

# Brookline Reservoir Park



NOVEMBER 21, 2017

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

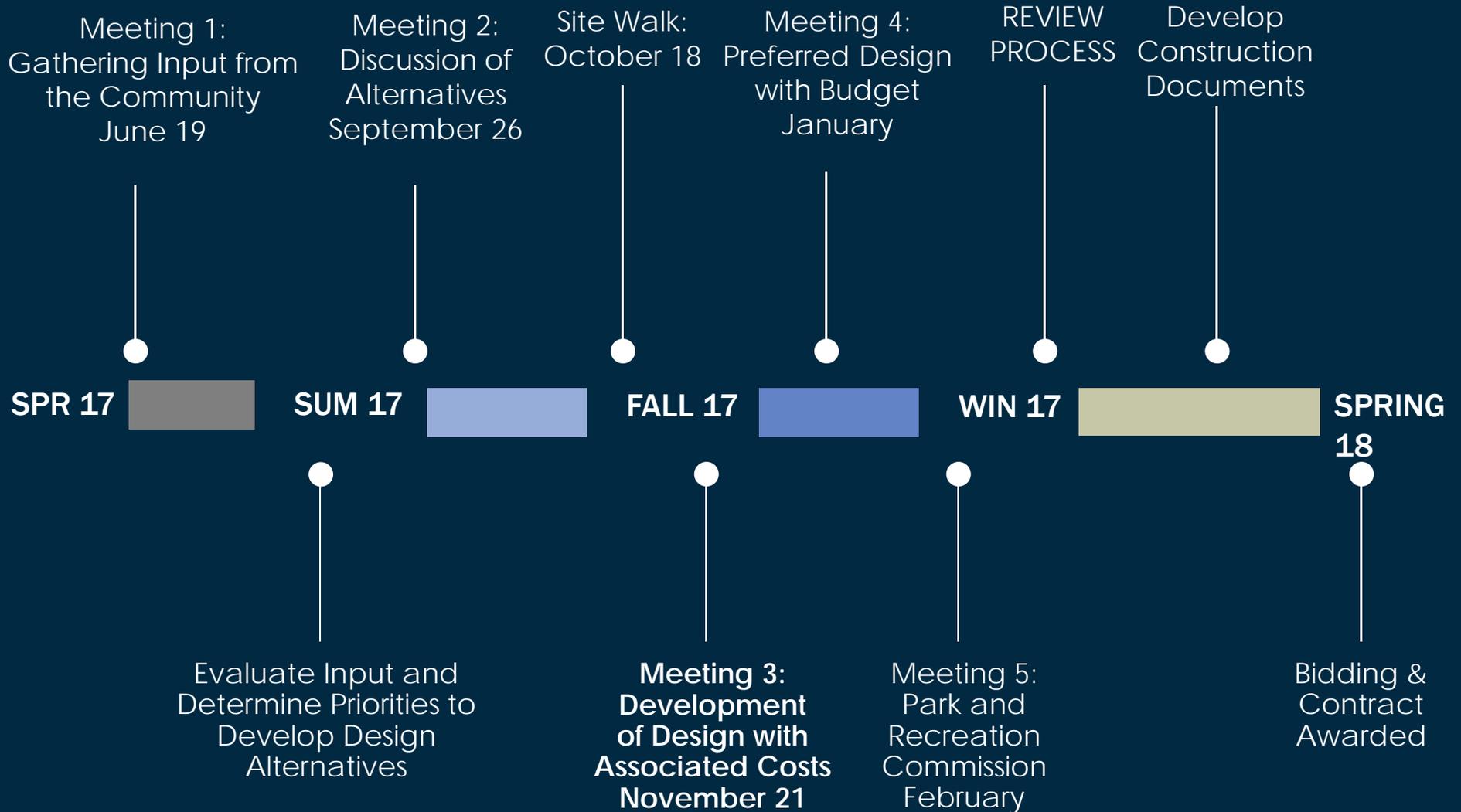


# Design Review Process



- 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

# Project Timeline



# State Requirements for Dam Safety Compliance



REGULATED BY MASSDCR OFFICE  
OF DAM SAFETY (ODS)  
"INTERMEDIATE" SIZED STRUCTURE  
"HIGH" HAZARD CLASSIFICATIONS

## 2014 INSPECTION

- ◆ DAM IS GENERALLY WELL MAINTAINED
- ◆ OBSERVED DEFICIENCIES

## 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



# SUMMARY OF PRIOR MEETINGS

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# 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

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# Masonry Evaluation & Potential Repair



- ■ ■ ■ Stone at reservoir armature
- Stone at retaining wall
- Stone veneer at bank



Repair needed at basin armature



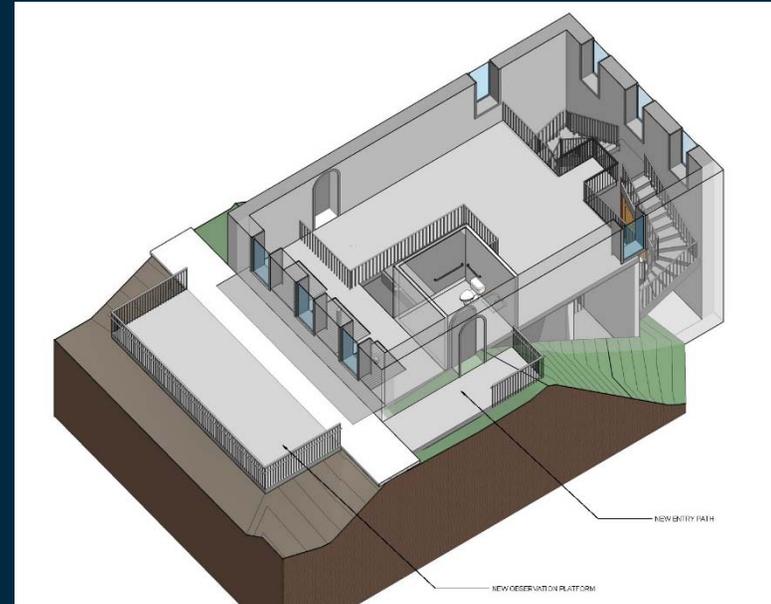
Repair needed at Dudley Street wall



Retaining walls need repointing

Estimated Cost for  
Masonry:  
\$551,000

# Gate House Improvements



Estimated Cost for  
Gatehouse:  
\$250,000

# Stonedust Path

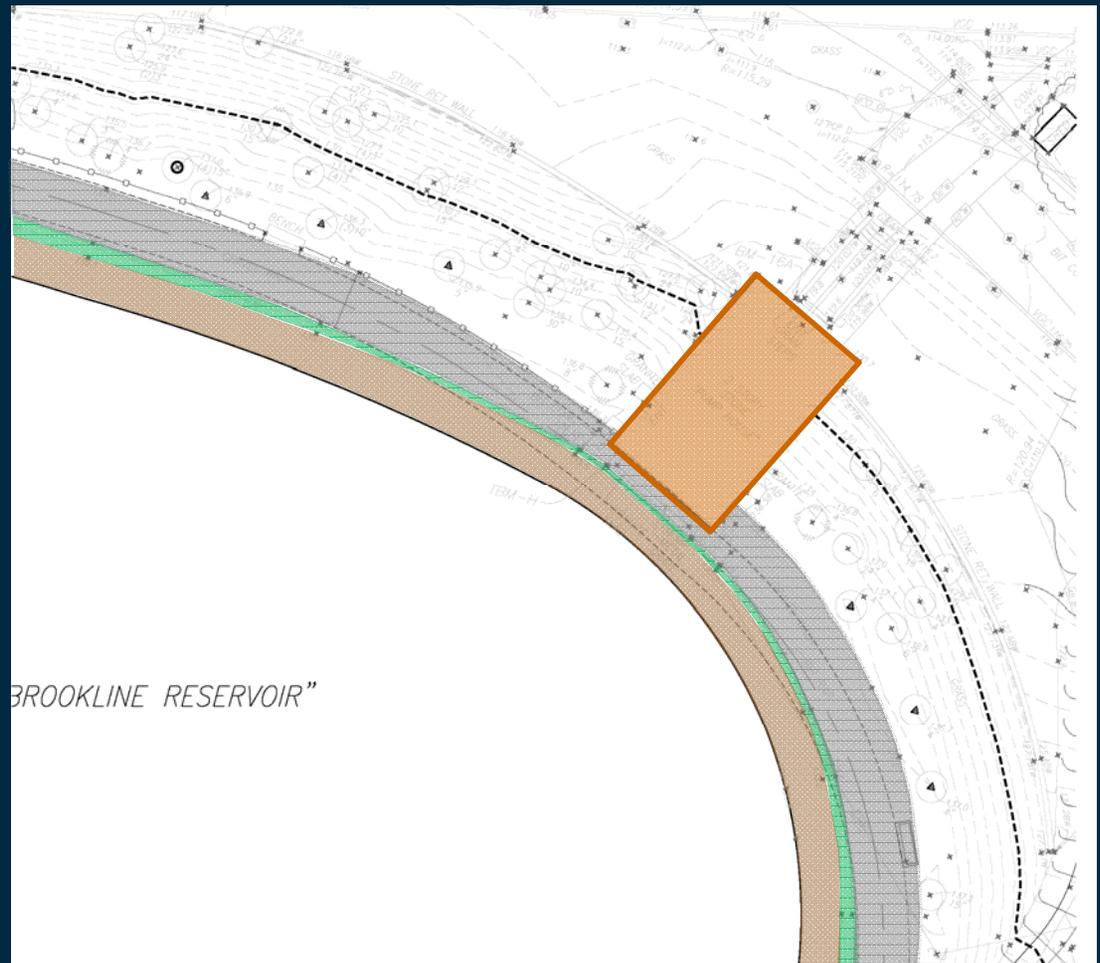
## Existing Stonedust Path at Gatehouse



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

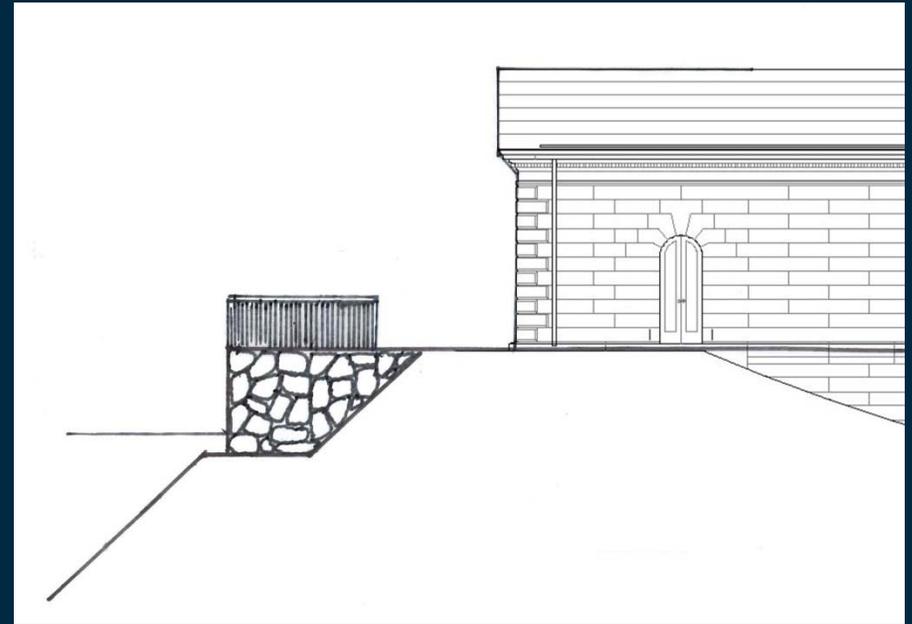


Proposed Distance marker



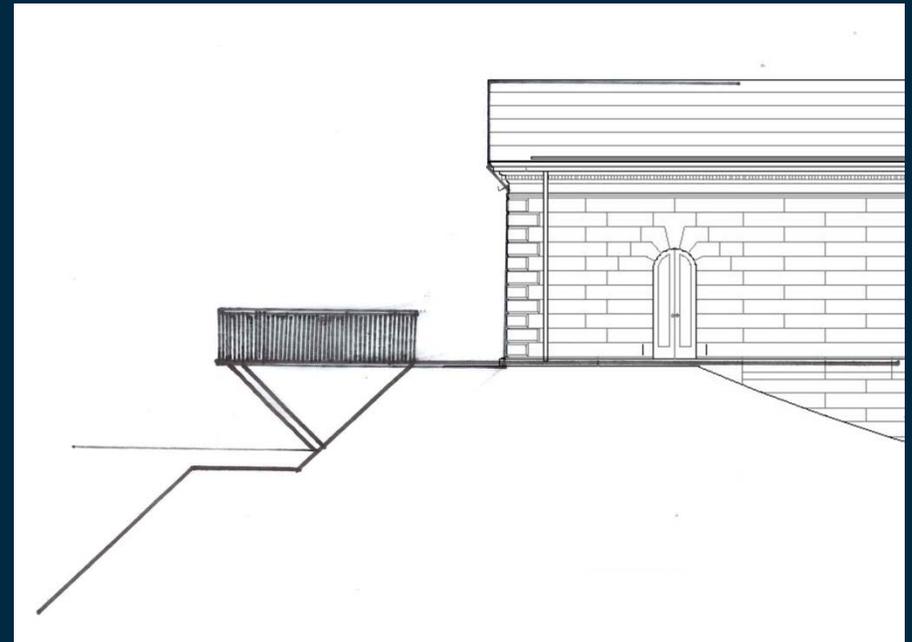
# Stonedust Path at Gatehouse

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



# Stonedust Path at Gatehouse

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



# Site Furniture

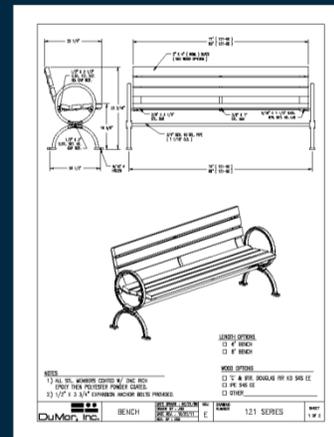


- Proposed "Big Belly" trash/recycling
- ★ Proposed new bike racks & signage
- Proposed drinking fountains
- Proposed additional seating
- ▲ Reinstall mile-marker

# Site Furniture

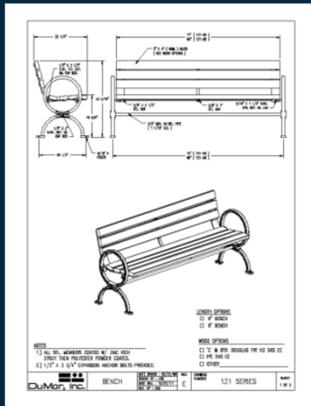


Existing site furniture

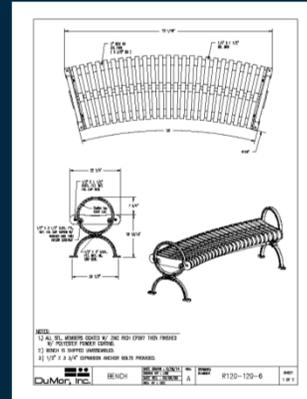


Potential site furniture

# 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



Proposed Alternative



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



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# Dudley Way Entrance

## Existing Conditions



Estimated Cost for Minimal  
Dudley Way Entrance:  
\$ 11,000  
Full Build: \$30,000



## Proposed Alternative



# Dudley Street Entrance - 2

## Existing Conditions



## Proposed Alternative



Estimated Cost for  
Dudley Street  
Entrance: \$ 37,000



# 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

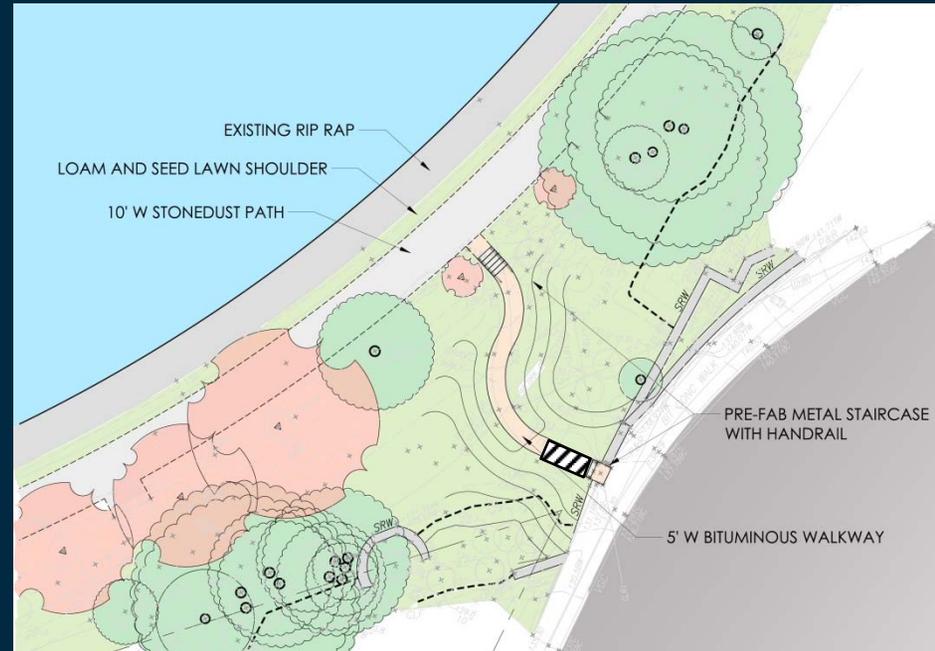


# Walnut Street Entrance

## Existing Conditions



## Proposed Alternative



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



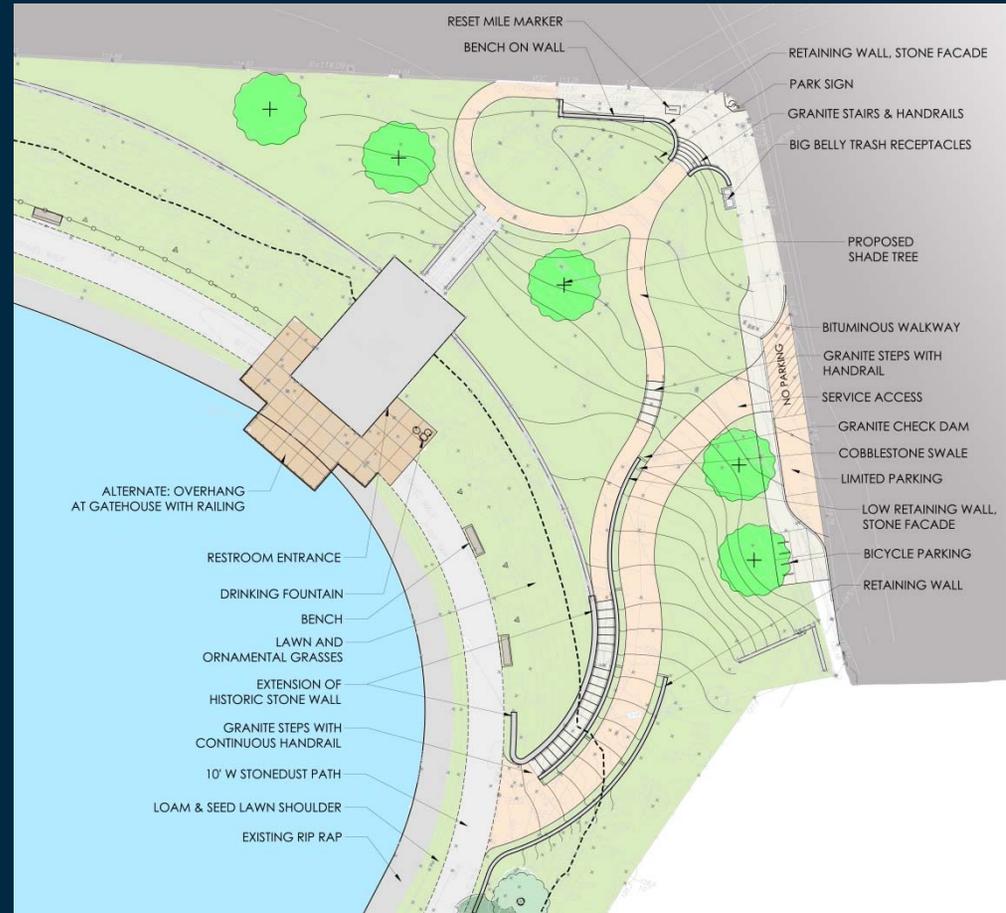
# Warren Street Entrance

## Existing Conditions



Estimated Cost for Minimal Improvements at Warren Street Entrance:  
**\$136,000**  
Full Build: **\$365,000**

## Proposed Alternative



# Warren Street Entrance

## Existing Conditions



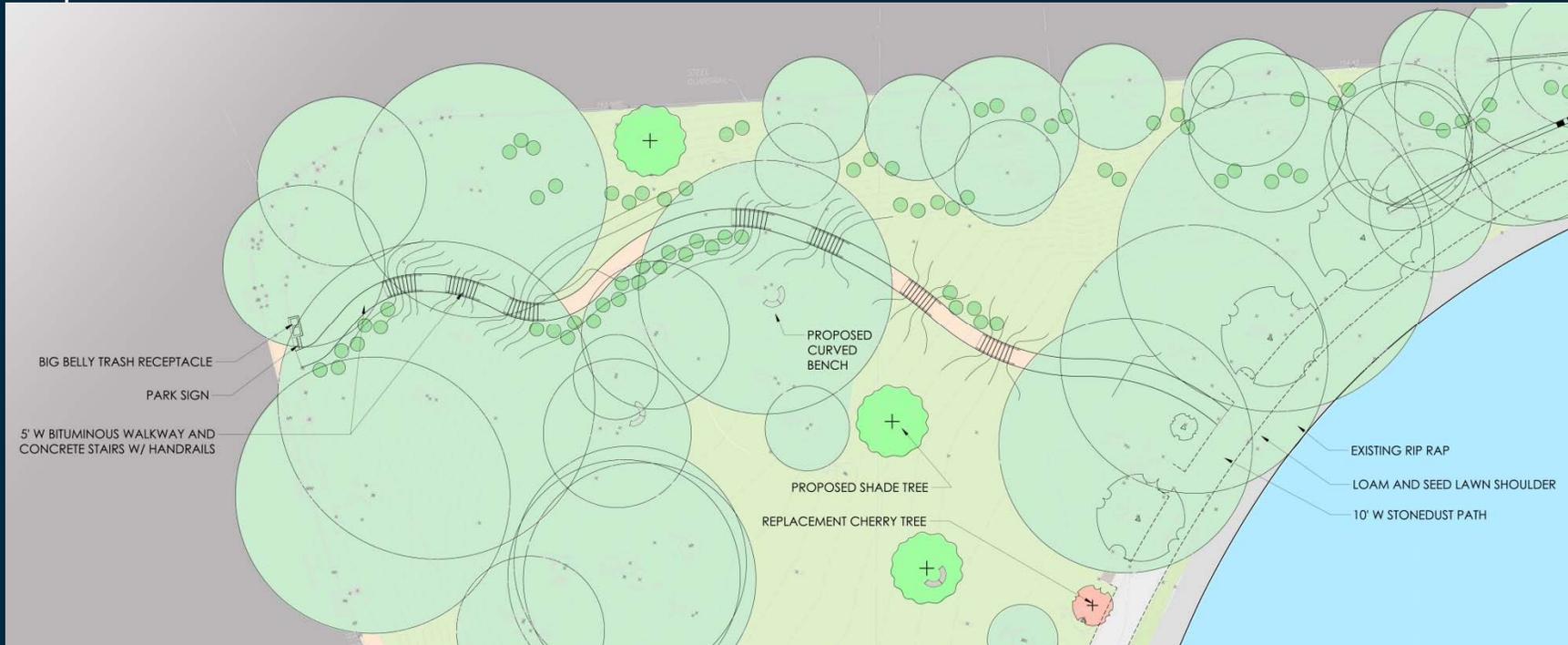
Estimated Cost for Minimal Improvements at Warren Street Entrance:  
**\$136,000**  
Full Build: **\$365,000**

## Proposed Alternative



# Lee Street / Rte. 9 Entrance

## Proposed Alternative



## Existing Conditions



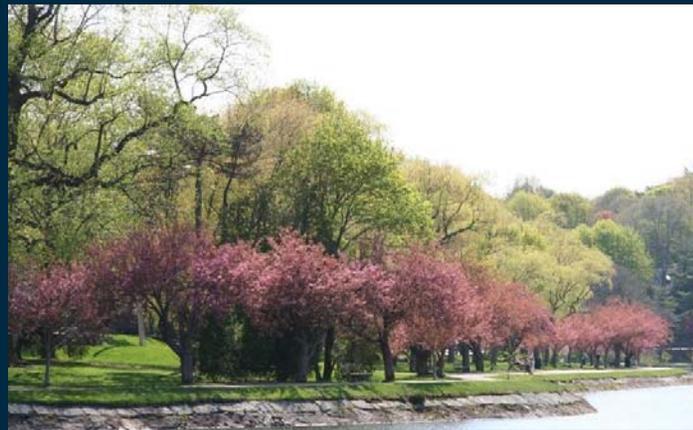
Estimated Cost for  
Full Build at Lee  
Street / Rte. 9  
Entrance: \$ 96,000



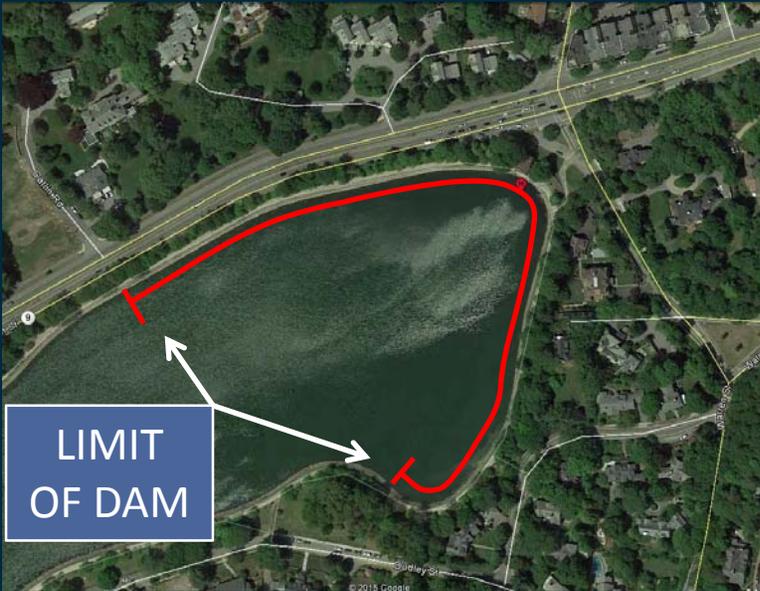


# Planting Goals

- 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

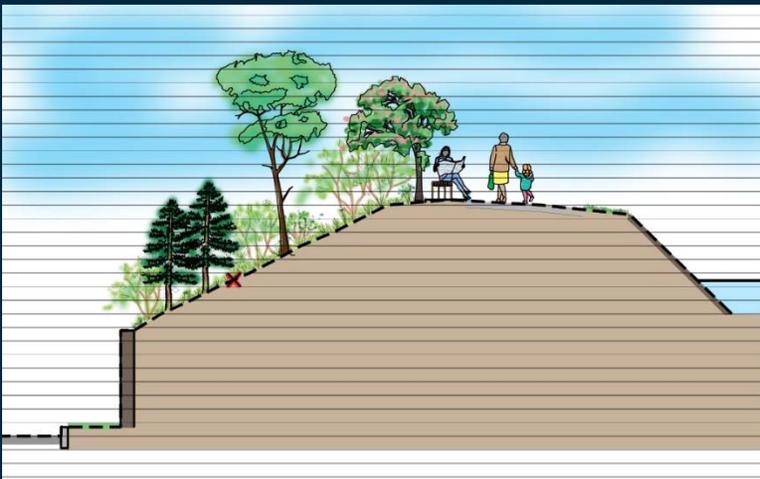


# Understanding ODS Implications

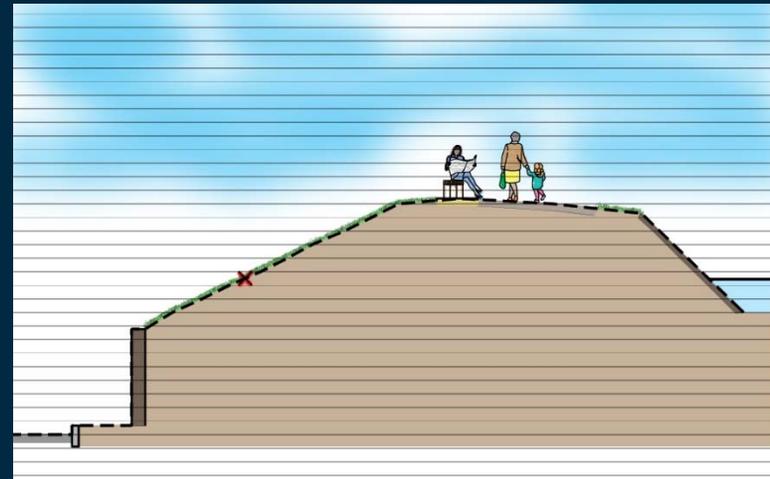


## ODS POLICY:

- Remove all under-brush and trees, establish uniform cover of grass



Existing Conditions



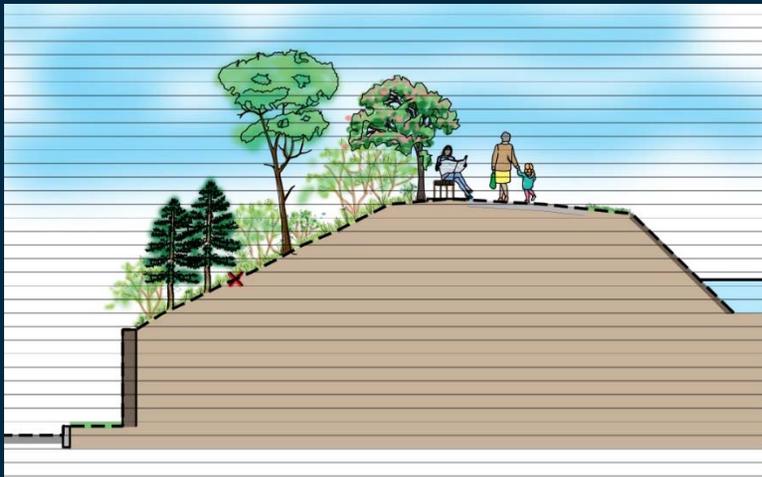
ODS Policy

# Understanding ODS Implications

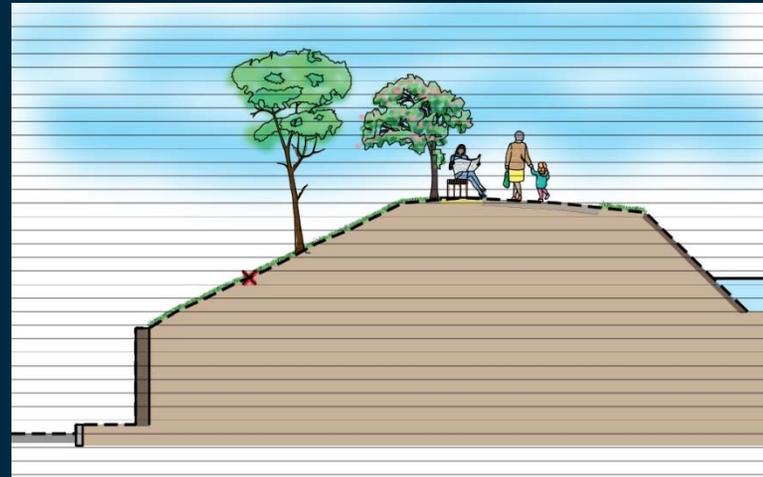


## PROPOSED REFINED APPROACH:

- 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 Conditions



Proposed Refined Approach

# Existing Vegetation



- Shade trees over lawn
- Wooded areas: trees with understory
- Signature Cherry trees

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# Diagram of Tree Removals



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

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# Conditions Before New Planting



- Trees removed
- Understory removed from Dam
- Invasives removed

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# Proposed New Planting



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# 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 dioica*



Turkish Filbert  
*Corylus colurna*

# Proposed Planting Palette

## TREES



Kwanzan Cherry  
*Prunus serrulata*



Tuliptree  
*Liriodendron tulipifera*



Sweetgum  
*Liquidambar styraciflua*



Sourwood  
*Oxydendrum arboreum*



Carolina Silverbell  
*Halesia*



Scarlet Oak  
*Quercus coccinea*



Pin Oak  
*Quercus palustris*



Red Oak  
*Quercus rubra*



Umbrella Pine  
*Sciadopitys*

# 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*

# 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



★ Steel rail repairs

— Post & rail repair/replace



Repair guardrail



Wood rail repair/replacement



Existing edge at Walnut

# Options for Ornamental Fence: Dudley Street/Way



Century Metropolitan

\$130 per linear foot

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## GRANITE POST AND WOOD RAIL



\$240 per linear foot

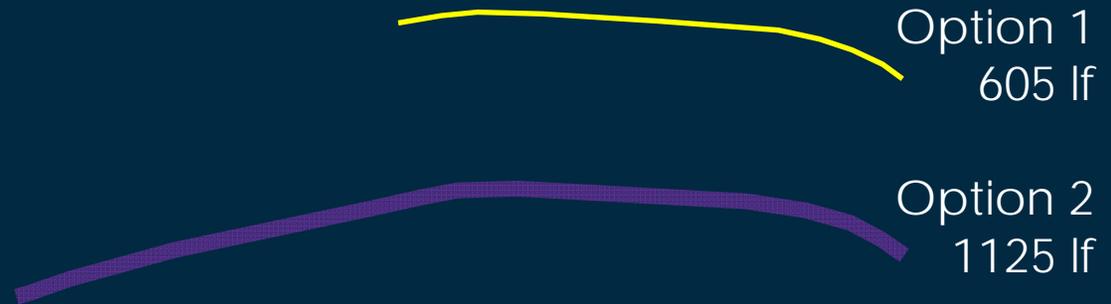
# Edge Treatment along Rte. 9



Existing edge at Route 9



Extent of Ornamental Fence at Top of Slope:



# 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



\$215 per linear foot

Century Metropolitan

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LASER CUT PANELS BETWEEN FENCE POSTS



\$400 per linear foot



# PRELIMINARY COSTS

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# PRELIMINARY ESTIMATE REVIEW

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

Preliminary Cost Estimate:

Gatehouse	\$ 250,000
Masonry	\$ 551,000
SP&D, Earthwork & Utilities	\$ 397,000
Stonedust Path	\$ 96,000
Hardscape	\$ 507,000
Ornamental Fences	\$ 382,000
Site Furnishings	\$ 142,000
Lawns and Tree Planting	\$ 297,000
	<b>TOTAL</b>
	<b>\$2,622,000</b>
<u>20% Contingency</u>	\$ 524,000
<b>TOTAL</b>	<b>\$3,146,000</b>

# PRELIMINARY ESTIMATE REVIEW

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

## Priorities

Gatehouse	\$ 250,000
All Masonry	\$ 551,000
SP&D, Earthwork & Utilities	\$ 367,000
Stonedust Path*	\$ 96,000
Hardscape	\$ 126,000
Ornamental Fence Along Route 9	\$ 253,000
Site Furniture	\$ 79,000
Tree Planting and Seeded Areas	\$ 192,000
	<b>TOTAL</b>
	<b>\$1,914,000</b>
<u>20% Contingency</u>	\$ 383,000
<b>TOTAL</b>	<b>\$2,297,000</b>

\*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

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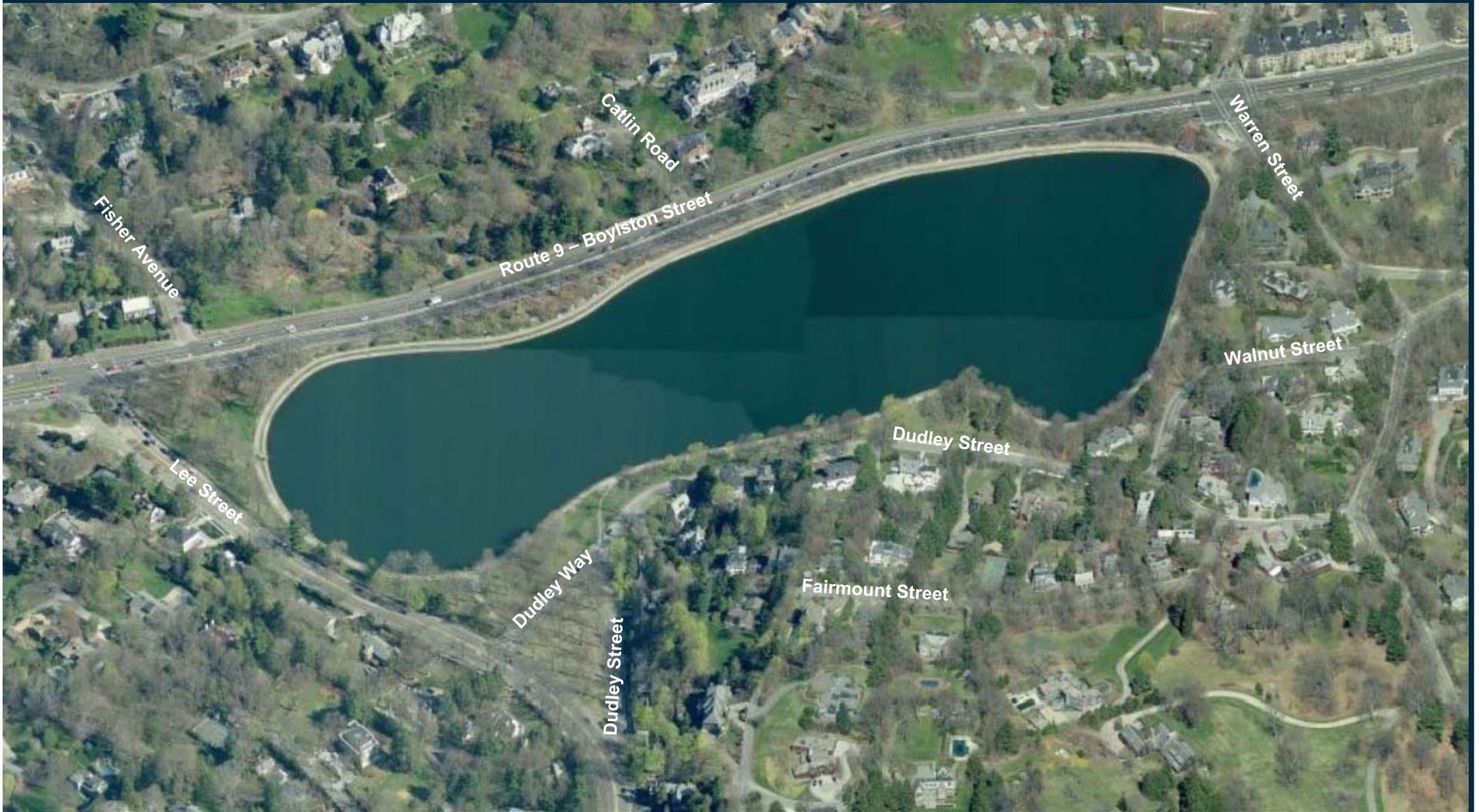


# Contact Information

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](mailto:ablair@brooklinema.gov)



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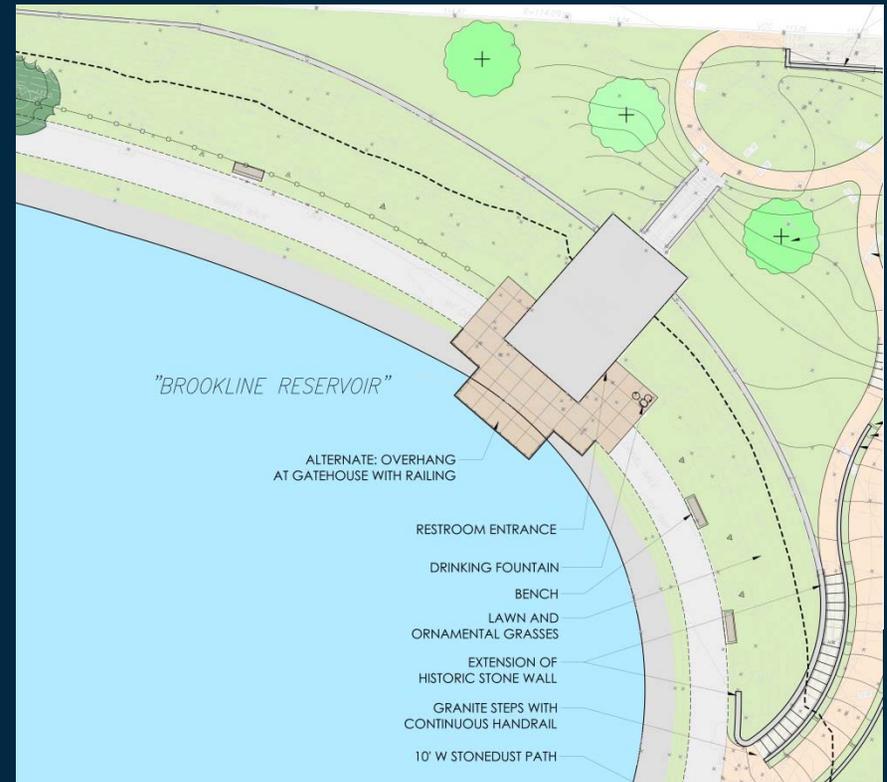


# Stonedust Path at Gatehouse

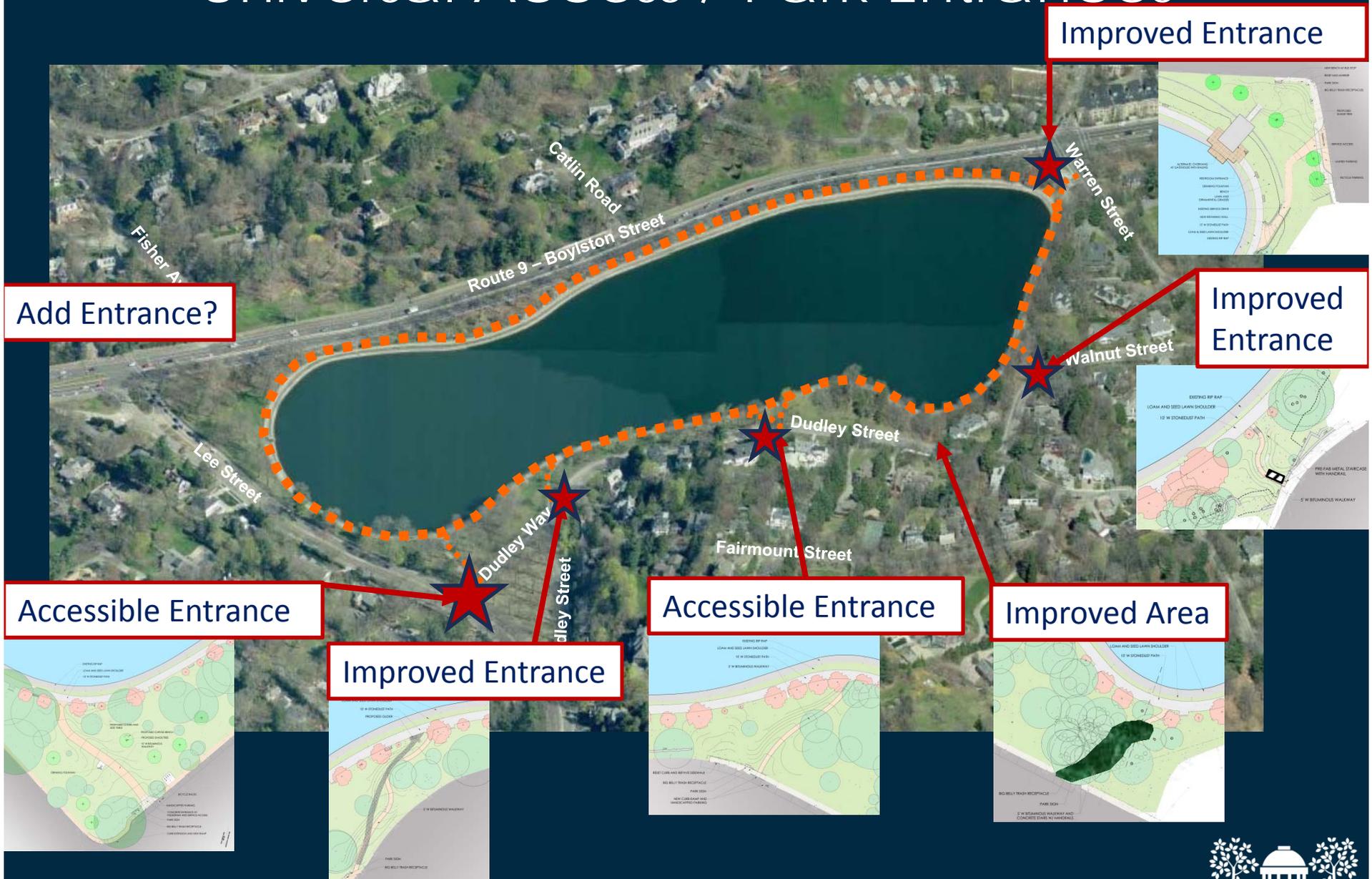
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10' wide path, bypass gatehouse  
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PROPOSED ALTERNATIVE B:  
10' wide path, 'bump into'  
gatehouse and pass via overlook



# Universal Access / Park Entrances



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