



August 12, 2022

Dear Town of Milton:

The Massachusetts Chapter of the Sierra Club has been leading efforts to address the interrelated issues of climate change, toxics and plastic pollution.

The Sierra Club was founded to promote outdoor activities in nature. However, we do not support the growing trend to install artificial turf athletic fields and related synthetic surfaces. **We oppose the installation of artificial turf at Gile Road field at Milton High School.** We recognize the challenges of maintaining natural grass fields but they are the only sustainable option.

First, we can't keep fossil fuels in the ground if we keep using them for plastics and other petrochemicals. Second, synthetic plastic are much hotter than grass (by up to 50°) regardless of the infill, and will create a *heat island* for the athletes and the neighborhood. Heat island is often thought to exacerbate the climate impacts of our hotter, drier summers. Plastic turf can cause skin burns and heat-related illnesses.

Each full-size field removes over two acres of ecosystem that sequesters carbon, and covers it with plastic. This will result in a loss of habitat for birds, small mammals, insects, earthworms, etc. Plastic turf is unsanitary and unpleasant to walk on compared to natural grass. Plastics turf is often sanitized with chemical biocides, which is not required for grass, and would further degrade the surrounding habitat.

An artificial turf field consists of a large number of undocumented mixtures of petrochemical plastics and chemicals of varying toxicity. Underneath the plastic carpet are typically a plastic shock pad, a geotextile and drainage system. All plastics and other petrochemicals are toxic throughout their entire lifecycle from oil and gas extraction to product disposal.

A variety of toxic PFAS chemicals have been discovered in major components of turf fields from many companies. The synthetic plastic grass blades are made in part with fluoropolymers, which share the same chemistry as PFAS and are often included in that definition. Brock Fill was surprisingly found to have PFAS when tested for Martha's Vineyard High School. *PFAS is so problematic that this should be reason enough to reject artificial turf.*

Plastic surfaces generate non-biodegradable microplastics through abrasion and ultraviolet radiation. Chemical leachate is also a concern for plastic turf because so much of the plastic is in direct contact with the underlying soil. Rainwater and any irrigation will wash chemicals and microplastics into the soil, groundwater, and the storm system. Microparticles and leachate can be ingested by aquatic animals and enter the human food chain. Wind will blow plastic microparticle dust onto people and the surrounding area. Athletes, coaches and

groundskeepers will be the most heavily exposed.



A synthetic field will eventually become over 100 tons of bulky solid waste. Plastic recycling is not really working for food packaging, and is infeasible for artificial turf due to its size, mixtures and toxicity. Films like synthetic blades and foams in underlayment are always extremely problematic to recycle. Pipes for drainage are likewise very cumbersome to recycle. Any recycling does not make synthetic surfaces "sustainable" since the raw materials are petrochemicals.

Several other communities including Andover, Brookline, Springfield, Swampscott, Newburyport, Methuen and Wayland have rejected artificial turf or imposed a moratorium. The inclusion of artificial turf in the High School is inconsistent with Milton's leadership in avoiding unnecessary plastics shown by its bag by-law. We urge the Town to consider the significant long-range negative environmental and health impacts of artificial turf.

Respectfully,

A handwritten signature in blue ink that reads "Deb Pasternak". The signature is fluid and cursive, with a long horizontal stroke at the end.

Deb Pasternak
Mass. Sierra Club, Chapter Director
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