Brookline Reservoir Park
Welcome Everyone!

- Introduction
- Summary of Prior Meetings
- Preliminary Design Alternatives
- Preliminary Project Costs
- Public Discussion
- Summary and Conclusion
Project Goals and Priorities

• Safety and accessibility;
• Community gathering;
• Opportunities for people of all ages and abilities; and
• Beautiful, natural, historic open space.
Baseline Improvements

- Universal access
- Masonry repair
- Turf and planting renovation
- Solutions for MA Office of Dam Safety

Renovation/repair of walking paths
Drainage and utility improvements
Removal of invasives

NOVEMBER 21, 2017
BROOKLINE RESERVOIR PARK
Design Review Process

• Establishment of Design Review Committee
• Open discussion in public meetings
• Final presentation to and vote by Park and Recreation Commission
• Construction bid package by Town staff
• Total budget $2.2 million, including gate house and masonry repair
Meeting 1: Gathering Input from the Community
June 19

Meeting 2: Discussion of Alternatives
September 26

Site Walk: October 18

Meeting 4: Preferred Design with Budget
January

Meeting 3: Development of Design with Associated Costs
November 21

Meeting 5: Park and Recreation Commission
February

Review Process

Develop Construction Documents

SPR 17

SUM 17

FALL 17

WIN 17

SPRING 18

Evaluate Input and Determine Priorities to Develop Design Alternatives

Meeting 3: Development of Design with Associated Costs

Bidding & Contract Awarded

Project Timeline

Brookline Reservoir Park

November 21, 2017
State Requirements for Dam Safety Compliance

ODS Policy on Trees on Dams

- Dam embankments must be maintained free of trees and brush
- No trees and brush within 20 feet of dam or appurtenant structures
- Healthy uniform cover of grass is recommended
- Permit required if vegetation to be removed is greater than 4 inches in diameter

2014 Inspection
- DAM IS GENERALLY WELL MAINTAINED
- OBSERVED DEFICIENCIES

Regulated by Massachusetts Office of Dam Safety (ODS)

“Intermediate” Sized Structures
“High” Hazard Classifications
SUMMARY OF PRIOR MEETINGS

NOVEMBER 21, 2017

BROOKLINE RESERVOIR PARK
Prior Meetings

• DRC Meeting 1 – June 19th
• DRC Meeting 2 – September 26th
• Site Walk – October 28th
Comments Heard

• Concern about loss of vegetation
• Appreciation of history
• Understanding of accessibility requirements & goals
• Importance of maintaining the park’s character
• Drainage issues
• Desire for additional amenities—bicycle storage, another drinking fountain, distance markers
• Deterioration of infrastructure
• Careful consideration of site furniture
• Address ‘uncomfortable’ presence of Route 9
PRELIMINARY DESIGN ALTERNATIVES

NOVEMBER 21, 2017

BROOKLINE RESERVOIR PARK
Masonry Evaluation & Potential Repair

Repair needed at basin armature
Repair needed at Dudley Street wall
Retaining walls need repointing

Estimated Cost for Masonry:
$551,000
Gate House Improvements

Estimated Cost for Gatehouse: $250,000
Stonedust Path

Existing condition 8’-16’ wide stone dust, no edge
PROPOSED: 10’ wide

Proposed Distance marker

NOVEMBER 21, 2017
Stonedust Path at Gatehouse

PROPOSED ALTERNATIVE A:
10’ wide path, bypass gatehouse with overlap of rip rap bank
PROPOSED ALTERNATIVE B: 10’ wide path, ‘bump into’ gatehouse and pass via overlook
Site Furniture

- Proposed “Big Belly” trash/recycling
- Proposed new bike racks & signage
- Proposed drinking fountains
- Proposed additional seating
- Reinstall mile-marker
Site Furniture

Existing site furniture

Potential site furniture
Possible Site Furniture Arrangements

Family of furniture—
Single seats, side tables

Radial bench for under trees

Single seats w/table

Conversational benches
Lee Street / Dudley Way Entrance

Existing Conditions

Estimated Cost for Lee/Dudley Way Entrance: $46,000

Proposed Alternative

Dudley Way Entrance

**Existing Conditions**

**Estimated Cost for Minimal Dudley Way Entrance:**
- Full Build: $30,000

**Proposed Alternative**

- Existing Rip Rap
- Loam and Seed Lawn Shoulder
- 10' Stonedust Path
- Proposed Glider

- 5' Bituminous Walkway
- Park Sign
- Big Belly Trash Receptacle

NOVEMBER 21, 2017

BROOKLINE RESERVOIR PARK
Entrance at End of Dudley Street

Existing Conditions

Estimated Cost for Minimal Improvements at End of Dudley Street: $ 7,600
New Entrance: 37,900

Proposed Alternative

Brookline Reservoir Park

November 21, 2017
Walnut Street Entrance

Existing Conditions

Proposed Alternative

Estimated Cost for Minimal Improvements at Walnut Street Entrance: $1,500
Full Build: $40,700

NOVEMBER 21, 2017
BROOKLINE RESERVOIR PARK
Warren Street Entrance

Existing Conditions

Estimated Cost for Minimal Improvements at Warren Street Entrance:
$136,000

Full Build: $365,000

Proposed Alternative

BROOKLINE RESERVOIR PARK

NOVEMBER 21, 2017
Warren Street Entrance

Existing Conditions

Estimated Cost for Minimal Improvements at Warren Street Entrance:

- $136,000
- Full Build: $365,000

Proposed Alternative
Lee Street / Rte. 9 Entrance

Proposed Alternative

Existing Conditions

Estimated Cost for Full Build at Lee Street / Rte. 9 Entrance: $96,000

NOVEMBER 21, 2017
Universal Access / Park Entrances

Add Entrance?

Accessible Entrance

Improved Entrance

Accessible Entrance

Improved Entrance

Improved Entrance

Improved Entrance

Improved Area
Planting Goals

- Address ODS requirements
- Augment Cherry trees
- Remove failing trees
- Plant new trees for ‘arboretum’ character
- Remove invasives and plant new understory plants
- Revitalize troubled turf areas
- Add stands of ornamental grasses
**Understanding ODS Implications**

**ODS Policy:**
- Remove all under-brush and trees, establish uniform cover of grass

**Existing Conditions**

**ODS Policy**
Understanding ODS Implications

PROPOSED Refined APPROACH:

• MUST - Remove all under-brush & trees under 6” cal.
• MUST - Remove trees adjacent to Gatehouse & trees in poor health
• Maintain trees – back of embankment, above water level & 6”+ caliper and healthy
• Maintain trees – along top of bank (i.e. Cherry trees)
Existing Vegetation

- Shade trees over lawn
- Wooded areas: trees with understory
- Signature Cherry trees
Diagram of Tree Removals

- Proposed Refined Approach for ODS
  - Understory removal
  - Tree removal
- Remove failing trees
- Remove invasives from wooded areas
Conditions Before New Planting

- Trees removed
- Understory removed from Dam
- Invasives removed
Proposed New Planting
Proposed Planting Palette

**TREES**

- **Red Maple**
  Acer rubrum
- **Ruby Horsechestnut**
  Aesculus carnea
- **Paper Birch**
  Betula papyrifera
- **Katsura Tree**
  Cercidiphyllum japonicum
- **Redbud**
  Cercis canadensis
- **Fringetree**
  Chionanthus virginicus
- **Yellowwood**
  Cladrastis kentukea
- **Kentucky Coffeetree**
  Gymnocladus dioicus
- **Turkish Filbert**
  Corylus colurna
Proposed Planting Palette

**TREES**

- **Kwanzan Cherry**  
  Prunus serrulata

- **Tuliptree**  
  Liriodendron tulipifera

- **Sweetgum**  
  Liquidambar styraciflua

- **Sourwood**  
  Oxydendrum arboreum

- **Carolina Silverbell**  
  Halesia carolina

- **Scarlet Oak**  
  Quercus coccinea

- **Pin Oak**  
  Quercus palustris

- **Red Oak**  
  Quercus rubra

- **Umbrella Pine**  
  Sciadopitys verticillata

**NOVEMBER 21, 2017**

**BROOKLINE RESERVOIR PARK**
Proposed Planting Palette

SHRUBS AND UNDERSTORY

Bottlebrush Buckeye
Aesculus parvifolia

Red Chokeberry
Aronia arbutifolia

Cornelian Cherry
Cornus mas

Gray Dogwood
Cornus racemosa

Redtwig Dogwood
Cornus stolonifera

Witchhazel
Hamamelis x intermedia

Inkberry
Ilex glabra

American Holly
Ilex opaca

NOVEMBER 21, 2017

BROOKLINE RESERVOIR PARK
Proposed Planting Palette

**SHRUBS AND UNDERSTORY**

- Winterberry  
  *Ilex verticillata*
- Mountainlaurel  
  *Kalmia latifolia*
- Spicebush  
  *Lindera benzoin*
- Bayberry  
  *Myrica pensylvanica*
- Low Grow Sumac  
  *Rhus aromatica ‘Low Grow’*
- Mayflower Viburnum  
  *Viburnum carlesii*
- Am. Cranberrybush  
  *Viburnum opulus*
Proposed Planting Palette

GRASSES

Bluestem Grass

Redtop Grass

No Mow Grass
Edge Treatment Along Lee & Dudley

- Repair guardrail
- Wood rail repair/replacement
- Existing edge at Walnut

Steer rail repairs
Post & rail repair/replacement
Options for Ornamental Fence: Dudley Street/Way

**Century Metropolitan**

- $130 per linear foot

**GRANITE POST AND WOOD RAIL**

- $240 per linear foot
Edge Treatment along Rte. 9

Existing edge at Route 9

Extent of Ornamental Fence at Top of Slope:

Option 1
605 lf

Option 2
1125 lf
Options for Ornamental Fence: Along Rte. 9

Granite/Steel Posts with Steel Pickets

- $246 per linear foot

Steel Posts and Pickets

- $225 per linear foot
Options for Ornamental Fence: Along Rte. 9

STEEL POSTS, PIPE RAIL WITH MESH INFILL

Century Metropolitan

$215 per linear foot

LASER CUT PANELS BETWEEN FENCE POSTS

$400 per linear foot
## Preliminary Estimate Review

**Construction Budget in the CIP:** $2,200,000.00

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Gatehouse</td>
<td>$250,000</td>
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<tr>
<td>Masonry</td>
<td>$551,000</td>
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<tr>
<td>SP&amp;D, Earthwork &amp; Utilities</td>
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<tr>
<td>Stonedust Path</td>
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<tr>
<td>Hardscape</td>
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<td>Ornamental Fences</td>
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<tr>
<td>Site Furnishings</td>
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<td>Lawns and Tree Planting</td>
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<td><strong>Total</strong></td>
<td><strong>$2,622,000</strong></td>
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*20% Contingency*

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<td><strong>Total</strong></td>
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## Preliminary Estimate Review

**Construction Budget in the CIP:** $2,200,000.00

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<td>Gatehouse</td>
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<td>SP&amp;D, Earthwork &amp; Utilities</td>
<td>$367,000</td>
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<td>Stonedust Path*</td>
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<td>Hardscape</td>
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<td>Ornamental Fence Along Route 9</td>
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<tr>
<td>Site Furniture</td>
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<tr>
<td>Tree Planting and Seeded Areas</td>
<td>$192,000</td>
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**Total:** $1,914,000

20% Contingency: $383,000

**Total:** $2,297,000

*Does not include extra overhang at Gatehouse*

**Additional Items:**

- Warren Street Entrance – Full Build: ADD $275,000
- Invasives Removal and Replant Understory: ADD $136,500
- Ornamental Rail at Dudley Street/Way: ADD $175,400
- Dudley Way Entrance – Make Accessible: ADD $22,900
- Lee/Route 9 Entrance: ADD $114,600
- Walnut Street Entrance – Update: ADD $50,700
- End of Dudley – Add Entrance: ADD $36,300
- Site Furniture: ADD $63,800
PUBLIC DISCUSSION

NOVEMBER 21, 2017

BROOKLINE RESERVOIR PARK
NOVEMBER 21, 2017

BROOKLINE RESERVOIR PARK

路线9 - Boylston Street

Dudley Way

Lee Street

Dudley Street

Warren Street

Walnut Street
Contact Information

Your input is valuable - Please contact us with your ideas!

Parks and Open Space Division
Town of Brookline
Annie Blair, Landscape Architect
333 Washington Street
Brookline, MA 02445

Telephone: 617-730-2616
Email: ablair@brooklinema.gov
Stonedust Path at Gatehouse

PROPOSED ALTERNATIVE A: 10’ wide path, bypass gatehouse with overlap of rip rap bank

PROPOSED ALTERNATIVE B: 10’ wide path, ‘bump into’ gatehouse and pass via overlook