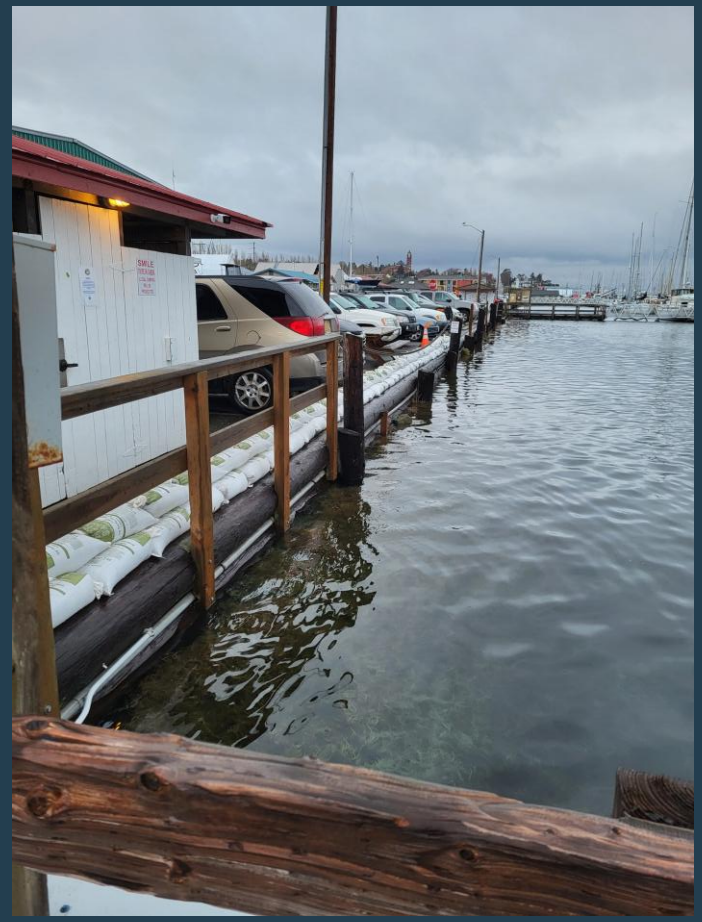
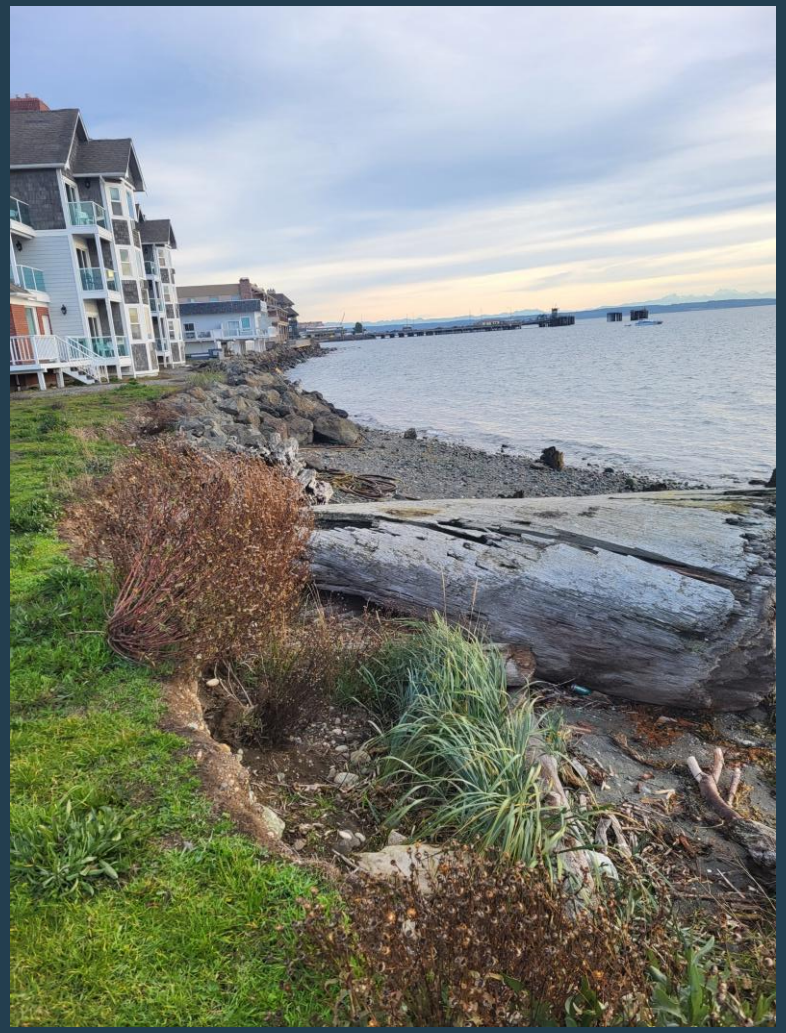


# Sea Level Rise (SLR)

- BRICs 2024 Round - Pending
- Preliminary Design Recap
- Additional Design Work
- Shoreline Master Program Update

# SLR Project – Design Principles

- Complete Protection from Bluff near LST Mile 0 to Ferry Terminal
- Protection + Waterwalk – need not be congruent!
- Design height for protection varies
- Design solutions vary
- Minimize cost, environmental impacts by employing different solutions for different locations
- Benefits outweigh the Costs



# Design Parameters

SLR = 1.5’

Design Life:  50 years (Year 2075)

100 year wind (50 knots from S)

1 year storm surge = 2.2’

HAT = 8.9 ‘

SWL = 12.6’ (NAVD) = 13.65’ (MLLW)


WAVES BREAK ON EXISTING WALL. HIGH SPOT IN CENTER OF PARKING LOT
13.5', VERTICAL CURB (1.5' HT NOMINAL)
15.0'
15.0'
14.0', VERTICAL
ADD EROSION PROTECTION TO LANDSLIDE OF TRAIL FOR OT PROTECTION?
14.5', 2.5H:1V
ESTUARY AREA, WAVES BREAK ON TRAIL. USE SWL + FREEBOARD FOR BERM CREST
13.5'
TRAIL EL. EXCEEDS 12.6', MINOR ADJUSTMENTS TO MATCH GRADE TO EAST
BREAKWATER
MINOR GRADE ADJUSTMENT TO TRAIL FOR BRIDGE OPENING
PRE. CHANNEL OPENING - 40' SPAN
137,000 SF @ MHHW (7.4')
A
A'
B
B'
C1
C1'
C2
C2'
D
D'
E
E'
10
5
0
LEGEND:
Existing Grade (CONED, NAVD88, feet)
Approximate flood protection alignment
January 11, 2024 survey point
0
400
Feet

# Design Parameters

| Wave Run-up and Total Water Level (TWL), Extreme Case | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Section / Concept | Slope | 100-year Wave Ht / Period | >100 yr SWL + 50 yr SLR (ft NAVD88) | $R_{2\%}$ | Total Water Level (TWL (ft)) | Overtopping (l/s/m)* | Structure Crest Height (ft NAVD88) | Freeboard (above TWL) |
| A | 2H:1V | 3.9 ft / 3.7 s | 12.6 | broken waves | 12.6 | - | 13.5 | 0.9 |
| B | 2.5H:1V | 4 ft / 3.8 s | 12.6 | 5.5 | 18.1 | 45.0 | 14.5 | 1.9 |
| C1 | vertical | 1.1 ft / 1.5 s | 12.6 | 1.1 | 13.7 | 1.0 | 14.0 | 1.4 |
| C2 | vertical | 1.1 ft / 1.5 s | 12.6 | broken waves | 12.6 | - | 13.5 | 0.9 |
| D | 2.5H:1V | 4.2 ft / 3.8 s | 12.6 | 5.7 | 18.3 | 28.0 | 15.0 | 2.4 |
| E | 2.5H:1V | 4.3 ft / 3.8 s | 12.6 | 5.7 | 18.3 | 29.0 | 15.0 | 2.4 |
| | | | | | *50 l/s limit for revetment & 1 l/s for vertical wall | | | |

# STREET END STUDIES


# SLR – Next Steps

- City of Port Townsend Shoreline Master Program Update
- Benefit : Cost Analysis (BCA) Refinement
- RFI Process – 11 questions returned to Port, answers due Friday!
- New NOFO from FEMA expected soon
- Current Deadline for Grant Application to FEMA – April 18
- Decision on Selection:  late 2025