



December 23, 2017

To: Melissa Peters, Project Manager, Envision Alewife

Copy to: Cambridge City Council, DPW Commissioner Owen O'Riordan, Deputy City Manager for Community Development Iram Farooq, Director of Environmental & Transportation Planning Susanne Rasmussen, Environmental Planner John Bolduc

Subject: Comments on the Envision Alewife Plan

Dear Ms. Peters:

I am writing on behalf of the Mystic River Watershed Association (“MyRWA”) regarding the Envision Cambridge Alewife Plan, as presented to the Cambridge City Council on November 20.

Please share these comments with Utile and members of the Alewife Working Group.

#### **MyWRA's interest in the Alewife Envision Plan**

MyRWA is a 501(c)(3) nonprofit organization dedicated to the preservation and enhancement of the Mystic River, its tributaries and watershed lands for the benefit of present and future generations.

MyRWA seeks to protect and restore clean water and the natural environment, and to promote responsible stewardship of our natural resources. In addition, MyWRA promotes public access to, and enjoyment of, the Mystic River and its tributary waters and shores.

The Alewife Envision Plan area includes much of the Alewife Brook sub-watershed, an important section of the Mystic River Watershed. Within the planning area are the Alewife Brook Reservation, a state park established in 1900, the Little River, Fresh Pond Reservoir and Reservation, and Jerry's, Blair, Perch, and Little Ponds. The Alewife Reservation serves as a habitat for numerous indigenous and migratory birds, and as spawning grounds for anadromous river herring, which migrate from the Atlantic Ocean via the Mystic River. Spawning habitat in the Mystic River system is being realized as increasingly important as it is the largest river herring run in Massachusetts.

20 Academy Street · Suite 306 · Arlington, MA · 02476-6401 · Tel. (781) 316-3438 ·

*Serving Twenty-Two Communities*

*Arlington Belmont Burlington Cambridge Charlestown Chelsea East Boston Everett Lexington Malden Medford  
Melrose Reading Revere Somerville Stoneham Wakefield Watertown Wilmington Winchester Winthrop Woburn*



After reviewing Utile's Final Update presentation to the City Council on November 20, MyWRA is submitting comments on two main areas of concern:

1. Water quality improvement and flood protection
2. Neighborhood connectivity and support for modes of travel other than the private single-occupant automobile.

**First concern: Poor water quality and tendency to flooding in the Alewife Brook sub-watershed, require more intensive management of stormwater and sanitary sewer infrastructure**

In 2015, MyWRA, together with the U.S. EPA, developed a new grading system for the yearly EPA-administered Mystic River Water Quality Report Card. In 2016, Alewife Brook, the Little River, and Winn Brook upstream in Belmont received a water quality grade of D-plus. This grade indicates that water quality was in compliance with the State's freshwater standards only 52% of the time. About 20% of the time, Alewife Brook was not safe for boating, and coming in contact with the water presented a health risk.

In 2002, the Massachusetts Department of Environmental Protection listed Alewife Brook as “impaired” by “Pollutants of Concern” including metals, nutrients, organic enrichment, pathogens, oil and grease, and objectionable sediments. In the intervening years, Cambridge has completed the separation of sewer systems in neighborhoods near Alewife, and in 2011, the MWRA and the City of Cambridge constructed a 3.4 acre wetland/park/detention basin in the Alewife Reservation that accepts the stormwater runoff that previously flowed in combined sewers. This wetland slows the flow of runoff, and removes pollutants and nutrients before they enter the Little River. Cambridge and the MWRA have also eliminated 6 of 8 combined sewer overflow points on Alewife Brook. While significant progress has been made, the water quality in Alewife Brook still does not meet state standards and the sub-watershed still receives a D grade. This is an unacceptable condition in a highly urbanized area with plans for high-density residential use and the concurrent needs for access to open space and recreation opportunities.

As the Alewife population grows, more people seeking recreation and open space will come into contact with the sub-watershed's streams, ponds and shore. Safe, clean surface water will become more critical. Cambridge should develop stormwater management and sewer system control plans to achieve an “A” water quality grade in the Alewife sub-watershed, as an integral part of planning for more intensive development of the area. This grade would bring the sub-watershed up to the same clean water standard as the main stem of the Mystic River

20 Academy Street · Suite 306 · Arlington, MA · 02476-6401 · Tel. (781) 316-3438 ·

*Serving Twenty-Two Communities*

*Arlington Belmont Burlington Cambridge Charlestown Chelsea East Boston Everett Lexington Malden Medford Melrose Reading Revere Somerville Stoneham Wakefield Watertown Wilmington Winchester Winthrop Woburn*



and would mean that the water quality meets swimming and boating standards nearly all of the time. These plans should be in place before further intensive development of the area is permitted.

Water quality in the Alewife Brook sub-watershed is compromised by stormwater runoff from impervious surfaces, including contaminated industrial sites, highways and parking lots, improperly constructed or maintained sites, and building roofs. Urban runoff typically contains trace metals from traffic, grease and oil from vehicles, sand, salt and de-icing products from highways and parking lots, and nutrients that contribute to eutrophication, a process that degrades water quality and habitat. Alewife Brook is also impacted by nutrients and pathogens (bacteria) in sewage overflows from illicit sewer connections and damaged or nonconforming sanitary sewer lines.

A third pollution source is two combined sewer overflows (CSO's) that discharge untreated sewage into Alewife Brook when heavy rainfall overwhelms the municipal storm sewer system. These CSO's have a variance to operate from the U.S. EPA until August 31, 2019, and the Massachusetts Department of Environmental Protection expects they will comply with Class B “swimmable fishable” water standards 98% of the time.

Excessive stormwater runoff contributes to ponding and flooding, which can then increase problematic discharges from faulty sanitary sewers and combined sewer overflows, and compound soil erosion and degradation of water quality and habitat. Flooding is a well-documented and chronic problem in the Alewife area, due to its low elevation, high groundwater level, flat topography, poor soil quality, slow infiltration rates, and a high percentage of impervious surface. With the current stormwater management approach, both water pollution and flood risk in the Alewife area are likely to be exacerbated by the planned increase in development and density, in addition to more intense storms and sea level rise as consequences of climate change. Hydrologic changes might even threaten water quality in the Fresh Pond Reservoir, Cambridge's drinking water source. (Sarah Slaughter letter).

## **Recommendations**

*Execute a detailed hydrologic study, and upgrade stormwater management planning, and sewer overflow control plans*

Cambridge's last hydrological modeling of the Alewife area was completed in 2006, and the Envision plan does not appear to include a detailed hydrological study. Since 2006, intensive development has taken place that is likely to affect hydrology of the area. Noting that more large-scale development is planned, and climate change will increase stormwater volumes and intensity and introduce the risk of flooding due to coastal storm surges,

20 Academy Street · Suite 306 · Arlington, MA · 02476-6401 · Tel. (781) 316-3438 ·

*Serving Twenty-Two Communities*

*Arlington Belmont Burlington Cambridge Charlestown Chelsea East Boston Everett Lexington Malden Medford  
Melrose Reading Revere Somerville Stoneham Wakefield Watertown Wilmington Winchester Winthrop Woburn*



we recommend that Cambridge update its hydrological modeling of the area, and use the new data to develop effective stormwater and sewer management practices for the Alewife area that protect natural resources and public health for projected conditions in the next 50 years.

Cambridge currently requires private property owners seeking permits for moderately sized or large new construction in the Alewife area, provide on-site stormwater detention storage that reduces the stormwater flow to municipal storm sewers of a 25-year storm post-construction, to that of a 2-year storm prior to construction.

The storage must also remove 80% of suspended solids, 65% of phosphorus and 98% of trash and floatables; this stipulation assumes that other pollutants such as oil and grease are also removed in the process. Projects are also constrained not to increase runoff from the property, and to maintain annual infiltration rates that recharge the groundwater. Projects are also required to have 25% of their site be permeable surface. In addition, projects within the 100-year flood plain are required to detain the additional runoff volume caused by the development, and must demonstrate that the project does not increase the elevation of floodwaters. Stricter requirements are set for hot spots such as vehicle fueling stations. Redevelopment of previously developed sites must meet these standard to the maximum practicable extent.

These are minimally acceptable stormwater management requirements, but they do not “move the needle” on improving the area's water quality, and may not be sufficient to reverse legacy flooding and infrastructure problems, changing hydrology due to large scale development, and the new challenges of climate change. They address one property at a time in an area with fractured parcel ownership, and are calibrated to maintain current stormwater quality and quantities under current conditions. According to the Cambridge Climate Change Preparedness and Resilience Draft Alewife Preparedness Plan (City of Cambridge, November 2017), the City is considering updating the design storm criteria to the 2030, to include climate change impacts. We recommend that, at a minimum, 2030 design storm criteria be applied to all Alewife development projects.

Finally, will Cambridge articulate whether it has the goal of eliminating ‘combined sewer overflows’? If this is a goal of the City of Cambridge it likely has impact on the planning and infrastructure requirements within Alewife.

*Plan for low impact development (LID) policies and public green infrastructure in the Alewife area.*

We recommend that the Alewife Envision plan include more extensive Low Impact Development (LID) requirements and goals for private developments that will improve rather than merely maintain current,



substandard stormwater conditions. Such requirements and goals might include SITES certification, reduced parking area, vegetated buffers, and green roofs.

The Envision Plan should also expand the network of public green infrastructure, such as parks, squares, ponds, community gardens, urban forests and orchards, “cool corridors”, tree canopy, naturalized habitat, and green corridors that align with well-connected complete streets and shared use paths. In addition to storing and cleaning contaminated runoff, a higher proportion of publicly accessible green and natural spaces is essential to achieve the Plan's goals of mitigating extreme heat events and heat island effect, and creating walkable, livable neighborhoods. Reserving this storage land now is a cost-effective way to reserve storage capacity for future years when the area is built out.

To cite one example, the Envision proposed build-out plan for the Quadrangle reserves only 4 acres (175,400 sf) of public green space, an insufficient amount relative to the proposed 6.4m sf of building floor area (.027%), considering its multiple, vital roles in achieving the stated goals of liveability, walkability, heat mitigation and stormwater retention. Further, the two green areas shown are not connected. We recommend that a much higher proportion of public green space should be reserved in the Quadrangle, and integrated with Blair Pond, the Alewife and Fresh Pond Reservations.

To cite a second example, the Envision proposed treatment of Alewife Parkway does not include green space or shade to mitigate heat, or vegetation and green infrastructure to slow the flow of contaminated roadway stormwater runoff. In keeping with the CCPR Draft Alewife Preparedness Plan, we recommend “cool corridor” treatment of the Parkway, with bike and walking paths and bus stops, so people can travel safely during high heat events.

**Second Concern: To reduce traffic-generated pollution and improve livability, equity and mobility in the Alewife area, the Envision Plan must make non-auto travel a top priority and an easy choice.**

As a watershed association, we help people access and enjoy water resources and open spaces in the watershed, as an energizing civic amenity. We support walking and biking, to reduce traffic and environmental pollution and improve public health. We believe the Alewife Plan can create a uniquely attractive neighborhood where getting around without single-occupancy vehicle travel is easy and safe.

### **Recommendations**

*Complete the network of regional walking and biking paths, including a connector between the Fresh Pond Reservation and the Triangle.*



The Alewife area sits at the junction of a regional shared-use commuter path system to the north and east. The Minuteman Bikeway from the north, Fitchburg Cutoff Bikeway from Belmont, the Alewife Reservation Greenway from Acorn Park on Route 2, the Alewife Greenway Path to the east, and Alewife Linear Path to Davis Square in Somerville, all come together at the MBTA station in the Triangle. The Fresh Pond Bikeway, which touches Concord Avenue at New Street and Smith Place, affords access to Watertown and the Charles River paths. Many people walk and bike between these two path systems on Alewife Brook Parkway, a challenging route with unbuffered sidewalks and a non-separated bike lane. Non-separated lanes are not recommended for the volume and speed of vehicular traffic that is typical on the Parkway. The Envision Alewife Plan should include a pedestrian and bike--friendly route on Alewife Brook Parkway from the MBTA Alewife Station to Concord Avenue, and a signalized crossing on Concord Avenue at Wheeler Street.

*Connect the quadrants with safe, inviting walking and bike connections*

Two formidable barriers, the rail lines and Alewife Brook Parkway, divide the Alewife area into four separated quadrants: the Quadrangle, the Shopping Center, the Triangle and Acorn Park, and the Rindge Avenue neighborhood and Jerry's Pond. In addition, walking and biking within each precinct is discontinuous. The Parkway bifurcates the Shopping Center, with only two inadequate pedestrian crossings, the Terminal Road underpass and the signalized grade crossing at Terminal Road. There is no safe, direct route from the Shopping Center to Danehy Park, Tobin School, and the North Cambridge neighborhood.

Safer, more inviting walking and bike connections between quadrants are essential to creating a vibrant urban district that is not dominated by automobiles, parking, and traffic, and should be a central priority in the Envision Alewife Plan. Walking and biking connections across the Parkway and rail tracks would give residents and businesses access to open natural resources including the Alewife and Fresh Pond Reservations, Jerry's Pond area, and Danehy Park, and to transit and local retail and services.

To connect the Quadrangle to the Triangle and give area residents access to the Alewife Reservation and MBTA transit station, we recommend that the Alewife Envision Plan include an elevated pedestrian and bike bridge crossing the rail tracks between the Quadrangle and the Triangle. This bridge might be designed for shuttle vehicles to further improve mobility and shift mode share away from single-occupancy vehicles.

To connect the Quadrangle to the Shopping Center, Danehy Park and the Tobin School, we recommend that the Plan include a “complete street” route, comfortable and safe for walking and biking, from Wheeler Street to Terminal Road, through the Fresh Pond Mall parking lot, to Danehy Street and New Street.



*Integrate bike and walking paths with water resources, civic and green open space, and recreation.*

MyWRA, through its Greenways Initiative, has been instrumental in creating publicly accessible paths, parks and natural scenic settings in dense urban and industrial areas. Examples relevant to Alewife include Rivergreen in Everett, near the growing Santilli Highway brewery district; Blessing of the Bay Boathouse and Park in Somerville, which offers picnicking, affordable boat and paddle rentals, and dock space for community crews; and Baxter Park at Assembly Row, Somerville, which offers concerts, play structures, markets, restaurants and retail with river views. Greenways along the Mystic and its tributaries provide wetlands for stormwater storage, urban forests and vegetation for cooling and improved air quality, and habitat for wildlife. They host boating and swimming, wildlife viewing, picnicking, playgrounds, community gardens, performance stages, outdoor markets, public art, interpretive displays, and restaurants, as well as walking, running, and biking for all levels of ability. We believe the Alewife Envision Plan should provide a network of *public* green and natural open spaces that have the potential to be vibrant regional bike and pedestrian routes, recreation and scenic settings, and urban civic spaces with retail and restaurant activity.

*To encourage walking and biking, and reduce traffic impacts, design for alternative mobility solutions.*

To support a successful walking and biking neighborhood, the Envision Alewife Plan should include space for alternatives to the single-occupancy vehicle for local trips and commuters. These may include shuttle and vanpool services, car sharing, bike sharing, ride sharing, bicycle storage, and congestion pricing for parking. A commuter rail station should be considered.

### **Next steps**

We ask that you incorporate these comments in Utile's final draft report, and substantively address these concerns in the next phase of the Envision Plan. We understand that Cambridge intends to develop a list of next step priority actions for the Alewife area in the spring of 2018. We further recommend that these concerns be addressed in a substantive way before permits are granted for additional significant development in the area. As an interested stakeholder organization and partner in protecting the watershed, we encourage the next steps in Envision Alewife planning. Thank you for the opportunity to comment on this important planning initiative.

Sincerely yours,

Patrick Herron

Executive Director

20 Academy Street · Suite 306 · Arlington, MA · 02476-6401 · Tel. (781) 316-3438 ·

*Serving Twenty-Two Communities*

*Arlington Belmont Burlington Cambridge Charlestown Chelsea East Boston Everett Lexington Malden Medford Melrose Reading Revere Somerville Stoneham Wakefield Watertown Wilmington Winchester Winthrop Woburn*