



Conservation Agent Emily Sullivan
Department of Planning & Community Development
Town of Arlington
730 Mass Ave. Annex
Arlington, MA 02476

Re: Arlington High School Notice of Intent, File #091-0323

July 2, 2020

Dear Conservation Agent Sullivan:

Thank you for the opportunity to comment on this redevelopment project, whose consequences will be important to the future hydrology of the Mystic River watershed and to our community.

The Mystic River Watershed Association (MyRWA) was founded in 1972 to protect and restore the river, its tributaries, and watershed lands, spanning 21 municipalities from Reading through Revere, for the benefit of present and future generations. As part of this work, our organization has a powerful focus on climate resiliency and the acute risks of increasing flooding and other impacts as climate disruption manifests on our communities. Our organization is headquartered in Arlington, just a few minutes' walk from the site of the high school.

We applaud the applicant for many aspects of this development proposal which seem, upon our review of the Notice of Intent, thoughtfully designed and beneficial to our community. With respect to environmental impact, these positive elements of the proposal include:

- Attention to erosion and sediment control during construction.
- Intent to meet both state and local low impact development BMPs including use of rain gardens and pre-treating stormwater with water quality units.
- Improvements to the riverfront area including wildlife friendly plantings and "low mow" grasses.
- Steps taken to meet the MA Department of Environmental Protection's 2008 stormwater standards such as pre-treatment of discharge, avoiding net increase in discharge rates (despite introduction of some new impervious surface), and removal of total suspended solids (TSS) via catch basins and other features.

However, we have significant concerns that the development as proposed needs further attention to the accelerating risk of flooding due to climate disruption and to the potential environmental damage from runoff from the artificial turf field.

Planning for the anticipated impacts of climate disruption

We urge Arlington to require the developer to demonstrate that the new site will not be impacted by flooding in the 500 year floodplain (Zone X) and/or that appropriate mitigations will be taken for this scenario.

We recognize that planning for mitigation against Zone X flooding events goes beyond the regulatory requirements under [310 CMR 10.02(2)(b)3] for Bordering Land Subject to Flooding, but we believe this step is necessary to protect into the future the substantial investment made by the Town in the school redevelopment. The proponent's application states with respect to the Mill Brook culvert: "Historically this culvert has been shown to be undersized and has caused flooding and floor buckling within the basement of the High School." Such a recurring cost and disruption from flooding is unacceptable and unnecessary for new construction in 2020 and can be avoided with foresight into the changing nature of our regional climate.

In partnership between MyRWA, the Town of Arlington, and many other stakeholders in our watershed, the Resilient Mystic Collaborative has gathered ample data and scientific projections about the impacts climate disruption will have on Arlington and other lands in our watershed¹. This evidence makes clear that our region will be subject to more and more extreme precipitation events in the coming decades that will increase the frequency of "500 year storm events" (as established under prior climate conditions) and challenge the capacity of floodwater storage systems. The 2016 Climate Ready Boston report, for example, reports a Boston Water and Sewer Commission projection of a 15% increase in the precipitation from the 10-year, 24 hr design storm over the next 4 decades².

The NOI filing focuses on the 100yr flood plain (Zone AE), which does not extend to the footprint of the proposed development. However, we believe the accelerating risk of flooding due to climate disruption makes the 500 yr floodplain (Zone X) a more relevant basis for planning. According to Figure 3 of the "Wetland Delineation Memo" submitted with the NOI, all or a large fraction of the project site falls within Zone X.

In the proponent's Stormwater Report, the developers quote their Flood Impact Study which confines the Zone X flood risk to within the banks of the Mill Brook: "after a field survey of elevations present at the site, we have concluded that the flood elevations shown on the FEMA mapping are held within the banks of the Mill Brook and do not encroach on the site." That claim is difficult to reconcile with the historical evidence cited elsewhere of impacts on the existing high school's basement.

¹ <https://resilient.mysticriver.org/climate-data>

² https://www.boston.gov/sites/default/files/document-file-12-2016/brag_report_summary.pdf

Mitigating the stormwater impacts of artificial turf

The design of the turf fields should prioritize the health of people and the environment. Artificial turf fields built with crumb rubber fill are known to leach toxic levels of heavy metals, particularly zinc, that pose a significant risk to aquatic life in nearby surface waters after rain events, according to a study conducted by the Connecticut Department of Environmental Protection in 2010³. While we appreciated the supplemental narrative on artificial turf provided by the proponent and its discussion of the potential for drinking water contamination, we strongly advocate for the implementation of stormwater best management practices (BMPs) specifically designed to mitigate the effects of heavy metal contamination that would endanger fish and other aquatic species as well.

Given that rubber fill will contribute to the heat island effect, the best alternative would be to use an organic infill such as GreenPlay⁴, PureFill⁵, or Geofill, which consists of 90% crushed coconut husks and 10% cork and was recently installed at Simmons College's Daly Field on the banks of the Charles River.

The proponents plan for an existing compensatory flood storage area to be replaced with a larger capacity within the stone of the turf fields. **We recommend that the proponents be required to demonstrate that this increased storage capacity, together with other measures made in the development, will be sufficient to mitigate the impacts of a 500 yr flood event at the site and that the potential for stormwater contamination from the artificial turf will also be mitigated.**

Thank you again for the opportunity to comment on this important development.

Sincerely,



Patrick Herron
Executive Director, Mystic River Watershed Association

P. S. While not covered in the Notice of Intent, we want to draw attention to an issue at Arlington High School that has impacted Mill Brook. On a regular basis, sports teams have held car washes for the purpose of fundraising. These car washing events, while laudable in supporting youth athletics, result in the direct discharge of detergents, grit and associated pollutants to Mill Brook. We would request that the proponent of the project offer a modification that allows for these events but offers an opportunity to discharge to the sewer system.

³<http://www.ct.gov/deep/cwp/view.asp?A=2690&Q=463624>

⁴<http://greenplayusa.com/>

⁵<http://www.fieldturf.com/it/purefill>