

# KINGSLEY PARK



## PUBLIC MEETING #4 SITE IMPROVEMENTS

September 20, 2012

# Agenda

- Introductions
- Schedule of Activities
- Summary of Recommendations and Ideas Generated
- Overview – Site Analysis
- Pathway Improvement Options
- Public Information Plan
- Discovery Area Opportunities
- Next Steps

# Schedule of Activities: Completed

- September – November 2011: Site Inventory and Survey
- December 2011: Public Meeting #1
- January to April 2012: Schematic Design and Meetings with City Departments
- April 2012: Public Meeting #2
- June 2012: Public Meeting #3

# Schedule of Activities: Next Steps

- October to December 2012: Design Development – Restoration Planting, Site Furnishing, Cost Estimate
- December 2012 to February 2013: Meetings with City Staff
- February 2013: Permitting
- March to June 2013: Construction Documents
- Fall 2013: Begin Construction Phase 1

# Summary of Recommendations

- 2000 Fresh Pond Reservation Master Plan
- 2011 Shared Use Plan
- Kingsley Park Site Improvements Project (2011 to present)

# FPR Master Plan Recommendations (2000)

- Shoreline Stabilization
- Slope Stabilization
- Forest Management
- Naturalize Transition Zone
- Maple Row Enhancement

# Recommendations (contd.)

- ADA Compliance for Pathways
- Stormwater Management
- Drainage Improvements
- Perimeter Road Improvements

# Summary of Recommendations

- 2000 FPR Master Plan
- 2011 Shared Use Plan
- Kingsley Park Site Improvements Project (2011 to present)

# Shared Use Plan (2011)

## Recommendations

### Seasonal Use:

May to November

- Dogs on-leash
- Walkers
- Play area
- Picnicking
- No bicycles

- Dogs on- or off-leash
- Walkers
- Others



# Shared Use Plan (2011)

## Recommendations

### Seasonal Use:

December to April

- Dogs on- or off-leash
- Walkers, Joggers
- Play Area

- Walkers
- Sledders
- No-dog zone



# Summary of Recommendations

- 2000 FPR Master Plan
- 2011 Shared Use Plan
- Kingsley Park Site Improvements Project (2011 to present)

# Public Input

## IDEAS GENERATED:

- Preserve Open Vistas
- Protect Hemlock Grove
- Confirm Overlook(s) Safety
- Retain Kingsley Loop Paths

# Public Input

## IDEAS GENERATED (contd.):

- Discourage Off-Leash Dog/  
Small Child Overlap
- Value Existing Play Patterns
- Utilize Soft Walking Surfaces

# Public Input

## IDEAS GENERATED (contd.):

- Promote Natural, Unstructured Play
- Discovery Zones are “Boundless”
- Boardwalks as Play Elements

# Public Input

## IDEAS GENERATED (contd.):

- Identify Project Priorities
- Solicit Input from Seniors
- Summarize Advantages and Disadvantages

# Summary of Site Analysis

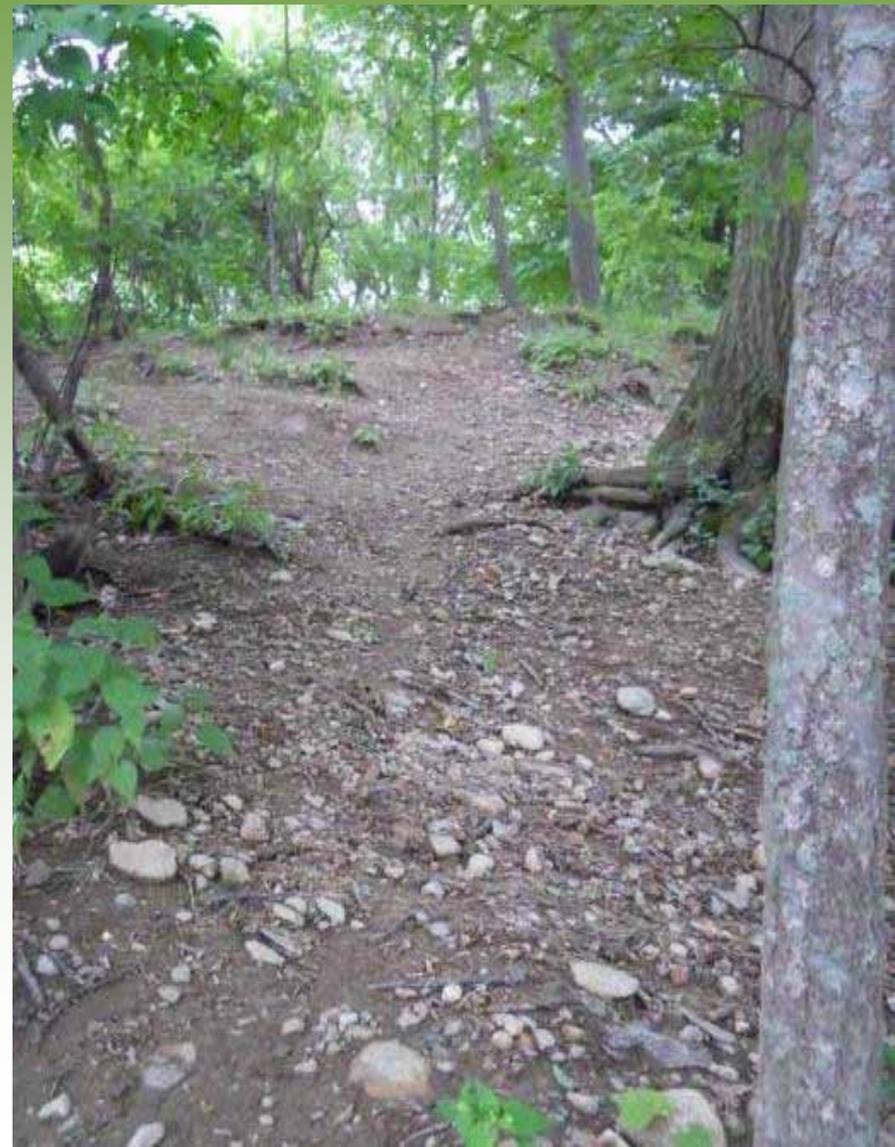
- Geological
- Ecological
- Cultural



# Uncontrolled Runoff, toe of slope



# Erosion along mid-slope





# Surficial Geology Map (1944)

Clayey till with sand, gravel, pebbles, and cobbles



# Infiltration Rates

TP-1 0.0 in/hr

TP-2 1.6 in/hr

TP-3 2.3 in/hr

TP-4 15.4 in/hr

TP-5 1.1 in/hr

TP-6 10.8 in/hr

TP-7 7.1 in/hr

TP-8 4.3 in/hr

TP-9 0.0 in/hr

The figure is a topographic map of a watershed, labeled SW-1, showing infiltration rates and slope indicators. The map is color-coded by slope: green for slopes less than 5%, yellow for 20:1 to 5:1 slopes (5% to 20%), orange for 5:1 to 2:1 slopes (20% to 50%), and brown for slopes greater than 2:1 (50%). A high point (HP) is marked with a cross and the elevation 40.6. A low point (LP) is marked with a cross. Pathways are shown as dashed lines. The map is divided into subwatersheds SW-1, SW-2, SW-3, SW-4, and SW-5. A Water Treatment Facility is located on the right side. The map is overlaid with a grid of numbered points (1-9) corresponding to the infiltration rates listed on the left. The infiltration rates are: TP-1 (0.0 in/hr), TP-2 (1.6 in/hr), TP-3 (2.3 in/hr), TP-4 (15.4 in/hr), TP-5 (1.1 in/hr), TP-6 (10.8 in/hr), TP-7 (7.1 in/hr), TP-8 (4.3 in/hr), and TP-9 (0.0 in/hr). The map also shows a legend for the symbols used: HP (High Point), LP (Low Point), and SW-1 (Subwatershed).

- PATHWAY
- PATH > 5% SLOPE
- > 2:1 SLOPE (50%)
- 5:1 - 2:1 SLOPES (20%-50%)
- 20:1 - 5:1 SLOPES (5%-20%)
- < 5% SLOPE
- HP HIGH POINT
- LP LOW POINT
- SW-1 SUBWATERSHED

# Circulation Hierarchy

Primary:

Perimeter Road

Secondary:

Crest and Base  
Loop Paths

Informal:

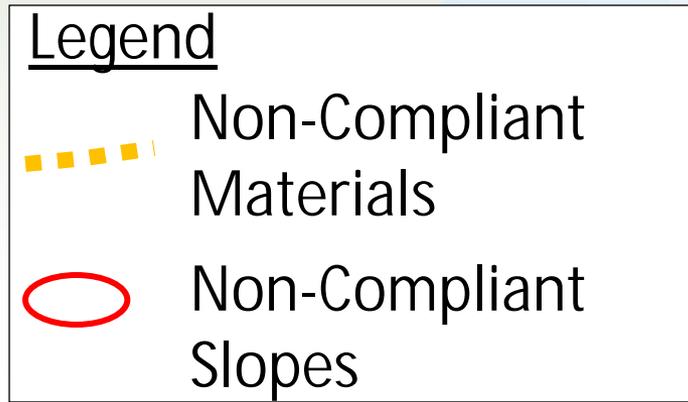
Connector Trails

FRESH POND  
RESERVOIR



# Accessibility

- Non-Compliant Slopes (>5% and 2% cross-slopes)
- Non-Compliant Materials



# Pathway Improvement Goals

- ADA Compliance
- Reduce Impervious Surfaces
- Preserve Historic Alignments (where Feasible)
- Provide Drier/Safer Pathways
- Define Path Edging

# Pathway Improvements

- Perimeter Road
- Crest Loop Path
- Base Loop Path

# Perimeter Road Improvements

- ADA Compliance
  - Replace Non-Compliant Materials
  - Regrade to meet Slope Criteria
- Improved Drainage
- Winter Maintained

# Perimeter Road: Material Replacement

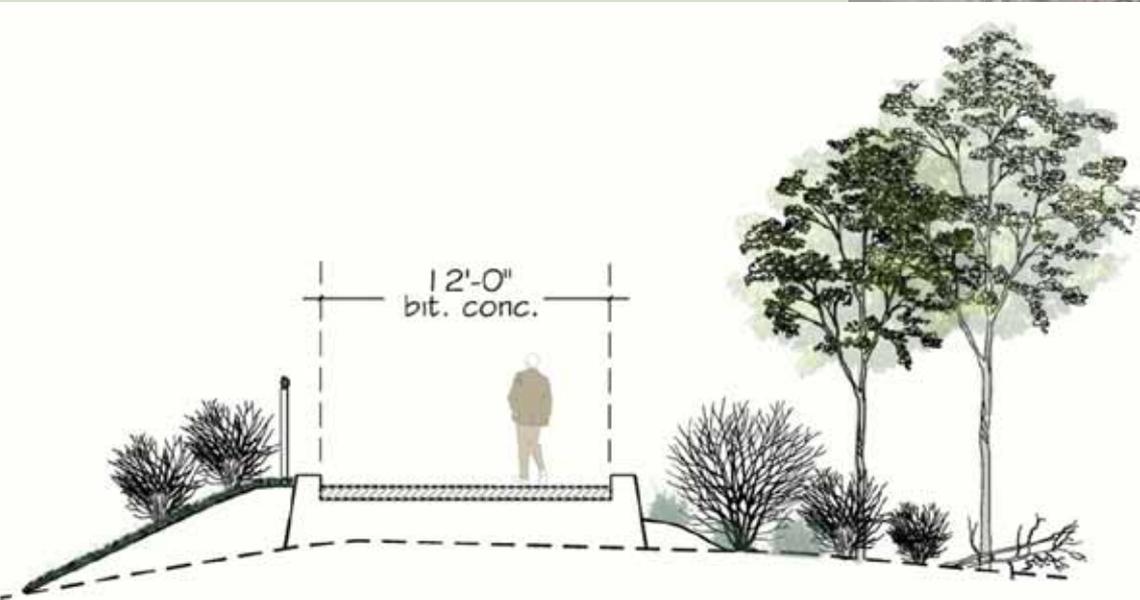
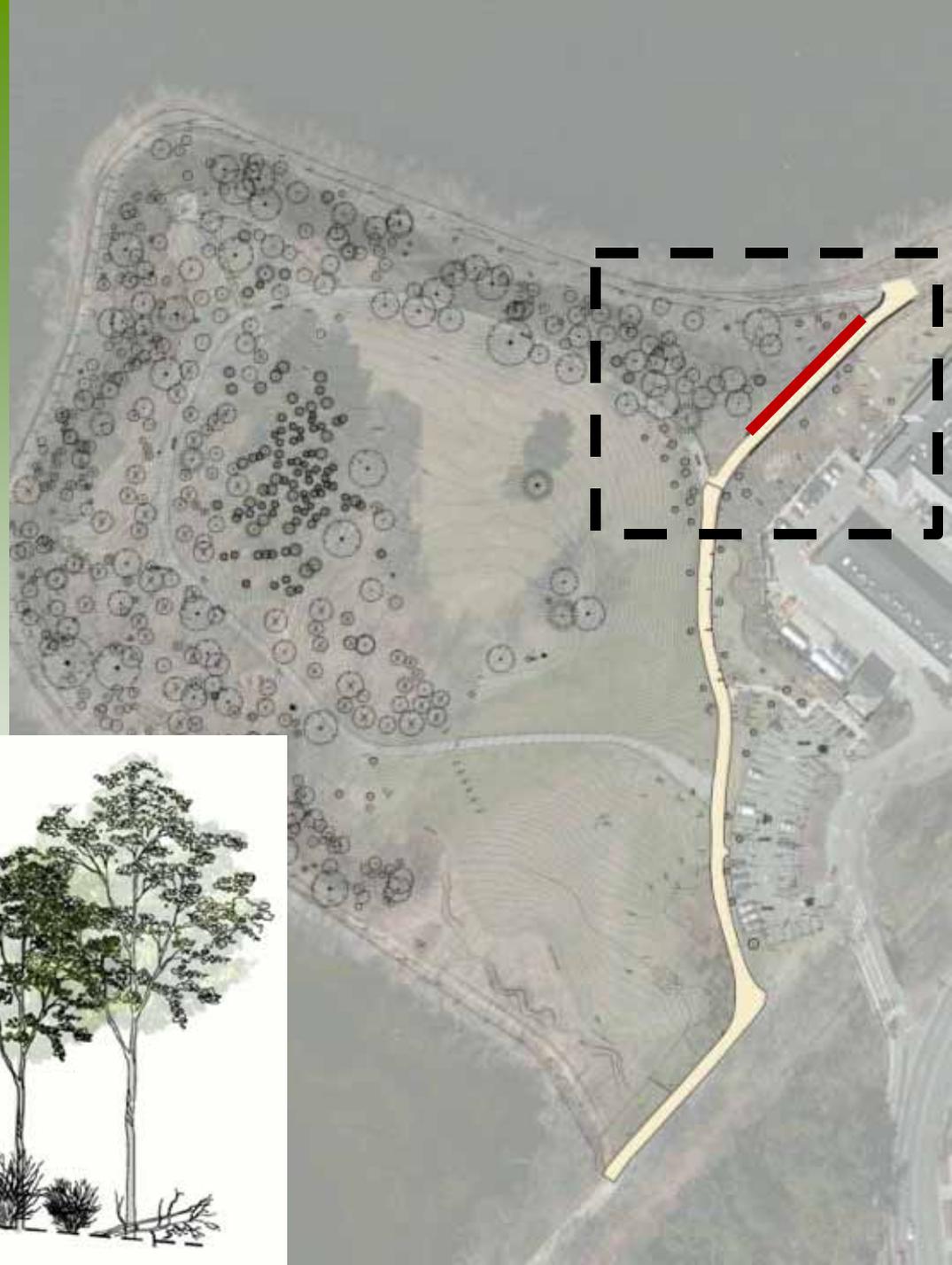
- Proposed Path Detail Options:
  - 12' Wide Asphalt Paving  
*Includes 2' Wide Porous Paving  
(where applicable)*
  - 2' Wide Soft Shoulder  
*Reinforced Turf or Stabilized  
Aggregate*

# Perimeter Road Improvements



# Perimeter Road Improvements

- Bituminous Concrete Paving
- Retaining Wall (24" ht. maximum)





# Crest Loop Path Improvements

- ADA Compliance
  - Replace Non-Compliant Materials
  - Realign to meet Slope Criteria
- Preserve Desirable Vegetation
- Not Maintained for Winter

# Crest Loop Path Improvements

- Proposed Path Detail Options:
  - 8' Wide Asphalt Paving
  - 2' Wide Reinforced Turf Shoulder Both Sides (where possible)
  - Optional Boardwalk Section

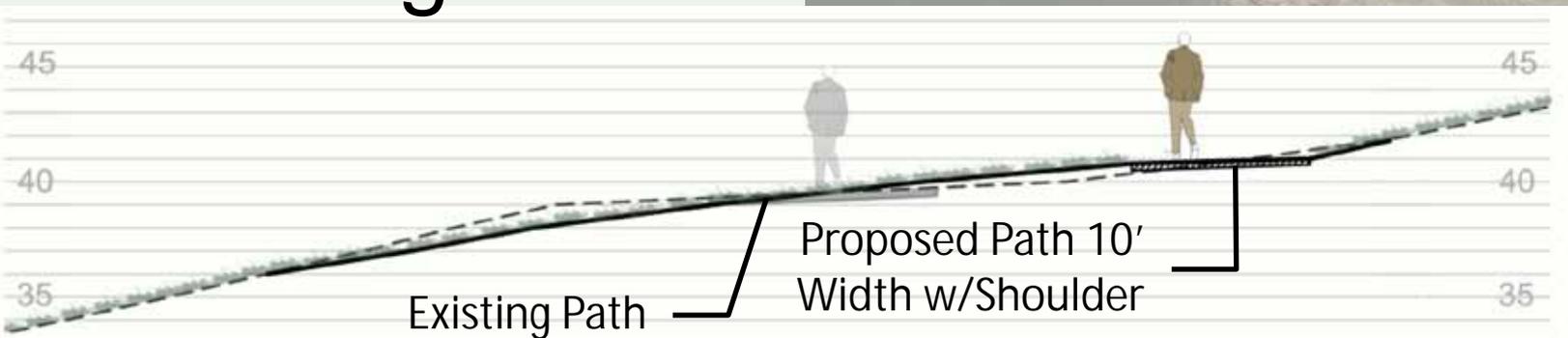
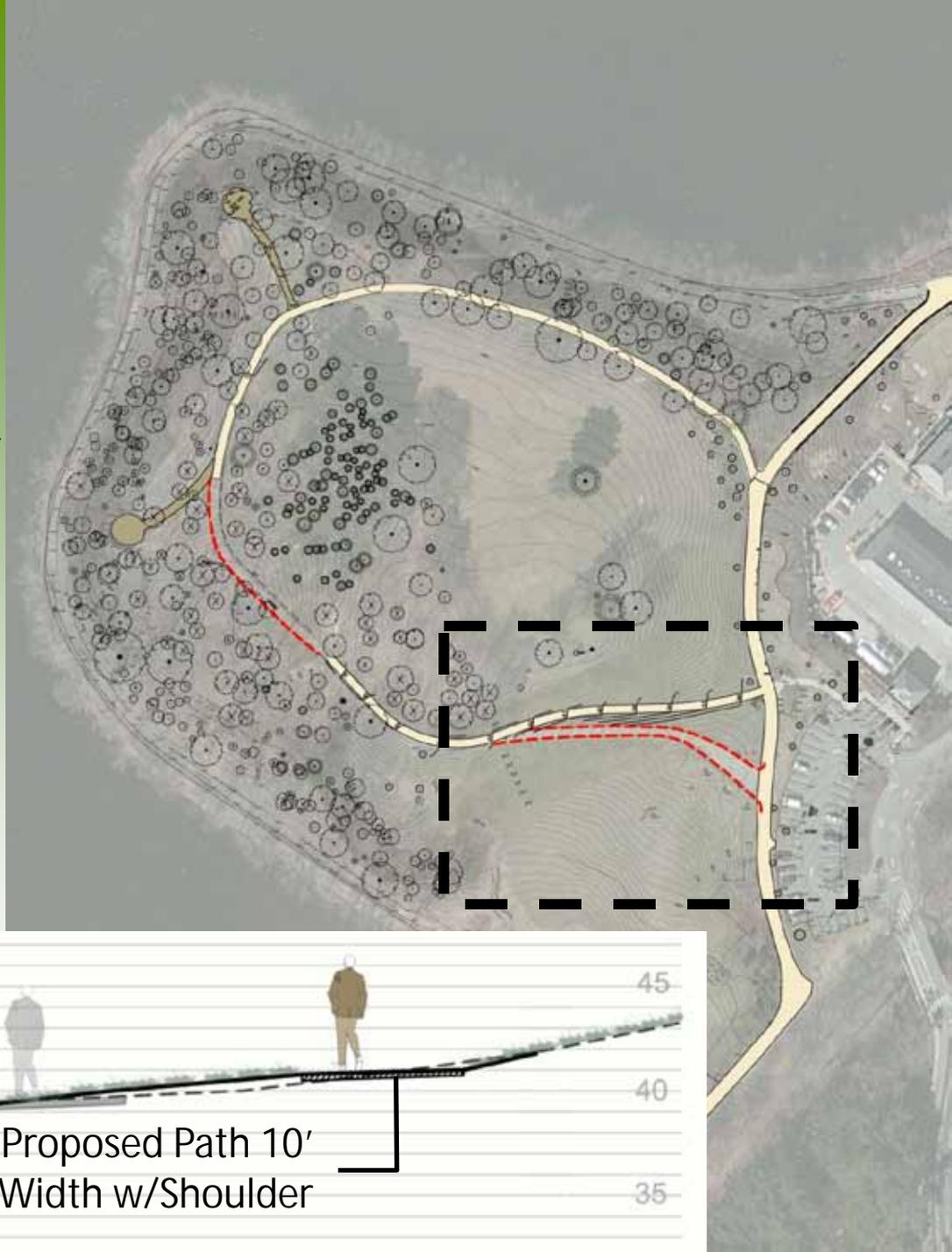
# Crest Loop Path

## Realignment at Perimeter Road Connection (South)



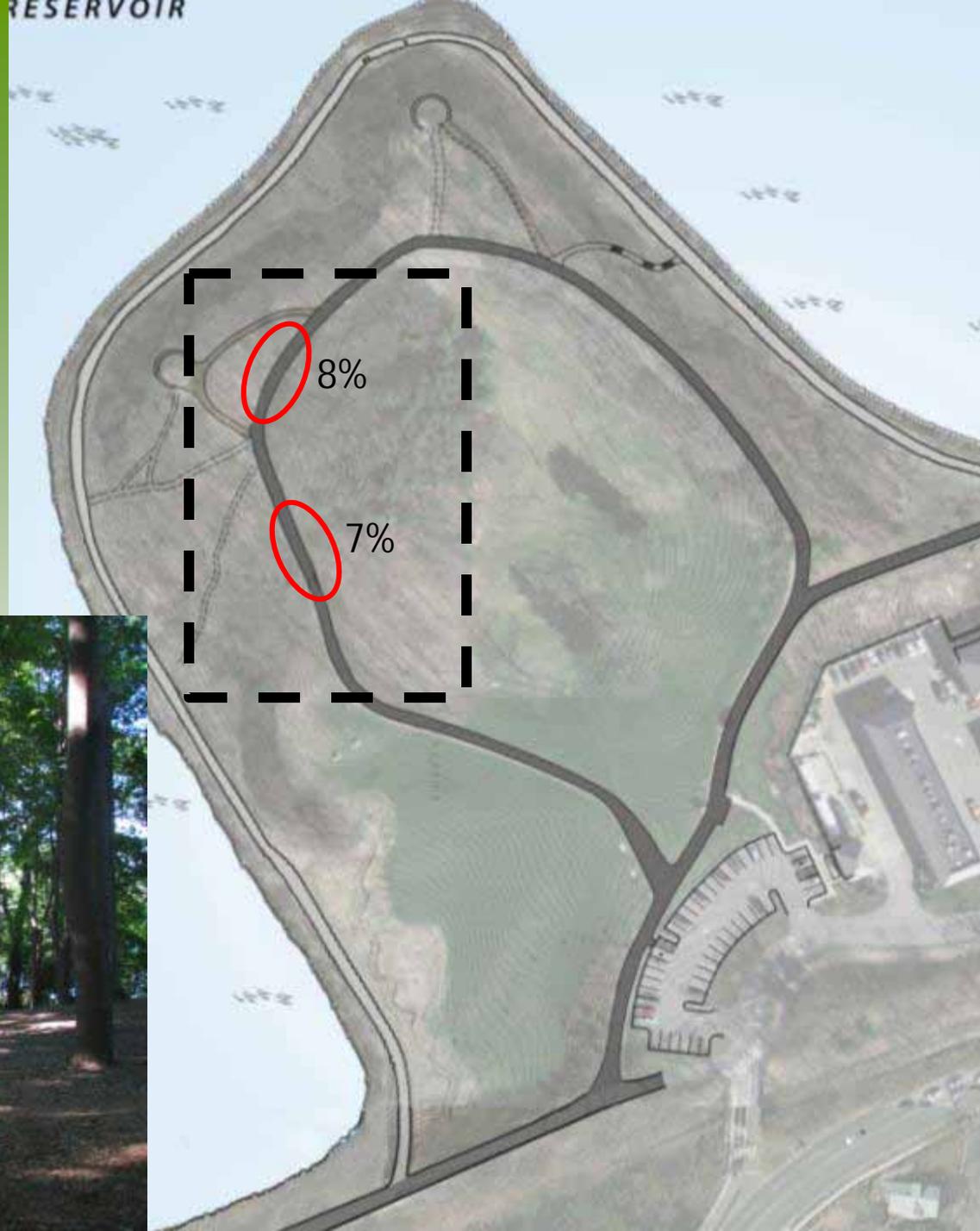
# Connection Realignment

- Aligned with Parking Lot Entry
- Increase Grass Area in Bowl
- No Impact to Sledding



# Crest Loop Path

## Realignment at Middle of Loop



# Middle of Loop Realignment

## OPTION 1:

- Bituminous Concrete
- Similar to Existing Alignment



- Existing Path
- Invasive Tree to be Removed

# Middle of Loop Path Option 1

## PROS:

- Maintain Loop Alignment
- Keep Same Material
- No Trees Removed

## CONS:

- Requires Substantial Earthwork (fill)
- Disrupts Existing Drainage Pattern



# Middle of Loop Realignment

## OPTION 2:

- Bituminous Concrete
- Concrete
- Path through Hemlocks



# Middle of Loop Path Option 2

## PROS:

- Follow Existing Contours
- Keep Same Material
- Minimal Earthwork

## CONS:

- Lose “Loop” Alignment
- Impacts Five (5) Hemlocks



# Middle of Loop Realignment

## OPTION 3:

- Boardwalk Path Section
- 200' Section
- 30" Max. Height
  - No Handrails Required



# Middle of Loop Option 3

## PROS:

- Maintain Current Alignment
- No Earthwork or Tree Disturbance Required
- Minimize Impervious Surface

## CONS:

- Change in Path Material
- Increased Cost



# Base Loop Path Improvements



# Base Loop Path Improvements

- Replace Non-Compliant Path Materials
- Realign to meet Compliant Slope Criteria
- Improve Drainage
  - Infiltration Basins and Trenches
- Lower Existing Fence Height
  - Height being considered by Water Department
- Not Maintained in Winter

# Base Loop Path: Material Replacement

- Proposed Path Detail Options:
  - 8' Wide Asphalt w/2' Soft Surface
  - 8' Wide Soft/Porous Surfacing (Flexipave)
  - 8' Wide Stabilized Aggregate
  - Boardwalk Section through Wet Areas

# Base Loop Path Material Option 1

- 8' Wide Asphalt
- 2' Wide Stabilized Aggregate Soft Shoulder



*Little Fresh Pond*

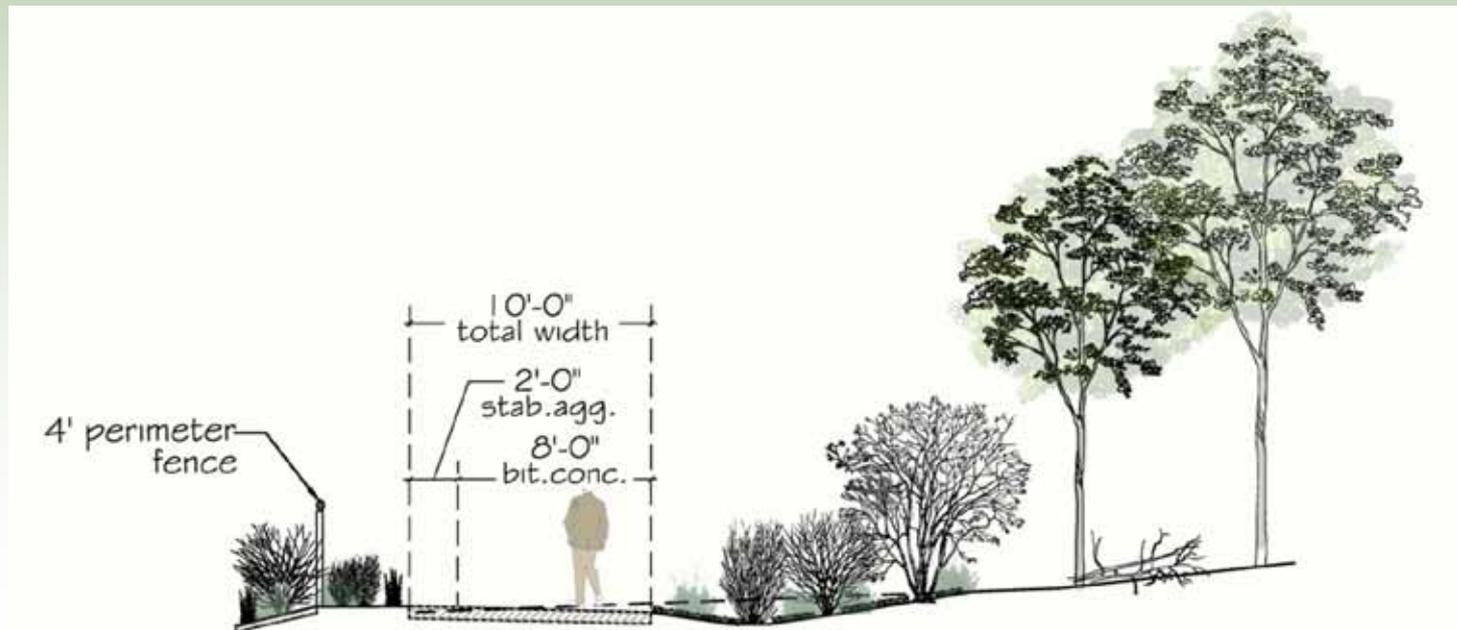
# Base Loop Path Material Option 1

## PROS:

- Combines Soft and Hard Surface
- Lower Cost and Ease of Maintenance

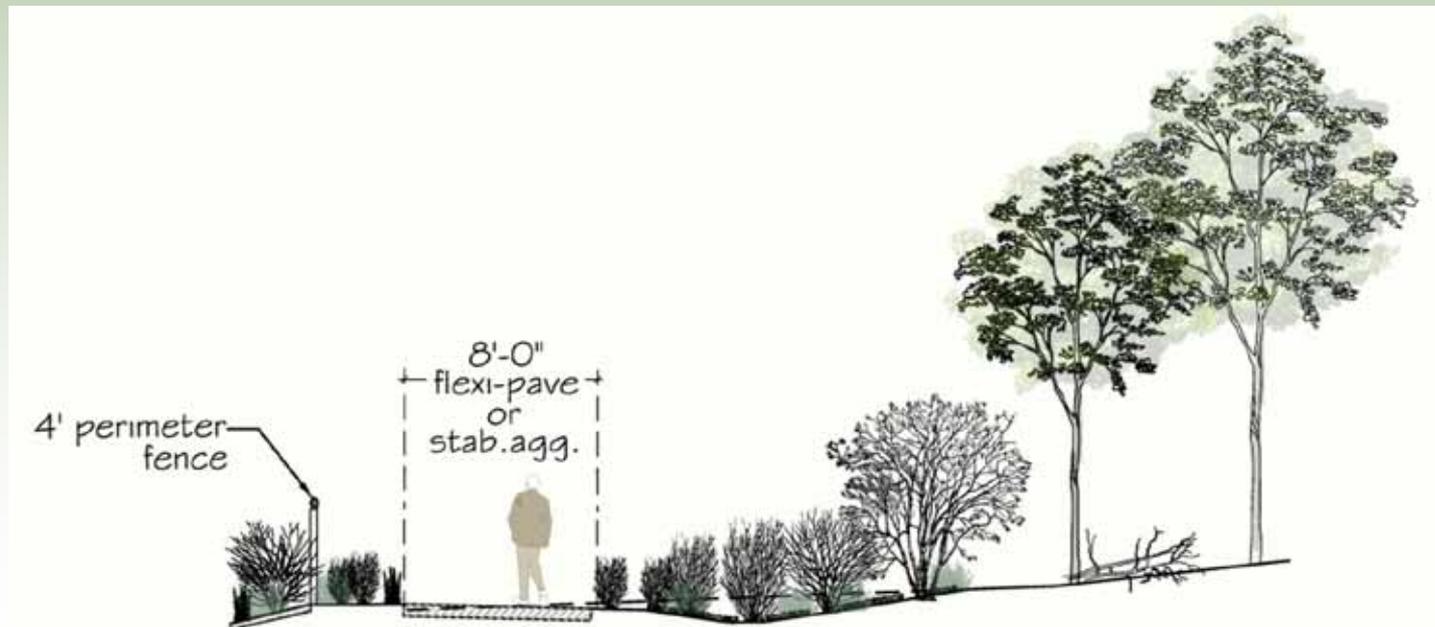
## CONS:

- Impervious
- Aesthetics



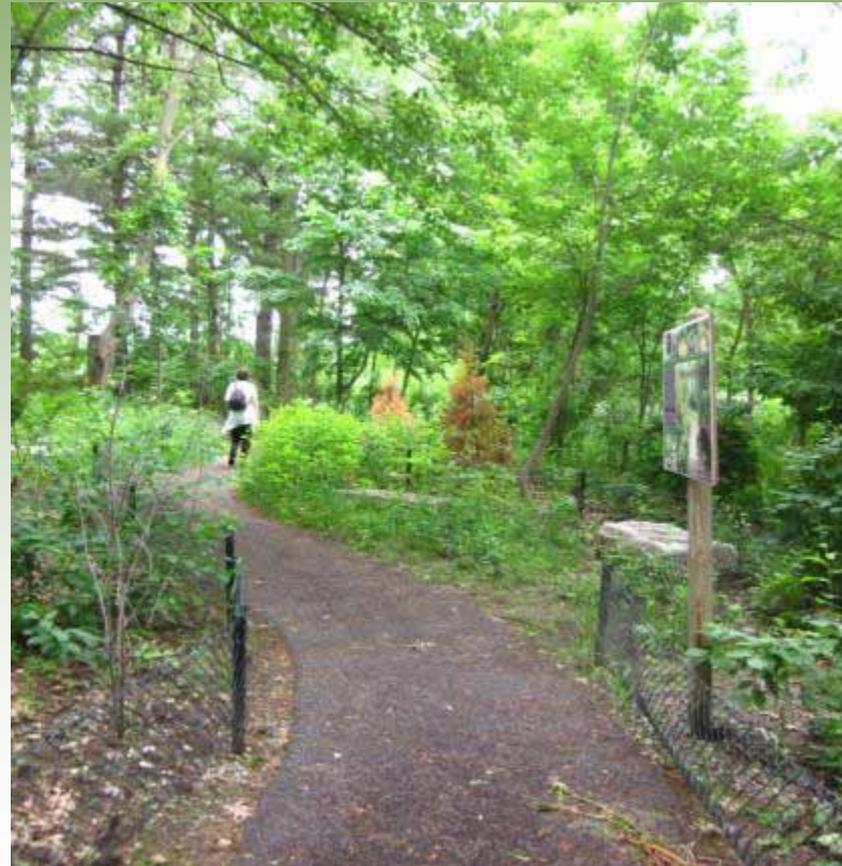
# Base Loop Path Material Options 2 and 3

- 8' Wide Flexipave (Option 2) or Stabilized Aggregate (Option 3) Surfacing
- No Shoulder Required
- Soft Surface



# Base Loop Path Material Option 2

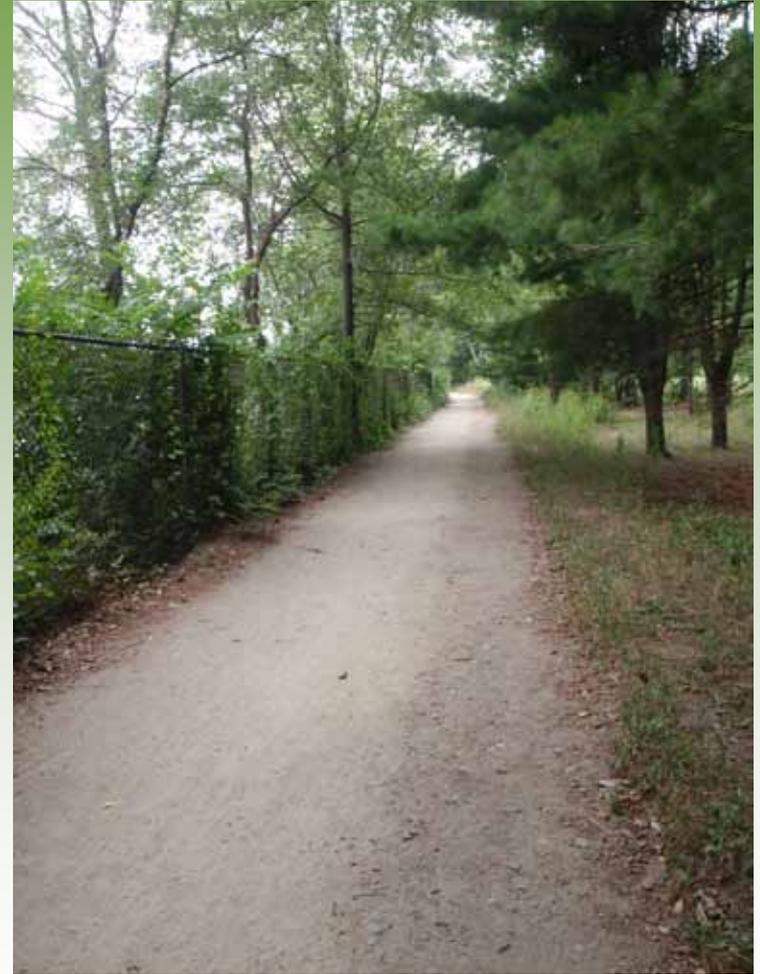
- 8' Wide Flexipave Surfacing
- Additional PROS:
  - Pervious
  - Improved Drainage
- CONS
  - Increased Cost



*Black's Nook Trail*

# Base Loop Path Material Option 3

- 8' Wide Stabilized Aggregate Surfacing
- Additional PROS:
  - Lower Initial Cost
- CONS
  - Impervious



*Perimeter Road – near  
Lusitania Meadow*

# Base Loop Path

## Realignment at Perimeter Road Connection



# Realignment Option 1

- Boardwalk through Stormwater Wetland

## PROS

- Expand Treatment Wetland/ Improve Drainage
- Opportunities for Pond Edge Enhancement

## CONS

- Interrupts Bowl
- Changed Alignment



# Realignment Option 2

- Cantilevered Boardwalk

## PROS:

- Pond Edge Enhancement
- New Pond Overlook
- Maintains Bowl and Existing Alignment

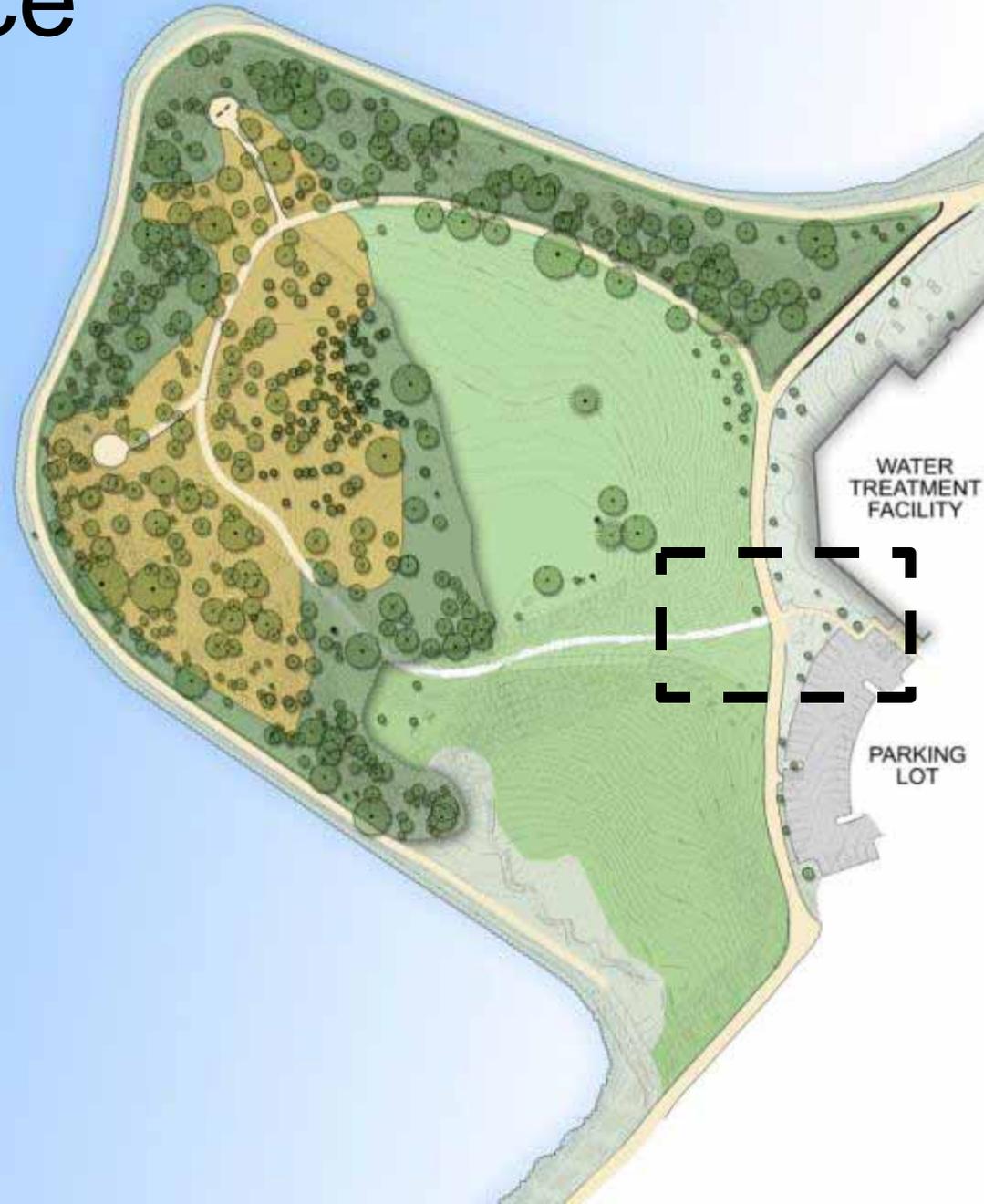
## CONS:

- Ramp System
- Cost



# Gathering Space

- Shade trees
- Benches
- Compacting  
Trash  
Receptacles
- Signage
- Two Location  
Options



# Gathering Space Option 1

- Previous Location
- Replace Benches and Kiosk
- Re-plant Shade Trees



# Gathering Space Option 2

- Adjacent to Parking Lot
- Allows Open Views
- Call Box (ex.)
- Water Fountain (ex.)
- Remove Fence
- Benches



# Public Information

- Information at Ranger Station
- Website
- Existing Wall Space on Storage Facility
- Mobile Applications





# Discovery Zone



- Undirected play
- Climbing, exploring, wildlife observation
- No formal/standard play structures
- Natural materials (fallen logs, boulders, etc.)

# Discovery Zone

- Concentrate Natural Play Elements
- Based on Existing Play Areas and Patterns
- Steep Slopes
- ADA Compliance
- Shared Use Zones



# Next Steps

- Site Walk  
September 24  
@ 5:00 pm at Kingsley Park
- Comments due:  
October 12  
fpr@cambridgema.gov
- Project Webpage:  
[www.cambridgema.gov/CWD/Kingsley.cfm](http://www.cambridgema.gov/CWD/Kingsley.cfm)



**LEGEND**

- EXISTING PATHWAY
- INFILTRATION TRENCH
- INFILTRATION BASIN
- BOARDWALK

