



November 26, 2019

Via Email

Page Czepiga
Assistant Director, MEPA Office
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114
page.czepiga@state.ma.us

Re: ENF for Waltham High School, 554 Lexington Street, Waltham

Dear Page:

Charles River Watershed Association (“CRWA”) submits the following comments on the Environmental Notification Form (“ENF”) and Supplemental Information for the Waltham High School project in Waltham, Massachusetts filed with the MEPA Office on August 28, 2019 and November 5, 2019, respectively. The City of Waltham’s proposed development includes an approximately 414,850-square foot school building, athletic field, garage, parking lots, roadways, and pedestrian paths. To build this project, the City is proposing to add 9.72 acres of new impervious area to the site (for a total of 14.3 acres) and impact 1,660 linear feet of stream and 4,439 square feet of bordering vegetated wetlands on the site. An Environmental Impact Report (“EIR”) should be required to fully evaluate the environmental impacts of and alternatives to a project of this scope and magnitude.

While we certainly appreciate the demand for a school facility that meets the current and anticipated needs of students, those needs should include a healthy environment for both students and the surrounding community. Creation of nearly 10 new acres of impervious surface will increase stormwater runoff, decrease groundwater recharge, and exacerbate heat effects. Loss of naturally occurring stream and wetland areas impacts wildlife habitat, hydrology, and natural flood storage. Trees, vegetation, streams, and wetlands are also critical to maintaining air and water quality and providing cooling, and the loss of these resources has a direct impact on environmental health. And all of these impacts will only be exacerbated as climate change brings increased heavy rainfalls, more drought, and hotter temperatures.

At the same time, minimizing impervious surfaces, maximizing the functioning of natural ecosystems, and employing green infrastructure can help to mitigate the effects of climate change and result in a healthier environment for students and the community. A GIS analysis of the Charles River watershed conducted by CRWA and The Nature Conservancy (<https://maps.coastalresilience.org/massachusetts/>) indicates that a large area of this site is unprotected and undeveloped land that is important for protecting drinking water supplies and sustaining biodiversity. By conserving these lands and the ecosystem processes they provide, the

City would improve its climate resiliency and be better able to handle drought. This property is also located within an environmental justice community and a green space desert, meaning that protecting the natural resources on site – including trees, the stream, and wetlands – would provide critical environmental benefits in an area where they are particularly needed. Further analysis through an EIR is necessary to fully assess the environmental impacts of this project and how those impacts can be avoided, minimized, and mitigated.

Impervious Surface

Creation of new impervious area (the City is proposing to add 9.72 acres for a total of 14.3 acres on the site) should be avoided wherever possible. The City should consider whether more can be done to reduce the amount of surface parking and incorporate green infrastructure into the parking lot design that will treat the excess stormwater generated by additional impervious surface. There is also mention in the ENF of strategically utilizing pervious pavers, but more details are needed to fully evaluate that mitigation measure. The ENF also does not say whether the City has considered alternatives to impervious surfaces such as porous pavement for walkways or use of green roofs or cisterns to reduce the volume of runoff generated by the project. More information and analysis of alternatives should be provided in an EIR so that the public can fully understand and evaluate the environmental impacts of this project. The fact that the amount of impervious surface this project would add is *barely* below the mandatory EIR threshold (10 acres) also supports preparation of an EIR for this project.

Streams

The City is proposing to impact 1,660 linear feet of existing stream and create 1,800 linear feet of new stream elsewhere on the site. The ENF characterizes the stream as intermittent, but any stream, whether intermittent or perennial, is important to an area's hydrology and ecology. Streams are also often incorrectly characterized as intermittent because they happen to be dry when observed, or because they have been previously filled, as seems to be the case with at least part of the stream here. Impacts to streams should be avoided where possible and minimized and mitigated where they cannot be avoided.

The ENF indicates that the “replicated” stream will be used to gather stormwater to better protect adjacent landowners from flooding; specifically, that it will capture sheet flow from an undeveloped hillside which currently does not enter the existing stream. There is no analysis, however, of what effect that stormwater will have on water quality or flow within the stream. The ENF also indicates that the replicated stream's watershed will be larger than the watershed for the existing stream but does not contain any explanation or analysis of why this would be beneficial. The figures provided indicate that the replicated stream would be piped underground for a longer distance than the existing stream, but there is no analysis of what downstream impact that might have, if any. Finally, the ENF indicates that new banks along the replicated stream will be planted with native plants, but the City is only committing to maintaining those plantings for a minimum of two seasons. To ensure stream and stream bank health, ongoing monitoring and maintenance is necessary, including removal of invasive species.

This presents a potential educational opportunity, and we would be happy to provide examples of programs that build invasive species management into the curriculum.

If the City proceeds with a stream “replication” project, we would strongly recommend that Alternative 3 from the Supplemental Information be selected, rather than the City’s proposed project. Alternative 3 has less overall impact than the other alternatives, according to the Supplemental Information; it appears to have the shortest length of culverted stream among all of the alternatives; it follows a natural grade (unlike the proposed project), likely requiring less maintenance over time; and it will likely result in higher water quality than the proposed project, as long as it is bordered by green infrastructure and/or bordering vegetated wetlands.

Wetlands

The City is also proposing to impact 4,439 square feet of existing bordering vegetated wetlands and create 4,670 square feet of new wetlands elsewhere on the site. Wetlands protect water quality and provide vital flood storage and habitat. Creation of new wetlands is difficult, as success depends on the existence of specific conditions. It is far better to protect existing wetlands and restore degraded wetlands than to “move” wetlands by attempting to create them in a new location. Impacts to wetlands should be avoided where possible and minimized and mitigated where they cannot be avoided. Assessment of wetlands and/or green infrastructure along the proposed stream bank will be necessary and these features should also be used to mitigate stormwater runoff from roads and pathways on the site.

Groundwater

The ENF states that because of the site’s topography, rock cuts will be below groundwater levels in several areas, which will cause groundwater to flow from and exit the site. Groundwater is an important component of the site’s overall hydrology, and the ENF does not indicate what impact this loss of groundwater will have or acknowledge the important connection between groundwater and the stream and wetlands on the site. The ENF states that the lower portion of the stream currently flows more frequently and for longer duration due to groundwater discharge and its lower elevation but does not indicate how relocation of the stream might alter that connection.

This is particularly concerning because the City has indicated that it will only comply with groundwater recharge requirements to the maximum extent practicable; it will not fully comply with recharge requirements. Alternative 3 may address these concerns to some extent by accepting some of the groundwater discharge that would otherwise be lost. In the proposed project, the groundwater discharge may actually end up forming an intermittent stream in the natural grade and interfering with proposed roads and paths. Impacts to groundwater and any associated impacts to surface waters should be fully evaluated in an EIR.

Trees & Vegetation

The ENF does not say much about trees and vegetation on the site, other than to reference undeveloped wooded areas. Based on the site rendering in the ENF, there will be extensive clearing of these wooded areas in order to construct the school. Trees and other vegetation protect air and water quality, help to control stormwater runoff and flooding, and provide natural cooling. The impacts of clearing trees and vegetation on the site should be evaluated in an EIR.

The City should avoid cutting down as many trees (especially mature trees) as possible. Mitigation of tree removal should be required onsite and there should be no net loss of trees from the site – any trees removed should be replaced with trees along proposed roadways and in proposed landscaped areas to help mitigate temperature impacts. Mature trees should be replaced on a 2 to 1 basis. While the benefits of new young trees will not be the same as the mature trees removed, it will be a start.

Stormwater Management

The ENF notes that the project will meet MassDEP's stormwater management regulations but does not specifically demonstrate how compliance will be achieved. There are specific requirements for development and redevelopment projects set forth in the Massachusetts MS4 General Permit that are not referenced in the ENF. Furthermore, the ENF does not refer to or detail how the project will comply with the Total Maximum Daily Load ("TMDL") for Nutrients in the Upper/Middle Charles River, Massachusetts, finalized in 2011. Additional stormwater management plans detailing system sizing, type, and location should be provided in an EIR, along with calculations showing that the project complies with the TMDL, which requires no additional inputs of phosphorus to the river and a significant reduction from existing development.

The ENF states that stormwater management techniques will include bioretention basins, swales, and subsurface detention systems. Runoff from the roof and the turf field, which the City presumes will be clean, will be collected and discharged through porous pavement and subsurface infiltration systems. Additional above-surface green infrastructure such as tree plantings and bioswales should be explored to treat all stormwater. There is plenty of space for these features to be integrated into the design along roadway buffers, parking lots, and pathways. Green infrastructure also provides cooling benefits and presents another potential educational opportunity for students – we would be happy to provide information about the green infrastructure curriculum we have developed for Boston Public Schools. The City should also consider additional on-site green infrastructure to treat some of the stormwater runoff from Lexington Street, since the project will create additional vehicle trips.

Runoff from the turf field is particularly concerning because toxic PFAS chemicals have been found in artificial turf. PFAS chemicals are known to cause serious health problems, including cancer. If PFAS chemicals are present in the turf, students using the field will be exposed, and if PFAS chemicals enter stormwater runoff from the field, downstream

communities and waters will also be at risk. Much more analysis in an EIR is necessary to determine whether PFAS chemicals may be present in the turf and if so, what the impacts would be.

Some groundwater recharge is expected to occur through an area of porous pavement and subsurface infiltration systems; however, because this is a redevelopment project, the City states that it will only comply with groundwater recharge requirements to the maximum extent practicable and will not fully comply with recharge requirements. As described above, additional analysis of groundwater impacts is necessary.

Finally, the stormwater analysis in the ENF only accounts for rainfall amounts up to the 100-year storm. The City should consider possible impacts to the site under future climate conditions. According to the National Climate Assessment, the amount of precipitation falling in very heavy events increased by 71% in New England from 1958 to 2012. The City should evaluate the stormwater management capabilities necessary to handle current and predicted future rainfall amounts using the best available science in an EIR.

Water Conservation

We appreciate the City's focus on water efficiency, particularly in the form of limited irrigation and the use of drought resistant plants. The strain on our water resources is only increasing, and we need to prepare for increased drought in the future. We therefore encourage the City to do as much as possible to limit all outdoor watering.

Thank you for considering these comments, and please do not hesitate to reach out with any questions.

Sincerely,



Heather Miller, Esq.
General Counsel & Policy Director
hmill@crwa.org
781-788-0007 x 234