

LET'S THINK TWICE ABOUT ARTICLE 11!

Tonight, citizens are being asked to spend \$2.5 million (\$1.7 million borrowed and \$800,000 reallocated from CPA and Athletic Stabilization) to replace the synthetic track and synthetic turf field, and replace lighting and fencing, at Medway High School's Hanlon Field. *We should think twice* about replacing the synthetic turf field, which is not yet at the end of its useful life.

There are many concerns about using synthetic turf for playing fields (see the other side of this sheet). The points below may help voters and taxpayers see some of the most significant issues.

Synthetic turf is made from plastic fibers woven, like a rug, into long segments stitched together over an engineered drainage underlayer of gravel, sand, and piping. An infill usually made from ground-up car and truck tires is spread over the fibers for support and to allow players to run and move as they would on grass. Synthetic fields require maintenance – sweeping, washing, fixing tears, and replacing infill – the way grass needs mowing, seeding, and fertilizing. Synthetic fields have an 8- to 10-year lifespan depending on weather, heat, use and quality of maintenance. When a synthetic field is replaced, the old fibers and ballast are trucked offsite to storage or disposal via incineration (it cannot be recycled). The new surface is installed and the cycle repeats.

LIFECYCLE COST

Synthetic turf is more costly to install than grass due to the manufacturing and assembly of the system. Both synthetic turf and grass require highly specialized maintenance. A comparison of the two requires looking across the life of the fields. For example: A synthetic turf installation should last 10 years and cost about \$1.5 million (plus interest). After adding \$10,000 per year for maintenance, **the total cost for synthetic turf over 10 years is about \$2 million**. A similar-sized grass field could be installed at \$750,000 (plus interest). Adding \$20,000 per year for maintenance, **the grass field's total cost is about \$1.2 million over 10 years – saving about \$800,000**. After 10 years, the cost differential skyrockets when the synthetic turf needs replacement and grass does not; with careful maintenance, grass can last indefinitely. For each subsequent 10-year cycle, the synthetic turf will cost about \$2 million, while the grass will cost about \$200,000. *Why pay so much for synthetic turf, every 8 to 10 years, when it is a losing proposition?*

PLAYER AND USER HEALTH AND SAFETY

Synthetic turf fibers and tire crumb rubber infill contain many toxic chemicals. Tire crumbs and fiber fragments can be inhaled, ingested, or ground into players' skins when sliding or falling. Synthetic turf fields also get very hot – up to 180 degrees in one study – enough to burn a child or adult. Dehydration, heat exhaustion and heat stroke are far more likely when playing on synthetic turf on hot, sunny days than on grass. Joint and muscle fatigue and injuries can occur when playing on synthetic turf, sometimes at higher rates than on grass, depending on the sport and the level of competition. Because of the injury and heat issues, the NFL Players' Association is strongly advising team owners to switch from synthetic turf fields to grass, and FIFA, the international soccer federation, allows only grass for its World Cup tournament. *Why should Medway's players have less safety and health protection than the pros have?*

USE OF MEDWAY'S PLAYING FIELDS

The Town Park and Rec Committee rents athletic fields to out-of-town teams as well as in-town teams. The rental fees are intended to offset the cost of buying and maintaining the fields but fall far short. Some out-of-town teams are well-heeled and charge their players large sums. These teams can get preferred playing times on Medway turf fields because of their ability to pay. Medway teams can be closed out of the best times on their own fields. Medway taxpayers are subsidizing out-of-town teams, sometimes to the detriment of in-town teams. *Whose fields are these, anyway?*

SUSTAINABILITY

Synthetic turf fields have a lifespan of 8 to 10 years before they need to be replaced. Synthetic turf is not recyclable so the Town pays to have it trucked to storage or an incinerator, and pays to have new synthetic turf installed which will meet the same fate in another 8 to 10 years. *Why buy this material when it is so wasteful and polluting?* Synthetic turf fields also leach toxic chemicals, including PFAS, into surface and groundwater. Medway has spent millions to improve its municipal water system, including adding PFAS removal. *Why would we spend millions on synthetic turf which will add to the PFAS pollution we are paying to remove?* With climate change, the number of overly hot days is increasing, which reduces the number of days synthetic turf is safe to use. *Why would we pay for something that limits its own usability?*

Thanks for reading this far. We hope you feel better informed about this issue and will use this information when it comes time to vote on Article 11.

SYNTHETIC TURF ISSUES AND IMPACTS

FISCAL/FINANCIAL IMPACTS

- Replacing a synthetic turf field costs over \$1 million and must be done every 8 to 10 years; far costlier and more frequent than grass, which has an indefinite life
- Replacement projects are generally bonded, requiring interest payments on top of the cost of replacement
- Lamson and North Fields (both synthetic turf) reaching end of lifespan, likely to cost millions in coming years

USER AND PLAYER HEALTH AND SAFETY

- Tire crumb rubber and plastic fibers containing known toxics can be inhaled, ingested, or embedded in skin
- Risk of fatigue and injuries to muscles and joints can be higher on synthetic turf vs grass
- Greater heat of synthetic turf vs grass increases risk of dehydration and heat illnesses; may cause burns to players' skin and feet, damage to shoes and equipment; Worsens with climate change

ENVIRONMENT

- PFAS, other hazardous chemicals in synthetic turf fibers and tire crumb rubber can leach into water supply
- Tire crumb rubber and plastic fibers can migrate off field into nearby grass, trails, woods, wetlands; can also come home with players on clothing, skin, hair and playing equipment
- Medway is spending millions of dollars upgrading its municipal drinking water system including PFAS reduction; synthetic turf fields are adding to the problem; private wells in half the town are at risk
- Charles River watershed includes wetlands behind Hanlon Field; wildlife and water quality are impacted by chemicals and microplastics pollution in field runoff
- Turf surfaces create "heat islands" that can harm users, flora, and fauna in immediate area by reflected and radiated heat, hot air, and hot water runoff
- With climate change the number of overly hot days is rising, reducing number of days available for safe use

USE OF FIELDS

- Town rents fields to users but rental income does not offset cost of installation and maintenance
- High peak-period demand for field time is worsened by demand from out-of-town teams
- Medway teams can get boxed out during most desirable times
- Medway taxpayers are subsidizing use of the fields by out-of-town groups

SUSTAINABILITY

- Synthetic turf has limited useful life, typically 8 to 10 years, due to weathering, ultraviolet and heat exposure, and general use; increasing number of overly hot days may reduce useful life of synthetic turf
- Synthetic turf requires removal and replacement at end of useful life; cannot be recycled, refurbished in place, or reused elsewhere
- Removed synthetic turf and tire crumb rubber is either stored indefinitely or incinerated, creating environmental impact

REGULATIONS AND LAWS

- Several municipalities in Massachusetts and other states have placed moratoriums on, or banned entirely, municipal synthetic turf installations due to cost and impacts to environment and user health and safety
- Massachusetts Legislature has 4 bills pending in current session that would regulate or ban municipal installations of synthetic turf; other states are actively pursuing widespread bans on municipal installations
- EPA has significantly lowered the threshold for PFAS contamination of drinking water to 4 parts per trillion (ppt); Medway's water supply is subject to this regulation and is now at 6 to 8 ppt, requiring further action
- EPA has taken similar action on another toxic ingredient of tire crumb rubber (6 PPD-quinone); this and other hazardous chemicals have been found in soil testing at Medway High School
- Synthetic turf surfaces are classified in state regulations as "impervious" (like asphalt) and require more sophisticated and costly drainage systems than do grass surfaces