



Town of Yarmouth

# Riverwalk Park and Boardwalk Feasibility/Concept Design Study

Project Number: 17-2-CD  
Public Meeting - May 30, 2017



# Introductions

## Drive-In Site Utilization Committee (DISUC):

- Jim Saben, Chairman
- Tom Roche
- Ken Driscoll
- Gerry Manning
- Peter Slovak
- Two vacancies

## Town Staff:

- Karen Greene, Director of Community Development
- Kathy Williams, Town Planner
- Kelly Grant, Conservation Administrator
- Karl von Hone, Director of Natural Resources
- Pat Armstrong, Director of Parks, Recreation & Cemeteries
- Bruce Murphy, Health Director
- Jeff Colby, DPW Director
- Mark Grylls, Building Commissioner
- Frank Frederickson, Police Chief



# Formation of DISUC

- BOS formed DISUC in April 2015
- Charge:
  - Identify policy priorities
  - Identify potential uses
  - Identify relative benefits of various ownership
- Six Month process
- Conclusions:
  - Energize Route 28/Create a destination location
  - Open space/ecological restoration of drive-in site
  - Access to water/Boardwalk

# DISUC Recommendations/BOS Directive

- First Phase - Investigate:
  - Riverwalk Park & Boardwalk
  - Interim Uses of Remainder of site
- Second Phase: TBD



# Riverwalk Park/Boardwalk Feasibility Study

- Scope of Study
  - New wetland delineation and site analysis
  - Alternative designs for the Riverwalk Park & Boardwalk
  - Public Outreach & Participation
    - DISUC Public Meetings/Public Outreach Meetings
  - Concept Plan Development
  - Permit Analysis
  - Cost Estimates
    - Development costs, construction, and maintenance
  - Summary Report
- Definitive Subdivision
  - Subdivide Riverwalk Park Parcel
  - Dependent upon results of Feasibility Study

# Riverwalk Park Uses

# Kayak Rental Options

Vendor  
Trailer



Kayak  
rental  
locker



Lease storage  
space

# Artist Shanty, Rental Huts



# Food Trucks/Seating Areas



# Public Art Displays



# Educational Opportunities



Existing Shellfish Upweller

# Interpretive Signage



## The Anatomy of the Scallop

**THE TASTY SCALLOP**  
Although the entire animal is edible, and is eaten whole in some countries, only the large white adductor muscles, which causes the clapping action of the shells, is customarily eaten in the U.S.

**BRIGHT BLUE EYES**  
Along the edge of the mantle up to 100 eyes are set in separate sockets. Each has a lens, a retina, and an optic nerve, like the human eye.

**SWIMMING**  
To swim, a scallop draws water into its shell and then claps it shut quickly by a contraction of the single adductor muscle. As the water shoots out, the scallop travels by jet propulsion.

**FEEDING**  
Like clams & oysters, scallops feed by filtering microscopic plankton from the water.

**GROWTH CYCLE**  
Sea scallops grow rapidly during the first several years of life, sexually maturing at age 2 but attain commercial size at about 3-5 years old. It takes 3 years to grow to the size of a 30/40 scallop 3 1/2 - 4 years for a 20/30 = 4 - 4 1/2 years for a 10/20 and 5 - 5 1/2 years to reach the all popular U/10 size. Sexes are separate and fertilization is external. Spawning occurs in late summer and early autumn, but is most common in the spring.

## MARSH MILKWEED

A Diverse Food Source for Insects and Spiders

**COMMON FEED THE FOOD CHAIN**  
Marsh Milkweed grows in wetlands and along waterways. The leaves and stems are eaten by many insects, including monarch butterflies, which use the plant as a food source. The plant's latex and bitter taste deter many other herbivores.

**AMAZING MONARCHS**  
Monarch caterpillars depend on the Marsh Milkweed to complete their life cycle. After hatching from eggs that were laid on the host plant, they grow on the leaves and they are ready to form a chrysalis. After five molting metamorphoses into their distinctive orange and black butterfly form, they fly off to find new host plants to lay their eggs and starting another generation of caterpillars.

**MONARCH LIFE CYCLE**

The Marsh Milkweed, with its slender pointed leaves and sweetly-scented clusters of rose pink flowers, grows up to 5 feet, and is host to a wide variety of insects, spiders, and microorganisms. The leaves, flowers, and seeds of the milkweed attract aphids, ants, beetles, ladybugs, and spiders. Pollinators, including monarch butterflies, moths, flies, bees, and wasps, also find the nectar irresistible. These creatures create a complex "food web" of predators and prey that all depend on this wetland plant for survival.

"PULSE DESIGN NATURE SERIES" Interpretive Trail Sign #024-2436-02A-031A, Size 24"x36", ©2014 Pulse Design, Inc. To Order: Call 708-385-1308 or Visit www.pulsedesign.com

## LAKE ECOLOGY

SHREWSBURY WORCESTER

NATIVE PLANTS FOUND ALONG THE LAKE'S THORNBUSH

**SHREWSBURY**  
The Shrewsbury River is a tributary of the Merrimack River. It flows through the town of Shrewsbury, Massachusetts, and empties into the Merrimack River in Lowell, Massachusetts. The river is home to a variety of fish, including bluegill, largemouth bass, and striped bass. The river is also home to a variety of birds, including mallards, blue jays, and robins.

**WORCESTER**  
The Worcester River is a tributary of the Merrimack River. It flows through the town of Worcester, Massachusetts, and empties into the Merrimack River in Lowell, Massachusetts. The river is home to a variety of fish, including bluegill, largemouth bass, and striped bass. The river is also home to a variety of birds, including mallards, blue jays, and robins.

**LAKE ECOLOGY**  
The lake is a body of water that is surrounded by land. It is home to a variety of plants and animals. The lake is also a popular recreational area for fishing, boating, and swimming.

**NATIVE PLANTS FOUND ALONG THE LAKE'S THORNBUSH**  
The lake is home to a variety of native plants. These plants are adapted to the wetland environment and provide food and shelter for many animals. Some of the native plants found along the lake's thornbush include:

- Spatterdock
- Sparganium
- Water Hyacinth
- Water Lettuce
- Water Chestnut
- Water Arrowweed
- Water Hyacinth
- Water Lettuce
- Water Chestnut
- Water Arrowweed

# Interactive & Natural Playscapes



# Events/Activities



Outdoor Exercise Classes



Weddings or reunions



Small theatre productions



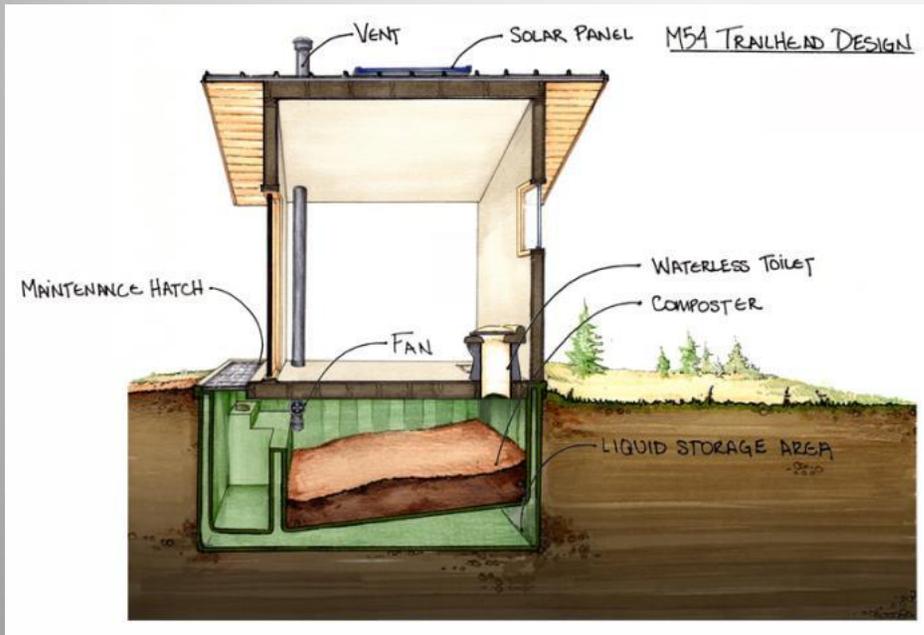
Concerts in the Park series

# Riverwalk Park Elements

# Pavilion and Shade Structures/Seating



# Restrooms - Composting Toilets



## Pre-fabricated/Composting restrooms

- Self-contained waste treatment systems
- Emit no pollution
- Site disturbance minimized to the footprint of the buildings
- Traditional looking buildings.

# Portable Toilets Enclosure – Dennis Pond



# Traditional Restrooms

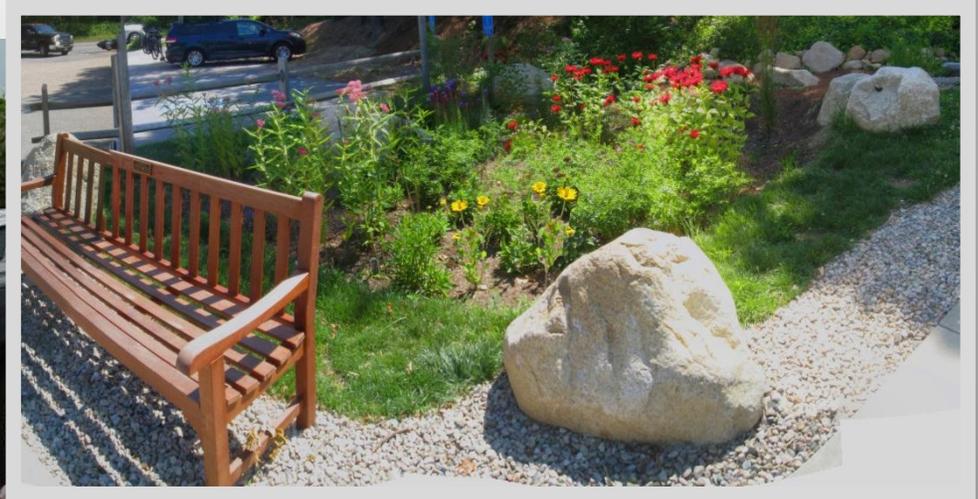


# Landscape Restoration Butterfly Garden



# Green Infrastructure/Parking

Stormwater swales, rain gardens and pervious pavement



# Riverwalk Park Layout Options

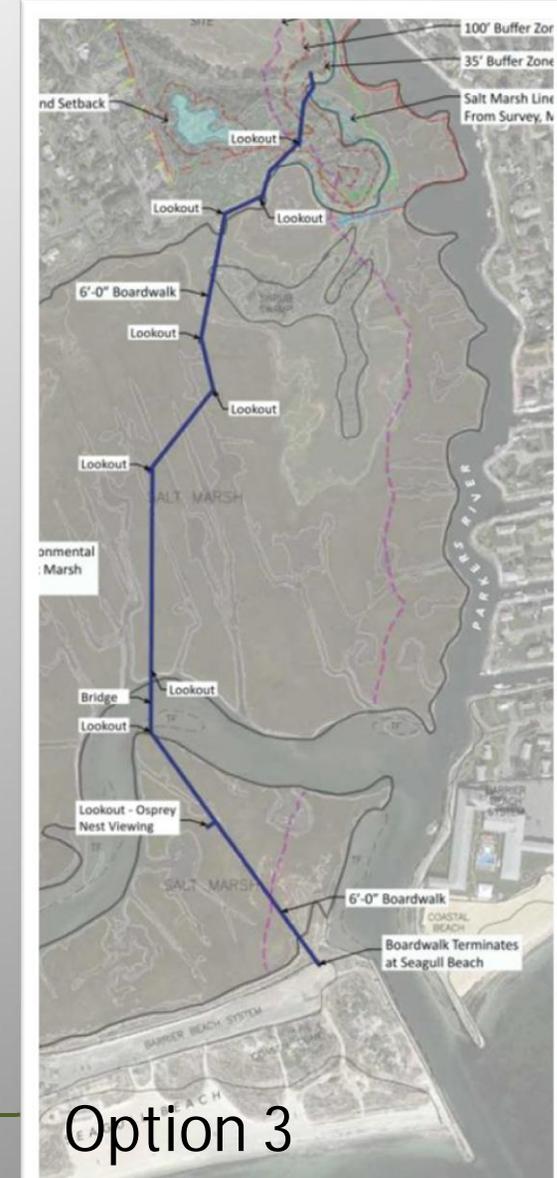
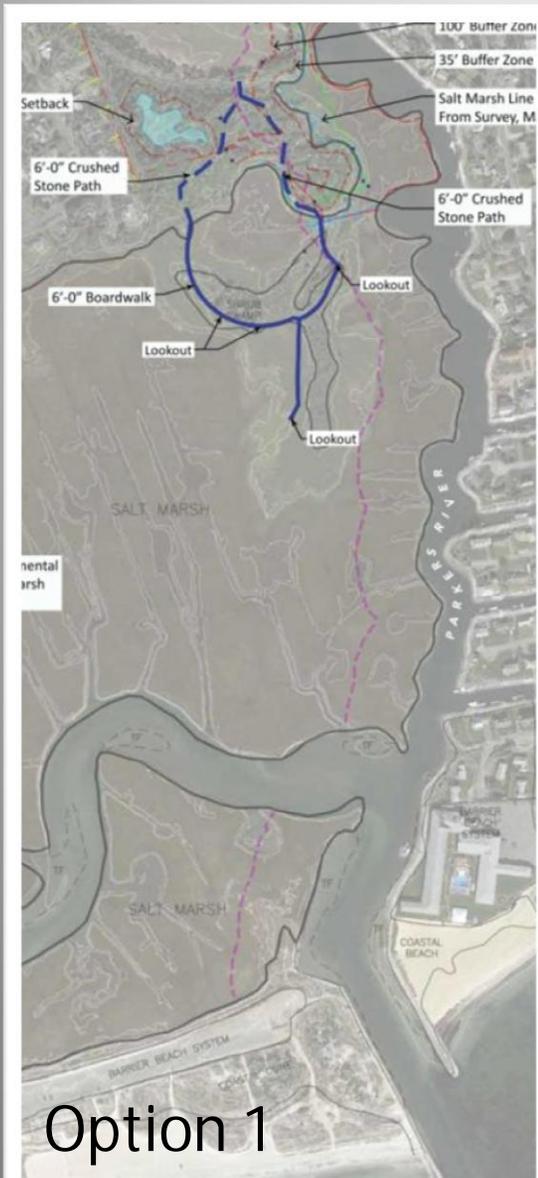
# Riverwalk Park Options



# Park Questions

# Boardwalk Options

# Boardwalk Options



# Trail/Path/Walkway



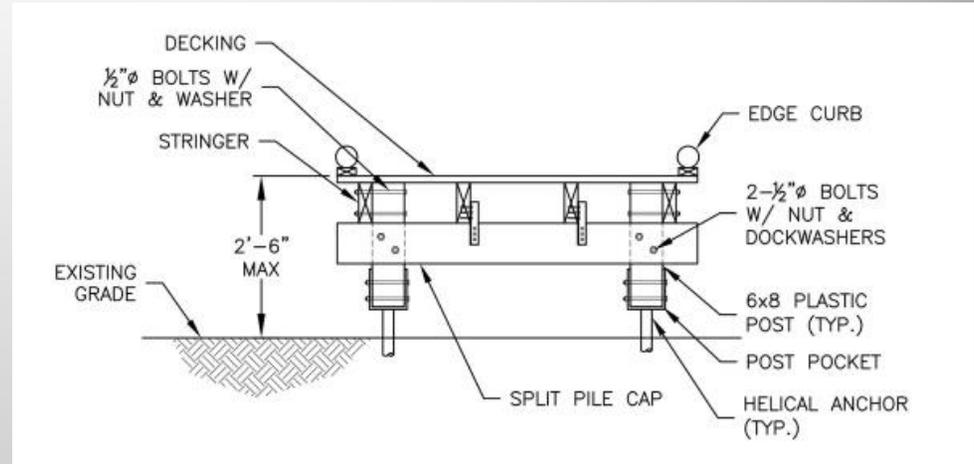
Crushed stone path through woodland and landscape restoration areas



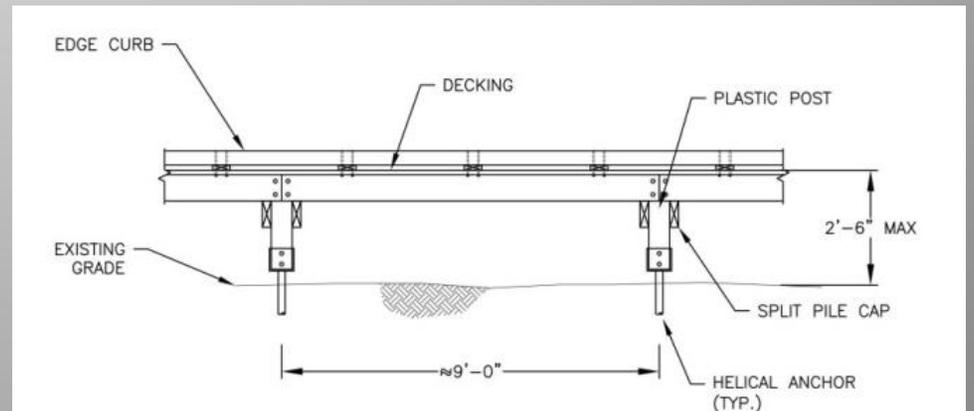
# Low Profile Boardwalk



Alternate to crushed stone path-Considers raising sea level. No railing required. Higher Cost.

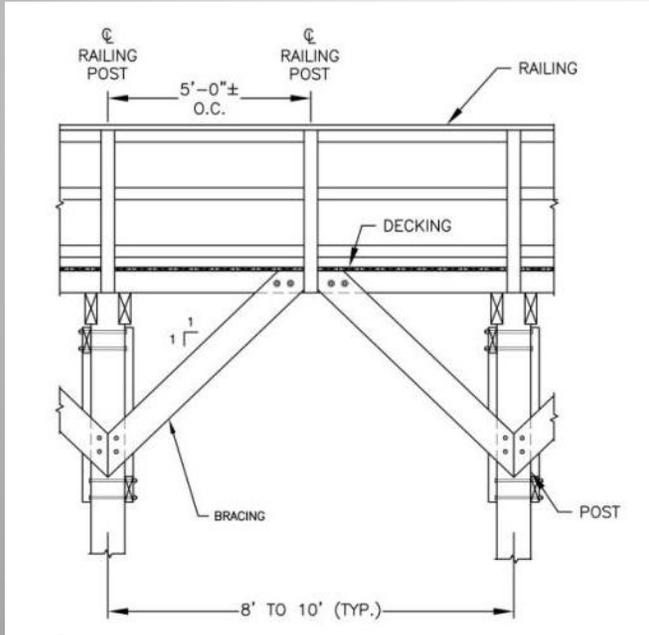


Section

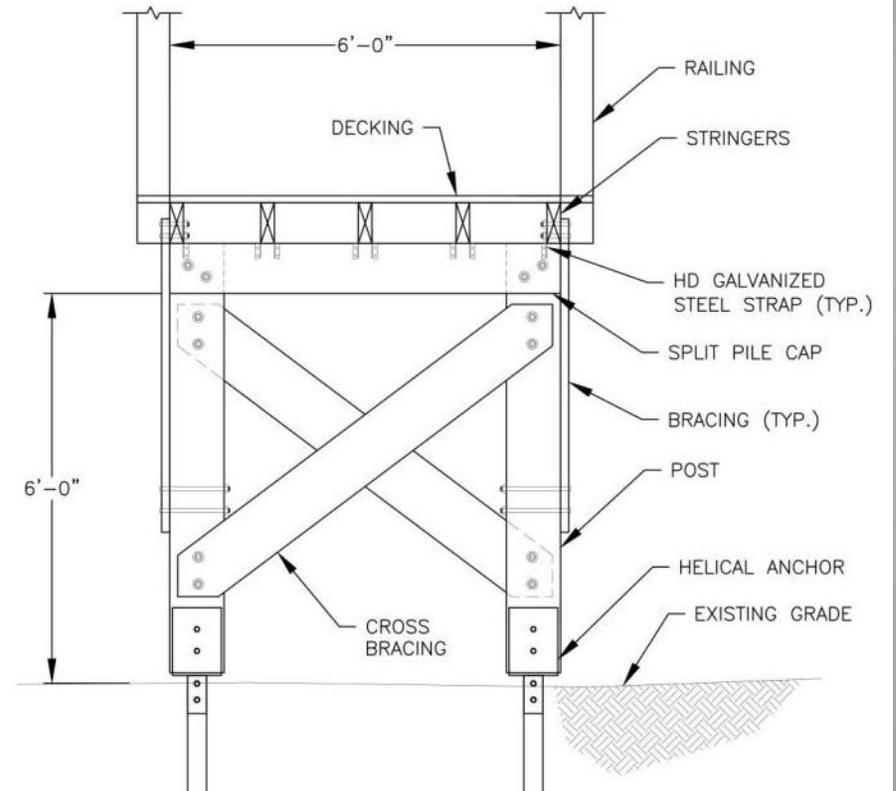


Elevation

# Raised Boardwalk



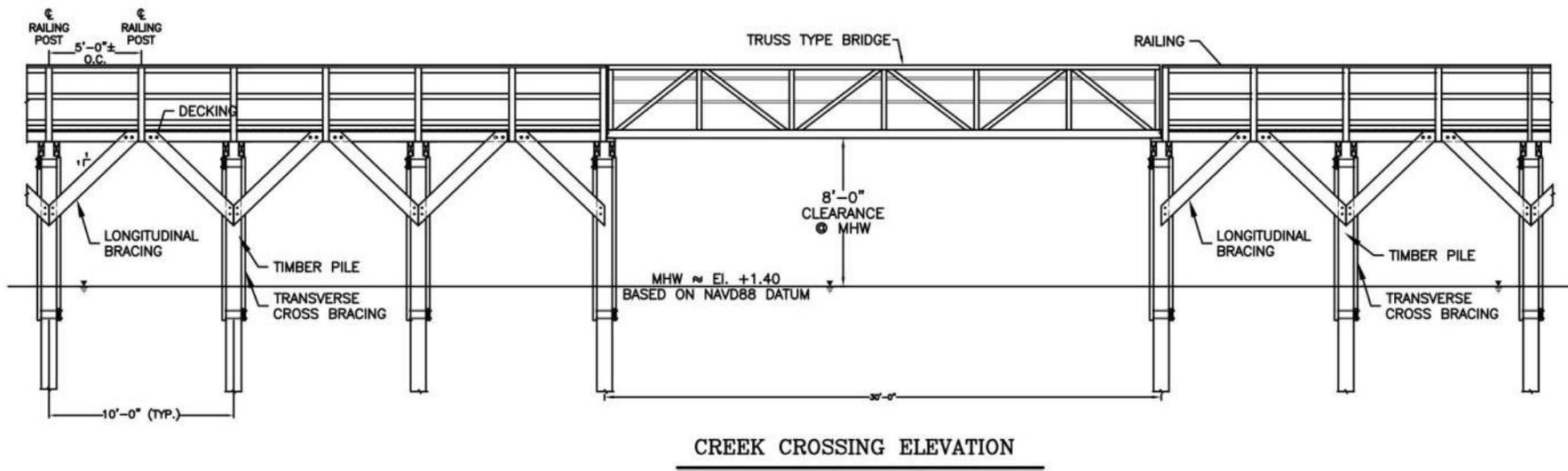
Elevation



Section



# Crossing at Lewis Pond Channel



## Elevation

# Wood Boardwalk and Railing

Vertical  
Railing



Yarmouth, MA



Cape Cod National Seashore

Angled Railing can give  
the impression of more  
room

Yarmouth Riverfront Park & Boardwalk

# Cable Railing



Wood post  
and top  
rail



Stainless steel or aluminum post and top rail



# Boardwalk Decking Materials



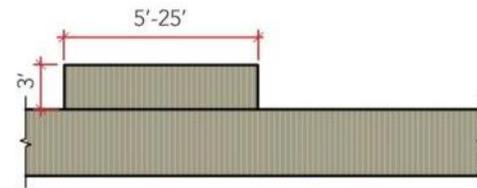
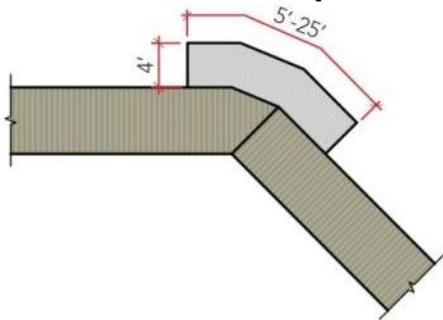
Grating at a Corner bump-out



Donation Naming

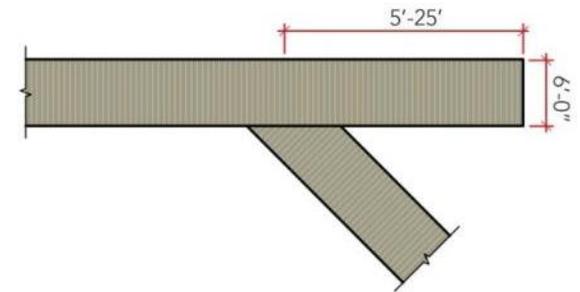
# Boardwalk Overlooks- Configurations

Corner bump-out



Side bump-out

Extension bump-out



Side bump-out

# Boardwalk Overlooks Interpretation, Rest and Shade



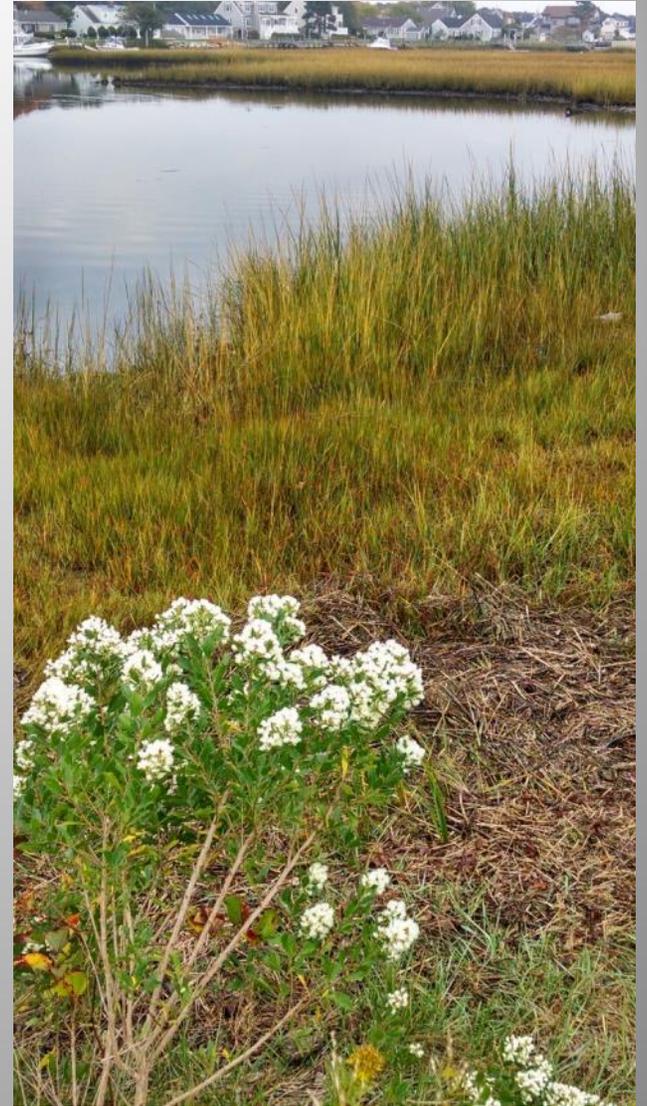
Extension bump-out

Yarmouth Riverfront Park & Boardwalk

# Permitting Needs

Complex permitting environment with significant protected natural resources:

- Evaluate alternatives with respect to statutory & regulatory requirements/processes
- Develop permitting strategy
- Key permitting programs:
  - Massachusetts Environmental Policy Act (MEPA)
  - Wetlands Protection Act & Yarmouth Wetlands By-Law
  - Chapter 91 Waterways Licensing – Crossing of Lewis Pond inlet
  - US Army Corps of Engineers– boardwalk & navigation
  - Cape Cod Commission – Development of Regional Impact (DRI)



# Questions?