



Scarborough Flood Vulnerability Assessment Project Meeting #6/7

July 30th, 2025

Meeting Agenda

AGENDA

- **Welcome**
- **Task 2 Updates:**
 - Road Prioritization memo revision.
- **Task 3 Updates**
 - Topographic elevation uncertainties.
- **Task 4 Updates**
 - Comments received.
- **Task 5 Updates:**
 - Awaiting Payne Rd comments.
 - Forthcoming Draft Adaptation Strategies Memo
 - Draft Higgins Beach Concept Plans and Strategy
 - Forthcoming Draft Pine Point Adaptation Roadmap
- **Task 6 Updates**
 - City Council meeting scheduled for August 20
 - Higgins Beach and Pine Point neighborhood meetings
- **Task 7 Updates:**
 - StoryMap Update
- **Discuss overall project schedule, including:**
 - Next Deliverables
 - Next Community Event
 - Next Project Meeting
- **Adjourn**



Task 2: Data Review & Collection

Task 2:

- Data review (GIS assets, flood levels, etc.)
- Field work
- Flood vulnerability results
- Asset/road prioritization

Ultimate work product will be an ArcGIS StoryMap.

Interim memos submitted along the way for work documentation and review.



Task 2: Data Review & Collection

Data Review Memo:

- Memo summarizing data sources used in study.
- Submitted as final March 2025

Vulnerability Results Memo:

- Memo summarizing vulnerability assessment methods and results.
- Submitted as final March 2025

Draft Road Prioritization Memo:

- Memo summarizing roadway prioritization.
- Submitted as final June 2025
- Will submit a revised final due to error in Top 30 roads: Starbird Rd (private) was listed within the public roads list. This will be removed and replaced with Avenue 2.

These memos inform the content of the ArcGIS StoryMap.



Task 3: Drone Survey

Drone Flight #1:

- December 13, 2024
- Higgins Beach and Pine Point Beach
- Imagery and Topographic Survey
- **Update: topographic survey extents appeared too large for accurate elevations. Can be spot corrected, but next round of drone survey should focus on either imagery or elevation in smaller locations**

Drone Flight #2:

- Planning for a September timeframe, however, 2025 has been a mild storm year so far. Could focus on elevations only for post-storm dune volumes for dune restoration purposes.



Task 4 Updates

Task 4: Ordinance Review:

- Submitted as draft June 2025
- Purpose: high-level review of sections within the ordinances that could be updated to improve resiliency. Exact wording or language was not suggested. Ordinances will not be updated as part of this project.
- Received comments over the past couple of weeks, which will be incorporated into a final memo.

We will link to ordinance review in the StoryMap but will not include a section within the StoryMap detailing ordinance review.



Task 5: Adaptation Strategies

Two main products: Adaptation memo + Pilot Projects

1) Adaptation Report:

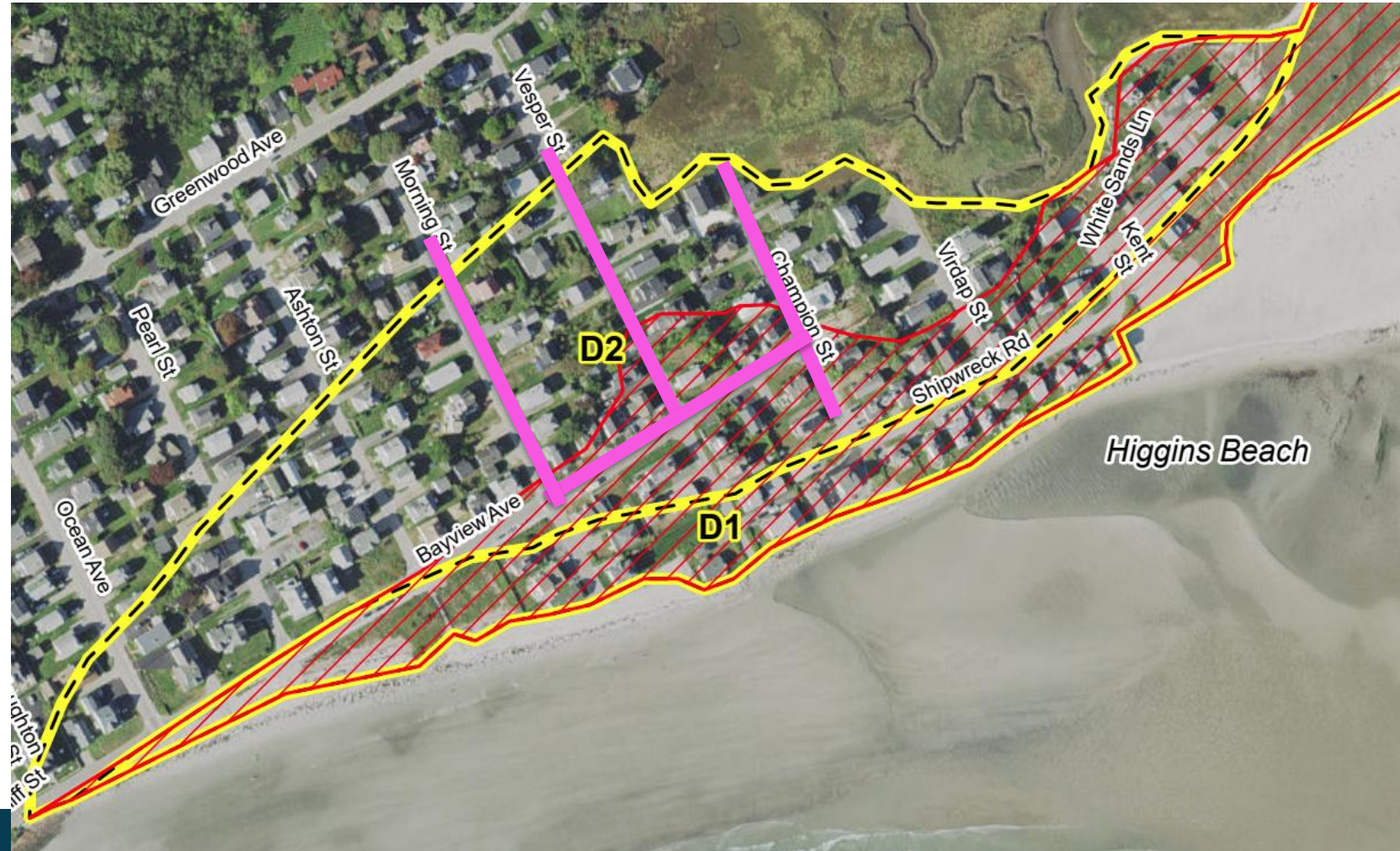
- Overview of broad category adaptation strategies: roads, pump stations, boat launches, etc.
- Recommendations for specific assets in table form with relative costs
- Currently undergoing final QC of draft document – draft will be sent out the first week of August.



Task 5: Adaptation Strategies

- Roads within frontal dunes face strictest regulations around elevation projects. Exemptions have been made around “crossings”
- Clarification from Rob Wood indicates that **roads and parking lots** within back dunes **can** (likely) be elevated using fill. Implications for Pine Point and Higgins adaptation efforts.
- Emphasis on new sea walls not being allowed

Updating Understanding of Permitting Regulations



Task 5: Adaptation Strategies

Updating Understanding of Permitting Regulations

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Updating Understanding of Permitting Regulations



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Updating Understanding of Permitting Regulations



May be able to elevate pink road network to allow access and prevent flooding along avenues from marsh side of Pine Point



Task 5: Adaptation Strategies

Updating Understanding of Permitting Regulations



Task 5: Adaptation Strategies

Pilot Projects:

1. Payne Road Adaptation Alternatives – Comments due by 7/31
2. Higgins Beach / Bayview Avenue Adaptation, Fortification, and/or Dune Restoration Planning – Plans drafted, awaiting contact from DEP
3. Pine Point Homeowner Adaptation Guide – In internal QC



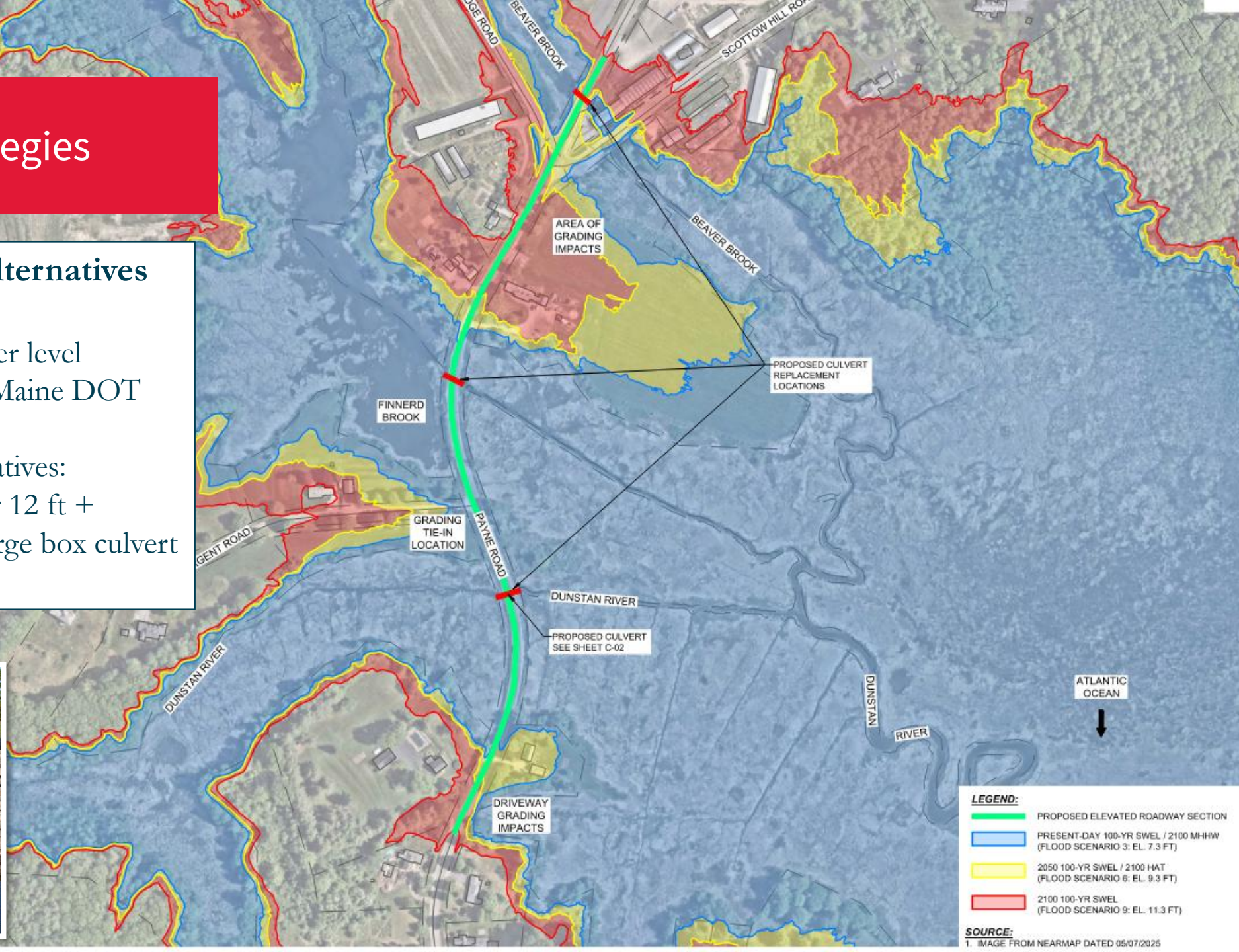
Task 5: Adaptation Strategies

Payne Road Adaptation Alternatives

Draft report being reviewed

- Refined flood risk using water level measurements collected by Maine DOT
- Regulatory overview
- High-level adaptation alternatives:
 - Road elevation to 10 or 12 ft + replace culverts with large box culvert
 - Do nothing

Box Culvert Example



Task 5: Adaptation Strategies

- Goal to reduce erosion and protect Bayview Avenue from damage.
- Will bring concept drawings of dune restoration and revetment/wall placement to conversations with DEP
- Deliverable will be basic sketches of design options, including notes, and documentation/ recommendations from Maine DEP
- Awaiting scheduling of meeting by Maine DEP

Higgins Beach / Bayview Avenue Seawall or Dune Restoration Planning



Task 5: Adaptation Strategies

Higgins Beach / Bayview Avenue Seawall or Dune Restoration Planning

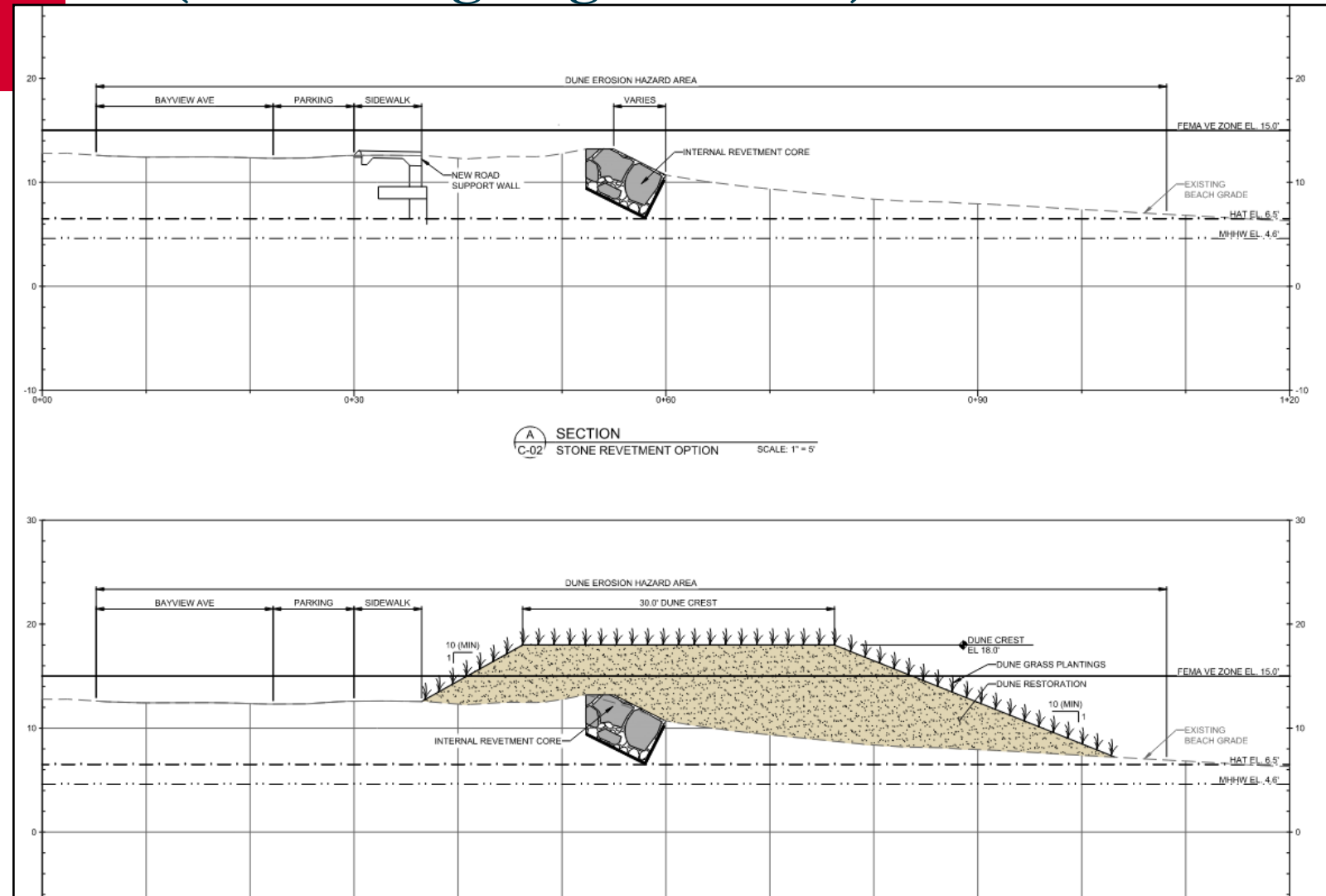
- Goal to reduce erosion and protect Bayview Avenue from damage.
- Premise: to use existing quantity of cobble on site in revetment along road.
- 3 options:
 - Typical revetment
 - Revetment covered by dune
 - Dune system only



Task 5: Adaptation Strategies

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- Premise: to use existing quantity of cobble on site in revetment along road.
- 3 options:
 - Typical revetment
 - Revetment covered by dune
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Higgins Beach DRAFT Plans (still undergoing revisions)



Task 5: Adaptation Strategies

Guidance document undergoing final revisions, likely delivered by the end of next week (8/8)

Outline of Guidance For Elevating/Adaptation a Home:

Step 1: Understand Your Property's Flood Risk and Zones

Step 2: Understand What These Zones Mean for Adaptation

Step 3: Choose Your Adaptation Path

Step 5: Contact the Scarborough Planning and Code Enforcement Office

Step 6: Hire a contractor to coordinate the design, permitting, and adaptation of the property.

Pine Point Homeowner Adaptation Guide

Table 3-1. Residential Structure Elevation Requirements

Zone Combination	Restrictions and Elevation Guidance
FEMA VE Zone + Frontal Sand Dune	1) Cannot develop on undeveloped lots under current rules. 2) For developed lots, elevate on open pilings to at least 2 ft above the BFE or the highest natural elevation measured 5 ft from the corners of existing building foundation (whichever is higher)
FEMA AE Zone + Frontal Sand Dune FEMA AE or VE Zone + Back Sand Dune + Erosion Hazard Area	Elevate on open pilings: 1) For undeveloped lots, elevate to at least 2 ft above the BFE or 3 ft above existing elevation within the building's footprint (whichever is higher). Additional limitations apply to lots that include VE zones ¹ . 2) For developed lots, elevate to at least 2 ft above the BFE or the highest natural elevation measured 5 ft from the corners of existing building foundation (whichever is higher)
FEMA AE or VE Zone + Back Sand Dune (non-Erosion Hazard Area)	Elevate on open pilings to at least 2 ft above the BFE. Additional limitations apply to lots that include VE zones ¹ .
Frontal Sand Dune (outside FEMA zone) Or Back Sand Dune + Erosion Hazard Area (outside FEMA Zone)	Elevate on open pilings: 1) For undeveloped lots, elevate at least 3 ft above existing elevation within the building's footprint 2) For developed lots, elevate to the highest natural elevation measured 5 ft from the corners of existing building foundation
Back Sand Dune (outside FEMA Zone)	No elevation requirements

Task 6: Community Engagement

Next Community Events:

End of Project Public Presentation – August 20, 2025

Higgins Beach neighborhood meeting – September 4th, 2025

Pine Point neighborhood meeting – September 9th, 2025

Discuss focus of neighborhood specific meetings: adaptation strategies?



Task 7: StoryMap

Road Prioritization

- Were there any comments on the text in this section?
- Added an interactive map to view the top road segments
- Will update for Adaptation Strategies and Pilot Project once comments are received

Road Prioritization

Prioritization Roads for Flood Adaptation

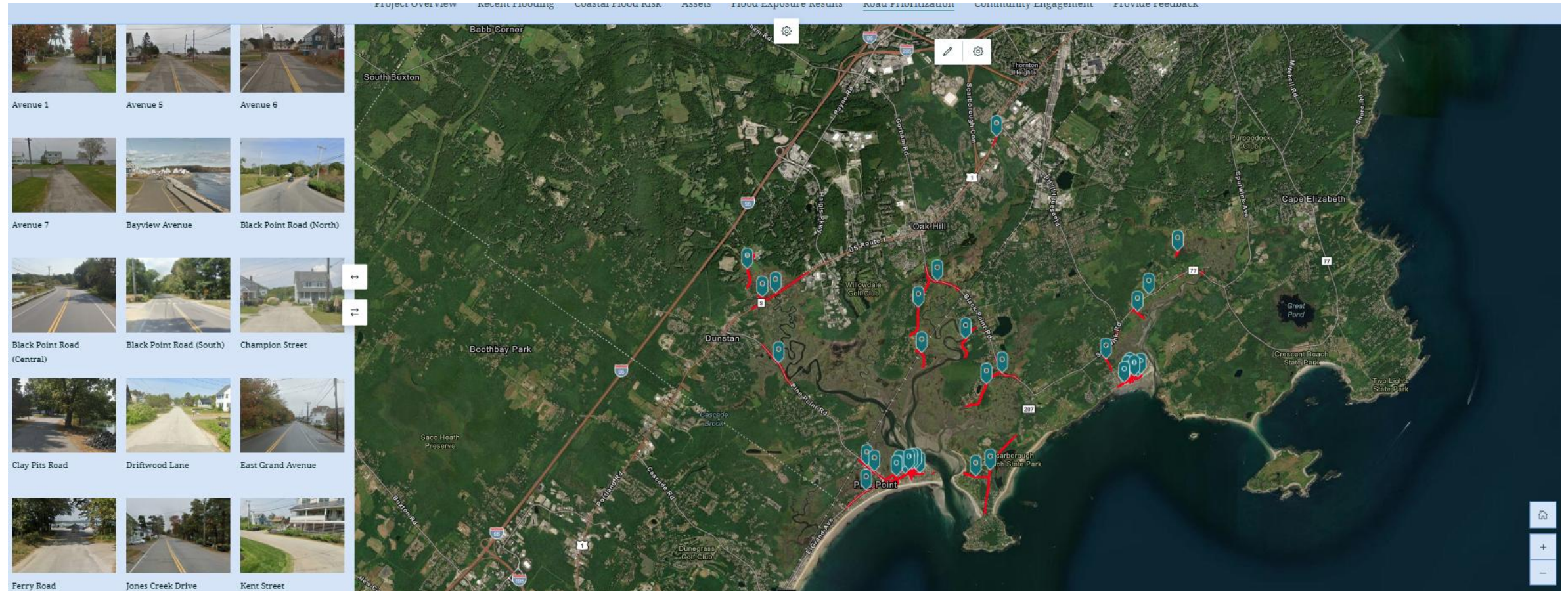
The impact of flooding on roadways can vary widely depending on the road's location, use, and surrounding environment. Some roads, if inundated, would have a much greater impact on residents, emergency services, and the local economy. To help plan for the future, we used a risk-based prioritization process to identify which roads the Town should focus on for adaptation.

This process considered both how likely a road is to flood and how serious the consequences would be if it did. The goal is to support the Town in making informed decisions about which road adaptation projects to focus on. However, there could be a variety of reasons for the Town to undertake adaptation of a road that is farther down on the ranking list (i.e., availability of funding, community support, nearby infrastructure projects, etc.). This is merely one more tool to help in the decision process.



Task 7: StoryMap

Top 30 Roads Map



Project Schedule

August 8th: delivery of remaining 3 deliverables (Adaptation Report, Higgins Concept Plans, Pine Point Pilot Project)

August X: Working Group feedback requested from deliverables

Before August 20: Final draft of Ordinance Review, final draft of deliverables where comments were received.

August 20th: Town Council Meeting

September 10th: Comments received by Town (3 weeks post Town Council Meeting)

September 30th: Final Executive Summary and updated StoryMap

Discuss timing of final deliverables and Town Council Meeting: Do we need Executive Summary before Town Council Meeting? Drone flight/survey in September?



Next Project Meeting

- This was our last scheduled project meeting as part of the proposal.
- Discuss whether another should be held near closeout of the project.
- Could be included in add-on budget created for neighborhood meetings.



Thank you!
Questions?



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