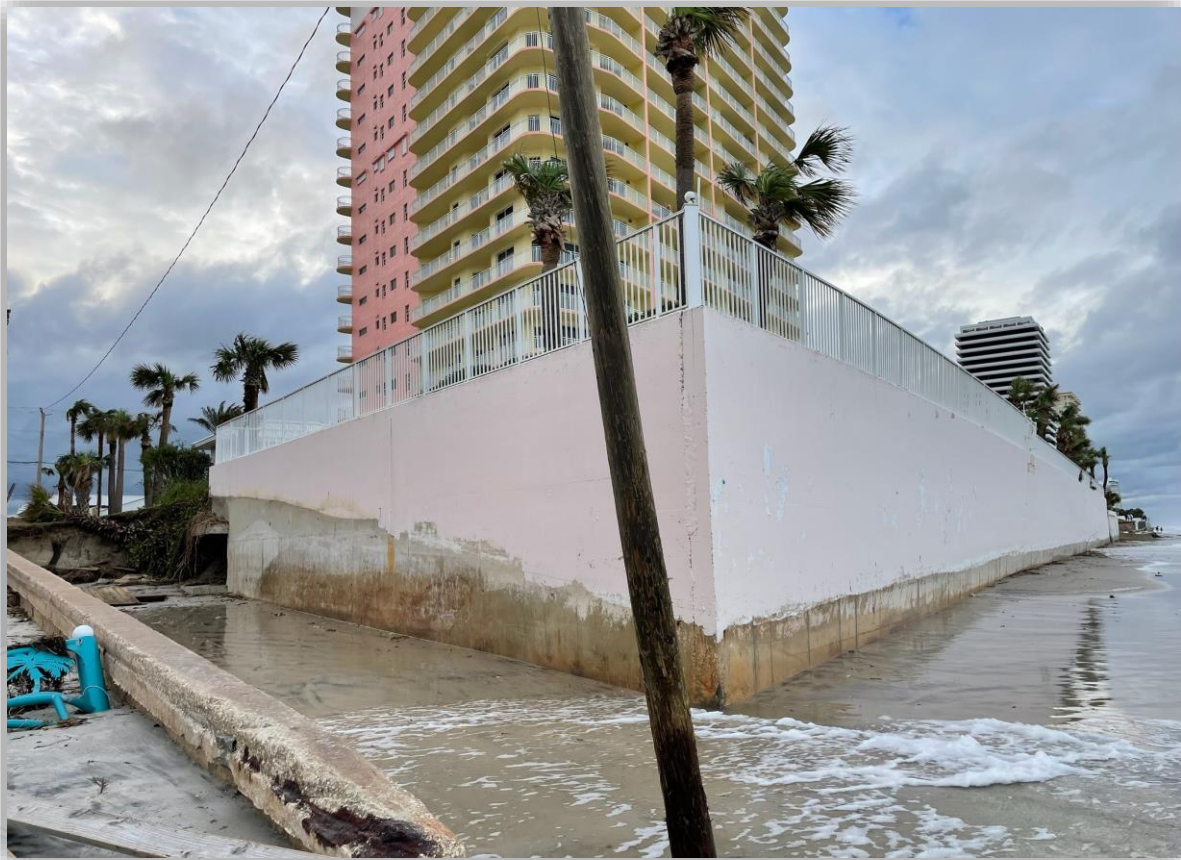
Session B3



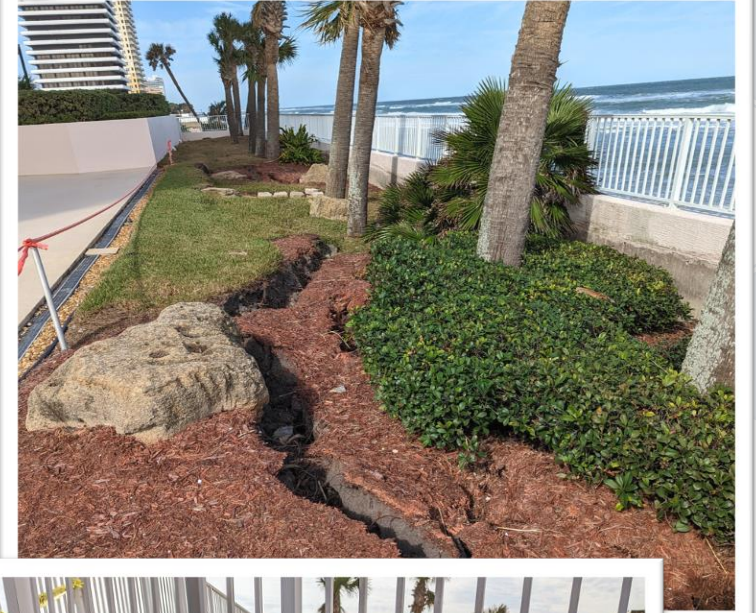
Island Crowne Condominium Association, Daytona Beach, Florida



During the Storms (Nicole and Ian November 2022)

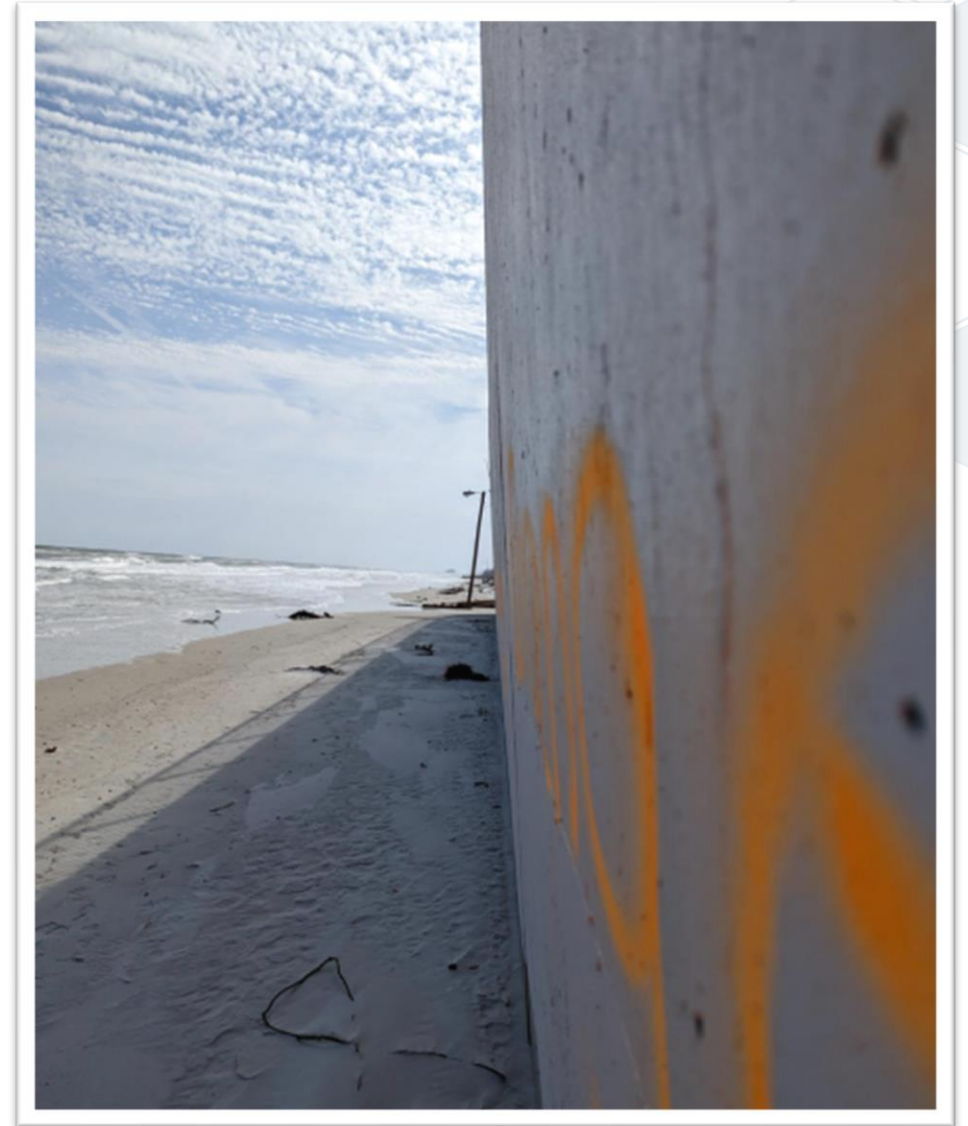


Hurricane Damage



Engineering Inspection

- + L-shaped cantilevered ~20ft retaining wall with no pile support
- + Exhibited overturning and/or bearing instability due to impacts from Hurricanes Ian & Nicole
- + Approximately 4 ft of erosion in 8 days
- + 6-7° angle of tilt toward the ocean
- + Up to **18” waterward bow at center of seawall**
- + Concrete weathering and stress cracking
- + Displacement of uplands due to seawall rotation
- + Recommended full seawall replacement



Emergency CCCL Permitting – Application

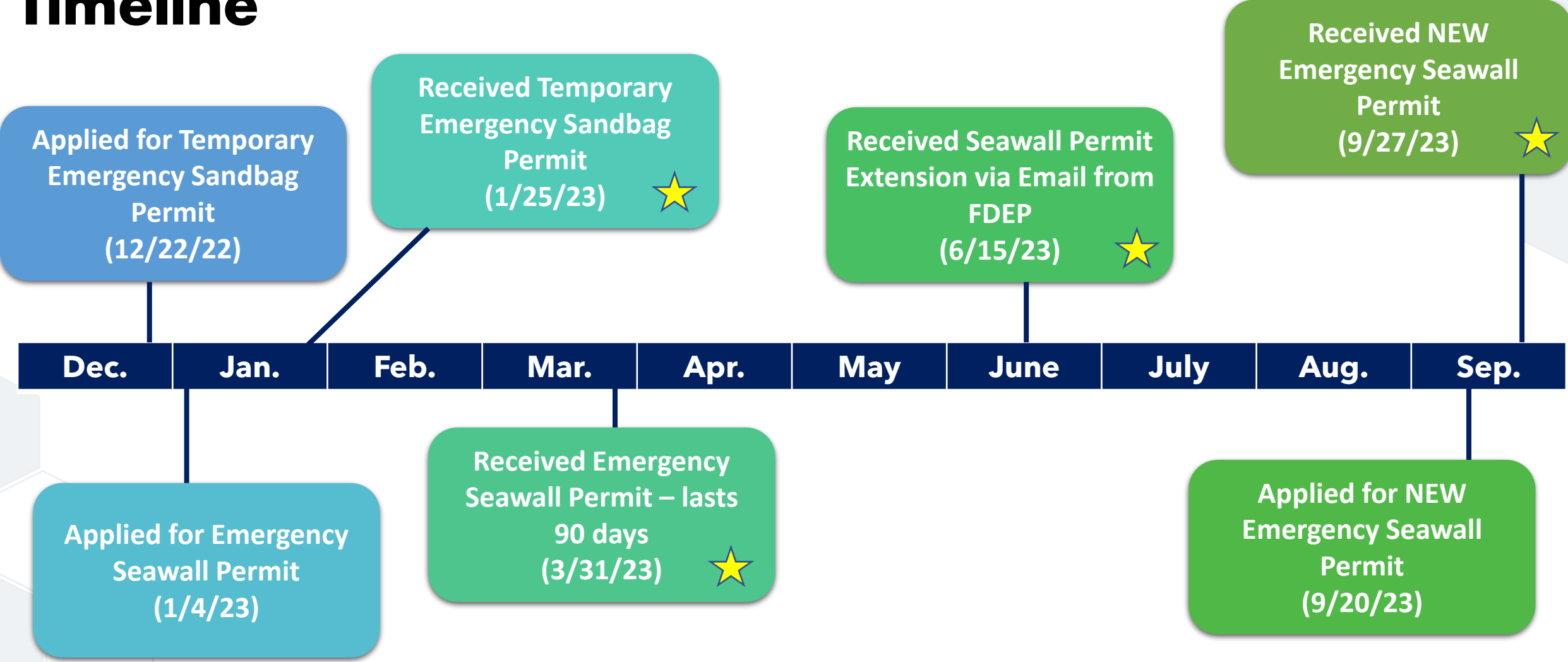
+ FDEP EFO Process

+ Nuance of CCCL rule on emergencies

Executive Order No.	Start	End	Notes
EO 22-253	7-Nov-22	6-Jan-23	State of Emergency Declared, deadlines for final action waived (Section I)
EO 22-255	9-Nov-22	6-Jan-23	Added Counties, no change to EO 22-253 expiry
EO 22-256	10-Nov-22	6-Jan-23	Amended to cover whole state, no change to EO 22-253 expiry
EO 23-02	5-Jan-23	6-Mar-23	Extended 60 days
EO 23-48	3-Mar-23	2-May-23	Extended 60 days
EO 23-87	2-May-23	1-Jul-23	Extended 60 days
EO 23-133	29-Jun-23	29-Aug-23	Extended 60 days
EO 23-170	25-Aug-23	25-Oct-23	Extended 60 days
EO 23-243	23-Dec-23	23-Feb-24	Extended 60 days

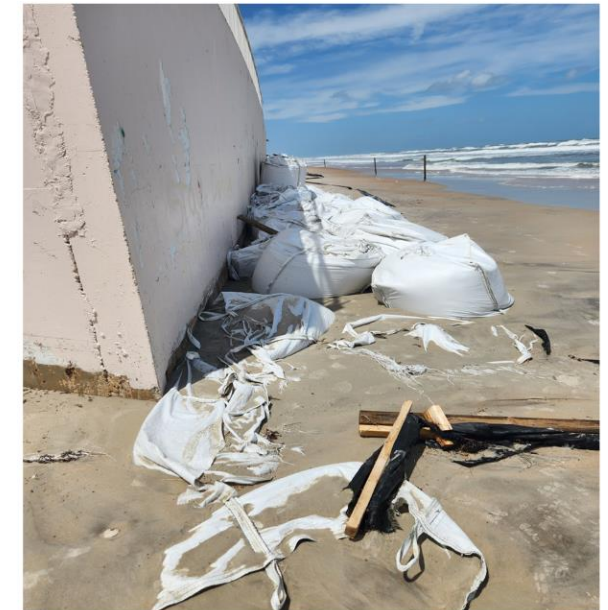
- + Governor declared emergency
- + FDEP shall process emergency permits
- + ALL construction must be completed within **90 days of permit issuance**
- + Emergency permit applications may be submitted for the following activities: permanent foundation repair to major structures, repair or reconstruction of major structures, or repair or reconstruction of major damages to coastal armoring structures
- + MAY issue extension of **90 days once** if can prove that conditions still exist
- + Permitting fees waived

FDEP Emergency CCCL Permitting – Processing Timeline



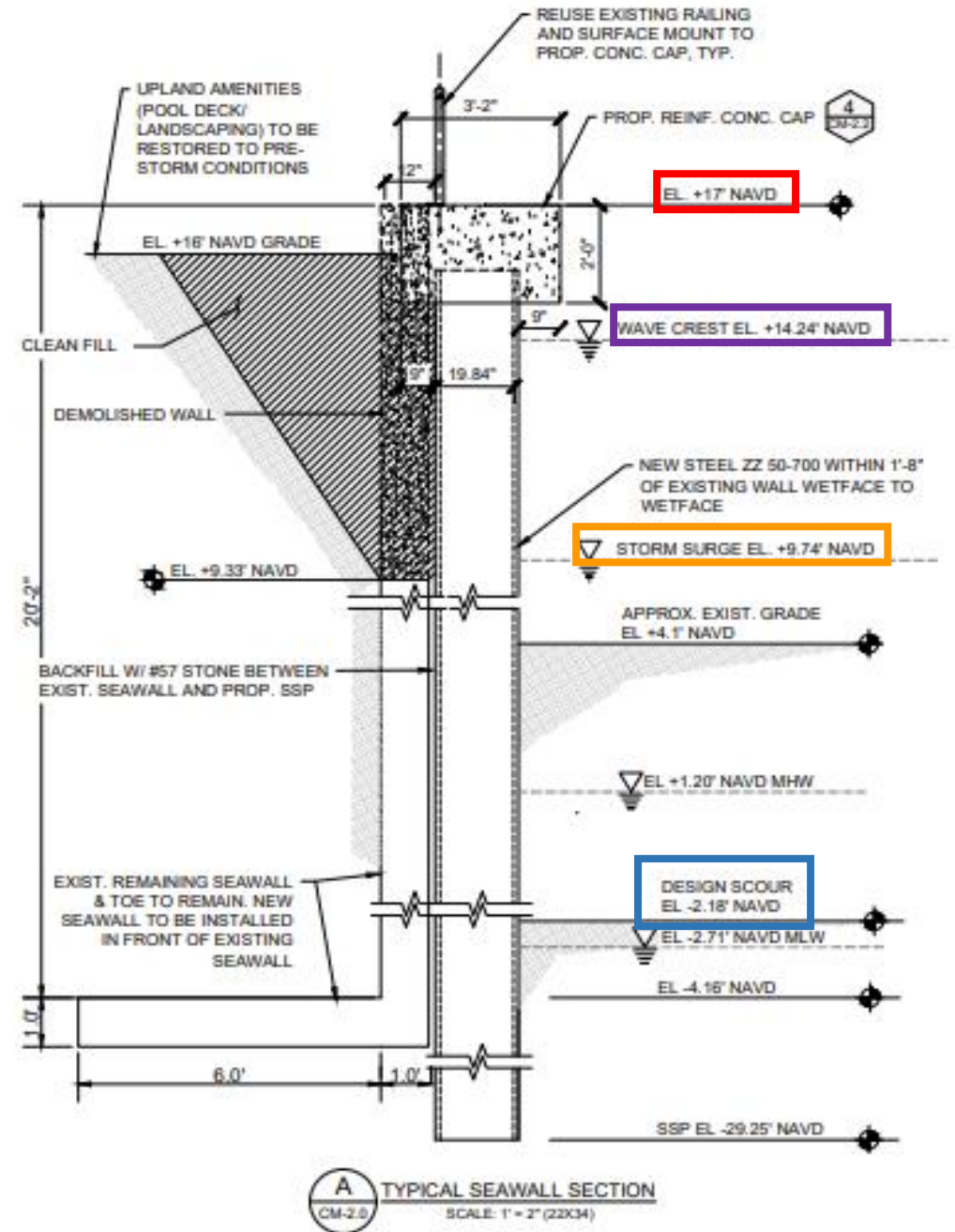
Volusia County Permitting

- + Initiated Beach and Dune Permit Coordination – 2021 Ordinance
- + Client legal and County Legal worked out MOU
- + Received sandbag placement access MOU on 1/30/23
- + Extension approved 3/28/23 for adjustment of sandbags
- + Received Beach and Dune Permit on 4/14/23 with extensive in season turtle nesting season conditions (May 1- Oct 31)
- + Remove all equipment from beach every evening and wait in morning until beach survey complete and receive “all clear” from turtle patrol.
- + Use Permit on ROW
- + Construction Vehicle Access Pass – provided from County **monthly**



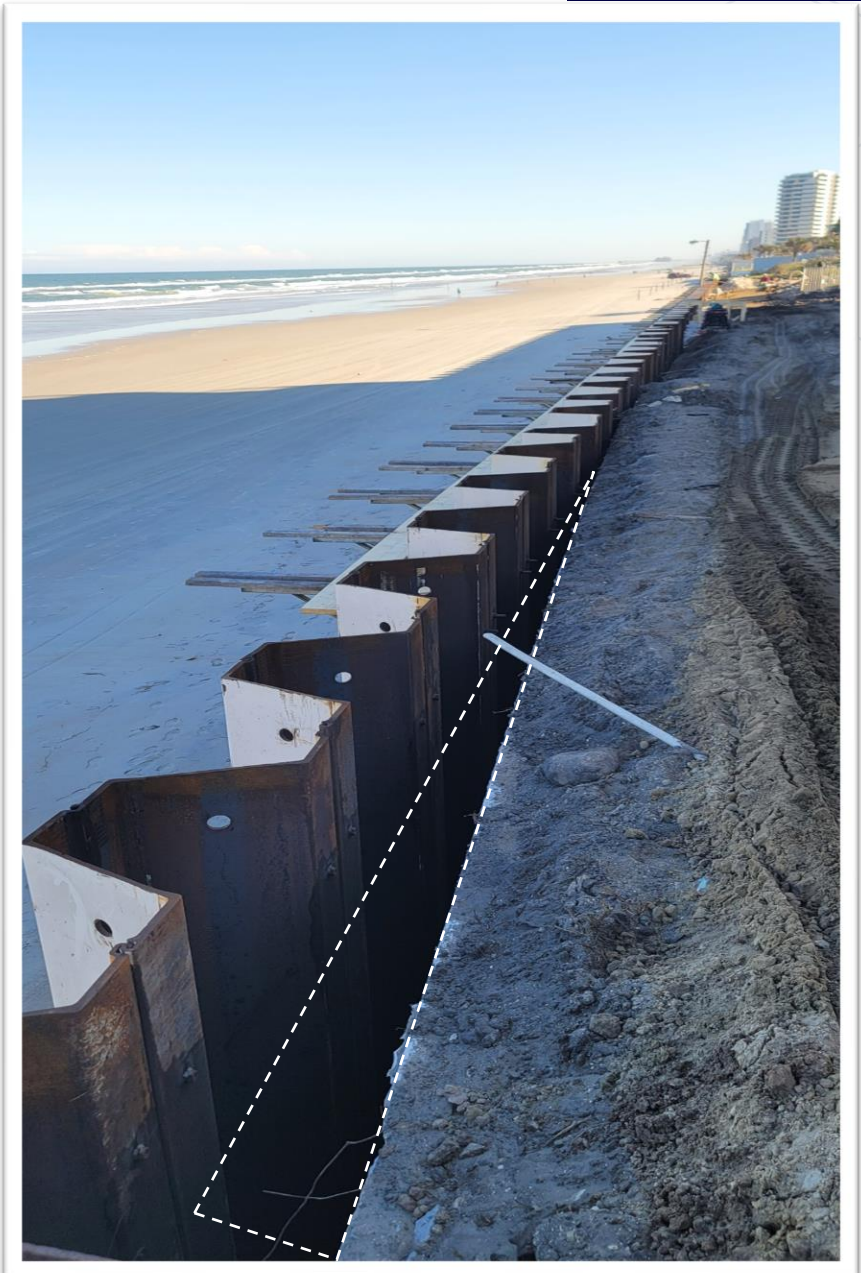
Design Parameters

- + Upland Seawall Live Load Surcharge = 100 PSF
- + Top of Cap Elevation = **+17.0' NAVD88**
- + Wave Crest Elevation = **+14.24' NAVD88**
- + Storm Surge Elevation = **+9.74' NAVD88**
- + Scour Elevation = **-2.18' NAVD88**
- + Total Retained Height = **19.18 ft**
- + Timber ADA Ramp Live Load Surcharge = 100 PSF
- + Ultimate Wind Speed (Unoccupied) = 125 mph
- + Design Service Life of 40-years
- + Seawall Alignment: Balance between CCCL Permit Constraints & Safe Demolition of existing Seawall



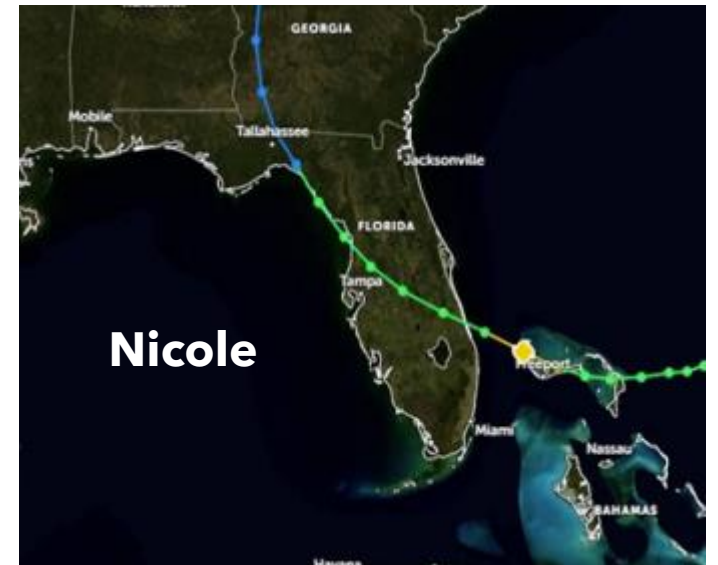
Construction Administration

- + Bid support
 - + Bid solicitation and analysis
 - + Contractor selection assistance and guidance
 - + Contract assistance
- + Permit Compliance Oversight
 - + Turtle season
 - + Debris cleanup
- + Site Inspections, RFIs, and Submittal Review
- + Pay Application Analysis
- + Project Close Out (*next month*)
 - + Punch list inspections
 - + Final As-Builts to agencies



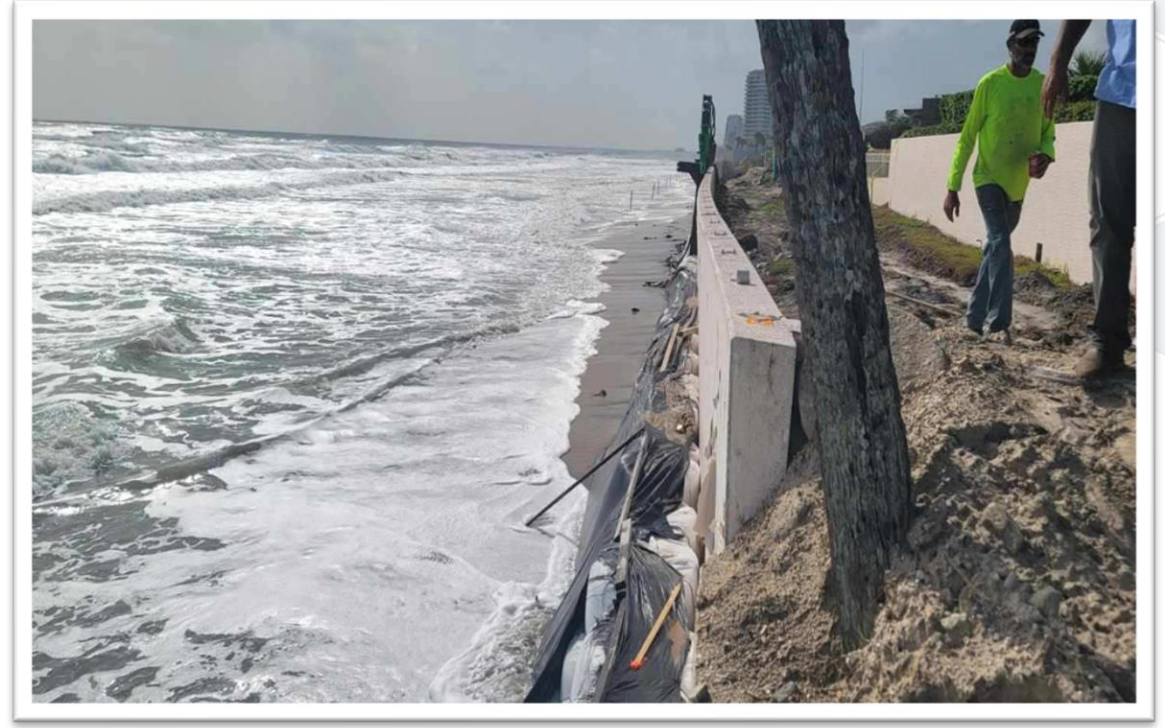
FDEP Hurricane Restoration Reimbursement Grant Program (HRRGP)

- + Distributes funding to coastal homeowners (including condo associations) to help remedy damages from coastal erosion sustained from Hurricanes Ian or Nicole
- + 50/50 homeowner match requirement
- + Program extended to June 30, 2024
- + Potential to reduce construction expenses by ~300K



Lessons Learned

- + Emergency CCCL Permitting
- + Seawall Alignment/Challenging Design Conditions
- + Working Conditions
- + Understand Impacts to Neighboring Properties
- + Potential littoral effects on neighboring properties
- + Right of Ways
- + Potential vibration and noise
- + Local County Permit and Construction Coordination
- + Turtle Nesting Season Construction Conditions
- + Existing utilities
- + Existing undocumented structures/debris clean up (may be buried!)
- + FDEP Hurricane Restoration Reimbursement



Questions?



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