



March 16, 2023

Ms. Scune Carrington, Chair
Malden Board of Health
215 Pleasant Street #315
Malden, MA 02148

Dear Ms. Carrington and Malden Board of Health:

Thank you for the opportunity to submit written testimony on the proposed installation of artificial turf at Roosevelt Park, adjacent to the Salemwood School in Malden.

Clean Water Action is a national environmental nonprofit, working at the federal and state level to protect the environment, health, economic well-being, and community quality of life. In Massachusetts, Clean Water Action has focused on issues including climate change, air quality, environmental justice, and the impact of toxic chemicals on community health. In Malden, Clean Water Action has worked with the City to educate members of the public about the hazards of lead and to support full lead service line replacement.

The City of Malden has been a real leader in taking action to protect residents from the health hazards of lead. We ask the Malden Board of Health and city leaders to prioritize public health by rejecting the proposed artificial turf field planned for Roosevelt Park and instead installing a natural, organically maintained grass field. We understand that the City will need to remove lead-contaminated soils, and we urge the City to move forward promptly with that process.

Across Massachusetts, Clean Water Action has heard of local school committees and town officials convinced that artificial turf will provide local youth with enhanced access to playing fields. Industry representatives often convince towns that artificial turf is a preferable option, saying that it will drain better and allow more playing time at lower overall cost. Unfortunately, artificial turf presents a real hazard to children and the environment. Analysis shows that it is more expensive to install and maintain than natural grass, when all costs are considered. Artificial turf should not be installed next to a public school, and particularly should not be installed next to a public school in an environmental justice neighborhood that has limited access to real green space.

First, turf contains PFAS and other toxic chemicals. Every time that independent scientists and consumer organizations have tested artificial turf for per- and polyfluoroalkyl substances (PFAS), they have found PFAS. Michigan's Ecology Center has tested dozens of artificial turf samples and all contain PFAS. Even in Portsmouth, New Hampshire, where local officials installed a field that they, and industry representatives, insisted was "PFAS-free", post-installation testing found over 70 PFAS. PFAS (per- and polyfluoroalkyl substances) are a class of chemicals that are persistent, bio-accumulative, and toxic. PFAS are regulated at the parts per trillion level, and, just this week, the Environmental Protection Agency issued standards for PFAS, saying that no level of PFOA and PFOS (two types of PFAS are safe—and setting very low standards for several others.

Across the globe, governments are wrestling with PFAS contamination of drinking water systems, soil, and animals. Ninety eight percent of Americans have PFAS in their blood—and people with higher exposures to PFAS have higher levels in their blood.

The Massachusetts Legislature is currently considering legislation that would ban most products with PFAS from being made, sold or distributed in Massachusetts. There will be some exemptions, but artificial turf does not meet the criteria for those exemptions. Malden decision-makers should know that, if they install artificial turf over the next couple of years, they are installing a product that is of such concern that it is likely to be banned by 2030.

While some manufacturers have claimed their turf does not contain PFAS. Clean Water is not aware of any that have been willing to provide an actual warranty that their product is PFAS-free or to agree to remove a field post-installation if it is found to have PFAS.

PFAS is not the only chemical of concern in artificial turf.

Artificial turf may contain additional chemicals of concern, including heavy metals such as lead, polycyclic aromatic hydrocarbons (PAHs), and phthalates. PAHs harm lung function and increase the risk of asthma. Phthalates are plasticizers often used to make plastics soft. Epidemiological evidence has shown that phthalates disrupt hormones and impair the development and reproductive systems. Children are especially vulnerable to the health impacts of phthalates. See for overview: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8157593/>

The Toxics Use Reduction Institute (TURI) is a quasi-public state agency, based at the University of Massachusetts Lowell. TURI has issued a number of publications and fact sheets that provide more detail about these chemicals and others that may be in artificial turf. See: [https://www.turi.org/Our Work/Community/Athletic Playing Fields](https://www.turi.org/Our_Work/Community/Athletic_Playing_Fields). Rachel Massey and Lindsey Pollard are two scientists, both now based at the Lowell Center for Sustainable Production, with expertise on artificial turf. Both are available to consult with municipalities to help inform decision-making. Clean Water Action believes it is especially important to consult with scientists such as those at University of Massachusetts Lowell, because sales representatives may make claims about artificial turf that are not actually consistent with science.

Second, artificial turf contributes to climate change and creates hot, uncomfortable surfaces that can contribute to heat-related illness. One of the greatest concerns posed by artificial turf is its climate impact. Grass rarely rises above 85 degrees Fahrenheit. When exposed to the same environmental conditions as grass, artificial turf becomes much hotter, as hot as 140 to 170 degrees. These temperatures put Malden’s children at risk of heat stroke, dehydration, blisters, and burns. These impacts can be serious and potentially deadly. See: <https://www.turi.org/content/download/10510/174682/file/Physical%20and%20Biological%20Hazards%20Artificial%20Turf.%20November%202016.pdf>

And of course, artificial turf is plastic. Both when produced and, as it degrades, plastic contributes to climate change by releasing greenhouse gasses. Plastic absorbs radiation and a plastic field is a heat island, unlike grass, which cools the surroundings. A plastic field emits methane and ethylene. Metropolitan Area Planning Commission maps clearly show how Roosevelt Park is currently a cool spot surrounded by areas of more intense heat—MAPC maps also show that artificial turf fields are often the most intensely hot areas in a community. Artificial turf will make children more uncomfortable when outside, will deprive them of the opportunity to be in an actual natural environment.

Over time, it degrades, shedding infill and microplastic. Infills are not captured by drainage systems as they lie on top of fields and easily come off the fields, carried home with children or swept away by storm water. Malden has worked so hard to clean up the Malden River. An artificial turf field is a step backwards.

And, of course, a plastic field is not a natural environment. The Salemwood School teachers use Roosevelt Park for natural study. Without the park, there is no adjacent area for natural study. All students benefit by some time in nature, even just a large open grass field. Installing turf means that students will be required to go to a plastic field for recess—even if their parents are concerned about the health impacts of that field. It would also remove the opportunity for outdoor nature study.

Others have noted that many of Malden’s census tracts qualify as “environmental justice communities.” But, the area around the Salemwood School has higher percentages of low income residents, people of color and people whose first language is not English. These are exactly the people who have historically been most hurt by environmental burdens and who have traditionally had the least access to environmental benefits, like natural parks. That is why it is especially important for the City of Malden to provide people in this community with the environmental benefit of a natural field and to avoid adding to their toxic and heat burden.

Third, certain injuries are more prevalent on artificial turf: Studies have shown higher rates of certain injuries, including abrasions and lower body injuries, among athletes that play on turf. Professional athletes, including football players represented by the National Football League Players Association, have demanded natural grass, based upon their own experience and concerns about injury. See: <https://nflpa.com/posts/only-natural-grass-can-level-the-nfls-playing-field>. In 2020, the US Women's Soccer Team settled a lawsuit in which they alleged discrimination, because they were required to play on artificial turf and not on natural grass.

While professional players have the clout to demand safe playing conditions, children in Malden depend on political decision makers to put their health and safety first—and to see beyond inaccurate claims made by artificial turf manufacturers and their "consultants for hire."

Boston Children's Hospital, in its sports medicine pages, notes that **children may be particularly vulnerable to injury when playing on artificial turf**. Mt Sinai Hospital's Center for Environmental Health and Cleveland's University Hospitals strongly recommend that communities not install artificial turf. And, because some injuries are so much more prevalent on turf than grass, pediatric hospitals now have web pages on specific issues like "turf toe" and "turf burn." <https://www.hopkinsallchildrens.org/Services/Pediatric-Sports-Medicine/Injuries/Foot-Ankle-Conditions/Turf-Toe> and <https://www.healthline.com/health/turf-burn#prevention>.

In media reports, both professional and school athletes have commented that artificial turf is harder than grass. <https://cronkitenews.azpbs.org/2020/07/03/athletes-injuries-artificial-turf/> Other athletes and coaches have raised concerns regarding the possibility of a higher rate of cancer among young athletes who played on turf during childhood and adolescence. A University of Washington coach has created a list of soccer players who played on artificial turf and were later diagnosed with cancer in early adulthood. She found a high preponderance of blood cancers and 68% of reported cases were soccer goalies. See: <https://www.ehhi.org/turf-cancer-stats.php>. While this evidence is anecdotal and has not been fully assessed via a peer reviewed study, it is suggestive of a possible link between face contact with artificial turf and increased risk of certain cancers. Finally, see https://www.healthandenvironment.org/assets/images/webinarimages/Artificial%20Turf%20Q&A_FINAL.pdf for more information on health and environmental issues related to artificial turf.

Based on these health and environmental concerns, Clean Water Action urges the City of Malden to install a natural playing field at Roosevelt Park. Thank you.

Sincerely,

Elizabeth Saunders
Massachusetts Co-Director

