



July 5, 2023

Subject: No new artificial turf, and organic infill on existing fields

Dear City of Newton:

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 Albemarle.** 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 exacerbates the climate and health 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 (e.g., MRSA and animal wastes) and often requires sanitization with chemical biocides, which are not needed 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 Hill 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 all 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 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 cumbersome to recycle. Recycling does not make synthetic surfaces “sustainable” since the raw materials are petrochemicals. The new, so-called “advanced recycling” merely renders selected components back to basic synthetic petrochemicals while the process creates additional pollution from toxic by-products.

If the artificial turf is replaced at Newton South High School, the Sierra Club recommends avoiding tons of toxic petrochemical rubber (TPE) as the infill. Only **organic infills** should be used as is being done in other communities such as your neighbor, Brookline.

Several other communities including Andover, Brookline, Springfield, Swampscott, Newburyport, Methuen and Wayland have rejected artificial turf fields or imposed a moratorium. The continued conversion of grass to artificial turf is inconsistent with Newton’s leadership in avoiding unnecessary plastics shown by its strong ordinances over many years. We urge the City to carefully consider the significant long-range negative environmental and health impacts of artificial turf.

Respectfully,

Vickash Mohanka
Massachusetts Sierra Club, Acting Chapter Director
vick.mohanka@sierraclub.org