

April 11, 2023

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Mr. John Kiernan, Chair
Milton Conservation Commission
629 Randolph St.
Milton, MA 02186

RE: NOI 25 Gile Road-Lower Gile Field

Dear Mr. Kiernan and Members of the Conservation Commission:

As you know, the Neponset River Watershed Association is a member-supported nonprofit conservation organization dedicated to cleaning up, protecting and making accessible the Neponset River, its tributaries and watershed lands. It is with this mission in mind that we register our concern about the above-referenced proposal to install an artificial turf field at the Lower Gile Field alongside Pine Tree Brook.

While other testimony is focused on the many threats that turf fields create for the personal health and safety of the citizens of Milton, there are also many environmental hazards that the proposed field may create as well. These hazards primarily are introduced to the environment through the water that will run off the fields after rain and snow events. This water comes into contact with the field before it heads directly into Pine Tree Brook and subsequently the Neponset River, bringing with it not only potentially dangerous chemicals and materials, but also temperature increases during summer months. These increased temperatures threaten a Massachusetts Department of Fish and Game (DFG) designated Coldwater Fishery Resource.

The proponent has not yet identified the material to be used as infill on this field, except to say that it will not be crumb rubber. Attached is a report published by the Toxics Use Reduction Institute at UMass Lowell, which describes some of the characteristics of typical infill materials as well as their potential environmental and public health impacts. Of particular concern to NepRWA is the environmental impact on the area surrounding the field, particularly Pine Tree Brook. The soil and waterways surrounding this field will have constant exposure to any leaching material by way of rainwater. Even contained materials could eventually become a leaching concern as the field is used and weathers through the next several years. The cumulative effect of leached chemicals could create a build-up of these materials, including lead in the soil and synthetic compounds bound to sediments in Pine Tree Brook, and threaten the health of the ecosystem as a whole.

A synthetic turf field is likely to harm Pine Tree Brook, a critical resource, by increasing temperature and pollutants (e.g., PFAS).

Pine Tree Brook is a Coldwater Fishery Resource, as designated by DFG, meaning it sustains extant populations of fish which require lower water temperatures and higher oxygenation. It is therefore a “critical area” under the Wetlands Protection Act. Any project that will impact this area must be carefully evaluated, particularly with regard to stormwater runoff generated therefrom. Pine Tree Brook is already listed as impaired (on the most recent Massachusetts Integrated List of Waters) for turbidity, E. coli, fecal coliforms and dissolved oxygen. Potential pollutants exacerbated by this project include:

Solids

While the proponent suggests there will be no solids generated from use of the field, there is evidence to suggest that synthetic turf can be broken down through weathering and use into micro- or macro-plastics, which may then enter the stormwater flow.

Heat

Synthetic turf fields have been shown to heat up faster and more intensely than natural turf fields. This is particularly concerning when runoff has to travel less than 300 feet before entering Pine Tree Brook. The warmer the water is, the less oxygen it can hold. Aquatic organisms, like fish, need oxygen in the water to survive, and if they are deprived of this oxygen, they will die. Water falling on these synthetic fields will heat up before it flows out into the river, even if it is retained for a time.

PFAS

Synthetic turf field materials and/or manufacturing practices include a class of contaminants commonly referred to as PFAS (per- and polyfluoroalkyl substances), which include more than 1000 different distinct chemicals. These synthetic chemicals do not break down under natural conditions and are therefore considered “forever chemicals.” Moreover, these chemicals are shown to cause significant health harms, including endocrine disruption (interference with normal hormone processes in the body, including fertility impacts) and elevated risk of cancer, particularly prostate, kidney, and testicular cancers. Studies show that these chemicals accumulate in fish tissue where PFAS is present in the water and can biomagnify (increase in concentration up the food chain). A recent release from Massachusetts Department of Public Health has advised communities not to consume fish in several state parks, including Houghton’s Pond in Milton.

Although Pine Tree Brook is already under a fish consumption advisory, ongoing cleanup work in the Lower Neponset will result in the lifting of this advisory in the future. Likewise, most PFAS studies have focused understandably on human health, but these chemicals are undoubtedly also impacting fish populations and potentially impacting their reproduction. It is reasonable to assume the installation of synthetic turf at Gile Field will elevate PFAS levels within the Brook. We should be doing all we can to reduce the amount of PFAS in the environment, and retaining the use of natural turf is a good way to combat PFAS increases.

While the proponent states in the NOI that “All synthetic turf products, including turf, infill and the resilient shock pad have been tested and comply with MassDEP limits for heavy metals, PFAS, and other potential contaminants,” MassDEP doesn’t regulate turf fields. It’s therefore unclear what “limits” are being referenced. Moreover, as mentioned above, the NOI lacks detail beyond the “Typical Infilled Synthetic Turf System” detail about the materials to be used in the proposed turf system (other than the description of the infill as being “organic” in the narrative). Without knowing this information, NepRWA and the Commission are at a significant disadvantage in evaluating its pollutant potential, which is critical when considering a project so close to Pine Tree Brook and the wetlands associated with it.

In sum, while stormwater infiltration is “encouraged” through the proposed subsurface system, the remaining water will be flushed directly to Pine Tree Brook. And what that water will contain as it enters the stream remains unknown. The goals of the stormwater standards and Wetlands Protection Act include protecting and, where possible, *improving* water quality in local resources. The current proposal does not yet demonstrate that this is what will happen post-construction.

Climate change requires re-evaluation of materials used in all development and redevelopment projects.

Climate change is here, and it is bringing with it warmer average temperatures and significant changes to our precipitation patterns. This means more frequent and intense flooding, more frequent and intense drought, and all of the public health and ecological impacts caused by those changes.

Last summer saw the worst drought that Massachusetts has experienced in 50 years. This drought put intense stress on the ecosystem of the Neponset River watershed, not just because there was less water available, but also because the water was warmer. We have reports of fish kills associated with warmer waters occurring last summer, as well as significant decreases in water levels. In fact, we experienced a full dewatering of Pine Tree Brook between Harling’s Mill Dam and Pope’s Pond. Other Coldwater Fishery Resources in the Neponset Watershed showed temperatures well above those required by native Brook Trout (although we have no data for this particular stretch of Brook).

Importantly, this project is also taking place near a designated Environmental Justice neighborhood. Typically, Environmental Justice neighborhoods have been subjected to inappropriate development and are at greater risk for the public health, public safety and ecological impacts of climate change based on the cumulative effects of prior development. The addition of a potential heat island in such close proximity to a neighborhood already at higher risk may exacerbate these impacts, and should be carefully considered.

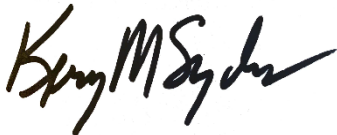
Finally, synthetic turf fields are difficult to manage at the end of their useful life. Every year the US replaces 750 artificial turf fields, and the old ones go straight to landfills. Some people claim that they can be recycled, but it is difficult, if not impossible, to find a service that can do so. As we move forward and try to reach our climate goals as a community, creating such large amounts of waste seems counterproductive.

Conclusion

There are trade-offs in functionality, pollutant potential, public health effects, and costs of both synthetic and natural turf fields. One could install a natural turf field and then wastefully use water resources and add harmful pesticides, herbicides and fertilizer to maintain it. However, given the current knowledge base, the availability of more conservative maintenance practices, and the state of climate change in the region, it's inherent upon us to carefully consider the future environmental and health costs of continuing to add plastic fields to our environment.

Thank you for your careful consideration of this proposal. Should you have any questions, please don't hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Kerry Malloy Snyder". The signature is fluid and cursive, with the first letters of each name being capitalized and prominent.

Kerry Malloy Snyder, JD
Advocacy Director

Att: *Athletic Playing Fields*, Toxics Use Reduction Institute

Cc: Members of the Conservation Commission