Windmill Hill
Bulkhead Improvements Project
Community Meeting I
February 12, 2015
Tonight’s Meeting Agenda

A. Introductions and overview
B. 2003 plan and current conditions
C. Potential shoreline treatment approaches and strategies
D. Q&A and input opportunities
Project Team

City of Alexandria

• Tony Gammon, Project Manager  
  Department of Project Implementation

• Jack Browand  
  Department of Recreation, Parks and Cultural Activities

Consultant Design Team

• Kevin Van Hise, Project Manager  
  Kimley-Horn

• Elizabeth Burkhart, Bulkhead Design  
  Collins Engineers

• Andropogon, Living Shoreline Design Support
Project Location

Windmill Hill Park Area

Potomac River
2003 Plan
Bulkhead Improvement Project Area

Windmill Hill Park

Gibbon Street

Potomac River
Why We Are Here

• Changes in Best Practices
  • Evolution of shoreline treatment design
  • More industry experience in living shorelines

• Evolving permitting environment
  • Collaboration with agencies
  • New permit thresholds every 5 years
  • Strong preference for environmentally beneficial shorelines
Project Phases

Phase I (2014/15)
- Concept Development
- Public Engagement
- 30% Design

Phase II (2015/16)
- Construction Plans, Specifications, and Estimates

Phase III (2016/17)
- Construction

We are here now
Current Project Phase: Scope of Work

- Public engagement
- Data gathering
- Concept development and refinement
- Preferred Concept Plan
- Preliminary design (30%)
Current Project Phase: Schedule

- **Data Collection**
  - Community Meeting 1 (2/12/2015)
  - Community Meeting 2
  - Community Meeting 3

- **Concept Development and Refinement**

- **Waterfront Commission**
  - (date to be determined)

- **City Council**
  - (date to be determined)

- **Preferred Alternative**
Current Project Phase: Public Engagement

Meeting 1
• Project overview

Meeting 2
• 3 preliminary concepts

Meeting 3
• Preferred concept and refinement

Meeting 4
• Preferred approach
Audience Participation Opportunity During Presentation: Instructions

• Throughout the presentation we will ask for your input. You will use the keypad devices to record your answers
  • Please use the same device throughout
  • We’re here to help, and happy to pause and lend a hand

• If you prefer, we also have a paper questionnaire

• Following the presentation and Q&A, preference exercise on the boards
Where do you live? (select one)

A. In Alexandria
B. Outside of Alexandria
How long have you lived at your current residence? (select one)

A. Less than a year
B. 1 to 2 years
C. 2 to 5 years
D. 5 to 10 years
E. 10 years or more
How close do you live to Windmill Hill Park? (select one)

A. Adjacent to one of the edges of the park
B. A block or 2 away
C. Several (around 3 to 5) blocks away
D. In another location in the City of Alexandria
E. Outside of the City of Alexandria

0% 0% 0% 0% 0%
How familiar are you with the 2003 Windmill Hill Park plan? (select one)

A. Very familiar (know the plan, know the details)
B. Somewhat familiar (know the basics, but not all the details)
C. Not familiar with, or do not know of
2003 PLAN
Approved 2003 Plan

City Council Approved Concept Plan (2003)

- Recommended combination approach
- Accommodation for canoes/kayaks and dogs
- Included overlook accommodation
If you are familiar with the 2003 park plan, what did you most **LIKE** about it? (select all that apply)

A. Bulkhead replacement elements
B. Living shoreline elements
C. Water access for kayaks/canoes
D. Shoreline overlook
E. Do not know the 2003 plan
If you are familiar with the 2003 park plan, what did you most DISLIKE about it? 
(select all that apply)

A. Bulkhead replacement elements
B. Living shoreline elements
C. Water access for kayaks/canoes
D. Shoreline overlook
E. Do not know the 2003 plan
CURRENT CONDITIONS
Overlook
North Bulkhead
Existing Storm Outfall
Existing Storm Outfall
On average, how often do you visit the park near the water’s edge? (select one)

A. Daily or nearly daily
B. Weekly
C. Every week or so
D. Monthly
E. Less frequently than monthly
F. Not at all
Why do you currently come to the portion of the park near the water’s edge?
(select all that apply)

A. Walk or sit at the water’s edge
B. Walk/play with a pet (dog, other)
C. Launch a boat (canoe, kayak, or similar)
D. Fish
E. Other
F. Do not visit the park
OVERVIEW OF POTENTIAL DESIGN OPTIONS
Bulkhead Replacement Options

1. Structural Bulkhead-Vertical/Stepped
2. Rip-Rap Protected/Armored
3. Living Shoreline
4. Bulkhead-Living Shoreline Hybrid
Structural Bulkhead: Design Options

Vertical
- Timber
- Concrete
- Steel

Stepped
- Timber
- Concrete
- Steel
Structural Bulkhead: Cross Section
Rip-Rap/Armored Shoreline: Design Options
Rip-Rap/Armored Bulkhead: Cross Section
**Living Shoreline: Design Options**

- **Standard living shoreline treatments (developed area)**
- **Terraced system to enhance stormwater treatment effectiveness**
- **Standard living shoreline treatments (undeveloped area)**
- **Wetland fringe – Natural living shoreline**
Living Shoreline: Cross Section

Living shoreline in high tide/high water condition

Living shoreline in low tide/low water condition
Bulkhead-Living Shoreline Hybrid: Design Options

• Incorporates features from living shoreline and bulkhead options
• Can use timber or steel piles

Hybrid shoreline in high tide/high water condition

Hybrid shoreline in low tide/low water condition
Bulkhead-Living Shoreline Hybrid: Cross Section
## Shoreline Treatment Comparison

<table>
<thead>
<tr>
<th>Shoreline Type</th>
<th>Protects Shoreline</th>
<th>Enhances Natural Environment</th>
<th>Lowest Requirement for Debris Management</th>
<th>Ease of Permitting</th>
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</thead>
<tbody>
<tr>
<td>Bulkhead</td>
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<td>○</td>
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<tr>
<td>Rip-Rap Armored Shoreline</td>
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<td>Living Shoreline</td>
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<td>Bulkhead - Living Shoreline Hybrid</td>
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</tbody>
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### Legend
- ○ Good
- ○ Better
- ● Best
- $ Most Cost
- $ Least Cost
- $ Least Cost

### Ongoing Infrastructure Maintenance Requirement
- $ Most Cost
- $ Least Cost
What type of shoreline improvement treatment interests you most?

(select one)

A. A simple replacement of the existing bulkhead, nothing more

B. A more natural—living—edge instead of a bulkhead

C. Something in between, or a combination of a living edge and a bulkhead replacement

0% 0% 0%
What do you most value? (select all that apply):

A. Recreational water access
B. Shoreline protection
C. Improved water quality
D. Improved and/or created new wildlife habitats
E. Low project cost
F. Low maintenance requirement
Conceptual Shoreline Improvement Strategy

- Will combine several treatments to balance:
  - Cost (installation and maintenance)
  - Permitting timeline/burden
  - Environmental effects
  - Community/City goals
What’s Next

- Community meeting focused on review of three options
- Refinement of preferred approach
- Approved plan
Q&A AND ADDITIONAL INPUT OPPORTUNITIES
Summary of Opportunities for Input

Today:

• Question and answer session
• Preference (dot) exercise using boards in this room

As the project moves forward:

• Contact Tony Gammon, City of Alexandria
• Upcoming community meetings
Dots Exercise

• Place green dots on the treatment approaches you prefer, and red dots on those that you do not prefer.

• You may place as many of your given dots on a picture as you like to indicate strength of preference.

• Please do not cover the dots of others.
Questions? Contact Us

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  Project Manager
  City of Alexandria
  Department of Project Implementation

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