

CPA FY24 Application

Buffer and Beautify Mill Brook

The Conservation Commission proposes a feasibility study for the preservation of Mill Brook between Arlington Reservoir and Hurd Field in keeping with a commitment made to the Recreation Department to buffer both recent improvement projects and beautify the area.

Community Preservation Committee Town of Arlington

CPA Funding – FY2024 Final Application

Project Title: Buffer and Beautify Mill Brook

Applicant/Contact Person: David Morgan, Environmental Planner, Planning and Community Development

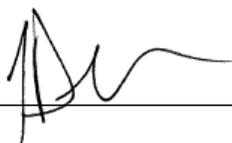
Organization: Department of Planning and Community Development

Mailing Address: Town Hall, 730 Massachusetts Avenue, Arlington, MA 02476

Telephone: 781-316-3092

E-mail: dmorgan@town.arlington.ma.us

Signature



Date **December 19, 2022**

CPA Category (select one):

Community Housing Historic Preservation Open Space Recreation

CPA Purpose (select one):

Acquisition Creation Preservation Support Rehabilitation & Restoration

Amount Requested: \$120,750

Total Project Cost: \$120,750

PROJECT DESCRIPTION: Attach answers to the following questions. Applications will be returned as incomplete if all requested information is not provided. Include supporting materials as necessary.

The Arlington Conservation Commission proposes to preserve approximately 2,400 linear feet of the degraded and heavily eroded banks along the upper reaches of Mill Brook. The project will be accomplished by using bioengineered bank stabilization treatments, enhancement plantings, select invasive species management, and green infrastructure stormwater management. Select invasive species control and planting of native wetland and upland plant species will improve habitat and increase plant diversity while beautifying the area next to the newly renovated Reservoir and Hurd Field, and the soon to be renovated Drake Village. CPA funds would be used to evaluate the existing conditions of Mill Brook, determine improvements, accomplish a 75% design, receive permits, and prepare construction bid documents.

This proposal can be seen as an extension of the community-vetted and popular work at Arlington Reservoir and Hurd Field. Mill Brook runs along the border of these two properties; most of the project lies within the Town-owned Reservoir parcel with a portion of the brook falling on the adjacent Hurd Field parcel. The surrounding properties have been recently improved. The Res has extensive new plantings and is managed for invasive species. Hurd Field was redesigned to incorporate green infrastructure, native plantings, and stormwater management. The Conservation Commission submits this application for a feasibility study in fulfillment of a commitment made to the Recreation Department to make similar improvements to the brook near the Department's recently renovated sites.

The scope of work for this CPA FY24 funding request has been reduced from the preliminary CPA application, so that the project will now be phased. The first phase is feasibility, conceptualization, and permitting. A subsequent phase is planned for bidding and construction.

1. Goals: What are the goals of the proposed project?

The project will determine the degree of stabilization required for the banks of Mill Brook, the best methods for achieving it, and a design that will be advanced toward implementation. The overall aim is to improve the ecological integrity and stability of the brook and thereby preserve its condition and that of the Reservoir and Hurd Field.

The first goal will be accomplished primarily by identifying needed streambank improvements. An engineering firm will be brought on to consult. Utilizing the Mill Brook hydraulic model currently being updated by Weston & Sampson, the selected consultant will consider the

brook's characteristics (bank full elevations, thalweg, etc.), behavior under varying conditions (size, flows, and velocities), and appropriate methods for preserving those aspects that ensure the brook's health and that of the Res and Hurd Field.

A second goal is to reach a 75% design that will preserve Mill Brook and the adjacent properties. The selected consultant will work with the Conservation Commission to determine the parameters of the design. Consideration will be given to the permitting process and regulatory constraints. The 75% design will be shared with Town departments (e.g., DPW, Recreation) and other boards and committees for input. The agreed upon design will be advanced for permitting.

The third goal is related to the first two, in that stabilizing the banks of the brook will necessitate preserving healthy vegetation. A plan for eradicating harmful vegetation and a proposal for replacements will accompany the study. Removal of species like Japanese knotweed and poison ivy will treat nuisance vegetation that spreads from the brook to the Reservoir and Hurd Field. Preservation of the proximate areas depends on the successful completion of this plan, which treats the problem at its source. A longer-term goal of this project is to lower land management costs for both properties, which will result from no longer having to react to the spread of nuisance vegetation. As such, the amount requested includes monitoring for a three-year period.

2. Community Need: Why is the project needed? Does it address needs identified in existing Town plans? If so, please specify.

In addition to the public benefit of lowering land management costs for the Res and Hurd Field, removing nuisance and harmful vegetation, and improving ecological integrity, the following action items in the Open Space and Recreation Plan will be advanced by this proposal.

1.A.2. Continue to implement strategies from the Mill Brook Corridor Report to expand public access and restore and enhance the natural features of the corridor, such as at Cooke's Hollow.

1.A.4. Complete implementation of the Arlington Reservoir Master Plan.

1.D.3. Use native and pollinator-friendly vegetation appropriate for an urban environment in Town landscaping projects.

3.A.2. Support implementation of the Public Land Management Plan, including follow

up to develop site-specific management plans for the Town’s conservation areas to identify unique challenges, such as larger clean-up efforts, invasive species control and impacts of chemical controls on wildlife, trail maintenance and the impact of artificial surfaces on heat island effects and the quality of wildlife habitat, erosion and sedimentation control, and native planting projects.

3.A.5. Evaluate overall Town property operations and maintenance of recreational facilities, conservation areas, and other public spaces to ensure the upkeep and ongoing maintenance and to identify opportunities for more environment-friendly approaches and reducing energy consumption. Some considerations are to:

- ...
- Control invasive plants with non-toxic means.
- ...
- Install nature-based solutions/green infrastructure to manage stormwater.
- Use native plants in landscaping.
- ...

The Arlington Reservoir Master Plan found that invasive species management was a significant priority for the Res; almost a third of the report is dedicated to the topic. The area along Mill Brook was identified as an area that required attention (p. 50-55, see Appendix C).

Action Item #40 of the Master Plan directs the Department of Planning and Community Development, Conservation Commission, and DPW to “use more native and natural choices for landscaping on Town-owned properties.” Further, this project would assist in fulfilling the following goals, policies, and recommendations of other sections of the Master Plan.

Natural Resources & Open Space

Goals/Policies (p. 11):

1. Value, protect, and enhance the physical beauty and natural resources of Arlington.
2. Treasure our open spaces, parks, recreational facilities, and natural areas.

Historic & Cultural Resources

Goals/Policies (p. 11):

1. Provide attractive, well-maintained spaces for residents to meet, play, and grow.

Recommendation (p.18):

Implement the Master Plan consistent with the current Open Space and Recreation Plan.

Public Facilities & Services

Goal/Policy (p. 11):

1. Build, operate, and maintain public facilities that are attractive and help to minimize environmental impact and that connect Arlington as a community.
2. Maintain and beautify our public parks, trails, play areas, and streetscapes.

3. Community Support: What is the nature and level of support for this project? Include letters of support and any petitions.

Town residents, staff, committees, and organizations have voiced their support for this project. Their submitted letters of support are included in Appendix A.

4. Project Documentation: Attach any applicable engineering plans, architectural drawings, site plans, photographs, any other renderings, relevant studies or material.

See Appendix B.

5. Timeline: What is the schedule for project implementation, including a timeline for all critical milestones?

The following is an approximate timeline for the feasibility study. Work is proposed to begin in July 2024 and run for eleven months.

Task	Timeline	Phase
Issue Request for Proposals and secure consultant	1 month	P1
Existing conditions report with public meeting #1	1 month	P1
Conceptual plan options with public meeting #2	2 months	P1
Design to 75%	2 months	P2
Permit applications and submittals, bid document preparation	4 months	P2
Final public forum and final report	1 month	P3

Meetings during phase one may take place at regularly scheduled meetings of the Conservation Commission and/or other boards and committees. The project will culminate with a separate final public forum. It is anticipated that the study will be complete within FY24.

6. Credentials: How will the experience of the applicant contribute to the success of this project?

The Town's Conservation Agent and Environmental Planner, under the direction of the Conservation Commission and DPCD, will oversee the project. Collectively, these entities

have extensive planning and project management experience. Should CPA funds be awarded, the Conservation Commission will procure consultant services and ensure that the consultant team possess sufficient expertise in plant identification, invasive species management, and landscape preservation.

7. Budget: What is the total budget for the project and how will funds be sourced and spent? All items of expenditure must be clearly identified. Distinguish between hard and soft costs and contingencies. (NOTE: CPA funds may not be used for maintenance.)

Initial Costs	Estimated Cost
Existing Conditions Plan and Survey	\$20,000
Site Characterization Report	\$5,000
Design of Concept Alternatives	\$12,500
Concept Development	\$10,000
Permit application preparation and submittal	\$30,000
Bid document preparation	\$15,000
Project coordination, public meetings	\$12,500
15% contingency	\$15,750
Proposal Total	\$120,750

8. Other Funding: What additional funding sources are available, committed, or under consideration? Include commitment letters, if available, and describe any other attempts to secure funding for this project.

N/A

9. Maintenance: If ongoing maintenance is required for your project, how will it be funded?

N/A

Five-Year Community Preservation Act Forecast (New for FY2023)

To help the committee collaborate with other Town funding mechanisms, the committee is looking to build out a five-year revenue and expenditure forecast.

1. Please list likely funding requests to the CPA Committee for FY2024-2027

The outcome of the Mill Brook preservation feasibility study could potentially lead to requests for town funding or further grant requests from various sources, including but not limited to

CPA funds. However, it is impossible to anticipate the scope or financial impact of those recommendations prior to the completion of the project.

Appendix A
Letters of Support

Community Preservation Act Committee
c/o Julie Wayman, Town of Arlington
730 Massachusetts Ave
Arlington, MA 02476

Dear Community Preservation Act Committee,

I write to support the request for funds to Buffer and Beautify Mill Brook.

All too often Mill Brook has been overlooked, an unacknowledged at times neglected natural resource in Arlington.

I respectfully ask for support for this application to allow the further restoration of this seminal natural and historic component of Arlington's outdoor and historic resources.

The current application seeks to build upon the successes of the Reservoir renovation and the Wellington Park renovation. As we know Mill Brook is at the heart of Arlington being the very reason for European settlement of Menotomy along its banks some three centuries ago.

Please support this application, a step to further acknowledge the importance of this historic small waterway. Acknowledge Mill Brook, restore its banks, another piece in Mill Brook Linear Park, an important habitat restoration at this western end of the waterway.

The recent improvements at Arlington Reservoir and Hurd Field are successful projects that improve the resilience and ecological integrity of the area while providing more and better opportunities for recreation.

Mill Brook, which runs between these two projects, needs preservation to stabilize its banks and better manage stormwater that could impact the two aforementioned projects. The nuisance vegetation along the brook requires further attention. The Town has successfully conducted a similar project at Spy Pond.

I am writing to support the current application, which will assess the feasibility of preserving the stretch of Mill Brook from Lexington to Colonial Village.

The need is stated in several Town plans, including the Master Plan, Open Space and Recreation Plan, and Public Land Management Plan. The benefits to residents are many: the protection of nearby recreational assets, the preservation of the brook itself, which is one of Arlington's foremost natural features and a reminder to residents of the historic importance of Mill Brook to Arlington's development.

Recognize Mill Brook for the hidden jewel it is, along further stretches host of several types of spawning fish including Alewife. Mill Brook host to migratory birds including Great Blue Herons and Black Crowned Night Herons. Mill Brook has been a conduit of development and industrialization please look favorably on this application and continue the process of restoration of the banks of Mill Brook, Arlington's waterway.

Please return this waterway and her banks to health and return a piece of nature and bounty to our community the very reason for the founding of Menotomy along her banks by European settlers three centuries ago, preceded by Native Americans Massachusett people.

Respectfully yours,

Beth Melofchik, Town Meeting Member, Land Steward Cookes Hollow

Community Preservation Act Committee
c/o Julie Wayman, Town of Arlington
730 Massachusetts Ave
Arlington, MA 02476

Dear Community Preservation Act Committee.

I'd like to offer a note of support for the Mill Brook CPA application.

Mill Brook is literally the heart of our town. Running through the center from the Res to Mystic Lake, it has been the core of our settlement since the indigenous people. With care, over some years, we can restore it to a central place, reminding us of our heritage, connecting us with nature and giving residents a place to sit and contemplate as the brook bubbles by.

Thank you for your consideration.

Brian McBride

36 Eastern Ave

Member of Open Space Committee (these views are my own, however)



TOWN OF ARLINGTON
Department of Public Works
51 Grove Street
Arlington, Massachusetts 02476
Office (781) 316-3320 Fax (781) 316-3281

Engineering Division

Community Preservation Act Committee
c/o Julie Wayman, Town of Arlington
730 Massachusetts Ave
Arlington, MA 02476

Dear Community Preservation Act Committee.

The recent improvements at Arlington Reservoir and Hurd Field are excellent projects that improve the resilience and ecological integrity of the area while providing more and better opportunities for recreation. Mill Brook, which runs between these two projects, needs preservation to stabilize its banks and better manage stormwater that could impact the two projects just mentioned. The nuisance vegetation along the brook requires further attention. The Town has successfully conducted a similar project at Spy Pond and, considering the above, I am writing to demonstrate my support for the current application, which will assess the feasibility of preserving the stretch of Mill Brook from Lexington to Colonial Village.

Mill Brook remains in poor condition. The banks are eroding, and invasive species have a firm grip on the area and threaten to spread back into the newly improved recreational areas. The need for this project is evident and has been expressed in several Town plans, including the Master Plan, Open Space and Recreation Plan, and Public Land Management Plan. The benefit to residents is equally clear in the protection of nearby recreational assets and the preservation of the brook itself, which is one of Arlington's foremost features.

Furthermore, the limited number of open space natural areas in Arlington are valuable resources and provide aesthetic and passive recreation opportunities that aid in countering the negative effects of climate variability. Improvement and restoration of these sensitive areas should be strongly considered due to the positive effects on many critical environmental issues such as wildlife habitat, urban heat island effect, flood mitigation, stormwater runoff and ground water recharge.

Thank you for your consideration of this project.

Sincerely,

Wayne A. Chouinard, P.E.
Arlington Town Engineer

Community Preservation Act Committee
c/o Julie Wayman, Town of Arlington
730 Massachusetts Ave
Arlington, MA 02476

Dear Community Preservation Act Committee.

I'm writing in support of the "Buffer and Beautify Mill Brook" application submitted by the Conservation Committee and asking that this funding be granted.

Arlington's unimproved wild areas face a variety of pressures and threats, from climate events, development, overuse, and in some cases neglect. At the same time, we are learning more and more about the critical roles they play in providing habitat, absorbing storm water, countering heat island effects, and providing mental and physical respite from our crazy world.

The Mill Brook is a hidden gem, and a part of our history. It supports a variety of fish, birds, small mammals, and unseen amphibious critters. And it is a significant part of the Public Lands Management Plan, which will bring all our open areas into focus and provide for their maintenance and in some cases restoration.

Additionally, its improvement goes hand in hand with the work being done very nearby, at Hurd Field and the Reservoir. The Brook's importance to the Town is indicated in various of our plans, including the Master Plan, the draft Open Space Plan, and by its adjacent preservation areas in the draft Public Lands Management Plan.

Please vote to approve this funding request and thank you for your work!

Best wishes,
Wynelle

Wynelle Evans
TMM, pct. 14
20 Orchard Place
Arlington, MA 02476



Arlington Open Space Committee

December 12, 2022

Community Preservation Act Committee
c/o Julie Wayman, Town of Arlington
730 Massachusetts Ave
Arlington, MA 02476

RE: Buffer and Beautify Mill Brook

Dear Community Preservation Act Committee.

The recent improvements at Arlington Reservoir and Hurd Field are excellent projects that improve the resilience and ecological integrity of the area while providing more and better opportunities for recreation. Mill Brook, which runs between these two projects, needs preservation to stabilize its banks and better manage stormwater that could impact these two projects. The vegetation along the brook also requires further attention. The Town has successfully conducted a similar project at Spy Pond.

The Open Space Committee strongly supports this application, which will assess the feasibility of preserving the stretch of Mill Brook from the Lexington border to Colonial Village.

Mill Brook is in poor condition. The banks are eroding, and invasive species have a firm grip on the area and threaten to spread back into the newly improved recreational areas. The need for this project is evident and has been expressed in several Town plans, including the Master Plan, Open Space and Recreation Plan, and Public Land Management Plan. The benefit to residents is equally clear in the protection of nearby recreational assets and the preservation of the brook itself, which is one of Arlington's foremost historic and ecological features.

Thank you for your consideration of this project.

Sincerely,

Ann LeRoyer, Chair
Open Space Committee

Cc: David Morgan, DPCD



PARK & RECREATION COMMISSION
422 Summer Street
Arlington, Massachusetts 02474

Joseph Connelly
Director of Recreation

Phone 781-316-3880 Fax 781-641-5495

Community Preservation Act Committee
c/o Julie Wayman, Town of Arlington
730 Massachusetts Ave
Arlington, MA 02476

12/13/2022

Dear Community Preservation Act Committee.

The recent improvements at Arlington Reservoir and Hurd Field are excellent projects that improve the resilience and ecological integrity of the area while providing more and better opportunities for recreation. Mill Brook, which runs between these two projects, needs preservation to stabilize its banks and better manage stormwater that could impact the two projects just mentioned. The nuisance vegetation along the brook requires further attention. The Town has successfully conducted a similar project at Spy Pond and, considering the above, I am writing on behalf of Arlington Recreation to demonstrate support for the current application, which will assess the feasibility of preserving the stretch of Mill Brook from Lexington to Colonial Village.

Mill Brook remains in poor condition. The banks are eroding, and invasive species have a firm grip on the area and threaten to spread back into the newly improved recreational areas. The need for this project is evident and has been expressed in several Town plans, including the Master Plan, Open Space and Recreation Plan, and Public Land Management Plan. The benefit to residents is equally clear in the protection of nearby recreational assets and the preservation of the brook itself, which is one of Arlington's foremost features.

Thank you for your consideration of this project.

Sincerely,

Joseph Connelly

Joseph Connelly
Director of Recreation

Appendix B
Project Documentation

BUFFER AND BEAUTIFY MILL BROOK
Location and Parcel Ownership



Figure 1 Location of proposed length of Mill Brook to be studied

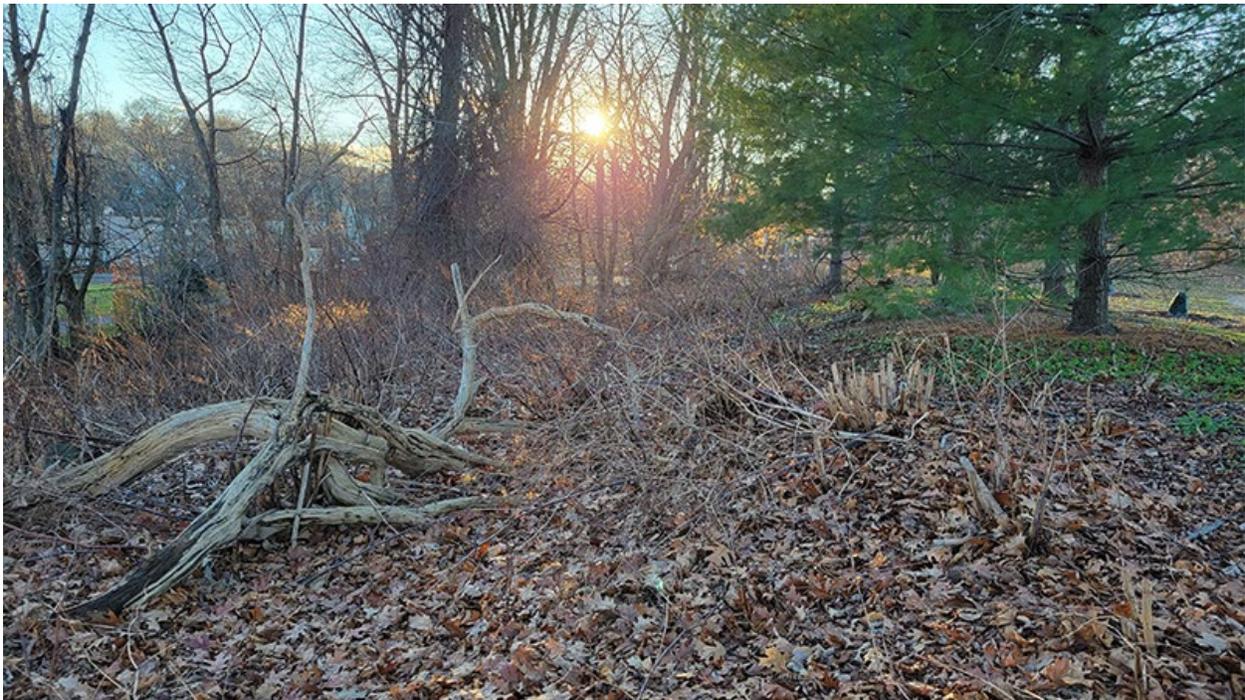


Figure 2 View of Mill Brook banks from Arlington Reservoir showing overgrown invasive vegetation cut back but still creeping into the Res



Figure 3 View of Mill Brook banks looking toward Hurd Field showing the banks in the floodway and floodplain at grade with both properties



Figure 4 Further invasive vegetation, a view from the Res to Hurd Field



Figure 5 Mill Brook approaching bank full conditions in dry weather

Appendix C

Relevant Plans

Please note that the relevant sections of these documents are detailed with page numbers in the text of the application.

- Arlington Master Plan (2015)
- Arlington Open Space and Recreation Plan (2022-2029)
- Arlington Reservoir Master Plan (2018)

Public Participation

Arlington is fortunate to have a well-established tradition of citizen involvement in major decisions about the life of the town. In Arlington, residents actively participate in the political process and serve as good stewards of open, accessible government. This Master Plan has benefited immeasurably from their deliberations and guidance. From the volunteers who served on the Master Plan Advisory Committee (MPAC) to the people who attended community meetings, responded to surveys, agreed to be interviewed, read and commented on draft documents and maps, and provided valuable information to the consulting team, the Arlington Master Plan has evolved as an effort led and shaped by hundreds of residents who clearly care about their town.

The public participation process included the following key features:

- **World Café** – the official kickoff of the Arlington Master Plan, October 17, 2012
- **Master Plan Advisory Committee (MPAC)** – the eleven-member steering committee for this plan, appointed November 2012
- **Citizen Interviews** – May 2013, over sixty residents and business owners interviewed by the consulting team and the Planning and Community Development Department.
- **Community Meetings (3)** – June 2013, at Arlington High School (June 1), Cambridge Savings Bank (June 4), and Hardy School (June 5)
- **Online Survey, June-July 2013**, to rate/rank key ideas from the World Café event and help to inform the goals and policies of this Master Plan
- **MPAC Working Groups** – July- August 2013, Master Plan vision and goals work sessions
- **Consultation with Town Staff** – June-September, 2013: Department heads meeting, survey, and interviews
- **Town Day** – September 2013, MPAC outreach and booth with information about the master plan process
- **Community Meeting** – November 2013, presentation and public review of key Master Plan findings and issues
- **MPAC Discussion Meetings and Public Comment Period:** Master Plan Working Papers, January-May 2014, all available as video-on-demand from Arlington Community Media, Inc. (ACMi)
- **Community Meeting – Visual Preference Survey**, June 2014, followed by online survey process (see Appendix for survey results)
- **Zoning Diagnostic (Audit)** – February-July 2014
- **Town Day** – September 2014
- **Draft Master Plan Presentation** – November 2014



From Arlington's World Cafe, October 2012

- **MPAC Outreach and Update Meetings with Town Boards** – November-December 2014
- **Arlington Redevelopment Board Public Hearing** – January 2015
- **Town Meeting** – April-May 2015

Key Findings

1. **Arlington has many unique neighborhoods** with recognizable features in topography, housing typology, and streetscape characteristics. Neighborhoods tend to be identified in terms of their physical and cultural relationship with Massachusetts Avenue, the quintessential “Main Street” of Arlington. Massachusetts Avenue serves many neighborhoods along its length with civic amenities, local businesses, and public transportation.
2. **Massachusetts Avenue has the capacity for growth.** It can support mixed-use development commensurate with its function as Arlington’s primary commercial corridor. Massachusetts Avenue is accessible to neighborhoods throughout the town, it has frequent bus service, bicycle routes, and good walkability. Increased density through greater building heights and massing would benefit the corridor from an urban design perspective and benefit the town from a fiscal perspective.
3. Arlington’s beauty is influenced by many factors: its varied landscape and topography, the presence of water resources, and its historic architecture. In addition, **Arlington’s distinctive street trees and urban woodlands play a critical role in the town’s appearance, walkability, and environmental health.** Increased investments in more trees and tree maintenance, including enough personnel to carry out a comprehensive tree and streetscape management program, will be important for Arlington’s future quality of life.
4. **Arlington has a limited number of vacant, developable land parcels**, e.g., at Poet’s Corner on Route 2, and the Mugar property next to Thorndike Field and Alewife Brook. The conservation and development opportunities on these and other sites matter, but Arlington’s growth management priorities must be Massachusetts Avenue, Broadway, and the Mill Brook area. Addressing Arlington’s critical environmental challenges will hinge, in part, on the policies it adopts to guide and regulate future development in these locations.
5. **The Mill Brook is a hidden gem.** It has the potential to spawn transformative change along Massachusetts Avenue west of the center of town. Nearby properties are poised for redevelopment due to their current use, age, and ownership, their location adjacent to the waterway, and their proximity to the Minuteman Bikeway and Massachusetts Avenue.
6. **Arlington’s historic civic spaces are beloved community institutions** that serve as both visual landmarks and cultural gathering spaces. Preserving them is a local priority, and overall, Arlington has been a good steward of its historic assets. Still, the Town has unmet preservation needs. There are historic properties without any protection, and several historic sites and buildings need long-term maintenance programs.
7. **Arlington has done more than many Massachusetts communities to promote sustainability.** Its early adoption of a climate action plan, its designation by the Massachusetts Green Communities Program, and impressive storm water awareness programs all suggest a strong sense of environmental stewardship.
8. **Compared with many towns around Boston, Arlington has been successful at creating affordable housing.** Through inclusionary zoning and directing federal grant funds to the Housing Corporation of Arlington (HCA), the Town has created over 140 low-moderate-income housing units since 2000. However, despite efforts by the Town, the HCA, and the Arlington Housing Authority (AHA), Arlington has lost some of its traditional affordability. Pressure for housing close to Boston and Cambridge has triggered significant increases in Arlington’s property values and home sale prices. Between 2000 and 2012, the median single-family home sale price rose by over 45 percent.
9. **Arlington’s convenient access to employment centers in Boston and Cambridge attracts highly educated and skilled homebuyers and renters.** Thirty-nine percent of its labor force com-

mates to these two cities alone. Arlington's attractiveness to young, well-educated families bodes well for the vitality of local businesses and the civic life of the town. The same phenomenon helps to explain the dramatic K-12 population growth that has occurred in Arlington at a time when many towns have experienced declining school enrollments.

10. **Arlington's economy is growing.** Seventy new businesses were established between 2008 and 2012, and since 2012, local employment figures have recovered and surpassed pre-recession numbers.
11. **Two of the Town's theatres – the Capitol Theatre in East Arlington and the Regent Theatre in Arlington Center – draw approximately 200,000 patrons per year.** According to a study prepared for the Arlington Planning Department, these visitors spend \$2.4 million annually at local shops and restaurants.
12. **Arlington has a vibrant local arts community.** Several organizations devoted to cultural production and appreciation are located in Arlington, and many self-employed residents work in the fine and performing arts. This creative infrastructure helps makes Arlington's commercial districts interesting places to shop, visit and work, which in turn boosts the utility and value of nearby commercial properties.
13. **Arlington's road network consists of 125 miles of roadway, including 102 miles under the Town's jurisdiction.** The network is well-connected and multimodal, with many sidewalks, several bicycle routes and pathways, and transit options, though the latter is mostly concentrated along the Massachusetts Avenue corridor.
14. **Due to significant traffic congestion, Arlington can be a difficult place to navigate during peak period commutes and school pick-up and drop-off times.** The congestion occurs on north-south cross-streets including Pleasant Street, Jason Street, Park Avenue, Highland Avenue, Mill Street, and Lake Street, in part due to motorists accessing major routes such as Route 2 and Route

Economic Impact: Arlington Theatres



Two of Arlington's theatres - the Capitol Theatre in East Arlington and the Regent Theatre in Arlington Center - draw approximately 200,000 patrons per year. According to a study prepared for the Arlington Planning Department, these visitors spend \$2.4 million annually at local shops and restaurants.

2A. In addition, congestion often occurs on Mill Street and Lake Street near their intersections with the Minuteman Bikeway.

15. **Arlington is a well-run, fiscally responsible town.** Over the past twenty years, its average annual rate of expenditure growth has been about average or slightly below that of most of the neighboring towns and cities in its peer group. In addition, the Town has made cautious borrowing decisions and through prudent financial management and by adopting a five-year long-range and strategic financial plan, Arlington has earned a triple-A bond rating. Still, the Town has been challenged to keep pace with rising costs of community services. Over the past ten years (2003-2013), Arlington has had to reduce its municipal workforce by approximately 14 percent.
16. **Arlington spends slightly less per capita (\$3,371) on local government services than the median for its peer group of local towns**

(\$3,625). In Arlington, there are 1.8 Full-Time Equivalent (FTE) positions per 1,000 residents, but the Northeast U.S. average is 2.15 FTE per 1,000 residents. Commercial and industrial taxes make up a much smaller percentage of the tax base in Arlington (6.3 percent) than most of the towns in its peer group.

17. **Arlington High School's accreditation may be at risk unless the Town addresses facility deficiencies identified in a recent accreditation review.** There is also a need for improvements to other schools and concern for capacity. In fact, Arlington faces demands for several "big ticket item" capital projects in the next few years, not only at the schools.
18. **Arlington has very little publicly-owned land.** The high school, cemetery, Public Works Department and Recreation Department will have difficulty meeting future needs because there is virtually no land for expansion. Some already face capacity problems.



June 2013 Community Meeting

Master Plan Goals & Policies

MASTER PLAN

Preserve and advance the Town's fiscal stability.

LAND USE

1. Balance housing growth with other land uses that support residential services and amenities.
2. Encourage development that enhances the quality of Arlington's natural resources and built environment.
3. Attract development that supports and expands the economic, cultural, and civic purposes of Arlington's commercial areas.

TRAFFIC & CIRCULATION

1. Enhance mobility and increase safety by maximizing transit, bicycle, and pedestrian access and other alternative modes of transportation.
2. Manage congestion safely and efficiently by improving traffic operations.
3. Manage the supply of parking in commercial areas in order to support Arlington businesses.

HOUSING

1. Encourage mixed-use development that includes affordable housing, primarily in well-established commercial areas.
2. Provide a variety of housing options for a range of incomes, ages, family sizes, and needs.
3. Preserve the "streetcar suburb" character of Arlington's residential neighborhoods.
4. Encourage sustainable construction and renovation of new and existing structures.

ECONOMIC DEVELOPMENT

1. Support conditions that benefit small, independent businesses.
2. Maximize the buildout potential of commercial and industrial properties.
3. Promote Arlington's historic and cultural assets as leverage for economic development.
4. Improve access to public transit and parking.

HISTORIC & CULTURAL RESOURCES

1. Maintain, protect, preserve, and promote historic and diverse cultural resources in all neighborhoods.
2. Provide attractive, well-maintained spaces for residents to meet, play and grow.
3. Provide space for arts and cultural activities for all ages.

NATURAL RESOURCES & OPEN SPACE

1. Use sustainable planning and engineering approaches to improve air and water quality, reduce flooding, and enhance ecological diversity by managing our natural resources.
2. Mitigate and adapt to climate change.
3. Ensure that Arlington's neighborhoods, commercial areas, and infrastructure are developed in harmony with natural resource concerns.
4. Value, protect, and enhance the physical beauty and natural resources of Arlington.
5. Treasure our open spaces, parks, recreational facilities and natural areas.

PUBLIC FACILITIES & SERVICES

1. Coordinate and efficiently deliver town services.
2. Build, operate, and maintain public facilities that are attractive and help to minimize environmental impact and that connect Arlington as a community.
3. Balance the need for additional revenue with ability and willingness of property owners to pay to maintain current services or for new expenditures and investments
4. Guide public facility investments through a long-term capital planning process that anticipates future needs.
5. Expand recreational and athletic facilities, programs, and opportunities, for all residents.
6. Maintain and beautify our public parks, trails, play areas, and streetscapes.

Key Recommendations

Land Use

1. **Recodify and update the Zoning Bylaw (ZBL).** The text of the ZBL is not always clear, and some of the language is out of date and inconsistent. As a first step in any zoning revisions following a new master plan, communities should focus on instituting a good regulatory foundation: structure, format, ease of navigation, updated language and definitions, and statutory and case law consistency.
2. **Adopt design guidelines** for new and redeveloped commercial and industrial sites.
3. **Reorganize and consolidate the business zoning districts on Massachusetts Avenue.** Zoning along the length of Massachusetts Avenue includes six business zones (B1, B2, B2A, B3, B4, B5) interspersed with six residential zoning districts. Encouraging continuity of development and the cohesion of the streetscape, is difficult. It is difficult to connect the zoning on a given site with the district's stated purposes in the ZBL. As part of updating and recodifying the ZBL, the Town should consider options for consolidating some of the business districts to better reflect its goals for flexible business zones that allow property owners to adapt their commercial properties to rapidly changing market trends and conditions..
4. **Promote development of higher value mixed use buildings by providing redevelopment incentives** in all or selected portions of the business districts on Massachusetts Avenue, Broadway, and Medford Street, Arlington needs to unlock the development potential of business-zoned land, especially around the center of town. Slightly increasing the maximum building height in and near existing business districts, and reducing off-street parking requirements would go a long way toward incentivizing redevelopment, as would a clear set of design guidelines. Applicants should be able to anticipate what the Town wants to see in the business districts and plan their projects accordingly.
5. **Support vibrant commercial areas by encouraging new mixed use redevelopment** that includes residential and commercial uses in and near commercial centers, served by transit and infra-

structure. Clarify that mixed-use development is permitted and reconcile inconsistent requirements.

The B3 Village Business district and B5 Central Business district are described as encouraging mixed use development, but other business and residential districts along Massachusetts Avenue do not. The ZBL is vague regarding uses that are allowed in mixed-use projects, and dimensional requirements can conflict. As part of the recodification and update process, the Table of Use Regulations should be clarified, and the ZBL should have specific standards for design and construction of mixed use redevelopment projects.

6. **Boost industrial and commercial revitalization by allowing multiple uses within structures, parcels, and districts without losing commercial and industrial uses.** This will help enhance the suitability of Arlington's commercial property for businesses in emerging growth sectors and make them more agile in the face of shifting business trends and market conditions.
7. **Establish parking ratios that reflect actual need for parking.** Consideration should be given to use, location and access to transit.
8. **Amend on-site open space requirements** for certain uses in business districts to promote high value redevelopment and alternative green areas such as roof gardens.
9. **Reduce the number of uses that require a special permit.** Excessive special permit zoning can create land use conflicts and hinder successful planning initiatives. Special permits are a discretionary approval process; the board with authority to grant or deny has considerable power. Developers yearn for predictability. If the Town wants to encourage certain outcomes that are consistent with this Master Plan, some special permits should be replaced with by-right zoning, subject to performance standards and conditions, wherever possible. Performance standards might include design guidelines and other requirements that reflect community goals.
10. **Establish areas that are a priority for preservation, and areas that are a priority for redevelopment.** The Mugar land, located between Alewife Station and Thorndike Field, is a high priority

for preservation. Priority development areas might include the Mill Brook corridor, Broadway, and Massachusetts Avenue.

Traffic & Circulation Recommendations

1. **Develop a Complete Streets Policy governing design and implementation of street construction.** Complete Streets are designed and operated to provide safety and access for all users of the roadways, including pedestrians, bicyclists, transit riders, motorists, commercial vehicles, and community safety vehicles, and for people of all ages and abilities.
2. **Create safer pedestrian conditions to increase walking in Arlington, as a means to reduce traffic congestion and improve public health.** The Town has already begun an inventory of the condition of its sidewalks and curbs. The next step is to prioritize areas for new sidewalks and improvements to existing sidewalks, to encourage more walking, and allocate resources for implementation. Other improvements to the pedestrian environment, such as lighting and crosswalks, should also be considered. Sidewalk Plan should coordinate with the Safe Routes to School (SRTS) program and with a plan designating criteria for pavement types (concrete, asphalt, or brick).
3. **Improve conditions, access, and safety for bicyclists on the Minuteman Bikeway and on local streets.** Strengthen connections between the Minuteman Bikeway and commercial districts to increase customers without increasing need for on street parking.
4. **Work with the MBTA to improve service and connections and increase transit ridership.** Reduce bus bunching, and improve the efficiency of bus service, including the provision of queue jump lanes, bus-only lanes, bus signal prioritization, and real time bus schedule information. In addition, continue to advocate for extending the Green Line to Mystic Valley Parkway.
5. **Improve parking availability, especially in the commercial centers through better parking management.** Update parking study for East Arlington business district originally conducted as part of the Larry Koff & Associates Commercial Center Revitalization Study to develop strategies

to improve parking management in the area. A similar study for Arlington Heights parking management might also be considered. Develop parking requirements in zoning regulations that reflect the actual need for parking.

6. **Review existing residential parking policies** regarding overnight residential street regulations and unregulated daytime residential street parking. Unregulated all day parking in residential areas may encourage commuters to park on residential roadways near transit. Consider policies to reduce all day commuter parking in residential neighborhoods, such as using residential parking permits.

Overnight residential street parking ban may encourage excessive paving of residential lots. Conversely, the overnight parking ban could be holding down the total number of cars parked in Arlington. Either way, this policy should be looked at in a comprehensive way. Consider fee-based resident overnight parking for residents, or other solutions.

7. **Develop a program to improve the condition of private ways.** (see Public Facilities recommendation)
8. **Improve mobility and reduce congestion where possible, by harnessing new technology and business models.** Coordinate Town and State agencies' efforts to reduce traffic congestion, particularly on north/south corridors connecting to Route 2, such as Pleasant Street and Lake Street.

Housing Recommendations

1. **Create an Affordable Housing Plan** (Housing Production Plan) and submit to State Department of Housing and Community Development (DHCD) for approval. The Town of Arlington's last Housing Needs and Strategy plan was prepared in 2004. The town should review it for current applicability, especially in light of the increase in young families moving to town. A housing production plan should take into consideration the needs of all demographics, including families, elderly, households with special needs, and households with low and moderate incomes.
2. **Allocate Town resources to meet local needs and the State's requirement for affordable housing under Chapter 40B,** while protecting

neighborhood character. Resources include but are not limited to Community Preservation Act funds, Community Development Block Grant, federal HOME funds, Inclusionary Zoning, local non-profit housing developers, and Town owned land.

3. **Address the quality and condition of aging housing stock, including offering financial assistance programs for homeowners and landlords.** Improvements to the structure and aesthetics of one house on a block often spurs further investment on adjacent properties. Arlington should continue to provide housing rehabilitation assistance with its Community Development Block Grant (CDBG) allocation in order to help moderate-income homeowners address substandard housing conditions. Currently the Town provides low-interest loans to correct code violations, remove lead paint, and weatherize to improve energy efficiency.
4. **Modify parking requirements to encourage multi-family housing and mixed use development in commercial areas.** The cost of parking is often the greatest hindrance to the economic feasibility of dense, urban developments. Minimum parking requirements should be removed for new mixed-use developments on Massachusetts Avenue and Broadway. These locations are well-served by public transit, and are close enough to commercial amenities and civic services so that the need for car use will be reduced.
5. **Study and plan for increasing the supply of smaller, over-55 active senior market-rate housing and for affordable/subsidized housing** to meet Arlington's population trends.

Economic Development Recommendations

1. **Amend the Zoning Bylaw to enhance flexibility in business districts to promote the development of higher value mixed use properties.** The B1 district helps to preserve small-scale businesses in or near residential areas, but changes in other business districts should be considered. The Town should encourage commercial properties along Massachusetts Avenue, Medford Street, and Broadway to develop to their highest and most valuable potential by slightly expanding height and

lot coverage limits, and making more flexible requirements for on-site open space and parking.

2. **Update the Industrial district zoning to adapt to current market needs.** Current industrial zoning is focused on manufacturing and assembly uses, but is not very flexible. Modifications to use regulations would be effective in attracting new businesses and jobs in emerging growth industries such as biotechnology, pharmaceuticals and creative sectors.. The following changes should be considered for the Industrial district:

- Remove the minimum floor area requirement of 2,000 sq. ft. for Personal, Consumer and Business Services. Some manufacturing facilities operate in small spaces, so it should be possible to subdivide available floor area if necessary to support smaller industrial operations.
- Allow restaurants in the Industrial district, to serve employees of new industry, and residents of the region. Patrons of dining establishments are now accustomed to finding restaurants in non-traditional settings. The restaurant industry is growing in the area, including fine dining and “chef’s” restaurants. Due to the timing of operations, restaurants and manufacturing facilities can often share parking and access routes.
- Allow small (<2000sf) retail space by right or special permit in the Industrial districts to promote maximum flexibility in redevelopment of existing industrial properties into higher value mixed use properties..
- Allow residences to be built in Industrial Districts by special permit as part of mixed use developments where associated commercial/ industrial space comprises the majority of usable space. This is particularly helpful in spurring development of live/work studios for artists and creative professionals in visual, graphic and performing arts and associated trades.

3. **Allow new collaborative work spaces to attract small business ventures, innovative companies, entrepreneurs, and currently home-based businesses.** These contemporary work environments provide the facilities, services, and networking resources to support businesses and

help them grow. There has been an increasing amount of new collaborative work space across the nation. Co-work facilities lease offices, desks, or even shared benches for small businesses or individual entrepreneurs. They are meeting needs for comfortable, affordable, short-term work environments by providing monthly leases with maximum support.

In the Boston area alone, several of collaborative work spaces have opened in Downtown Boston, the Seaport Innovation District, Central Square in Cambridge, Field’s Corner in Dorchester, Chelsea, and more. These well-designed and well-equipped offices provide twenty-four hour workspace, lounges, meeting rooms, sometimes food and drink, and most importantly, smart and exciting places to work. They provide more than just an address for a small business; they help to “brand” the business with the collective work environment they inhabit. They are also a hub for networking, promotion, and events.

Arlington has many home-based businesses and freelance employees that could be attracted to work in these types of spaces. In addition, new entrepreneurs and small startup firms from Arlington and across the region would have a new, perhaps more accessible option for their operations. Other contemporary business models that often support collaborative work spaces include business incubators and accelerators. These facilities can be operated as for-profit businesses, making equity investments in companies they host, or as non-profit small businesses, or workforce development projects. Supporting incubators or accelerators in Arlington’s business scene is also worth investigating.

To develop or attract collaborative work space, business incubators and accelerators, Arlington should take the following steps:

- Engage with local collaborative work space providers in the Boston area to learn of their interests or concerns with the Arlington market. This process should include site visits to various collaborative work facilities in Boston, Cambridge, Chelsea, and Somerville. There should also be a continuation of the community engagement process begun by the Town in summer 2014. Meetings with residents, small business owners, and co-work space devel-

opers can help create customized business space for Arlington.

- Survey similar efforts by neighboring cities and towns, including the City of Boston and their current Neighborhood Innovation District Committee, which seeks to expand entrepreneurial small business development throughout the city.
 - Identify cost effective incentives for small business creation that could be directed to collaborative work, incubator or accelerator type of facilities. Federal or state grants can be used for the development of collaborative work space or for reducing costs for new tenants of co-working facilities.
4. **Invest in promotion and support of Arlington's magnet businesses.** Magnet stores attract customers not only from Arlington, but also from neighboring communities. A recent study, *The Economic Impact of Arlington's Theatres* (2013) estimates the significant impact of the Regent and Capitol Theatres on Arlington's restaurants and shops that benefit from theatre patrons. To support magnet businesses,
- Arlington should focus on maintaining and enhancing public infrastructure (parking, roadways, sidewalks, etc.) in the business districts and developing flexible zoning that allows magnet firms to grow and thrive in Arlington. In addition to the for-profit theater businesses, the non-profit theaters and auditoriums also attract out-of-town patrons. Arlington should further invest in the promotion of its performance venues.
5. **Identify and promote locations suitable for high-quality office buildings or an innovation park,** and amend the Zoning Bylaw as necessary to encourage them.
6. **Revisit the recommendations of the Koff Report** (A Vision and Action Plan for Commercial Area Revitalization, Larry Koff & Associates, 2010) and implement the most appropriate ones in coordination with other Master Plan initiatives.

Historic and Cultural Resource Areas Recommendations

1. **Develop a historic and archaeological resources survey plan to identify and prioritize outstanding inventory needs.** This should in-



Arlington's historic Town Hall

clude a prioritized list that includes civic buildings without inventory forms, and threatened resources such as historic landscapes. This activity would be eligible for funding through MHC's Survey and Planning Grant program.

2. **Study the benefits of Certified Local Government (CLG) Status for the Arlington Historical Commission.** CLG status, granted by the National Park Service through the MHC, would put Arlington in a better competitive position to receive preservation grants since at least ten percent of the MHC's annual federal funding must be distributed to CLG communities through the Survey and Planning Grant program.
3. **Expand community-wide preservation advocacy and education,** including integrating Arlington's historical significance and properties into economic development and tourism marketing.
4. **Increase educational and outreach programs for historic resources.** Educational initiatives would be an eligible activity for Survey and Planning Grant funds as well as other funding sources.
5. **Expand educational outreach to property owners of non-designated historic properties.** The majority of Arlington's historic buildings are not protected from adverse alterations. Implement a comprehensive plan for the protection of historic resources
6. **Review and Strengthen Demolition Delay Bylaw.** Arlington's existing demolition delay bylaw

is limited both in terms of the types of resources subject to review and the time period allowed for the review. Consider administrative support to the Historical Commission for responding to demolition delay hearing applications. Document or map historic buildings demolished. Seek volunteers for Historical Commission documentation and inventory. Draft a fact sheet on common demolition determination parameters and basic design and alteration guidelines for historic property owners and future Historical Commission members.

7. **Provide the AHC with the tools to study single-building historic districts** for Town Meeting consideration.
8. **Create a framework for neighborhoods to consider seeking Town Meeting action to designate Architectural Preservation Districts (APD)**, also called neighborhood preservation districts and architectural conservation districts. This could allow the Town to define the distinguishing characteristics of scale and streetscape pattern that should be preserved in a neighborhood.
9. **Integrate historic preservation, zoning, and planning.** Increasing redevelopment pressure on Arlington's existing historic properties has emphasized the need to guide redevelopment in a manner that respects historic character and the architectural integrity of the town's historic neighborhoods and commercial districts. To address the ongoing issue of residential teardowns, the town could consider adopting flexible zoning regulations to encourage the preservation of historic buildings. These new regulations could include different standards for dimensional and use requirements when an historic building is preserved and reused, to provide incentives for preservation of the original historic building.
10. **Preserve the character of the Historic Districts.** For Arlington's existing historic districts, the need for continued vigilance and dialogue between the AHDC and Building Inspector remains a priority to ensure that any changes within the districts are appropriate. Promoting stewardship for these districts is equally important. Creating a sense of place for these districts to highlight their significance and promote their importance to the community would aid in these efforts. Consider amending the zoning

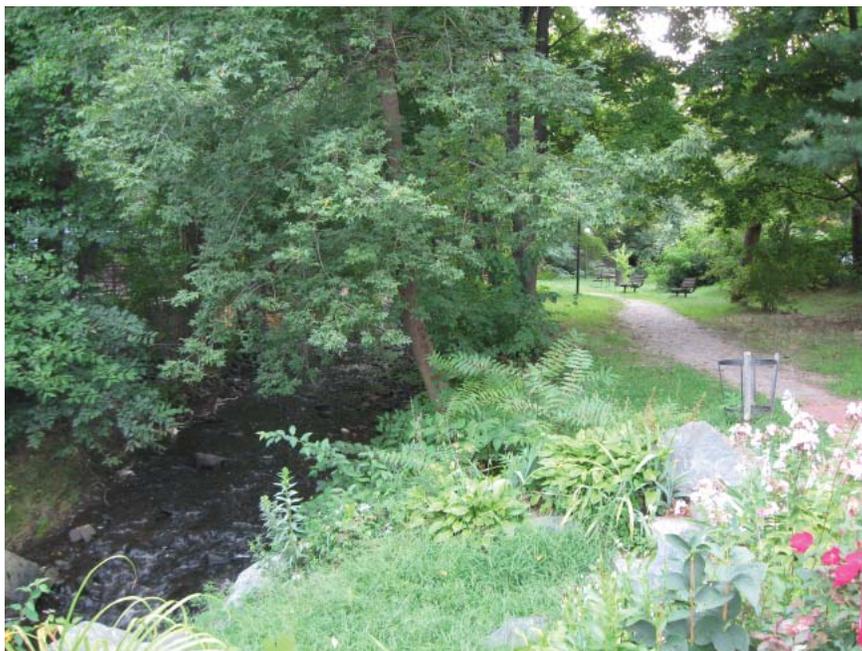
bylaw and demolition delay bylaw to allow alternative uses in historic homes as an alternative to demolition, even if not otherwise allowed in the district, as done in Lexington.

11. **Preserve Town-owned historic resources.** Several civic properties remain in critical need of restoration and not all town-owned resources are formally protected from adverse development and alterations. The Town needs to institute procedures to require historically appropriate preservation of municipal resources. This includes buildings, landscapes, art, and documents. Consider placement of preservation restrictions on Town owned historic properties to ensure continued protection of these community landmarks.
12. **Implement the Community Preservation Act (CPA).** Arlington adopted the Community Preservation Act (CPA) in 2014, while this plan was being prepared. The CPA may now fund municipal historic preservation projects such as the restoration of the Jefferson Cutter House and Winfield Robbins Memorial Garden and preservation planning initiatives such as historic resource inventories, National Register nominations, and educational brochures. CPA funds can serve as a matching source for other preservation funding programs, such as MHC's Survey and Planning Grant program and the Massachusetts Preservation Projects Fund, are available to municipalities to plan for and restore public buildings and sites.
13. **Provide better management, oversight and enforcement of bylaws and policies relating to historic preservation.** Develop administrative and technical support for historical preservation.
14. **Adopt procedures to plan for public art and performance opportunities.**
 - In planning public facilities and infrastructure improvements, allow for designation of space that could accommodate art installations.
 - Preserve existing performance and rehearsal venues and adopt policies that recognize their value.
 - Utilize the Public Art Fund, established in 2013, to help restore and maintain Town owned art and sculpture.

Natural Resources and Open Space Recommendations

1. Create a comprehensive plan for the Mill Brook environmental corridor, including possible “daylighting” options for culverted sections of the waterway, flood plain management, and public access. Apply design guidelines for new development along the corridor to ensure development that will enhance the brook and improve it as a resource for the Town.

Comprehensive plans allow decision making at various scales to adhere to overlying principles. The Mill Brook corridor crosses residential, industrial and open space land use districts. These different zoning districts regulate land use, but do not necessarily ensure that new or repurposed developments respect their environmentally sensitive location or create accessible pedestrian connections among open spaces and adjoining neighborhoods. A Mill Brook plan should create landscaping and building design standards, and establish requirements for public access to the Mill Brook, and the preservation of views.



Cooke's Hollow Conservation Area

2. Address maintenance needs for all of the Town's open spaces and natural resources.

- Consider additional staffing and funding to properly protect and maintain all open spaces and natural resources throughout the Town. Among the steps that should be explored is the designation of a facilities manager for open space, natural resources, recreational areas, and trees to oversee development and implementation of an overall maintenance plan for all Town owned outdoor spaces. In addition, the DPW may need to hire more staff to meet growing maintenance demands at parks and other open spaces, and to coordinate concerns with street trees, invasive plants, and other vegetation. To supplement regular capital planning and budgeting procedures for major open space improvement projects, some funding could be provided through the Community Preservation Act funding, fundraising

with local Friends groups and other local organizations, state or private grants, and other innovative means.

- Street trees are a major asset for Arlington, but they also present problems. They provide beauty and shade, help mitigate ground level pollution, and are part of the greater ecological system. Many trees were lost in recent storms, and more still are at risk. A plan for tree maintenance and replacement need to be developed and implemented in order to replace lost trees, maintain mature trees wherever possible, and attain a desired planting density with appropriate native species. Additional funding is required in order to reverse this trend and start a net increase in street trees. Concurrently, the jurisdiction and management of street trees needs to be better outlined. The responsibility and care for street trees needs to be well understood by residents. The Town and the Tree Committee need to perform public outreach to educate property owners.
3. Pursue strategies to protect large parcels of undeveloped land in order to preserve open space and manage the floodplains.
 - Privately owned property along Route 2 in east Arlington totaling seventeen acres remains undeveloped. The parcels, known locally as the Mugar property, , remains vacant after several proposals were rejected by the Town. The

properties, zoned for Planned Unit Development (PUD) are located adjacent to a large park (Thorndike Field), near the Minuteman Bikeway and Alewife Brook Reservation, and the Alewife Red Line MBTA station. The majority of the site is located in the 1-percent flood zone and construction is heavily restricted. Arlington needs to continue to pursue resolution of this land, either for partial development or complete open space protection.

- The 183-acre Great Meadows is located in Lexington, but is owned by the Town of Arlington, under the jurisdiction of the Board of Selectmen. The largest part of Arlington's Great Meadows is a flat, marshy plain containing a series of hummocks. It is part of the watershed that flows into Arlington Reservoir and eventually into Mill Brook. Surrounding the wetland are wooded uplands crisscrossed by walking trails. The Minuteman Bikeway forms the southern border and offers the most direct access to the trails. More than 50 percent of the site is certified vegetated wetland. The Lexington zoning bylaw protects the wetlands in Great Meadows by zoning them as Wetland Protection District (WPD). However, the property is not fully protected as conservation land. Arlington officials should renew efforts to work with Lexington to investigate ways to ensure its protection for open space and flood control.
 - Among the tools available, a Transfer of Development Rights (TDR) bylaw should be considered as a combined land protection and economic development strategy. In order to be effective, a TDR bylaw will require partnering with a viable land trust so that development rights can be acquired efficiently when the owner of a "sending" area (such as the vacant land near Thorndike Field) is ready to sell.
4. **Use more native and natural choices for landscaping on Town-owned properties; consider replacement of some grass areas with native groundcovers; consider a bylaw to require more native landscaping for new developments.** Arlington should explore the legality of imposing restrictions on the use of invasive plants in landscaping projects and on removing plants from both Town and private property when they create a hazard or threat to other properties or public land. Groups including the Conservation Commission and Department of Public Works should share information with the public about specific species that have been identified as harmful and suggest safe ways to remove them.
 5. **Use environmentally sustainable planning and engineering approaches for natural resources management** to improve water quality, control flooding, maintain ecological diversity (flora and fauna), promote adaptation to climate changes, and ensure that Arlington's residential areas, commercial centers, and infrastructure are developed in harmony with natural resource conservation.
 6. **Implement the Master Plan consistent with the current Open Space and Recreation Plan.** The Town of Arlington's Open Space Committee is updating the current state-approved Open Space and Recreation Plan for 2015-2022. Many of the needs, goals, and objectives in that plan overlap with this Master Plan, and they should be reinforced and expanded, particularly in reference to this Natural Resources/Open Spaces section and in the Recreation section under Public Facilities and Services. Among the Open Space Plan goals are the promotion of public awareness of the Town's valued open spaces and the development of improved access to water resources such as Spy Pond, Mystic River, and Mystic Lakes.
 7. **Consider measures to encourage development projects that respect and enhance adjacent open spaces and natural resources.** Recent projects such as new public parks and protected woodlands at the former Symmes Hospital site and a renovated park between Arlington High School and the Brigham's site demonstrate that economic development can go hand in hand with natural resources protection. Other examples could include ongoing projects that support streetscape improvements (such as Broadway Plaza and Capitol Square). Future emphasis should be placed on using redevelopment incentives and encouraging more public/private planning and collaboration projects such as these. This is also an opportunity to plan for the use of open spaces for more creative and cultural activities, including public art projects.
 8. **Protect all water bodies and watersheds for both healthy ecological balance and recre-**

ational purposes. Work with Cambridge, Somerville, and the MWRA to eliminate all CSO discharges into the Alewife Brook within the next 20 years. Uphold Town Meeting vote to restore Alewife Brook to a Federal Class B waterway

Public Facilities & Services Recommendations

1. **Perform a space needs analysis for all Town-owned buildings, including the schools.** The Town of Arlington owns and occupies many buildings across town. A quantitative and qualitative analysis of all these facilities is needed to prevent under- or over-utilization of space and misappropriation of resources between departments. This analysis should also identify potential needs for space for current or projected uses, and inefficiencies that might affect the operations of a department. In addition to looking at the physical layout of space, an assessment of the environmental quality, such as daylight and the availability of fresh air, should be considered, as well as the adequacy of grounds supporting each facility.
2. **Establish a regular process for evaluating the continued need to retain Town-owned properties and for disposing of properties that no longer serve public purposes.** As part of its asset management responsibilities, Arlington should create a procedure to evaluate Town-owned properties as potential candidates for disposition, and policies to guide how proceeds from the sale of Town property will be used.
3. **Establish a Planned Preventive Maintenance (PPM) program to improve maintenance of Town facilities and structures.** Arlington should create a PPM for all Town-owned facilities, including schools, recreational facilities, parks and open space. **The Town should fund a Facilities Manager position; transfer the maintenance budget and building maintenance personnel from the School Department to the Facilities Manager.** This would benefit Arlington by having a centralized, professional expert overseeing all aspects of facilities management: i.e. routine inspection, needs assessment, routine maintenance, repairs and improvement projects, accessibility improvements, energy improvements, budgeting, and planning. The Facilities Manager should also maintain an inventory of the tenants in each facility, both public and private.
4. **Assess the condition of private ways.** Work with residents to improve the condition of private ways. The Town of Arlington operates trash and snow removal service on private ways, as a preventative measure for public safety. However, property owners are responsible for maintenance of over twenty-three lane miles of private ways in Arlington. Many of these roads are in deteriorated condition, and continue to fall further into disrepair.
5. **Study and develop a plan for addressing Arlington's long-term public works related needs, including cemetery and snow storage needs.**
6. **Establish a sidewalk pavement inventory and a plan designating criteria for pavement types that will be employed for future replacement.** Pavement types include concrete, asphalt, or brick.
7. **Seek Town acquisition of the Ed Burns Arena** from the Massachusetts Department of Conservation and Recreation.
8. **Prepare a feasibility study for an updated Community Center/Senior Center.**

Action Item	Timeline	Potential Funding Sources	Responsible Parties
2.D.2. Continue to work with the Disability Commission to address barriers for people with disabilities at existing recreational facilities, conservation areas, and other public spaces. Improvements may include: <ul style="list-style-type: none"> Increasing handicap parking spots, including for vans, and their visibility near the entrances to major parks and recreational facilities. Creating more accessible paths with interpretive signage (e.g., braille, QR codes) and seating (e.g., benches, picnic tables). Providing more accessible gardening options and equipment. Incorporating accessible playground equipment and structures that expand opportunities for all ages, abilities, or languages. 	Ongoing	Town, CDBG	DC, PRC, DPW, REC, ACC
2.D.3. Work with the Council on Aging (COA) to implement the Age-Friendly Community Action Plan to ensure that Arlington is supporting older residents in meeting their recreational needs and increasing their opportunities to be outdoors.	Ongoing	Town, CDBG	COA, PRC, REC
2.D.4. Work with the Recreation Department, Arlington Public Schools, and community groups to ensure that open spaces and recreational facilities meet the Town's goals of diversity, equity and inclusion, including language access.	Ongoing	Town	OSC, PRC, REC, TM

Goal 3. Support local and regional capacity to meet the needs for recreational opportunities, natural resource protection, and overall resource management to be resilient to climate change.

Action Item	Timeline	Potential Funding Sources	Responsible Parties
Objective 3.A. Sustain and increase Town staff and funding resources to manage conservation areas, recreational facilities, and other public spaces to meet community needs, climate resilience, and adaptation goals.			
3.A.1. Continue to support the Town’s resilience and sustainability initiatives that coincide with recreational and open space planning, including the Net Zero Action Plan, Hazard Mitigation Plan, and Municipal Vulnerability Preparedness Plan	Ongoing	Town	DPCD, SB, OSC, ACC, ARB, SA

Action Item	Timeline	Potential Funding Sources	Responsible Parties
<p>3.A.2. Support implementation of the Public Land Management Plan, including follow up to develop site-specific management plans for the Town’s conservation areas to identify unique challenges, such as the following:</p> <ul style="list-style-type: none"> • The need for larger clean-up efforts • Invasive species control • Impacts of chemical controls on wildlife • Trail maintenance • Impacts of artificial surfaces on heat island effects and the quality of wildlife habitat • Erosion and sedimentation control • Native planting projects 	2025-2027	CPA	DPCD, PRC, DPW, OSC, PLMPWG, ACC
<p>3.A.3. Implement ongoing plans for regular maintenance and upgrading of equipment and amenities at the Town’s recreational facilities, playgrounds, ballfields, parks, etc.</p> <ul style="list-style-type: none"> • Prioritize locations with older, unsafe equipment, those that do not meet ADA standards, and those in EJ Census Tracts and CDBG eligible Block Groups. 	Ongoing	CPC, CPA, CDBG, Municipal ADA Improvement Grant Program	PRC, DPW, REC
<p>3.A.4. Identify a sustainable funding source to support long-range maintenance and upkeep of the Town's recreation and conservation properties and other public spaces, in addition to the Town’s Capital Plan.</p>	Ongoing	Town	TM

Action Item	Timeline	Potential Funding Sources	Responsible Parties
<p>3.A.5. Evaluate overall Town property operations and maintenance of recreational facilities, conservation areas, and other public spaces to ensure the upkeep and ongoing maintenance and to identify opportunities for more environment-friendly approaches and reducing energy consumption. Some considerations are to:</p> <ul style="list-style-type: none"> • Identify needed staff (full-time, part-time, seasonal) to meet community needs. • Identify needs for enforcement of proper use of public spaces. • Control invasive plants with non-toxic means. • Purchase electric or more energy efficient equipment and vehicles. • Install energy efficient lighting. • Follow anti-idling practices. • Install nature-based solutions/green infrastructure to manage stormwater. • Use native plants in landscaping. • Implement sustainable turf maintenance (watering, pest management, etc.). 	2022-2024	Town	DPCD, TM, PLMPWG, DPW, SA, ACC, OSC, PRC, REC
3.A.6. Ensure funding to support Town database and mapping resources, improve data quality and accuracy, and increase Town staffing and funding for the same to aid future open space and recreation planning.	Ongoing	Town	DPCD, Information Technology Dept.
Objective 3.B. Support and participate in state and regional recreation, open space, and climate resilience planning initiatives.			
3.B.1. Coordinate regional open space planning in the Alewife/Mystic region with organizations such as Mystic River Watershed Association, Friends of Alewife Reservation, the Tri-Town Group (Arlington, Somerville, Cambridge), and MA Department of Conservation and Recreation (DCR).	Ongoing	Town	DPCD, DPW
3.B.2. Continue to work closely with neighboring communities on shared open space and recreational resources, such as the Minuteman Bikeway (Cambridge, Lexington, and Bedford), Alewife Brook Reservation region (Belmont, Somerville, and Cambridge), Mystic Lakes/River region (Medford and Winchester), and Arlington’s Great Meadows, Reservoir, and McClennen Park areas (Lexington).	Ongoing	Town	DPCD, ABAC, PRC, ACC, OSC

Action Item	Timeline	Potential Funding Sources	Responsible Parties
3.B.3. Continue to work with the MWRA, DCR, Cambridge and Somerville officials, and other stakeholders to address Combined Sewer Overflow (CSO) pollution and flooding problems in areas bordering Alewife Brook and Mystic River.	Ongoing	Town	DPCD, ACC, Community Groups
3.B.4. Advocate for more state funding for the CPA to match funds raised locally, and for more dollars for local aid and grants for conservation and recreation.	Ongoing	Town	TM, CPA Committee
Objective 3.C. Strengthen the Open Space Committee’s ability to oversee implementation of the OSRP.			
3.C.1. Advocate actively for implementing OSRP goals, objectives, and priorities in conjunction with other Town plans and policies supporting open space and recreation planning.	2027-2029	Town	OSC, DPCD
3.C.2. Work with all responsible parties to develop metrics and other methods to measure progress and document accomplishments on all OSRP goals, objectives, and action items.	2025-2027	Town	OSC, DPCD
3.C.3. Research all Town-owned open space and recreation properties to confirm ownership and management status and update records as needed to comply with state land use and protection guidelines.	2025-2027	Town	OSC, DPCD, TM, SB, PRC, ACC, Town Counsel, Assessors

flags were recorded by a survey team. The locations of the flags were later converted to CAD format to be placed on the topographic survey, which has been provided in Appendix J. Additionally, locations are graphically represented on the Environmental Findings diagram on page 11.

WEATHER CONDITIONS

A site field survey of the Res was conducted on August 28, 2017 for invasive plants. The survey was conducted between approximately 10:00 a.m. and 3:00 p.m. Weather conditions during the survey, as reported by Weather Underground at Hanscom Airport in Bedford, Massachusetts, ranged from clear to partly cloudy with wind speeds of 4.6 to 13.8 miles per hour. Air temperature ranged from approximately 68.0 – 77.0.10F (20.0 – 25.00C).

FINDINGS

Several different types of invasive species were noted in the study area. These include:

- Garlic mustard (*Alliaria petiolata*)
- Japanese barberry (*Berberis thunbergii*)
- Asian bittersweet (*Celastrus orbiculatus*)
- Winged euonymus (*Euonymus alatus*)
- Glossy buckthorn (*Frangula alnus*)
- Morrows honeysuckle (*Lonicera morrowii*)
- Purple loosestrife (*Lythrum salicaria*)
- Japanese knotweed (*Polygonum cuspidatum*)
- Multiflora rose (*Rosa multiflora*)

Although other invasive species may be present on site, eight of these species were observed on August 28, 2017 in the largest abundance. While this study focused on the larger shrubs, trees and vines, garlic mustard is very common in this area, has been observed by visitors to The Res and members of the Reservoir Working Group, and thus added to the list of invasive species found at The Res. Large stands of Japanese knotweed were noted in the southeastern part of the property with smaller instances near the dam spillway and the northeastern side of the site. Asian Bittersweet was found throughout the site, as was Japanese barberry and multiflora rose. The heaviest population of winged euonymus was noted on the north-eastern edge of the site. Purple loosestrife was noted in the wetland resource area downgradient of the dam and at the reservoir's edge. Additionally, while not invasive, poison ivy (*Toxicodendron radicans*) has been observed and has been a nuisance in some areas of the property.

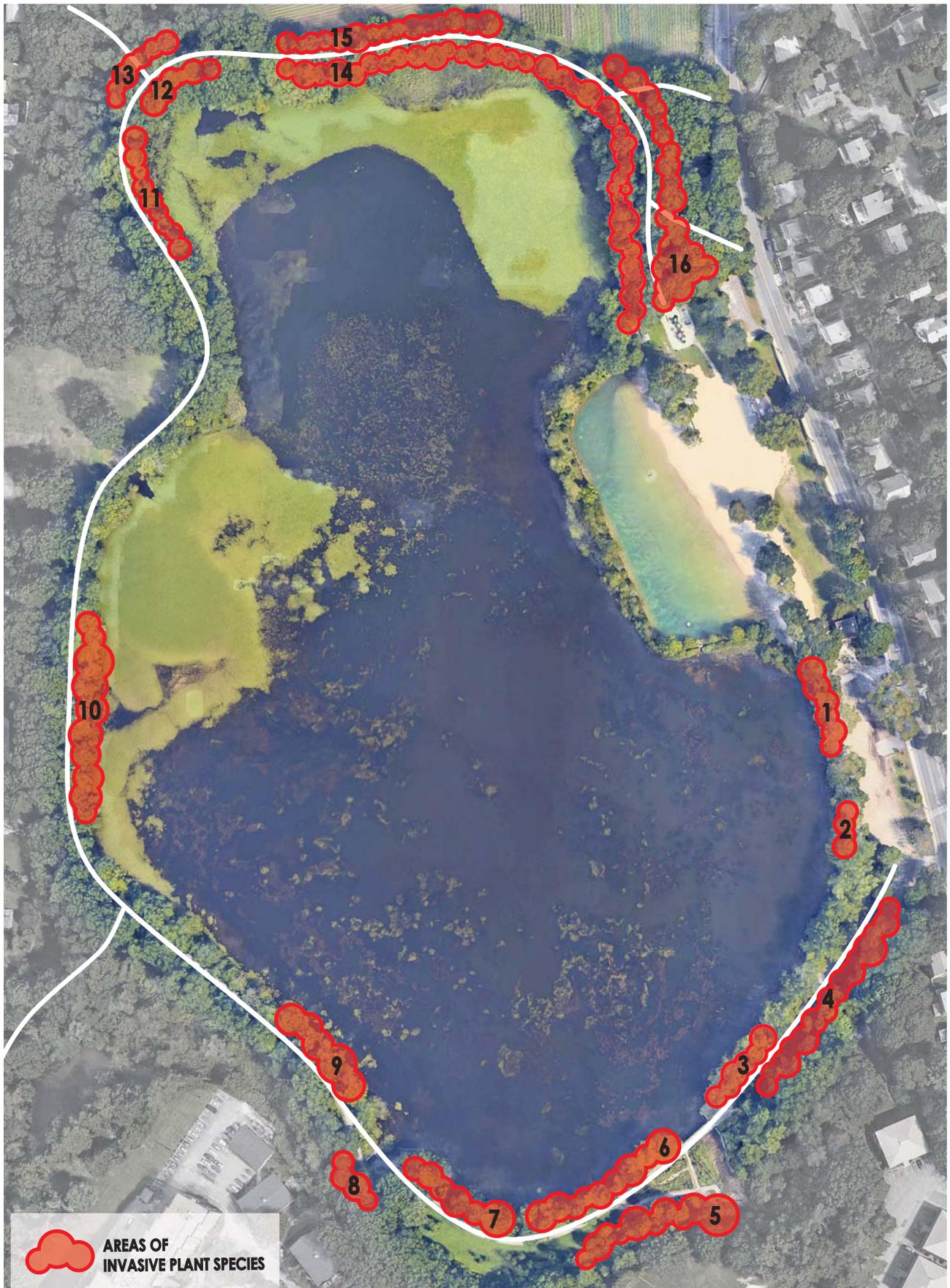


Diagram indicating observed invasive plant species per area, which related to the areas noted in Table 12

The preceding diagram and table below indicate the specific species observed in the numbered areas around The Res:

Table 12. Invasive Species Observed Along the Perimeter Trail (August 28, 2017)									
Area	Japanese Barberry	Asian Bittersweet	Winged Euonymus	Glossy Buckthorn	Morrows Honeysuckle	Purple Loosestrife	Japanese Knotweed	Multiflora Rose	Tree of Heaven
1	Red	Red		Red				Red	
2		Red		Red					Red
3	Red	Red					Red		
4							Red		
5							Red		
6	Red	Red				Red			
7	Red	Red			Red			Red	
8	Red	Red			Red			Red	
9		Red							
10		Red						Red	
11		Red	Red					Red	
12	Red	Red	Red		Red			Red	
13	Red	Red	Red		Red			Red	
14	Red	Red	Red		Red			Red	
15	Red	Red	Red		Red			Red	
16			Red						

A brief description of each species is included below:

Japanese barberry (*Berberis thunbergii*) is a dense, thorny shrub that grows between two and eight feet tall. Leaves grow alternately along the stem, are elliptical in shape, and are usually no larger than five inches in length. Bright red, elliptical berries can be seen between July and October. This species prefers full sun, but can also survive in heavily shaded areas.



Japanese barberry

Asian bittersweet (*Celastrus orbiculatus*) is a fast-growing woody vine that grows up to 60 feet long and can quickly shade out native plants. Juvenile stems appear brown with warts but change to gray-barked when older. Leaves are alternately arranged. Bright yellow/orange fruit are spread by birds and other animals. This species can grow in full sun to partial shade conditions.



Asian bittersweet

Winged euonymus

Winged euonymus (*Euonymus alatus*) is a shrub that is usually between five and ten feet tall and wide. This species is easily identifiable because of its wings along its branches. Leaves are elliptical, one to three inches in length, and are arranged oppositely along the stem. In the fall, the green leaves turn to brilliant shades of red and purple. This shrub can grow in full sun to full shade conditions.

Glossy buckthorn (*Frangula alnus*) is a shrub or small tree that can grow up to twenty feet in height. The gray/brown bark is smooth with white specks throughout. The usually elliptical shaped, dark green leaves are alternately arranged and are one to two-and-a-half inches in length. Small, round fruits change color from red to black as they ripen between July and October. Glossy buckthorn can grow in full sun and full shade alike.



Glossy buckthorn

Morrow's honeysuckle

Morrows honeysuckle (*Lonicera morrowii*) is a multi-stemmed shrub that can grow up to seven feet tall. The elliptical leaves are approximately one to two inches in length and grow oppositely along the stem. The leaf is hairy underneath. White flowers are made of five separate petal lobes and are seen in April or May. This species is mostly spread with the aid of birds ingesting the seeds and dropping them elsewhere.

Purple loosestrife (*Lythrum salicaria*) is a perennial herb that grows up to five feet tall. The erect-growing stems are four- to six-sided and can be quite hairy. Leaves are located oppositely or in whorls along the stem. Magenta colored flowers in clusters form colorful spikes from July through September. This species prefers moist soils and is often found in wetlands areas. Mature plants can produce an estimated 2.5 million seeds in a year that can persist in wet soils for years, ultimately forming vast, dense stands that restrict native plant species.



Purple loosestrife



Japanese knotweed

Japanese knotweed (*Polygonum cuspidatum*) is classified as a perennial herb which is often confused as bamboo. The plant grows upright to ten feet high. The stems are round and hollow. Leaves measure up to seven inches long and four inches wide with sharp tips. White or greenish colored flowers appear in August and September in numerous, branched clusters. Japanese knotweed is adaptive to its environment, being able to grow in full sun and full shade. This species spreads both by budding from roots and by seed. It grows in dense thickets.

Multiflora rose (*Rosa multiflora*) is a shrub with stems that may attain ten to fifteen feet in length. The stems are red to green with thorns. Clusters of white, or sometimes pink, five-petal flowers appear between May and June. This species can adapt and grow in full sunlight to full shade and tolerates a wide variety of moisture conditions.



Multiflora rose



Garlic mustard

Garlic mustard (*Alliaria petiolata*) is a biennial shade-loving herb. It is most often found in the forest understory or along forest edges and tolerates low light levels. Populations of garlic mustard can spread rapidly and advance about twenty feet per year or more. In the first year, seeds germinate in the spring and form low growing rosettes of dark purple to green, kidney-shaped leaves with scalloped edges. Young leaves smell distinctly of garlic or onion when crushed; the odor becomes less intense as plants grow older. Leaves on second year plants are roughly triangular and sharply toothed, a little over one to three inches wide and long, and become gradually smaller towards the top of the stem.

Wetlands Survey

The area surrounding the Res includes substantial areas of wetlands. Wetlands are protected under the Massachusetts Wetlands Protection Act. Wetlands also provide significant ecological, recreational, and water quality functions and values. Wetlands in the study area were assessed with the following goals:

- Creating an inventory of existing wetlands type and extent.
- Delineating wetlands for protection during operation and improvement of The Res property.

The discussion below provides the results of our field assessment of wetland species. The wetlands field map and MassDEP Bordering Vegetated Wetland Delineation Field Data Forms are included as Appendix L.

APPROACH AND METHODS

Wetland resources were identified in the field by a certified PWS, who is trained in the wetland delineation process using the Massachusetts Department of Environmental Protection (MassDEP) manual, *Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act*, and the US Army Corps of Engineers *Wetland Delineation Manual*. The locations of the flags were later converted to CAD format and placed on the topographic survey (Appendix J).

WEATHER CONDITIONS

A wetlands survey of The Res was conducted on August 28, 2017 for wetlands resources simultaneously with the invasive plants survey. Weather conditions are discussed in the previous section.

FINDINGS

The Res comprises approximately 24.5 acres in area of land under water. It is surrounded by approximately one mile of bank, all of which is considered steep, allowing for little bordering vegetated wetland (BVW) associated with the reservoir. Based on our survey, wetland areas in the