HB0857-FAV-DTMG-2-24-21.pdf
Uploaded by: Bartlett, Olivia
Position: FAV

Olivia Bartlett, Co-Lead, DoTheMostGood Maryland Team

Committee: Environment and Transportation

Testimony on: HB0857 - Environment – Synthetic Turf and Turf Infill – Chain of Custody and Reuse

Position: Favorable

Hearing Date: February 24, 2021

Bill Contact: Delegate Mary Lehman

DoTheMostGood (DTMG) is a progressive grass-roots organization with more than 2500 members who live in a wide range of communities in Montgomery and Frederick Counties, from Bethesda near the DC line north to Frederick and from Poolesville east to Silver Spring and Olney. DTMG supports legislation and activities that keep all the members of our communities healthy and safe in a clean environment and that address equity for all residents in our communities. DTMG strongly supports HB0857 because it will provide transparency about disposal of toxic used synthetic turf and infill for synthetic turf fields above 5,000 sq ft.

Synthetic turf fields are increasingly popular. They are made from rolls of plastic "grass" blades weighed down and filled in with hundreds of thousands of pounds of "infill" made from ground up used tires, silica sand, and/or alternative plastic particles. Standard infill volume is six to nine pounds of infill per square foot. However, the plastic "grass" contains PFAS and other toxins and ground up tires are also known to contain multiple toxins. Each synthetic turf playing field contains about 200 tons of toxic mixed plastic waste: approximately two acres of plastic carpet with infill, typically from about 40,000 shredded waste tires or other plastic infill. The removal and replacement cycle for synthetic turf fields is typically every six to ten years.

This results in a huge amount of toxic waste. Local, national, and international media outlets have covered the growing problem of synturf waste. *The Atlantic*, *Salon* and *Maryland Matters* all published "*Fields of Waste"*, an investigative report documenting the massive accumulation of used synthetic turf material throughout the US. There is no recycling of synthetic turf in US. Anne Arundel, Prince George's, and Montgomery County municipal solid waste facilities report they would decline used synthetic turfs due to volume and weight. There are also no state or federal regulations for safe disposal of synthetic turf or its infill.

Instead, there is a history of unsubstantiated and inaccurate claims from synthetic turf companies regarding the reuse, recycling, and disposal of their product. These are refuted by the many examples of irresponsible disposal – including dumping the material in lower-income communities. The *Maryland Matters* publication included photos of synthetic turf and tire waste infill being moved in May 2018 from a high school in Montgomery County to a property beside Bird River in Baltimore County, which was documented at the time by citizens asking questions and conducting their own research.

HB0857 will address this important and growing problem by requiring manufacturers, purchasers, or owners of synthetic turf and turf infill used on playing fields over 5,000 sq. ft.to report to the Maryland Department of the Environment the chain of custody of the synthetic turf and turf infill from their manufacture to their reuse, recycling, or final disposal under certain circumstances. Each custodian will be responsible only for its own portion in the chain of custody.

In a 2019 Maryland legislative hearing on disposal of synthetic turf, the president of the leading trade group, the Synthetic Turf Council (STC), acknowledged that there are no laws or regulations regarding the disposal of synthetic turf. The STC itself recommends end-of-life chain of custody certification and describes the disposal issue as “enormous” and “challenging.” STC members can follow its *Guidelines to Recycle, Reuse, Repurpose, and Remove Synthetic Turf Systems.* However, there is no incentive to do so. Typical disposal is ‘stockpiling,’ landfill, or dumping.

Stakeholders and citizens should be able to access a chain of custody showing what happens to the material. The STC’s own guidelines support this goal. In the absence of an industry-led initiative, legislation is needed to ensure transparency and accountability when synthetic turf fields and infill reach the end of their lifespan.

Maryland is not alone in facing this problem but has the opportunity to move toward a solution with HB0857. Therefore, DTMG strongly supports HB0857 and urges a **FAVORABLE** report on this bill.

Respectfully submitted,

Olivia Bartlett
Co-lead, DoTheMostGood Maryland Team
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240-751-5599

In SUPPORT of HB857

Uploaded by: Dennis, Peggy

Position: FAV

Post Office Box 1123
Bethesda, MD 20827-1123

February 24, 2021

For the record, I'm Peggy Dennis from Potomac, testifying in **support of HB857** on behalf of the Montgomery County Civic Federation, Inc.. Since its founding in 1925, the volunteers of the MCCF have committed themselves to providing an effective citizen voice to government policy makers, both elected and appointed.

The Civic Federation strongly supports HB85. This bill will require a producer of synthetic turf and turf infill to establish a system to track the chain of custody of the synthetic turf and turf infill from their manufacture to their reuse, recycling, and final disposal. This is crucial for environmental, climate change, public health and fiscal reasons

When we buy new tires, we pay a fee for the disposal of the old tires as hazardous waste. The tires are ground up into "tire crumb" and spread between the plastic blades of the plastic carpeting known as Artificial Turf. But Artificial Turf (AT) is a completely unregulated product. Both the plastic blades and the crumb rubber infill contain numerous toxic substances which are harmful to the environment, the surrounding neighborhoods, and the watersheds which carry away tons of tiny particles into the Potomac and the Chesapeake. Children and adults who play on AT fields get heat burns and more severe sports injuries than they get on natural fields. The AT fields are heat sinks which absorb so much heat that they cannot be played on during the summer. Thus, they also contribute to climate change

Artificial Turf fields must be replaced every 8-10 years. Each field represents many tons of toxic waste and there is, at present, no way to safely "recycle" the degraded product. Like nuclear waste, there is **no good solution**. Disposal costs per field are estimated to be $130,000 plus transportation and land fill charges. Should taxpayers be on the hook for this kind of bill for every school and recreation department playing field and play ground that has to be removed? That's a mighty steep charge mostly falling on the taxpayers.

By requiring the producers of AT fields to provide a "chain of custody" record covering the disposal of this toxic product, we take a small first step at regulating a product which creates local environmental and public health challenges and global climate change. It should have been done at least 10 years ago. But better late than never. That's why the Montgomery County Civic Federation urges you to send HB857 on with a **Favorable** report.

Testimony Syn Turf.pdf
Uploaded by: Eader, Caroline
Position: FAV

From: Caroline Eader, Zero Waste for Zero Loss
To: Honorable Members of the Environment and Transportation Committee
Date: February 22, 2021 (Hearing date of 2/24/21)
Re: FAVORABLE - HB 857, "Environment - Synthetic Turf and Turf Infill – Chain of Custody and Reuse."

Maryland Executive Order 01.01.2017.13, "Resource Recovery Plan for Maryland" adopts a sustainable materials management policy that aims to minimize the environmental impacts of a material's use throughout its lifecycle, and "to establish ambitious but achievable goals and to ensure tracking of complete materials management data."[1] In support of these goals, I respectfully request a FAVORABLE recommendation in support of HB 867 to track the chain of custody of "synthetic turf" and "turf infill" that is sold or distributed in the State of Maryland.

This is a common-sense measure requiring the tracking of the disposal of synthetic turf and turf infill, so the discards from playing fields are not illegally dumped. In fact, tracking is recommended by the Synthetic Turf Council (STC), that states, "Once decisions have been made to recycle, reuse, repurpose or landfill the synthetic turf system components, the **STC recommends** the responsible parties complete a two-part Chain of Custody Certification (COC)."[2] (Emphasis added.)

For these reasons I give my support to HB 857 for tracking the chain of custody of synthetic turf and turf infill.

Sincerely,

Caroline Eader
Master of Energy Regulation and Law, Juris Doctor

Zero Waste for Zero Loss
Clean Energy & Zero Waste Policy Support and Implementation

1 Executive Order 01.01.2017.13, Resource Recovery Plan for Maryland, 2017, https://mde.maryland.gov/programs/LAND/RecyclingandOperationsprogram/Pages/Waste-Reduction-and-Resource-Recovery-Executive-Order.aspx

2 Synthetic Turf Council "A Guideline to RECYCLE, REUSE, REPURPOSE AND REMOVE SYNTHETIC TURF SYSTEMS, October 2017, page 13, https://cdn.ymaws.com/www.syntheticturfcouncil.org/resource/resmgr/guidelines/STC_Guideline_for_Recycle_Re.pdf

Testimony in support of HB0857 (2)

Uploaded by: Falk, Carol

Position: FAV

Testimony in support of HB0857

Good afternoon Chairman Barve, Vice Chairman Stein, and other Environment and Transportation Committee members,

The Safe Healthy Playing Fields Incorporated, a grass-roots organization formed more than a dozen years ago in Montgomery County which has since grown into a nationwide organization and represents hundreds of communities and thousands of concerned parents and activists across the country, **strongly supports HB0857**, the bill that would require manufacturers and owners of synthetic turf and turf infill to report chain of custody of the turf and infill for reuse, recycling, or final disposal.

Each and every used synthetic turf field contains tens of thousands of pounds of chemical-laden plastic and hundreds of thousands of pounds of granulated infill (usually tire waste, or alternative infills, and silica sand). According to the Synthetic Turf Council, the industry's leading association, one thousand deconstructed fields per year in the U.S. represent 80 million square feet of turf carpet weighing 40 million pounds and 400 million pounds of infill.

Given those numbers, it is astounding to realize there are no regulations for reuse, recycling, or disposal of synthetic turf components. Used synthetic turf materials may be landfilled, incinerated, repurposed or dumped in communities which then must deal with the waste.

The synthetic component materials that make up artificial turf carpet systems contain known aquatic and human toxins, carcinogens, endocrine disruptors, heavy metals, carcinogens, and immune disruptors such as PFAS, or "forever chemicals." The direct toxic effects have been demonstrated in aquatic organisms in particular.

Due to a lack of regulations, synthetic turf companies often make bold, unsubstantiated claims regarding reuse, recycling, and disposal of their product at the end of their lifespans, typically a period of 8-10 years.

Numerous examples of irresponsible disposal exist including dumped or stockpiled material in lower income communities (one example - Bird River, Baltimore County). Also, several Maryland municipal waste facilities say they do not accept the volume, weight, and mixture of synthetic turf waste. According to investigative reporting conducted by Fair Warning and published in various media outlets including Salon, the millions of square feet of removed synthetic turf end up in the same place billions of scrap tires went before –to landfills, to rural and urban stockpiles, and millions were "scattered in ravines, deserts, woods, and empty lots." As noted in a 1991 Environmental Protection Agency report, that activity sparked toxic fires that lasted for months. "As costs or difficulties of legal disposal increase, illegal dumping may increase," said the EPA. We now know that nightmare scenario is occurring with disturbing frequency.

The technology for recycling synthetic turf, which involves separating the plastic grass and

backing from the sand and rubber infill is complicated and has not been fully developed, so when a synthetic turf owner wants to do the right thing and tries to recycle, the only option identified has been to send separated parts of the carpeting halfway around the world to an uncertain fate in Malaysia (e.g. from Maryland). You should also know that the Malaysia facility has since stopped accepting synthetic turf after scrutiny was turned on it. To date, "There is one accredited recycling plant for end-of-life turf — it's in the Netherlands," according to Maryland Matters.

Right now, municipalities and jurisdictions in Maryland as well as other regions across the country where these plastic carpets are dumped are the same jurisdictions that are forced to deal with the environmental and physical mess **as they have no way of knowing who dumped the used turf without a chain of custody tracking system, as proposed in HB0857.**

Even the Synthetic Turf Council recommends end-of-life chain of custody certification!

With HB0857, Maryland can be a leader to move in the right direction. Stakeholders have the right to know what happens to materials and hold those responsible for the materials accountable through a documented chain of custody reporting. Transparency and accountability regarding synthetic turf disposal must be required.

In summation, **we strongly urge you to favorably report out HB0857.**
Thank you for your time.
Sincerely,
Carol Falk
Founding member, Safe Healthy Playing Fields Incorporated

Resources:

[1] (1) https://www.marylandmatters.org/2019/12/21/fields-of-waste-artificial-turf-becomes-mounting-disposal-mess/
(2) https://www.theatlantic.com/science/archive/2019/12/artificial-turf-fields-are-piling-no-recycling-fix/603874/
(3) https://www.salon.com/2019/12/21/artificial-turf-touted-as-recycling-fix-for-millions-of-scrap-tires-becomes-mounting-disposal-mess_partner/
(4) https://www.marylandmatters.org/2020/02/20/proposed-legislation-could-see-more-environmentally-friendly-turf-removal/
[2] https://www.youtube.com/watch?v=Y5o3J7uy4Tk
[3] https://cdn.ymaws.com/www.syntheticturfcouncil.org/resource/resmgr/guidelines/STC_Guideline_for__Recycle_Re.pdf

Citations: Fields of Waste, https://www.fairwarning.org/2019/12/fields-of-waste-artificial-turf-mess/

wmcca Testimony HB0857
Uploaded by: Falk, Carol
Position: FAV

Testimony in support of HB0857

West Montgomery County Citizens Association is a civic organization founded in 1947 that works to help protect neighborhoods and green wedges, preserve stream river valleys, and monitor development in the Potomac subregion. **WMCCA strongly supports HB0857,** to require manufacturers and owners of synthetic turf and turf infill with the Maryland Department of the Environment disclosing the owner and location of the field and infill.

Roughly 40,000 scrap tires go into the making of each synthetic turf field, along with hundreds of tons of mixed plastic. That means each synthetic turf field that is either carted off to a landfill or dumped at unmarked locations contains tens of thousands of pounds of plastic material containing PFAS (polyfluoroalkyl substances) and other harmful chemicals, in addition to hundreds of thousands of pounds of pulverized infill of tire or other plastic.

Every year, more than a thousand of these synthetic turf fields have to be ripped out, (typical lifespan is 8-10 years) and disposed of according to the Synthetic Turf Council, (STC) the industry's leading association. The STC estimates that 80 million square feet of plastic carpet weighing 40 million pounds and 400 million pounds of infill, usually made of tire waste, and it all has to go somewhere. The disturbing fact here is that no one is monitoring, much less regulating where used, synthetic turf fields go when they are removed. Several municipal solid waste disposal facilities in Maryland have said they would not accept used synthetic turf waste due to the weight and volume that are associated with a single playing field.

In addition, recycling facilities in this country have rejected synthetic turf fields and infills because it is usually too costly to separate the materials. That means these chemical-laden plastic carpets are either being incinerated, repurposed, or dumped "in ravines, deserts, woods, and empty lots" according to a Fair Warning investigative report [1], and dumping often happens in lower income communities. That is a big problem, not only here in Maryland, but everywhere. The direct impact on aquatic life has been documented in many sources. See the following:

https://www.marylandmatters.org/2020/02/20/proposed-legislation-could-see-more-environmentally-friendly-turf-removal/

[2] https://www.youtube.com/watch?v=Y5o3J7uy4Tk

Since no regulations currently exist governing the disposal or recycling of these materials, synthetic turf companies have been known to make unsubstantiated and sometimes flat-out false claims regarding reuse, recycling, and disposal of their product at the end of their lifespans, as they have done with officials and parents within Montgomery County Public Schools at "information meetings."

If the Synthetic Turf Council recommends end-of-life chain of custody certification, and it does, why wouldn't Maryland lawmakers support such legislation?

Under HB0857, Maryland can be at the forefront of an industry whose waste products should have been regulated years ago.

WMCCA whole-heartedly supports HBO857, and we ask that you **favorably report out HB0857.** Thank you for your time.

Sincerely,

Carol Falk
Executive Board Member, West Montgomery County Citizens Association

HB0857-INFO1-FARBER (ID19848).pdf
Uploaded by: Farber, Amanda
Position: FAV

HB0857 - Synthetic Turf and Turf Infill - Chain of Custody and Reuse

Sponsored by Delegate Mary Lehman
Hearing - 2/24/2021; Environment and Transportation Committee; Economic Matters Committee
INFORMATION SUBMITTED BY: Amanda Farber

There is a concerning lack of clear answers, no meaningful regulations or independent accountability, and a history of unsubstantiated claims by the artificial turf industry regarding disposal and "recycling" of the component materials that make up their product.

I FULLY SUPPORT HB0857 WHICH WILL HELP ENSURE RESPONSIBLE END OF LIFE MANAGEMENT OF SYNTHETIC/ARTIFICIAL TURF.

RECENT NEWS ARTICLES AND COVERAGE

A number of recent news outlets have covered the growing problems associated with the end of life disposal, and challenging "recycling" issues, surrounding artificial turf:

- The Atlantic - *Fields of Waste: Artificial Turf Is Piling Up With No Recycling Fix*; December 19, 2019 https://www.theatlantic.com/science/archive/2019/12/artificial-turf-fields-are-piling-no-recycling-fix/603874/

- York Daily Record / USA Today - *Worn Out Artificial Turf Fields Pose Huge Waste Problem Across Nation*; November 18, 2019 https://www.ydr.com/in-depth/news/2019/11/18/old-artificial-turf-fields-pose-huge-waste-problem-environmental-concerns-across-nation/2314353001/

- Seattle Times - *Feds Order Owner of Dam on Puyallup River to Clean Up Spill From Artificial Turf*; September 3, 2020 https://www.seattletimes.com/seattle-news/environment/feds-order-owner-of-dam-on-puyallup-river-to-clean-up-spill-from-artificial-turf/

- Zembla - *The Artificial Turf Mountain*; September 20, 2018 https://www.bnnvara.nl/zembla/artikelen/the-artificial-turf-mountain

BACKGROUND INDUSTRY INFORMATION AND REASONS WHY REQUIRED CHAIN OF CUSTODY DOCUMENTATION IS IMPORTANT

All artificial turf fields have limited lifespans and require regular replacement at least every 8-10 years. Some organizations and jurisdictions have fields that have required more frequent replacement. Between the large number of artificial turf fields that must be removed every year, the petrochemical based plastic carpet, the shock pad, and the infill component of each field (consisting of silica sand, scrap tire waste and/or other alternative infill), this represents a massive amount of material which must be managed.

The Synthetic Turf Council (STC), the "world's largest organization representing the synthetic turf industry," released their latest version of their *Guideline to Recycle, Reuse, Repurpose and Remove Synthetic Turf Systems* in 2017.

https://cdn.ymaws.com/www.syntheticturfcouncil.org/resource/resmgr/guidelines/STC_Guideline_for_Recycle_Re.pdf

The STC guide itself recommends chain of custody documentation. The guide also describes the many challenges associated with artificial turf recycling, stating that the amount of material to be handled is "enormous," but offers very little in the way of specifics or actual answers. The STC guidelines admit, "The diversity of such component materials [in artificial turf] presents technical, economic and logistical challenges unlike other commonly recycled materials, such as plastic bottles, carpet and plastic bags."

In addition, FIFA, the international governing body for football (soccer) commissioned an Environmental Impact Study on Artificial Football Turf dated March 2017.

https://football-technology.fifa.com/media/1230/artificial_turf_recycling.pdf

The report states, "Recycling of artificial football turf is not widespread. The majority of the manufacturers interviewed for this study claimed their products are 'recyclable', but none are taking significant steps to make sure this happens in practice."

The report goes on to discuss, "The Synthetic Turf Council lists a large number of uses for rubber infill, such as various flooring or sound barriers in industrial or construction settings. These are listed as theoretical markets, but in practice there is no evidence that a significant market exists for the material beyond re-use in turf - a study for CalRecycle in California found that only 25–50 percent of SBR infill was reused, the remainder going to landfill. The study also did not find any specific examples of recycled rubber crumb being used in the manufacture of new products and concluded that there was a lack of information for field owners around how to most effectively and efficiently deal with their fields at the end of their life."

The industry often uses vague or greenwashed language with regards to disposal and recycling. For example, just because an item is theoretically "recyclable" does not mean it is practical to do so. In addition, the term "recycling" is often used when in fact companies are referring to "reusing" or "repurposing." The FIFA report admits, "Re-use is often erroneously referred to as recycling by some of the many businesses that specialize in turf removal." This re-use can mean removing used (sometimes heavily deteriorated) plastic fields and laying the turf down elsewhere where it has the potential to continue to pollute. And then where does the material go after that? The industry often vaguely refers to products made from recycled turf but has offered little in the way of proof of those products in a transparent manner or on a scale that is practical and viable.

We do know there are currently no complete circular artificial turf recycling facilities in the United States at this time. Artificial turf often ends up landfilled, incinerated, dumped, or stockpiled. There are documented and reported stockpiles throughout the United States. Again, this is why chain of custody is critical.

The FIFA report adds, "Although typically re-use is generally viewed as a more preferable alternative to recycling for many products, this does not appear to be the case for artificial turf. The lack of evidence for a clear end market and the apparent fact that any re-use will have to be in a lower value application means that the argument for re-use is weak. Re-use of the turf by cutting it into smaller sections for domestic use is often viewed as a good end-of-life option, but when compared with recycling it may not be. Once the turf is cut up, it will almost certainly not be recycled after its second use. It is difficult to

capture and efficiently recycle large pitches, therefore small geographically scattered installations are even less likely to be recycled. This means the material will eventually be lost to landfill or incineration."

The FIFA report raises the issue of disposal cost and transparency, stating, "This means that there may be a significant issue with the illegal dumping of waste pitches and this issue will only worsen as an increasing number of pitches will need to be disposed of in the coming years." The report also warns, **"IMPORTANT! Always ask for proof of where the turf is being sent. Illegal dumping is the worst possible end for your pitch!"**

One of the largest artificial turf companies, Fieldturf, previously claimed to have a guaranteed "Take-Back" program, which they no longer actively advertise. Despite being repeatedly asked, nobody in the company could answer questions about how many artificial turf fields they "took back" and what actually happened to the material.

Of note, despite claiming to want responsible disposal and using the term "recyclable" in marketing materials, the artificial turf industry has previously fought against extended producer recycling laws and even against basic regulations which would require minimal accountability regarding disposal and recycling. For example, at the Maryland State legislature in 2019 and 2020, representatives from the Synthetic Turf Council, Fieldturf, and several scrap tire industry associations testified against bills which would have required greater transparency about industry disposal practices, and which would have promoted extended producer responsibility, rather than having the burden of disposal weigh fully on individual jurisdictions, school systems, and organizations.

When Mr. Dan Bond, President of the Synthetic Turf Council was directly asked at the Maryland State Legislature hearing in March 2019 if there were any artificial turf recycling facilities in the region, he answered that he would have to "look at their member list," but that he knew of one facility in Denmark (referring to ReMatch; clearly not in the United States).

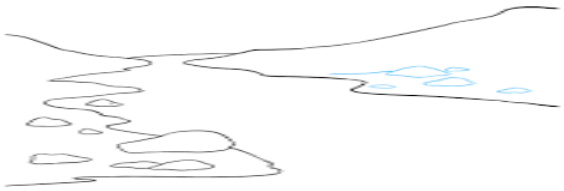
At another hearing in February 2020, Mr. Bond again testified and again was not able to provide information regarding artificial turf recycling facilities in North America. At that hearing Mr. Bond claimed to have information regarding a company called Target Technologies International Inc (a member of the STC) which will ship the plastic field component (not infill) to an undisclosed location in Malaysia, even though in prior conversations Mr. Bond claimed he was not aware of specifics of that company's recycling program. Following the hearing Mr. Bond did not provide promised answers to basic follow-up questions. One year later (now) the questions have not been answered.

CONCLUSION

It should not be difficult for stakeholders to obtain basic verifiable information regarding responsible disposal or potential recycling of artificial turf – but it is. HB0857 will help ensure more responsible end of life disposal.

Thank you,
Amanda Farber
7903 Kentucky Ave
Bethesda, MD 20814

GEHM testimony.HB857.support.pdf
Uploaded by: Hemmer, Lisa
Position: FAV



GLEN ECHO HEIGHTS MOBILIZATION

Committee: **Environment and Transportation and Economic Matters Committees**
Testimony on: HB 857 -- Synthetic Turf and Turf Infill – Chain of Custody and Reuse
Position: **Favorable**
Hearing Date: February 22, 2021

Glen Echo Heights Mobilization submits this testimony in support of HB 857, legislation to require manufacturers, purchasers, or owners of synthetic turf and turf infill used on playing fields to report chain of custody on infill from the manufacture to the reuse, recycling, or final disposal of their products.

The legislation would:

- Establish regulation and accountability for the reuse, recycling, or disposal of the component materials of synthetic turf.
- Recommend end-of-life chain of custody certification.
- Address irresponsible disposal – including dumping of synthetic turf material in lower-income communities.

We support this legislation for the following reasons:

- **Evert synthetic turf field comprises tens of thousands of pounds of chemical-laded plastic and hundreds of thousands of pounds of tire waste or other types of infill. https://www.theatlantic.com/science/archive/2019/12/artificial-turf-fields-are-piling-no-recycling-fix/603874/**
- **The accumulation of used synthetic turf material is posing an environmental disaster across Europe and now the United States. https://www.youtube.com/watch?v=Y5o3J7uy4Tk**
- **Synthetic turf companies have not been forthcoming about the disposal of their products, about their willingness to dump the used material without authorization, especially in low-income communities, or about compliance with Guidelines to Recycle, Reuse, Repurpose, and Remove Synthetic Turf Systems established by the Synthetic Turf Council.**
- **The bill would attempt to hold the Maryland government to the promises made to the public to address climate change and would make Maryland an environmental leader on this topic.**

Conclusion

Glen Echo Heights mobilization urges a favorable Committee report on SB 857.

HB0857 Synthetic Turf and Turf Infill-Chain of Cus

Uploaded by: Hersey, Patricia

Position: FAV

Dear Committee members,

I am writing to ask for a favorable report on HB0857: Synthetic Turf and Turf Infill-Chain of Custody and Reuse.

This bill is the very least we should be doing to help combat the plastic pollution crisis. The facts of artificial turf are so appalling, it is long past due to act on this bill and continue to remove this dangerous product from our environment.

The toxins in artificial turf threaten our health via contact, consumption, and inhalation. As the turf degrades over time, larger qualities of chemicals are released. When worn-out synthetic turf is replaced, the old pieces will likely end up in landfills or illegally dumped, that can lead to toxic water runoff.

Confirming the chain of custody will be a first step to determine responsibility.

We are living on a finite planet. Of all the egregious displays of abuse on our fragile environment, synthetic turf is one of the abuses we should be most ashamed.

Ultimately, we must continue to work on upstream solutions or we will be living between landfills. Your vote will put us on the right track as we start to deal with the many issues with artificial turf.

I urge a favorable report on HB857.

Sincerely,

Pat Hersey

Less Plastic Please

WDC Testimony HB0857_Final.pdf
Uploaded by: Koravos, JoAnne
Position: FAV

MONTGOMERY COUNTY, MARYLAND
WOMEN'S DEMOCRATIC CLUB
P.O. Box 34047, Bethesda, MD 20827 www.womensdemocraticclub.org

House Bill 857
Environment - Synthetic Turf and Turf Infill - Chain of Custody and Reuse
House Environment and Transportation and Economic Matters Committees
February 24, 2021
SUPPORT

Thank you for this opportunity to submit written testimony concerning an important priority of the **Montgomery County Women's Democratic Club** (WDC) for the 2021 legislative session. WDC is one of the largest and most active Democratic Clubs in our County with hundreds of politically active women and men, including many elected officials.

WDC urges the passage of HB0857. This bill will require manufacturers, purchasers, or owners of synthetic turf (synturf) and turf infill used on playing fields to file with the Maryland Department of the Environment a chain of custody of synturf and turf infill from their manufacture through their reuse, recycling, or final disposal under certain circumstances. There is currently no regulation or accountability for the reuse, recycling, or disposal of the component materials of synturf. In a 2019 Maryland legislative hearing on synturf disposal, Dan Bond, president of the leading trade group Synthetic Turf Council (STC), was asked, "Are there any laws or regulations regarding the disposal of this material [synthetic turf]?" Mr. Bond replied, "Not that I am aware of."

Local, national, and international media outlets have covered the growing problem of synturf waste. *The Atlantic*, *Salon,* and *Maryland Matters* all published "*Fields of Waste*,"[1] an investigative report documenting the massive accumulation of used synturf material throughout the United States. A public broadcast investigative report, "*The Turf Mountain*"[2] further revealed the extent of discarded synturf rolls and infill across Europe. Every synturf field contains tens of thousands of pounds of chemical-laden plastic and hundreds of thousands of pounds of infill (usually tire waste, or alternative plastic infills, and silica sand).

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[1] *Fields of Waste,"* https://www.marylandmatters.org/2019/12/21/fields-of-waste-artificial-turf-becomes-mounting-disposal-mess/; "*Artificial turf, touted as recycling fix for millions of scrap tires, becomes mounting disposal mess - Where do the millions of square feet of synthetic turf go to die?"* https://www.salon.com/2019/12/21/artificial-turf-touted-as-recycling-fix-for-millions-of-scrap-tires-becomes-mounting-disposal-mess_partner/; *"The Dangerous Pile-Up of Artificial Turf,"* https://www.theatlantic.com/science/archive/2019/12/artificial-turf-fields-are-piling-no-recycling-fix/603874/?utm_sq=gagte0qii9

[2] Zembla (2018, September 13). *What happens to plastic and polluting artificial turf?* [Video]. YouTube. https://www.youtube.com/watch?v=Y5o3J7uy4Tk

MONTGOMERY COUNTY, MARYLAND
WOMEN'S DEMOCRATIC CLUB
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The STC itself recommends end-of-life chain of custody certification, and describes the disposal issue as "enormous" and "challenging." STC members can follow its *Guidelines to Recycle, Reuse, Repurpose, and Remove Synthetic Turf Systems.*[3] However, without regulations there is no incentive to do so. Instead, there is a history of unsubstantiated and inaccurate claims from synturf companies regarding the reuse, recycling, and disposal of their product. These are refuted by the many examples of irresponsible disposal – including dumping the material in lower-income communities. Several Maryland counties' municipal solid waste facilities have said they would not accept the volume, weight, and mixture of this waste. The *Maryland Matters* publication included photos of synturf and tire waste infill being moved in May 2018 from a high school in Montgomery County to a property beside Bird River in Baltimore County, which was documented at the time by citizens asking questions and conducting their own research.

Stakeholders and citizens should be able to access a chain of custody showing what happens to the material; **the STC's own guidelines support this goal**. In the absence of an industry-led initiative, regulation is needed to ensure transparency and accountability when synturf fields and infill reach the end of their lifespan. Maryland is not alone in facing this problem but has the opportunity to move toward a solution with the passage of HB0857.

We ask for your support for HB0857 and strongly urge a favorable Committee report. Thank you.

Respectfully,

Diana Conway
President

[3] Recycle and Reuse Committee. (October 2017). *A Guideline To Recycle, Reuse, Repurpose And Remove Synthetic Turf Systems.* Synthetic Surf Council. https://cdn.ymaws.com/www.syntheticturfcouncil.org/resource/resmgr/guidelines/STC_Guideline_for_Recycle_Re.pdf

2017 Turf Council Recycle Guide.pdf

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Synthetic Turf COUNCIL | TECHNICAL GUIDELINES

A GUIDELINE TO

RECYCLE, REUSE, REPURPOSE AND REMOVE SYNTHETIC TURF SYSTEMS

OCTOBER 2017

WWW.SYNTHETICTURFCOUNCIL.ORG

ACKNOWLEDGEMENTS

The Synthetic Turf Council's (STC), *A Guideline to Recycle, Reuse, Repurpose and Remove Synthetic Turf Systems* was prepared by the Recycle & Reuse Committee. The Guideline is a revised version to the STC's document, "Removal, Recovery, Reuse and Recycling of Synthetic Turf."

This document update is dedicated to the work of nine individuals on the STC's Recycle Reuse Guideline Committee to whom special credit is due:

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Target Technologies International Inc.

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3rd Edition (October 2017)

DISCLAIMER

A Guideline to Recycle, Reuse, Repurpose and Remove Synthetic Turf Systems (this "Document") provides options and guidelines (collectively, the "Guidelines") to consider when making choices whether and how to recycle, reuse, repurpose and/or remove the synthetic turf. The Guidelines, however, are not exhaustive and there is a range of possibilities that may need to be considered that are not covered in this Document. The Guidelines are not, and should not be considered as, standards. This Document does not imply, suggest or in any way guarantee that performance issues could not arise if any or all of the Guidelines are followed and does not imply or suggest that if any or all of the Guidelines are not followed that performance issues will arise. The Guidelines are not intended to be and are not to be considered as safety standards and this Document does not imply that injuries or health issues are less likely to occur if the Guidelines are followed or more likely to occur if any or all of the Guidelines are not followed.

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INTRODUCTION

The Synthetic Turf Council (STC) is the world's largest organization representing the synthetic turf industry with over 200-member companies from over 10 countries. Founded in 2003, the STC serves as the global forum to promote, develop, grow and advocate for the synthetic turf industry. Due to a heightened sense of environmental awareness, many field owners, school boards, athletic directors, government agencies and municipal officials turn to synthetic turf systems for the water savings, reduced maintenance, longevity and safety benefits.

The goal of this document, *A Guideline to Recycle, Reuse, Repurpose and Remove Synthetic Turf Systems*, is to help the reader better understand the range of processes for identifying and managing the removal and disposition of a synthetic turf system once it may have reached the end of its useful life, or End-of-Life (EOL).

The diversity of members and encouragement of innovative technologies are reasons why the STC continues to advance the interests of the industry while solving the challenges presented by its customers. Some members provide innovative practices and programs that empower users to reduce their carbon footprint and landfill dependence.

Synthetic turf systems have a limited lifespan that ranges between 8 – 10 years. By the end of the decade, it is estimated that 750 or more synthetic turf fields will be removed annually in the United States. At an average of 80,000 sq. ft. of turf and 400,000 lbs. of infill per field, the amount of material to be handled is enormous. Synthetic turf systems are comprised of several component materials (e.g. turf, shock pad or underlayment) that most often must be separated to be recycled. Infill does not usually need to be separated to be reused or repurposed. The diversity of such component materials presents technical, economic and logistical challenges unlike other commonly recycled materials, such as plastic bottles, carpet and plastic bags. The STC encourages responsible parties to consider options to recycle, reuse and repurpose the synthetic turf systems.

This Guideline focuses more on synthetic turf sport fields than landscape and recreation applications as the sport fields systems constitute a higher volume of material. To that end, the STC believes it is important that all owners and responsible parties of synthetic turf systems utilize this Guideline as a resource to employ EOL opportunities to recycle, reuse and/or repurpose the synthetic turf systems.

TERMS AND EXAMPLES

The STC encourages the owners of existing synthetic turf system applications to recycle, reuse and repurpose the system components whenever possible. This Guideline best represents the intent of the STC's goals and objectives to implement best management practices in removing the synthetic turf and its components from various applications. The STC recommends that the responsible parties consider the following terms and examples of the terms in considering EOL options.

Recycle: A series of activities by which material that has reached the end of its current use is processed into material and utilized in the production of new products. Processing typically involves removal of contaminants and/or size reduction to satisfy specifications.

> *Example: The infill is recovered from a synthetic turf field during deconstruction. The infill is processed to remove rock, dirt and other contaminants; graded and tested to satisfy mesh size and distribution specifications; and then used as a feedstock to make a new product.*

Reuse: A discarded material or product is used in its original form for the same function as it was when new. The discarded material or product may be processed, typically by cleaning, repairing or otherwise refurbishing, with inspection and/or testing to confirm that it is suitable for continued use.

> *Example: A portion of the infill in a synthetic turf field is recovered during deconstruction. The infill is then processed to remove a portion of the contaminants; inspected and/or tested to confirm it meets specifications; and then is placed in a new or replacement field, whether on the same or a different site.*

Repurpose: A discarded material or product is used in its original form, but for a different function than when it was new. The discarded material or product may be processed, typically by cleaning, repairing or otherwise refurbishing; inspection and/or testing to confirm that it is suitable for continued use.

> *Example: A portion of the discarded turf is recovered from a synthetic turf field during the deconstruction phase. It is cleaned, repaired and used in a commercial or residential landscape application, batting cage, or soil amendment.*

RESPONSIBLE PARTIES

The project owner has ultimate responsibility of ensuring that the synthetic turf system is recycled, reused, repurposed and/or disposed of in a responsible manner. It is understood that owners most often rely on the consultant, contractor, turf manufacturer or vendor for information and direction in the planning stages of replacing the turf and its system components. The generator and its parties are responsible for understanding federal, state/provincial, municipal/local environmental laws before the synthetic turf system is removed. To avoid surprises, the STC recommends that owners consider working with an independent professional, consultant or knowledgeable industry representative.

A typical synthetic turf sports field is about 80,000 square feet (7,432 square meters). Infill can range from 3-9 lbs./ft^2 with an average of 5 lbs./ft^2, therefore existing fields range from 240,000 ± 720,000 lbs. of material to be removed from the surface of a field depending on the size of the field. Most of the fields installed in the United States use a combination of silica sand/tire crumb rubber or all crumb rubber infill. An average field is comprised of 400,000 lbs. of infill (5 lbs./ft^2) and 40,000 lbs. of turf (0.5 lbs./ft^2). An 80,000 ft2 sports field would translate in volume to ± 400 cubic yards (yd^3), or the equivalent of almost fourteen 30 cubic yard dumpsters of infill. The volume of the turf removed from the field depends on how it is collected (rolled, cut up or shredded) and will be considerable in volume. One thousand deconstructed fields represent 80 million square feet of turf weighing 40 million pounds and 400 million pounds of infill.

The first infilled (or so-called third generation) synthetic turf sports field was installed in the United States in 1997. By the of 2012, there were over 8,000 synthetic turf sports fields in use. Depending on its usage, exposure to intense sunlight, maintenance and other factors, a synthetic turf sports field will last 8 to 10 years before reaching the end of its useful life. Other factors that influence a sports field's useful life may include environmental exposure, severe overuse and/or improper use. Industry stakeholders have estimated the approximate number of synthetic turf sports fields that are deconstructed annually from 2013 through 2018 include: 2013 (365 fields); 2014 (570 fields); 2015 (325 fields); 2016 (450 fields); 2017 (600 fields); and 2018 (750 fields).

As an owner and/or responsible party of a synthetic turf sports field, it is imperative to know the type of synthetic turf system and manufacturer of the surface you will be replacing. If you do not have product information on the system, carpet, infill, shock pad, or other component, consider contacting the original manufacturer for this information. If there are any questions about the source of these materials, consider material testing in preparation of recycle, reuse, and repurpose options.

For field builders, sub-contractors and recyclers, the challenge of how to manage the synthetic turf system disposal options presents an opportunity to build upon the assortment of technologies and processes being developed to reduce landfill dependence. The industry continues to identify the best and most economical approaches to remove and process synthetic turf components that may have reached their EOL.

This document addresses questions often asked by field owners, school boards, athletic directors, government agencies and municipal officials such as:

- What choices are available to recycle, reuse and/or repurpose the components of the synthetic turf system?
- What are the economic, environmental and social factors that influence the EOL options?
- What tests, if any, will be required for the material to be recycled, reused or repurposed?
- What materials and/or components would be considered the appropriate EOL option?
- When is it time to make the decision to recycle, reuse, repurpose or landfill?
- What removal documentation may be required?

END-OF-LIFE OPTIONS FOR SYNTHETIC TURF SYSTEMS

Most often there is more than one option to recycle, reuse and repurpose the diverse synthetic turf system component materials before landfilling. There are economic, environmental and social responsibility factors to be considered by the owners and responsible parties before making an EOL decision about the materials. Many of the STC members utilize sustainable materials and processes that work to minimize any negative impact on the natural environment. The preferred way would be to find a recycler, donate or sell the material for another use. Matching donor surplus material with recipient needs, meets the objective of social responsibility.

Aside from benefitting society and the environment, donating the material can reduce capital expenditures and result in tax receipts and possibly contribute to a projects Leadership in Energy and Environmental Design (LEED) points. This Guideline provides a baseline of information to help better understand the materials and where to find sustainable solutions.

The following diagram, "Synthetic Turf System End-of-Life Options" is a simplified view of the decisions required and options available for a synthetic turf system removal. It shows the steps required to convert the synthetic turf materials into a form that is useful for recycling. Converting synthetic turf to a recyclable material that is useable cannot be accomplished at the point of removal. The cost of shipping is one of the biggest challenges associated with synthetic turf reclamation. Logistics, timing and the possible cost of testing the material to recycle and reuse may need to be considered.

STC member companies continue to develop new processes and offer more choices to collect,

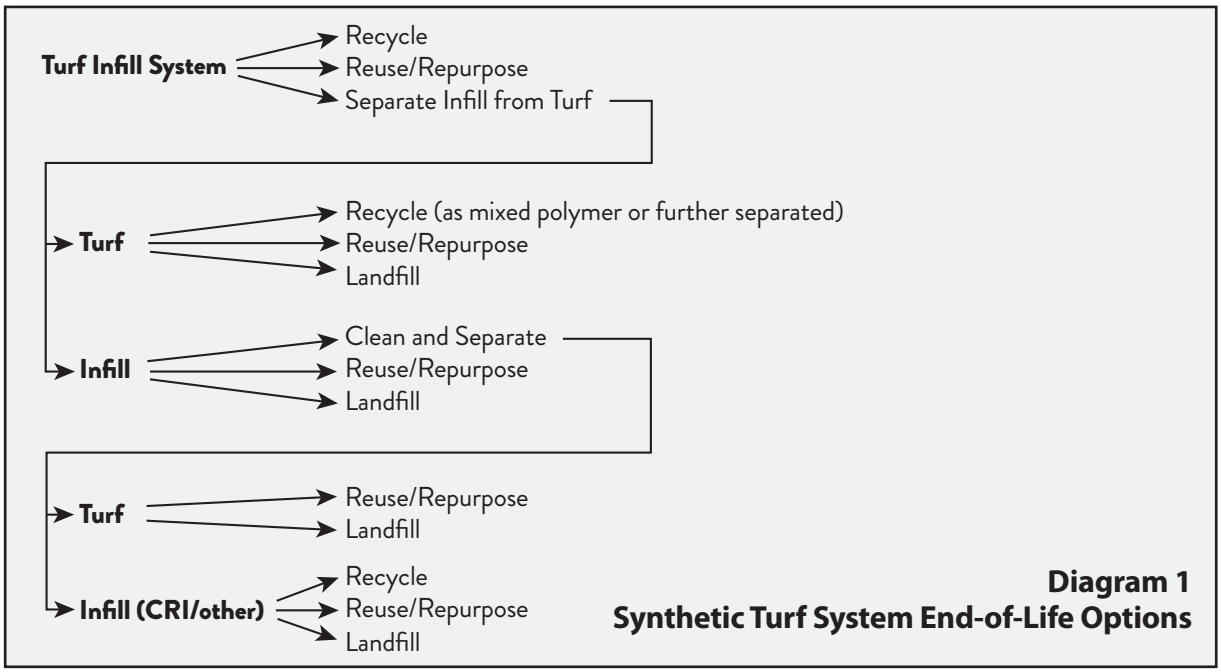

Diagram 1
Synthetic Turf System End-of-Life Options

separate, recycle, reuse and repurpose the synthetic turf systems. Some companies provide services to aid in the removal of the synthetic turf system; clean and warehouse turf that is suitable for reuse or repurpose; and/or provide logistics and transportation assistance. The removal of fields increases the options for handling, recycling and reusing the system components. Some specialty equipment removes the turf and its infill intact. Turf received in rolls can be processed into plastic pellets that are suitable for injection molding, rotational molding and profile extrusion. During the past 10 years, reused synthetic turf has become a popular option for residential and municipal landscape, roof gardens, pet parks, playgrounds, airport median strips and other landscape and recreation applications.

Further separation may be required to separate sand and debris from the infill depending on the EOL option. After the synthetic turf has been separated from the infill, the turf can be used in some post-consumer recycled products (e.g. plastic bags, carpet, turf backing and posts).

As with any recycle, reuse and recovery effort, the diversity of component materials may represent economic or technical challenges. Synthetic turf includes a variety of polymers such as polyethylene, polypropylene, polyester, nylon, styrene butadiene rubber and polyurethane. Polyester is the primary material for non-woven turf backing. Natural materials such as silica sand and calcium carbonate are present. The industry continues to research and identify the most economical and responsible way to process all turf components such as turf plastics, infill(s) and underlayment pads that need to be removed, recycled and reused.

Testing and/or separate assessments of some component materials (e.g. safety pad, drainage mat/tile, infill) when reusing and/or adding in combination with a new turf system. Some tests may include shock absorption, assessment of deformation and other performance criteria. For additional information, please refer to the *STC Guidelines for Synthetic Turf Performance* for performance testing information.

FIELD CONSIDERATIONS

The industry has developed specialized equipment to remove synthetic turf sports fields by cutting the material into sections, rolling it into easily transportable bundles and, in some cases, removing most of the infill. Synthetic turf for landscape and recreation use is not so easily removed and bundled because of its irregular shape.

It is important that the owner and responsible parties have a clear understanding of the project requirements to remove and/or replace system components including:

- What is the field base (e.g. drain board, aggregate, type of underlayment?)
- Is the turf adhered to the base?
- Is the base stable enough to work on without being disturbed/displaced?

- Who determines if the base is stable to work on without being disturbed or displaced?
- Who will be held responsible for damage for the base if it occurs during removal and installation of the new system?
- What are the field conditions (e.g. stability, infiltration rate)?
- What testing or documentation will be utilized to protect the contractor against future claims?
- What is the term of responsibility for the contractor for base performance after the work is completed?

The carbon footprint of a particular option (such as trucking at long distances) may be integrated into the decision-making process and lead responsible parties to invalidate such a specific option and look towards others. It is important to investigate all recycling and reuse options in the region before choosing to landfill the system components.

SYNTHETIC TURF SYSTEM COMPONENTS

This Guideline identifies the various synthetic turf system components that may be considered for options to be recycled or reused, including synthetic turf, infill, and shock pad and underlayment systems. See Table 2.

TABLE 2
SYNTHETIC TURF SYSTEM COMPONENTS

	Recycle Options	Reuse Options	Waste to Energy Options
Synthetic Turf			
Polyethylene	✔	✔	✹
Polypropylene	✔	✔	✹
Nylon	✔	✔	✹
Infill			
Crumb Rubber	✔	✔	✔
EPDM	✔	✹	✹
TPE	✔	✔	✹
Organic Infill	✔	✔	
Silica Sand	✔	✔	
Coated Silica Sand	✔	✔	
Shock Pad Underlayments			
PVC/NBR foam	✔	✔	✹
Polypropylene Composite	✔	✔	
Post-Consumer Tire Rubber	✔	✔	
Elastic Layer Underlayments			
Post-Consumer Tire Rubber	✔		✹
Combination Drainage Mats /Shock Pad Underlayments			
Expanded Polypropylene	✔	✔	✹
Cross-linked Polyethylene	✔	✔	✹
Drainage Mats and Strip Drains			
Polypropylene	✔	✔	✹
TPO		✔	

✹ Technically feasible but not commercially practiced.

SYNTHETIC TURF

Once the synthetic turf has been separated and processed it may be used for recycling, reuse or repurpose. Synthetic turf is produced from several polymers. Even perfectly clean turf contains a mix of LLDPE (linear low-density polyethylene), PP (polypropylene) and a coating of either polyurethane, hot melt polyolefin, or latex. Linear low-density polyethylene is used to produce most turf fibers, the largest component of turf. Nylon and polypropylene are also used, but to a much smaller degree. Polypropylene is typically used for the backing material, but backing is a smaller component than turf fiber. Heterogeneous polymer alloys can potentially be used as recycled content in some processes, but will have mechanical properties that are different and likely inferior to virgin or recycled polymers from single components. Options to reuse the synthetic turf system material include:

- Baseball: Batting cages, in front of dugouts, bullpens, indoor practice and hitting facilities;
- Golf: Driving ranges, lining for sand traps for erosion control, tee lines, driving mats;
- Sports Fields: grass field sidelines, running track protective strips, band practice field, indoor typical use practice and play fields;
- Landscape and Recreation: Play areas, small landscape areas, highway erosion control, dog runs, pet parks, and equestrian stables.

INFILL

Synthetic turf component infills may include crumb rubber, sand, thermoplastic elastomers (TPE), ethylene propylene diene monomer (EPDM) and a variety of organic infills. Infill can be extracted, recycled, reused and repurposed from an existing field. The owner may reuse the extracted infill in a new synthetic turf field or existing field. In many cases, additional new infill may be added to the quantity of reused infill on a replacement field. Fields certified by an international sports governing body (e.g. FIFA, World Rugby) may or may not allow for reused material in the new turf system. In some cases, infill may have to be tested and/or verified that it meets the requirements of an approved product and/or system. Sometimes reusing or repurposing the infill may represent a cost saving to the owner. Reusing the infill may allow a project to qualify for the additional LEED credits beyond those awarded for the first use of the infill.

It is recommended that the owner or responsible party should evaluate the following:

- A reliable sample collection method;
- Type of infill and compatibility with the new turf system;
- Contaminants and debris that may have accumulated over time;
- Performance properties (e.g. exposure to the elements, wear and debris);

- Testing of infill in accordance with applicable standards and certification guidelines;
- Percentage of supplementary infill;
- Testing of proposed system as required for the application (see *STC Guidelines for Synthetic Turf Performance*);
- Metallic, non-ferrous and organic components; and
- Applicable industry patents and warranties.

CRUMB RUBBER

Crumb Rubber is derived from scrap passenger and truck tires that are ground up and size reduced to a range of mesh sizes through a recycled ambient (8-20 mesh) or cryo-genic (10-30 mesh). Crumb rubber, historically the most widely used infill in the synthetic sports fields and landscape installations, can be coated with colorants, sealers, or anti-microbial substances to provide specific benefits. Crumb rubber infill can be extracted and reused in other end use applications or synthetic turf systems.

In most cases, the crumb rubber and sand will need to be separated before reusing the crumb rubber in the manufacturer of tire-derived products. The crumb rubber may also need to be cleaned and screened to further remove unwanted fine particulates and to reduce the size of the crumb rubber. Different turf systems use varied sizes and proportions of rubber and may require evaluation of compatibility with a proposed turf system. In most cases, however, it has not been necessary to separate the rubber and sand when reusing the materials again in most existing fields.

EPDM AND TPE

EPDM (ethylene propylene diene monomer) and TPE (thermo plastic elastomer) are polymeric elastomers with fillers that offer high resistance to abrasion and wear under a reasonably elevated temperature. The products normally have a UV stabilizer to give long-term weathering. These products will vary from one manufacturer to another. It is suggested to review independent testing regarding heavy metals, temperature, UV resistance and other tests that are required. EPDM and TPE are available in a variety of colors and have proven durability in all types of climates. Both products can be recycled or reused.

ORGANIC INFILL

Plant-based organic infill comes in several formats including, but not limited to: blended coconut fibers and cork; coconut fibers only; cork only; and walnut shells.

SILICA SAND

Well-graded silica sand is one of the original infill materials utilized in synthetic turf systems. This natural mineral is non-toxic and chemically stable subject to the percent purity of the silica sand. Silica sand

that has agglomerated particles or are calcareous should not be used. Silica sand is typically tan, off-tan, or white in color. The preference in particle shape for this industry is round or sub-round. Silica sand can be used in conjunction with many other infills on the market to provide a safe and realistic playing surface.

COATED SILICA SAND

Coated silica sand may consist of an acrylic, urethane, ceramic or other polymer that covers the sand grain in whole. The polymer that coats the sand particle should not wash off once installed and provides UV for long-term durability. The original silica sand, before being coated, is a hard grain, round to sub-round, non-agglomerated, non-calcareous material.

SHOCK PADS AND UNDERLAYMENTS

Underlayments, described as shock pads, elastic or e-layers, integrated drainage systems, drainage mats and strip drains, each have their own purpose. The following provides examples of use and options for EOL.

SHOCK PADS

Shock pads offer an added level of protection and consistent playability to the playing surface and are designed to contribute to a safe g-max level throughout a synthetic turf field's life. Roll out or panel systems are available and can be permeable or impermeable. Some shock pads can replace all or portions of the stone base and provide both shock attenuation and drainage, while others are used in combination with a traditional stone and drainage base. Pads can be placed directly over asphalt or cement stabilized surfaces.

Various materials that are used in shock pads include PVC/NBR (polyvinylchloride/nitrile butyl rubber) foam, polypropylene, composites, polyurethane, virgin materials and post-consumer tire rubber. Some manufacturers of shock pads will accept re-covered product for recycling. Select pads can also be reused for other uses such as golf mats and farm animal mats. Some shock pads last more than one turf lifecycle of 8 – 12 years.

ELASTIC LAYERS OR E-LAYERS

Elastic layers or E-Layers are poured in-place applications. The product is permeable and is typically comprised of tire rubber granulate with a polyurethane binder, or the same combined with small gravel particles. E-layers can vary in thickness across the surface and do not have seams. Artificial turf can be either loosely laid on top, or glued to the e-layer (i.e., for field hockey). Materials include post-consumer tire rubber used in combination with a polyurethane binder.

Although E-layers are not currently being recycled, they may be able to be reused, or repaired and reused depending on initial quality and binder content.

INTEGRATED DRAINAGE UNDERLAYMENT

Drainage pad underlayments are designed to replace the stone base and act as both a base support and drainage system for turf. Roll out or panel systems are utilized. Materials used for the various product offerings include expanded polypropylene or cross-linked polyethylene. Some products can be recycled and incorporated into a new drainage pad, while others may be reused or repurposed into other products. Some drainage pads can be used for multiple turf life cycles.

DRAINAGE MATS AND STRIP DRAINS

Drainage mats and strip drains are designed to act as both a base support and a single-sided drainage system for turf. Materials used for the various products include polystyrene, polypropylene and TPO (thermoplastic olefin). Polypropylene products can be reused and recycled.

CHAIN OF CUSTODY CERTIFICATION

Once decisions have been made to recycle, reuse, repurpose or landfill the synthetic turf system components, the STC recommends the responsible parties complete a two-part Chain of Custody Certification (COC) that includes the following:

Part 1: Chain of Custody Certification – Project Parties and Materials

The template provides chronological documentation from the project owner to the contractor, disposition company and verification agent identifying a transfer of material from person to person.

Part 2: Chain of Custody Certification – EOL Management

The template provides chronological documentation by load and EOL option (e.g. Recycle, Reuse, Repurpose, disposal).

When using the STC's Chain of Custody Certification templates, the STC recommends following the sequence in which you intend to remove the materials. For example, if you are removing a synthetic turf field with infill and a shock pad, you would begin by documenting the loads of infill removed, then the synthetic turf and finally the shock pad.

The following four pages include two different project scenarios that represent examples of how to complete the COC Part 1 and Part 2 for Project Scenario One and Project Scenario Two.

PROJECT SCENARIO ONE

Part 1: Chain of Custody - Project Parties and Materials

Example 1A: Documenting the removal of an intact field (turf and infill) at George Washington High School for RECYCLYING and REPURPOSING

The "Chain of Custody Certification—Project Parties and Materials" form includes the project parties and materials that will be moved to specific destinations. The intention in this example is to remove an intact 40,000 sq. ft. field.

First, estimate total weight: 5.5 lbs. per sq. ft. x 40,000 sq. ft. field = 220,000 lbs. The weight/area value is given as an example and each specific system has its own value which should be used in the calculations.

Note that 20,000 sq. feet will be RECYCLED (new use; posts) and 20,000 sq. ft. will be REPURPOSED (i.e. same material, different use; e.g. batting cage).

Part 1: Chain Of Custody Certification - Project Parties and Materials Example 1A

PROJECT NAME: **George Washington High School**

Complete Required Project Parties and Project Materials Information

Project Parties	Business Organization	Contact Person	Phone Number	Address	City	ST.
Owner	George Washington HS	Joe Smith	333-333-3333	123 East Main Street	Homer	CT
General Contractor	XYZ Construction Company	Mike Franks	444-444-4444	456 Walker Drive	Providence	RI
Disposition Company	ABC Recycling Company	Steven Dobbs	555-555-5555	789 Franklin Road	East Haven	CT
Verification Agent	John Doe Architects	John Doe	666-666-6666	10 Dyer Street	New Haven	CT

Project Material(s) Totals-Area & Weight	Identify Material	Recycle		Reuse		Repurpose		Landfill	
		Area ft^2	Lbs.	Area ft^2	Lbs.	Area ft^2	Lbs.	Area ft^2	Lbs.
Turf Type(s)	Turf name/type	20,000	10,000	0	0	20,000	10,000	0	0
Infill(s)	Crumb rubber infill + sand	20,000	100,000	0	0	20,000	100,000	0	0
Shockpad/Underlayment(s)									
Total		Total	110,000	Total	0	Total	110,000	Total	0

Authorization Party	Authorized Signature	Printed Name & Email Address	Date	Phone Number
Owner	*Joe Smith*	Joe Smith sample@email.com	6/10/17	333-333-3333
General Contractor	*Michael Franks*	Michael Franks sample@email.com	6/10/17	444-444-4445
Disposition Company	*Steven Dobbs*	Steven Dobbs sample@email.com	6/10/17	555-555-5566
Verification Agent	*John Doe*	John Doe sample@email.com	6/10/17	666-666-6661
EOL Option Disposition:	Recycle: Posts; Repurpose - Batting Cage on Site			
Calculation Notes:	Turf = .5 lbs/sq.ft. x project total square ft. (40,000 sq. ft.) = 20,000 lbs.			
	Infill (crumb rubber & sand) = 5.5 lbs/sq. ft. x project total sq. ft. (40,000 sq. ft.) = 200,000 lbs.			

PROJECT SCENARIO ONE

Part 2: Chain of Custody Certification – EOL Management

Example 1B: Documenting the EOL management of the project materials

The "Chain of Custody Certification—EOL Management" form includes the end-of-life (EOL) options for each component per shipping load and requires a third-party verification signature to verify the delivery of the material to the specified EOL option.

First, choose the end of life option: Recycle; and select deposition material: Turf and Infill. Next, provide the corresponding information in each column.

Part 2: Chain of Custody Certification - EOL Management — Example 1B

PROJECT NAME: George Washington High School

Choose the End of Life Options. Identify project material and EOL Product(s)/Application(s). Complete corresponding information in each column.

Require Verification Agent Signature of EOL delivery.

Load No.	End of Life Option(s)	Identify Material(s)			Ship Date	Ship to Company Name or Site Name (EOL Option)	Bill of Lading or Seal/Container #	Total lbs.	Date Verified Completed	Verification Agent Signature
		Turf	Infill	Pad						
1	Recycle	X	X		6/15/17	ABC Container Company	123456	40,000	6/17/17	John Doe
	Reuse									
	Repurpose									
	Landfill									
Identify End Of Life Product(s)/Application(s): Recycled Posts/Infill/Sand										
2	Recycle	X	X		6/16/17	ABC Container Company	123457	40,000	6/18/17	John Doe
	Reuse									
	Repurpose									
	Landfill									
Identify End Of Life Product(s)/Application(s): Recycled Posts/Infill/Sand										
3	Recycle	X	X		6/17/17	ABC Container Company	123458	30,000	6/19/17	John Doe
	Reuse									
	Repurpose									
	Landfill									
Identify End Of Life Product(s)/Application(s): Recycled Posts/Infill/Sand										
4	Recycle									
	Reuse									
	Repurpose	x	x		6/23/2017	George Washington HS	onstie	**110,000**	6/27/17	John Doe
	Landfill									
Identify End Of Life Product(s)/Application(s): Recycled Posts/Infill/Sand										

PROJECT SCENARIO TWO

Part 1: Chain of Custody - Project Parties and Materials

Example 2A: Documenting the removal of an intact field (turf and infill) at Lincoln Middle School for LANDFILLING, REUSE and RECYCLYING

The intention here is to remove, by materials, a 90,000-sq. ft. field. First, estimate total weights of individual material(s): Infill is estimated at 5 lb. per sq. ft. of sand and rubber. Total = 5 lb. per sq. ft. x 90,000 sq. ft. = 450,000 lbs. The first half or 225,000 lbs. will be REUSED in Lincoln Middle School's new replacement field (Example 2A). The remaining half or 225,000 lbs. will be sent to a LANDFILL (Example 2B).

Next, estimate the synthetic turf weight. Synthetic turf weight is estimated at .5 lbs. per sq. ft. Total synthetic turf weight = 4.5 lbs. per sq. ft. x 90,000 sq. ft. or 45,000 lbs. which will be shipped from site for RECYCLING (Example 2A).

Part 1: Chain Of Custody Certification - Project Parties and Materials Example 2A

PROJECT NAME: **Lincoln Middle School**

Complete Required Project Parties and Project Materials Information

Project Parties	Business Organization	Contact Person	Phone Number	Address	City	ST.
Owner	Lincoln CSD	Joe Smith	333-333-3333	1234 East Main Street	Homer	CT
General Contractor	HHC Construction Company	Mike Franks	444-444-4444	138 Walker Drive	Providence	RI
Disposition Company	Clean Recycling	Steven Dobbs	555-555-5555	1453 Franklin Road	East Haven	CT
Verification Agent	John Doe Architects	John Doe	666-666-6666	2523 Dyer Street	New Haven	CT

Project Material(s)	Identify Material	Recycle		Reuse		Repurpose		Landfill	
Totals -Area & Weight		**Area ft²**	**Lbs.**	**Area ft²**	**Lbs.**	**Area ft²**	**Lbs.**	**Area ft²**	**Lbs.**
Turf Type(s)	Competitive Edge Turf	90,000	45,000	0	0	0	0	0	0
Infill(s)	Crumb Rubber Infill & Sand	0	0	45,000	225,000	0	0	45,000	225,000
Shock Pad									
Total		Total	45,000	Total	225,000	Total	0	Total	225,000

Authorization Party	Authorized Signature	Printed Name & Email Address	Date	Phone Number
Owner	*Joe Smith*	Joe Smith sample@email.com	8/10/17	333-333-3333
General Contractor	*Michael Franks*	Michael Franks sample@email.com	8/10/17	444-444-4445
Disposition Company	*Steven Dobbs*	Steven Dobbs sample@email.com	8/10/17	555-555-5566
Verification Agent	*John Doe*	John Doe sample@email.com	8/10/17	666-666-6661
EOL Option Disposition:	Recycle 100% Turf for Posts; Reuse 50% Infill/Sand in Replacement Field at Lincoln Centeral SD; Landfill 50% Infill/Sand.			
Calculation Notes:	Turf = .5 lbs./sq.. x project total square ft. (90,000 sq. ft.) = 45,000 lbs. = 100% "Recycle"			
	Infill (crumb rubber & sand) = 5 lbs./sq. ft. x project total sq. ft. (90,000 sq. ft.) = 450,000 lbs. = 50% Reuse; 50% Landfill			

PROJECT SCENARIO TWO

Part 2: Chain of Custody Certification – EOL Management

Example 2B: Documenting the EOL management of the project materials delivered to a landfil

Choose the end of life option: Landfill; and select deposition material: Infill. Complete the form with the corresponding information and third-party verification signature to verify the delivery of the material to the specified EOL option, in this case, the landfill.

Part 2: Chain of Custody Certification - EOL Management — Example 2B

PROJECT NAME: Lincoln Middle School

Choose the End of Life Options. Identify project material and EOL Product(s)/Application(s). Complete corresponding information in each column.
Require Verification Agent Signature of EOL delivery.

Load No.	End of Life Option(s)	Identify Material(s)			Ship Date	Ship to Company Name or Site Name (EOL Option)	Bill of Lading or Seal/Container #	Total lbs.	Date Verified Completed	Verification Agent Signature
		Turf	Infill	Pad						
1	Recycle									
	Reuse									
	Repurpose									
	Landfill		X		6/13/17	ABC Transport	UB1234	44,000	6/13/17	John Doe
Identify End Of Life Product(s)/Application(s): Landfill 50% of Project Infill/Sand										
2	Recycle									
	Reuse									
	Repurpose									
	Landfill		X		6/13/17	ABC Transport	UB1235	44,000	6/13/17	John Doe
Identify End Of Life Product(s)/Application(s): Landfill 50% of Project Infill/Sand										
3	Recycle									
	Reuse									
	Repurpose									
	Landfill		X		6/14/17	ABC Transport	UB1236	44,000	6/14/17	John Doe
Identify End Of Life Product(s)/Application(s): Landfill 50% of Project Infill/Sand										
4	Recycle									
	Reuse									
	Repurpose									
	Landfill		X		6/14/17	ABC Transport	UB1237	44,000	6/14/17	John Doe
Identify End Of Life Product(s)/Application(s): Landfill 50% of Project Infill/Sand										

CHAIN OF CUSTODY CERTIFICATION TEMPLATES (PARTS 1 & 2)

The STC guideline templates for Chain of Custody Certification—Project Parties and Materials (Part 1) and End of Life (EOL) Management (Part 2) are available for free download in .XLSX format here:

Part 1: Chain of Custody Certification-Project Parties and Materials—Download Now (.XLSX)

http://www.syntheticturfcouncil.org/resource/resmgr/guidelines/STC_Template_FORM_-_COC_PM.xlsx

Part 2: Chain of Custody Certification-EOL Management—Download Now (.XLSX)

http://www.syntheticturfcouncil.org/resource/resmgr/guidelines/STC_Template_FORM_-_EOL_MGM.xlsx

LOOKING AHEAD

Innovative technologies are being developed for higher end uses for recycled and reused turf every day. The members of the Synthetic Turf Council plan to lead this effort to develop better and more environmentally friendly options for the second life of synthetic turf surfaces.

Synthetic Turf COUNCIL

The Synthetic Turf Council (STC) is the world's largest organization representing the synthetic turf industry, representing over 200 companies with operations in 10 countries. Founded in 2003, the STC assists buyers and end users with the selection, use and maintenance of synthetic turf systems in sports field, golf, municipal parks, airports, landscape and residential applications. It is a resource for current, credible and independent research on the safety and environmental impact of synthetic turf, as well as technical guidance on the selection, installation, maintenance and environmentally responsible disposal of synthetic turf. Membership includes builders, landscape architects, testing labs, maintenance providers, manufacturers, suppliers, installation contractors, infill material suppliers and other specialty service companies. For more information, visit www.syntheticturfcouncil.org.

To find STC member companies that provide field removal, recycle, and reuse services, please visit the STC Online Buyers' Guide & Member Directory at http://stc.officialbuyersguide.net.

SYNTHETIC TURF COUNCIL (STC) GUIDELINES

- A Guideline to Recycle, Reuse, Repurpose and Remove Synthetic Turf Systems
- Considerations When Buying Synthetic Grass for Landscape Use
- Guidelines for Crumb Rubber Infill Used in Synthetic Turf Fields
- Guidelines for Maintenance of Infilled Synthetic Turf Sports Fields
- Guidelines for Minimizing the Risk of Heat Related Illness
- Guidelines for Synthetic Turf Base Systems
- Guidelines for Synthetic Turf Performance
- Suggested Environmental Guidelines for Infill
- Suggested Guidelines for the Essential Elements of Synthetic Turf Systems

SYNTHETIC TURF COUNCIL
9 NEWPORT DRIVE, SUITE 200
FOREST HILL, MD 21050

PHONE: + 1 (443) 640-1067
FAX: + 1 (443) 640-1031

ONLINE BUYER'S GUIDE AND
MEMBER DIRECTORY
stc.officialbuyersguide.net

SYNTHETICTURFCOUNCIL.ORG

LEHMAN WRITTEN TESTIMONY ON HB 857 CHAIN OF CUSTOD

Uploaded by: Lehman, Mary

Position: FAV

DELEGATE MARY A. LEHMAN
Legislative District 21
Prince George's and
Anne Arundel Counties

Environment and Transportation
Committee

The Maryland House of Delegates
6 Bladen Street, Room 317
Annapolis, Maryland 21401
301-858-3114 · 410-841-3114
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Mary.Lehman@house.state.md.us

THE MARYLAND HOUSE OF DELEGATES
ANNAPOLIS, MARYLAND 21401

HB 857 – ENVIRONMENT – SYNTHETIC TURF AND TURF INFILL – CHAIN OF CUSTODY

SUPPORT

GOOD MORNING MR. CHAIRMAN, MR. VICE CHAIR AND COLLEAGUES. I AM ASKING YOUR FAVORABLE REPORT FOR HB 857, A BILL THAT REQUIRES OWNERS AND MANUFACTURERS OF SYNTHETIC TURF AND TURF INFILL TO REPORT TRACKING INFORMATION TO THE MD DEPT. OF ENVIRONMENT FOR PUBLICATION ON ITS WEB SITE.

SYNTHETIC TURF, ALSO CALLED ARTIFICIAL TURF (AND SOMETIMES REFERRED TO BY A BRAND NAME SUCH AS ASTROTURF OR FIELD TURF) HAS BEEN GROWING IN POPULARITY FOR DECADES. THAT POPULARITY HAS LED TO INCREASED INSTALLATION BY PUBLIC AND PRIVATE SCHOOLS, COLLEGES AND UNIVERSITIES, RECREATION DEPARTMENTS, AND PRIVATE CLUBS. THAT HAS CREATED BOTH CHALLENGES AND OPPORTUNITIES FOR REUSE, RECYCLING, REPURPOSING AND DISPOSAL.

AFTER TWO PRIOR ATTEMPTS TO LEGISLATE DISPOSAL REQUIREMENTS, I AM TAKING A SCALED BACK APPROACH WITH HB 857 THAT IS NONETHELESS AN IMPORTANT FIRST STEP AT CREATING TRANSPARENCY AROUND SYTHETIC TURF AND TURF INFILL USE AND DISPOSAL.

THE BILL DOES THIS BY REQUIRING REPORTING TO MDE ABOUT WHERE FIELDS CURRENTLY EXIST IN MD AND WHERE THEY GO WHEN THEY ARE MOVED FOR REUSE, RECYCLING, REPURPOSING OR FINAL DISPOSAL.

TWO CATEGORIES OF REPORTERS: THE BILL PLACES REPORTING RESPONSIBILITY ON TWO DIFFERENT TYPES OF ENTITIES.

1. **FOR SYNTHETIC TURF FIELDS/INFILL INSTALLED PRIOR TO JANUARY 1, 2022,** THE OWNER OF THAT FIELD IS THE REPORTING AGENCY. THAT COULD BE A SCHOOL SYSTEM, PARKS AND RECREATION DEPARTMENT, MUNICIPALITY, UNIVERSITY OR OTHER ENTITY.
2. **FOR SYNTHETIC TURF FIELDS INSTALLED AFTER JANUARY 1, 2022**, THE PRODUCER(S)/MANUFACTURER(S) OF THE TURF FIELD/INFILL IS THE REPORTING AGENCY.

HB 857 IN NOT PRESCRIPTIVE THE PURPOSE OF HB 857 IS TO CREATE A REPOSITORY OF INFORMATION ON A PUBLIC WEB SITE ABOUT WHERE SYNTHETIC TURF FIELDS EXIST IN MD AND WHERE THEY GO WHEN THEY ARE MOVED. IT DOES NOT ATTEMPT IN ANY WAY TO PRESCRIBE THE WAYS IN WHICH THE CARPET OR INFILL CAN OR SHOULD BE REUSED, REPURPOSED, RECYCLED OR DISPOSED OF. IT SAYS ONLY THAT THE INFORMATION MUST BE REPORTED TO MDE.

AMENDMENTS

THERE ARE MULTIPLE AMENDMENTS TO THE BILL; MOST OF THEM ARE CLARIFICATIONS REQUESTED BY OWNERS AND MDE. I CONSIDER THEM FRIENDLY AMENDMENTS AND ACCEPT THEM. TWO WERE CHANGES THAT I INITIATED:

1. DROPPING A REQUIREMENT THAT MDE APPROVE REUSE OF A FIELD; AND
2. ADDING PENALTY LANGUAGE FOR FAILURE TO REPORT TO MDE. LEGISLATION THAT CARRIES NO PENALTIES IS NOT LIKELY TO BE EFFECTIVE. HB 857 USES PENALTY LANGUAGE FROM SECTIONS 9-334 AND 9-344 OF THE ENVIRONMENT ARTICLE, WHICH REFERENCE A WRITTEN WARNING BY MDE AND POSSIBLE FINES AT THE DISCRETION OF THE ATTORNEY GENERAL. THIS IS THE SAME PENALTY LANGUAGE USED IN HB 77, DELEGATE STEWART'S DRIVEWAY SEALANT BILL.

MR. CHAIRMAN, I BELIEVE THIS CHAIN OF CUSTODY BILL IS WORKABLE FOR BOTH OWNERS AND PRODUCERS AND IS A SIGNIFICANT FIRST STEP IN CREATING TRANSPARENCY AND ACCOUNTABILITY AROUND WHERE SYNTHETIC TURF AND TURF INFILL IS WITHIN THE STATE'S BOUNDARIES DURING ANY PHASE OF ITS LIFE CYCLE. I URGE A FAVORABLE REPORT.

#####

HB0857 Testimony - Kate Mallek final.pdf
Uploaded by: Mallek, Kate
Position: FAV

February 22, 2021

To Whom It May Concern,

I share these comments today in **support** of *HB0857 - Synthetic Turf and Turf Infill - Chain of Custody and Reuse,* Sponsored by Delegate Lehman.

The State of Maryland has a great opportunity with HB0857, to serve citizens and communities by making manufacturers and purchasers of synthetic turf products properly account for the full life cycles of these products. Synthetic turf without chain of custody burdens our neighborhoods and our environment with no oversight or restraint and no gauge to encourage better decision making. Proper oversight of synthetic turf waste produced, its outcome at end of life, and consideration of claims made about a given waste product being "recycled" or "recyclable" can prevent health and environmental consequences before they occur. Some pollutants we cannot recover after they are dumped into our land and water. Many pollutants, like forever chemicals in synthetic turf, will damage people and environment for generations to come. Common sense legislation like HB0857, requiring chain of custody documentation, puts the burden of the synthetic turf product onto the proper, responsible entities, those who manufacture and profit from it.

Please see the attached article:
Hidden gotcha in artificial turf installations by Pete Myers - Dec 04, 2019
ehn.org/hidden-gotcha-in-artificial-turf-installations-2641507579.html

This article shares some details about our experience in Albemarle County, Virginia, in 2018-2019. When the University of Virginia decided to replace two synthetic turf fields, no one accounted for where the waste synthetic turf was going. UVA did not manage its contractor or care about the forever chemicals in the synthetic turf's plastic or the cancer-causing agents in its crumb rubber. The discarded synthetic turf was rolled up, driven truckload after truckload into rural Albemarle County, and dumped on a hillside just up from a stream.

Images courtesy of Virginia Department of Environmental Quality

When regulators first noticed it, the landowner had it moved to another more private site, where it was partially buried. When it was found again a few months later, the landowner was cited, and the portion of the waste synthetic turf that was recoverable was taken to a landfill. **199 tons of it**.

These pictures only show bits and pieces that were discovered. But piles of discarded synthetic turf fields are

building up on industrial lots, behind businesses, and on country sites away from prying eyes, across the United States. I note that some states and the District of Columbia have recently shipped waste synthetic turf to Virginia to dispose of it. We don't want your waste here. We need everyone to better manage the products they manufacture, and those they purchase, and to not accept cheap assurance that any of it is recyclable, when most often it is ending up in piles like those above, leaching harmful chemicals into ground and surface waters.

On that note, what does it mean to be recyclable? Is it just that a product can be used again? That's a nice idea, but if the original product contains chemicals and compounds that damage people, and those chemicals and compounds will remain in every form the product takes, is that kind of recyclability truly a good thing? The answer is No, and someone has to account for that. It shouldn't be left to the citizens living next to the dump site who end up with poisoned well and reservoir water.

Many marketers of synthetic turf will come on strong about it being made from recycled products and that it is recyclable when you are done with it. Traditional crumb rubber infill is indeed made from discarded vehicle tires. Reuse is good, right? But reuse in this case kicks the can of responsibility down the road. Vehicle tires cannot be disposed of in many traditional landfills because it is recognized that tires contain compounds that no one wants in water. In most places, it is not legal to burn rubber tires b/c of the noxious gases released into the air with burning. Vehicle tires contain a lot of bad stuff, including cancer-causing compounds (carcinogens), so how does grinding them up make a safe playing surface for children? The extruded plastic grass "blades" carry endocrine disruptors with them into every application. Wherever this material is left, it will leach into our groundwater, streams, and reservoirs.

Maryland can do better. HB0857 is a great start. Please lead the way. Help corporations who profit off plastics, rubber, and related products that are the drivers of climate change and pollution to be tied to their products. The sale and the money in their pocket is not the end game. The end game must be healthy and safe communities and responsible product manufacture and disposal, leading to better product availability and choice in the marketplace. We can have healthy and safe sports surfaces too, we just need proper boundaries in place and standards responsive to the very real problems that exist. Full life cycle responsibility by those who make the products and those who use the products are the only ways to manage the long term implications of synthetic turf, the choice to use it and how to manage discarding it.

Thank you for your consideration of and attention to this important matter. Please **vote Yes for common sense and for HB 0857**.

Kate Mallek
Albemarle County, Virginia
kate.mallek@gmail.com

Hidden gotcha in artificial turf installations

Dec 04, 2019
Pete Myers
When school systems, universities and colleges, or local governments choose to install artificial turf fields, they seem all bright, shiny green and clean. How many of those buyers pay attention to the endgame—the disposing of many tons of hazardous waste?

Intrepid reporting by Sharon Lerner at *The Intercept,* in collaboration with scientists at the Ecology Center (Ann Arbor), revealed that the so-called 'forever chemicals'—PFAS (perfluoroalkyl and polyfluoroalkyl substances)—are used in the production of artificial turf. They help in the manufacture of the artificial grass blades, which must be forced through an extruder to achieve the right size and shape. That process goes more smoothly when PFAS chemicals are added to the plastic before the blades are extruded.

'Forever' doesn't mean they stay in the 'grass' blades forever. It means they take a very long time to degrade in the environment. And, rather than staying in the blades, they travel, by leaching and by volatilizing. With surface temperatures of artificial turf on hot, sunny days reaching well above 120 deg F, this traveling shouldn't be a surprise. How much PFAS kids breath in while playing soccer hasn't been quantified.

But the chemicals also take a slow form of transport: Via dump truck to rubbish piles and disposal sites. That's because artificial turf fields used in sports need to be replaced after somewhere between five and 10 years of use. Rip out the old. Lay in the new, again shiny green.

Are PFAS threats to human health? Dr. Linda Birnbaum, just before she retired as the Director of the National Institute of Environmental Health Sciences, concluded that the 'safe' level of PFOA would need to be lowered to 0.1 parts per trillion, 700 times lower than the current EPA standard. And anyone who wants to learn more about this family of chemicals and their impacts on human and livestock health should go see Mark Ruffalo's new movie, Dark Waters, a dark story of how DuPont purposefully hid the chemical's dangers for decades. The movie opens Friday, 6 December, in Charlottesville and theaters around the country.

Industry websites say the used turf can be deposited at any landfill (for example, here). But as concerns about PFAS mount, that's very likely to change.

This issue became personal when I learned that my wonderful County Supervisor, Ann Mallek (White Hall District, Albemarle County, Virginia), had learned of illegal dumping of used turf from the University of Virginia.

A neighbor of mine had called her, puzzled by a series of big dump trucks traveling on a dirt road up a nearby mountain. The neighbor told Mallek that the unusual amount of traffic had so surprised him that he had finally stopped one of the drivers and chatted him up.

The driver told him he was carrying used turf from the university but that it was OK, Virginia's Department of Environmental Quality had approved it. This seemed unusual to Ann; she wasn't aware of any legal rubbish dumps up that particular mountain. So she called the university. Her contact there reassured her that DEQ had approved. Then she called DEQ, who knew nothing about it. It was an illegal rubbish dump set up by an enterprising landowner to receive the turf.

After formal notice of violation from Albemarle County, the landowner had the turf hauled away, but a couple of months later it was discovered again, by accident, having merely been shifted to another site on the mountain beside a stream. The County had to get involved again and this time the turf was finally taken to a landfill capable of handling hazardous waste.

All 199 tons of it. From just two soccer fields.

The choice of a hazardous waste disposal site at the time was serendipitous ... PFAS in artificial turf hadn't yet become an issue. And the dramatic nationwide rise in toxicity concerns about the compounds hadn't become a local issue.

In her article cited above, Sharon Lerner tells the story of scientists finding one specific PFAS, PFOS, both in abandoned turf and in stream water adjacent to it near Franklin, Massachusetts. Town officials told her they hadn't known about hazardous chemicals in artificial turf.

We can't allow officials to claim ignorance any longer. Candy Woodall at the *York Daily Record* in Pennsylvania offers one example of the work that needs to be done: The paper did an excellent job exposing the unregulated turf industry, investigating the burdens the industry imposes on the environment and neighbors thanks to the current lack of rules or oversight.

With heightened awareness around the country about the health effects of PFAS, calculations for what artificial turf installations actually cost over their full life-time, including disposal in facilities capable of managing hazardous chemicals, may send a shock through the artificial turf industry and the many schools and sports facilities who want more shiny green stuff.

Pete Myers is founder and chief scientist of Environmental Health Sciences, which publishes Environmental Health News.

HB0857 .pdf
Uploaded by: McNair, Lee
Position: FAV

Cedar Lane UU Environmental Justice Ministry

February 22, 2021

Favorable

Our faith teaches us that we are a part of an interdependent web of all existence and that we have a responsibility to both the web and to all living beings in the web. Therefore, we must bring transparency to the disposal of thousands of tons of TOXIC mixed plastic waste. A chain of custody will help us track the disposal of this waste so that we can protect our soil, water, air against possible pollution that is both a health hazard and a climate change hazard.

Please vote favorable on this bill.

Thank you for this opportunity to express our desires as citizens of Maryland.

Lee McNair, Co-leader Environmental Justice Ministry, 20814, 20815

HB0857_Syn_Turf_MLC_FAV.pdf
Uploaded by: Plante, Cecilia
Position: FAV

TESTIMONY FOR HB0857
ENVIRONMENT – SYNTHETIC TURF AND TURF INFILL – CHAIN OF CUSTODY AND REUSE

Bill Sponsor: Delegate Lehman
Committee: Environment and Transportation
Organization Submitting: Maryland Legislative Coalition
Person Submitting: Cecilia Plante, co-chair
Position: FAVORABLE

I am submitting this testimony in favor of HB0857 on behalf of the Maryland Legislative Coalition. The Maryland Legislative Coalition is an association of activists - individuals and grassroots groups in every district in the state. We are unpaid citizen lobbyists, and our Coalition supports well over 30,000 members.

Synthetic turf is an often-overlooked source of toxicity. It contains toxic metals, such as cadmium, lead and arsenic, in addition to phthalates, which may negatively affect some organs, including reproductive organs. Various substances, including old tires and silica sand, are used to make artificial grass so levels of toxins in artificial turf differ from one manufacturer to the next manufacturer.

Additionally, synthetic turf can negatively affect the environment in many ways. Hosing down artificial turf creates runoff, transferring its elements, such as chromium, to the ground and water supply. When it's time to dispose of artificial turf, it can take decades to break down fully in a landfill. Habitat erosion is another side effect of artificial grass because it does not provide a home or food for insects, birds and other animals.

In Maryland, synthetic turf is not regulated in any way. Often, it is thrown out when it is no longer useful and it sits in landfills. We don't even have information about how much synthetic turf is in Maryland and how it is being disposed of. This bill would seek to manage and report on the chain of custody from the manufacturer, then the supplier, to the end-user, and finally through disposal. This information is necessary to understand exactly how much synthetic turf is in use and how it is disposed of.

Our members see this as a required first step to understand what additional requirements must be placed on this toxic substance. We support this bill and recommend a FAVORABLE report in committee.

Suppoort for artificial turf bill(1)(1).pdf
Uploaded by: Seldman, Neil
Position: FAV

INSTITUTE FOR
Local Self-Reliance

February 2021

Testimony of Neil Seldman
Institute for Local Self-Reliance
Washington, DC

The Institute for Local Self-Reliance is in full support of HB 857, establishing chain of custody reporting requirements for artificial turf owners and manufacturers.

The bill requires that manufacturers and distributors of artificial take responsibility for this material, which poses major disposal challenge for local jurisdictions, schools and recreation departments. This measure will relieve local government of the considerable cost related to managing this waste material.

Throughout the country new rules are being passed to make industry responsible for their products that are not recyclable such as batteries, mercury switches, paint and products with hazard content. HB 857 is the first in the nation that addresses artificial turf making Maryland a leader.

Washington D.C. Office
1710 Connecticut Avenue, NW 4th Floor
Washington, D.C. 20009
Tel: 202-898-1610
www.ilsr.org

INSTITUTE FOR
Local Self-Reliance

This legislation will help Maryland on the path to a modern Zero Waste approach to recycling and waste management.

Sincerely,

Neil Seldman
President,
Institute for Local Self-Reliance

Washington D.C. Office
1710 Connecticut Avenue, NW 4th Floor
Washington, D.C. 20009
Tel: 202-898-1610
www.ilsr.org

HB857 - Environment-SyntheticTurf & Turf Infill-Ch

Uploaded by: Tulkin, Josh

Position: FAV

7338 Baltimore Ave
Suite 102
College Park, MD 20740

Committee: **Environment and Transportation**

Testimony on: **HB 857 "Environment – Synthetic Turf and Turf Infill – Chain of Custody and Reuse"**

Position: **Support**

Hearing Date: **February 24, 2021**

The Maryland Chapter of the Sierra Club strongly supports HB 857, which addresses a serious waste problem posed by the lack of transparency and accountability for disposal of synthetic turf and turf infill. The bill would require manufacturers and owners of current and future synthetic turf and turf infill to report to the Maryland Department of the Environment the chain of custody of the turf and infill, from installation to removal, reuse, repurposing, recycling, and disposal.

Synthetic turf sport fields, which account for nearly two-thirds of all synthetic turf,[1] have an 8 year average lifetime and produce a large volume of waste, much of it toxic. According to the Synthetic Turf Council (STC), an average field is 80,000 square feet, comprised of 40,000 pounds of mixed plastic turf and 400,000 pounds of infill (usually tire waste and silica sand but sometimes other materials). This equates in volume to 400 cubic yards, or the equivalent of almost fourteen 30-cubic-yard dumpsters of infill.[2]

The number of synthetic turf fields in Maryland, the number disposed of, and the projected volume of the synthetic turf waste stream by currently installed synthetic turf are unknown. According to the STC, there are currently 12,000-13,000 synthetic turf sports fields in the United States, and 1,200-1,500 are installed annually.[3] The number of synthetic turf fields deconstructed annually in the United States increased from 365 in 2013 to 750 in 2018.[4] While the industry continues to explore ways of recycling, reusing, or repurposing used synthetic turf, ultimately the turf and its components must be disposed of. Assuming that the number of fields deconstructed annually has risen to at least 1,000 by 2020, this represents 80 million square feet of plastic turf carpet weighing 40 million pounds and 400 million pounds of infill per year.[5] Disposal of the existing 12,000-13,000 sports fields nationwide amounts to as much as 260,000 tons of turf and 2.6 million tons of infill over the next decade.

At present, the fate of this enormous amount of plastic waste and infill is difficult, if not impossible, to track. There is currently no documentation on the extent of reuse, repurposing, recycling, and ultimately, disposal of this waste. Several Maryland county waste facilities report they do not accept the volume, weight, and mixture of synthetic turf waste.[6] While some may be landfilled, the millions of

[1] Synthetic Turf Council (STC) website: https://www.syntheticturfcouncil.org/page/About_Synthetic_Turf
[2] STC. 2017. *A Guideline to Recycle, Reuse, Repurpose, and Remove Synthetic Turf Systems,* p.3. https://qhi7a3oj76cn9awl3qcqrh3o-wpengine.netdna-ssl.com/wp-content/uploads/2019/11/CR-STC_Guideline_for_Recycle_Re.pdf
[3] STC website, *op.cit.*
[4] STC 2017. *op cit*., p.3.
[5] *Ibid.*
[6] For example, Prince George's County would not accept synthetic turf fields at its landfill, nor is such waste accepted for incineration or recycling in Montgomery County. If deposited at the Montgomery County transfer station, it would be sent to a landfill in Virginia and charged a $70/ton tipping fee. For an average sports field, this would amount to more than $15,000 for disposal.

square feet of removed synthetic turf more likely end up in rural and urban stockpiles and dumped in the environment, often in sensitive ecosystems or vulnerable communities.[7] Used synthetic turf ends up in less advantaged communities in Maryland,[8] the region,[9] the country,[10] and around the world.[11] For example, hundreds of tons of worn-out carpet and granulated tire waste from Montgomery County, Maryland, high schools ended up in landfills in rural Virginia, on Bird Creek in Baltimore County, and in Malaysia (Exhibit 1).[12] Synthetic turf from the University of Virginia was dumped illegally on the side of a mountain.[13] There is only one licensed recycling plant for end-of-life turf in Europe.[14]

Jurisdictions where these plastic carpets are dumped are left to clean up the environmental and physical mess. They also face clean-up costs and potential liabilities from the aquatic and human toxins, carcinogens, endocrine disruptors, heavy metal neurotoxins, carcinogens, and immune disruptors such as PFAS "forever chemicals" in the synthetic materials that make up artificial turf carpet systems.[15] The direct toxic effects of tire particles have been demonstrated in aquatic organisms in particular.[16]

The Synthetic Turf Council's guidelines for reuse, repurposing, recycling, and removal of synthetic turf fields already recommend maintaining a chain of custody,[17] but accountability requires that the public be informed. The required reporting to MDE of the chain of custody for synthetic turf, as required by HB 857, will document the number of installations in Maryland; the extent to which synthetic turf is actually reused, repurposed, or recycled; and how and where it is disposed of. It will incentivize proper disposal and provide accountability for improper disposal.

With HB 857, Maryland can be a leader in addressing the waste problem posed by synthetic turf. It will hold those responsible for the materials accountable for proper disposal of synthetic turf through a documented chain of custody. We respectfully request a favorable report.

Kathleen Michels
Chapter Zero Waste Team
Kathleen.Michels@mdsierra.org

Josh Tulkin
Chapter Director
Josh.Tulkin@MDSierra.org

Attachment: Exhibit 1

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[7]Lundstrom, Marjorie, and Eli Wolfe. 2019. "Fields of Waste: Artificial Turf, Touted as Recycling Fix for Millions of Scrap Tires, Becomes Mounting Disposal Mess," *FairWarning.* December 19. https://www.fairwarning.org/2019/12/fields-of-waste-artificial-turf-mess/ Reprinted in *The Atlantic* (12/2019), *Salon* (12/21/2019), and *Maryland Matters* (12/20/2019).

[8]Lundstrom and Wolfe, *op cit.*

[9]Meyer, Pete. 2019. "Hidden gotcha in artificial turf installation." *Environmental Health News*, Dec. 4. https://www.ehn.org/hidden-gotcha-in-artificial-turf-installations-2641507579.html. Woodall, Candy. 2019. "'Running out of room': How old turf fields raise potential environmental, health concerns," *York Daily Record* (Pennsylvania), November 18.

[10]Lundstrom and Wolfe. *op.cit.*

[11] *The Turf Mountain,* video by Zembla, an investigative TV program on BNNVARA, Dutch Public Television. https://www.youtube.com/watch?v=Y5o3J7uy4Tk

[12]. Lundstrom and Wolfe. *op.cit.*

[13] Meyer, *op. cit.*

[14]The Re-Match company, in Denmark. Sources: Woodall, *op.cit.*; *The Turf Mountain, op. cit*.

[15] Lerner, Sharon. 2019. "Toxic PFAS Chemicals Found in Artificial Turf," *The Intercept.* October 8. https://theintercept.com/2019/10/08/pfas-chemicals-artificial-turf-soccer/

[16]Einhorn, Catrin. 2020. "How Scientists Tracked Down a Mass Killer (of Salmon)," *The New York Times.* December 3. https://www.nytimes.com/2020/12/03/climate/salmon-kill-washington.html

[17]STC 2017. *op cit.,* pp 13-18.

7338 Baltimore Ave
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College Park, MD 20740

Exhibit 1

Synthetic Turf from Richard Montgomery High School is taken to a site on Bird Creek in White Marsh, Maryland

Photos courtesy of Susan Loftus and Amanda Farber.

HB0857 PEER Turf Chain of Custody Favorable.pdf
Uploaded by: Whitehouse, Timothy
Position: FAV

PUBLIC EMPLOYEES FOR ENVIRONMENTAL RESPONSIBILITY
962 Wayne Ave • Suite 610 • Silver Spring, MD 20910

HB 0857 – Synthetic Turf and Turf Infill – Chain of Custody
Economic Matters
February 24, 2021
Timothy Whitehouse, Public Employees for Environmental Responsibility. (PEER)
Favorable

Public Employees for Environmental Responsibility urges a favorable reading on HB 0857. The bill would require manufacturers and owners of synthetic turf and turf infill to report chain of custody of the turf and infill for reuse, recycling, or final disposal. Establishing a chain of custody would help ensure artificial turf is disposed of properly. Establishing a chain of custody is something the industry has often said they support, although they have repeatedly misled the public about their disposal practices.

There are currently no regulations for the reuse, recycling, or disposal of synthetic turf components. According to reporting, old synthetic turf materials may be landfilled, incinerated, reused, repurposed, or dumped in communities. Every used synthetic turf field contains tens of thousands of pounds of chemical-laden plastic and hundreds of thousands of pounds of infill (usually tire waste, or alternative infills, and silica sand).

A PEER investigation identified Per- and polyfluoroalkyl substances, a toxic class of toxic chemicals known as forever chemicals, in the turf blades and backing in some artificial turf. As a result, children can be exposed to these chemicals, and there is a potential for PFAS to leach off the fields into groundwater, surface water, and eventually, drinking water.

For these reasons, we urge a favorable reading of HR 0857

MACPRA Position HB857 2-22-21.pdf
Uploaded by: Miller, Steve
Position: FWA

MARYLAND ASSOCIATION OF COUNTY
PARK & RECREATION ADMINISTRATORS
(MACPRA)

2021 MD General Assembly
House Bill 857

Establishing a chain-of-custody reporting requirement for synthetic turf fields in Maryland.

Maryland Association of County Park & Recreation Administrators

To: Environment and Transportation

Date: February 22, 2021

From: Steve Miller, MACPRA President

Position: **SUPPORT WITH AMENDMENTS**

On behalf of the Maryland Association of County Park & Recreation Administrators (MACPRA), **MACPRA SUPPORTS HB 857 WITH AMENDMENTS.**

As a professional association of agencies responsible for providing safe facilities and activities for Maryland residents, MACPRA supports the general purpose of HB 857 of establishing a statewide inventory of synthetic turf fields through a reporting mandate. MACPRA promotes the safe use, re-use, and/or disposal of synthetic turf surfaces and infill materials and a statewide inventory could assist in this effort.

However, MACPRA has concerns over existing language in the bill that could significantly increase costs for Counties by putting excessive obligations on producers, manufacturers or transporters of these products. MACPRA also opposes the approval process outlined in the bill which is unnecessary. Therefore, MACPRA would like to see the following amendments to the bill:

1. **Remove the MDE approval requirement beginning on page 3, line 19.**
2. **Edit language throughout the bill to narrow the bill's scope to reporting only.** MACPRA believes the bill should be exclusive to reporting responsibilities that should track ownership of fields and associated materials.

MARYLAND ASSOCIATION OF COUNTY PARK & RECREATION ADMINISTRATORS (MACPRA)

We urge the Committee to consider this testimony with respect to the proposed legislation and **SUPPORT WITH AMENDMENTS.**

The Maryland Association of County Park & Recreation Administrators (MACPRA) is an affiliate of the Maryland Association of Counties and represents County Parks and Recreation departments, including Baltimore City – the professionals engaged in the delivery of Parks and Recreation services throughout Maryland.

MACPRA Position HB857 2-22-21.pdf
Uploaded by: Riley, Michael
Position: FWA

MARYLAND ASSOCIATION OF COUNTY
PARK & RECREATION ADMINISTRATORS
(MACPRA)

2021 MD General Assembly
House Bill 857

Establishing a chain-of-custody reporting requirement for synthetic turf fields in Maryland.

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The Maryland Association of County Park & Recreation Administrators (MACPRA) is an affiliate of the Maryland Association of Counties and represents County Parks and Recreation departments, including Baltimore City – the professionals engaged in the delivery of Parks and Recreation services throughout Maryland.

MNCPPC Position Statement HB 857 Environment - Syn

Uploaded by: Tyler, Bill

Position: FWA

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

POSITION STATEMENT

Bill: **HB 857 – Environment - Synthetic Turf and Turf Infill - Chain of Custody and Reuse**

Position: **SUPPORT W/ AMENDMENTS** **Date:** February 24, 2021

Contact: Adrian R. Gardner, General Counsel

What The Bill Does: With certain amendments to be offered by the sponsor, this straight-forward bill would enable the Maryland Department of the Environment (MDE) to collect reliable information about the lifecycle of synthetic turf or turf infill materials in the state by requiring owners to report when and how they recycle or dispose of those materials.

Why We Support: The Maryland-National Capital Park and Planning Commission ("Commission") is responsible for managing 10 existing synthetic turf fields serving the everyday needs of thousands of active families in Montgomery and Prince George's counties. In this context, the managers of our park and recreation operations anticipate an ongoing process of adding new fields and restoring old ones to keep up with a growing community demand.

At the same time, our agency leaders recognize competing community concerns exist about the long-term environmental impact when synthetic materials enter the disposal or recycling streams. As an agency founded in part to pursue environmental stewardship, the Commission supports responsible reuse and disposal of turf materials with a focus on ensuring recycling. As amended, this legislation would establish transparency and public accountability by mandating disclosure to MDE, coupled with appropriate fines for field owners who fail to disclose their disposal activities.

The Commission thanks the sponsor for inviting the active involvement of our senior department leaders, and the collaborative development of the following three amendments that will: (1) Strike in its entirety Section 9-2303 (*on page 3, beginning at line 18 and ending with line 23*); (2) Modify the provision at Section 9-2302, subsection (c), by striking the phrase "ESTABLISH A SYSTEM TO TRACK" and substituting the word "REPORT" (*on page 3, at line 5*); and, (3) adding a penalty provision that imposes fines for violating the reporting requirement in Section 9-2302. Our team plans to achieve compliance by modifying our current procurement process to require the necessary information regarding disposal practices and reporting required by this bill.

With those amendments, the Commission fully supports this bill and urges a favorable report.

# # #

Office of the General Counsel
221 Prince George Street, First Floor, Annapolis, Maryland 21401
410.263.1930 tel.

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STCCommentsMDHB857.pdf
Uploaded by: Bond, Dan
Position: UNF

February 24, 2021

Maryland General Assembly
Environment and Transportation Committee
House Office Building
Room 251
Annapolis, MD 21401

Written Testimony in opposition of House Bill No. 857:

Submitted by:
Dan Bond
President & CEO
Synthetic Turf Council
2331 Rock Spring Road, Forest Hill, MD 21050

Dear Chair Barve, Vice Chair Stein and members of the Environment and Transportation Committee:

My name is Dan Bond and on behalf of the Synthetic Turf Council (STC), I am writing in opposition to House Bill No. 857. The STC is headquartered in Forest Hill, MD and is the world's largest organization representing the synthetic turf industry. Founded in 2003, the STC represents over 245 members and promotes industry excellence through guidelines, certifications, and other learning platforms. Membership includes builders, landscape architects, testing labs, maintenance providers, manufacturers, suppliers, installation contractors, infill material suppliers and other specialty service companies.

Requiring a manufacturer of synthetic turf and infill to establish a system to track the chain of custody of synthetic turf and infill is not feasible, would discourage further reuse and recycling technological advancements, would negatively impact communities of color, the environment and player safety and penalize property owners who have installed synthetic turf.

Establishing a system to track the chain of custody of the synthetic turf and infill from manufacturer to their installation, use, reuse, recycling and final disposal is not feasible given the reuse, repurposing and recycling of next stage turf that is already occurring. As a logistical issue, the manufacturer of the synthetic turf is typically different than the manufacturer of the infill and the reuse and recycling options are different for system components. The synthetic turf system is designed chiefly for the owner's needs and is based on the sports being played, climate, usage and funding available and combines different components from across the supply chain.

STC member companies have already developed reuse and recycling options for synthetic turf that has reached the next stage of its useful life that will now be discouraged if this bill is enacted. Several member companies are accepting recovered synthetic turf. They provide assistance with removal and will clean and warehouse turf that is suitable for reuse. Reuse options include arena football fields, tee mats, sand trap liners, landscape liner material, golf products and door mats. Members have also developed processes to collect and separate materials so that next stage turf can be processed into

post-consumer recycle content products. Turf received in rolls is processed into plastic pellets that are suitable for injection molding, rotational molding and profile extrusion. Products produced include carpet and turf backing, resilient flooring and infill. Industry participants are also accepting next stage turf, separating out the infill, and melt down the yarn and backing into a paste that can be poured onto the base layer of a new field to serve as shock absorption for players. It's not feasible to have a chain of custody on synthetic turf and/or infill that is processed into post-consumer recycle content products, like plastic pellets. Further, mandating this type of program will discourage future reuse and recycling technological advancements and secondary markets that find value in the next stage turf.

This type of program would also increase the costs of synthetic turf systems (base, turf and infill), since manufacturers would likely pass on the additional costs to the end users. For local schools and municipalities, adding costs to the bid costs means less money for field maintenance programs, which could mean a less safe playing surface. These economic hardships for local schools and municipalities have been accelerated based on the negative impacts of COVID-19.

Mandating a chain of custody program would negatively impact communities of color, the environment and player safety. Communities of color, typically in urban areas, have less space available to promote year-round enjoyment and activity for children of all ages. A typical synthetic turf field can be used three times as much as a comparably-sized natural grass field. A grass field simply cannot remain lush if it is used more than three to four days a week, or in the rain, or during the six months of the year when grass does not grow in Maryland. Otherwise the field will become unsafe, rock-hard and covered in dirt. Since synthetic turf can withstand so much wear and tear, many schools can even rent their synthetic turf fields to local sports team and organizations to bring in extra funding. This frees up new funds for the classroom.

Synthetic turf fields enable increased activity in nearly all weather conditions which helps battle the childhood obesity epidemic in Maryland and promotes well-being. Additionally, having a majority of children in a remote learning environment due to COVID-19 has exacerbated this obesity epidemic. The Centers for Disease Control and Protection states that in the U.S., the percentage of children and adolescents affected by obesity has more than tripled since the 1970s. Additionally, the Department of Health and Human Services recommends that children and adolescents aged 6 to 17 years should have at least 60 minutes of physical activity each day. The CDC reports that of Maryland's children 2-5 years old, 16.5 percent are overweight and 15.7 percent are obese.

Reclaimed and recycled materials that are being used in synthetic turf fields is growing. This proposed program would not promote environmentally-friendly synthetic turf system designs because producers are already starting to moving toward reduced material-use per square foot produced, reduced energy use in producing and delivering synthetic turf, and improved environmental impacts.

By mandating this program with additional costs for synthetic turf, the use of synthetic turf in the state of Maryland will decline, which will increase water consumption and CO2 emissions, and the use of harmful lawn chemicals. One typical grass sports field uses between 500,000 to a million gallons of

water each year.1 The use of synthetic turf decreases harmful CO2 emissions by reducing the use of gas-powered lawn care equipment. As of February 2021, there are an estimated 415 ppm (parts per million) of carbon dioxide in the atmosphere.2 The burning of fossil fuels releases carbon dioxide and other greenhouse gases. There is almost unanimous agreement in the scientific community that the increase in carbon emissions into the atmosphere contributes to climate change, which can have serious consequences for humans and our environment.

Also, synthetic turf does not require harmful lawn chemicals in order to maintain a healthy and safe surface. Lawn chemicals are the fertilizers, herbicides and insecticides used in lawn care. The Environmental Protection Agency states that lawn chemicals have the potential to run off into streams, harming fish and other animals and contaminating our drinking water.3 Health problems including birth defects and allergies are just a few of the effects of contaminated water exposure.

Furthermore, landscape turf installs for certain residential and commercial applications typically run larger than 5,000 square feet. No other state requires a chain of custody mandate for synthetic turf manufacturers and penalizes those property owners that have made the investment to save water, limit CO2 emissions and raise their property values.

Thank you for your consideration.

[1] Synthetic Turf Council, Benefits of Synthetic Turf, https://cdn.ymaws.com/www.syntheticturfcouncil.org/resource/resmgr/media/benefits_of_synthetic_turf.pdf.
[2] CO2 Earth, https://www.co2.earth/.
[3] Environmental Protection Agency, The Facts About Lawn Chemicals, https://cfpub.epa.gov/npstbx/files/marc_lawnchemicals.pdf.

Tire Industry Assocition Testimony HB 857.pdf
Uploaded by: Littlefield, Roy
Position: UNF

February 22, 2021

STATEMENT OF
THE TIRE INDUSTRY ASSOCIATION
IN OPPOSITION TO H.B. 857
BEFORE THE ENVIRONMENT AND TRANSPORTATION COMMITTEE
STATE OF MARYLAND

Dear Chairman Barve and members of the Committee,

I respectfully submit this statement on behalf of the 252 Maryland businesses that are members of the Tire Industry Association (TIA).

The Tire Industry Association is an international non-profit association representing all segments of the tire industry, including those that manufacture, repair, recycle, sell, service or use new or retreaded tires, and also those suppliers or individuals who furnish equipment, material or services to the industry. TIA is located in Bowie, MD.

The mission of TIA is to promote tire safety through training and education, to act as the principal advocate in government affairs and to enhance the image and professionalism of the industry so that our member businesses may be more successful. TIA has more than 13,000 members from all 50 states and around the globe. As the industry leader in tire service technician training, TIA has educated more than 160,000 people since 1997. The Tire Industry Association has remained environmentally focused with our Environmental Advisory Council (EAC).

Tire recycling has been a success story in the United States and especially in Maryland. Past initiatives have helped clean up stockpiles. Changing the existing system in the state would hinder advances that have been made in scrap tire recycling.

By 2017 there were less than 50 stockpiles nationwide, as 81.4% of scrap tires were consumed in beneficial end markets. Maryland, Minnesota, and Wisconsin are the 3 states that have cleaned up all scrap tire stockpiles.

TIA believes setting up a chain of custody system for synthetic turf would create unnecessary burdens and requirements when trying to repurpose, recycle, or reuse the product. There is also logistical and tracking issues with such a proposal given that the manufacturer of the synthetic turf is typically different than the manufacturer of the infill and the reuse and recycling options are different for system components.

Maryland Office:

1532 Pointer Ridge Place Suite G
Bowie, Maryland 20716-1883

800.876.8372 301.430.7280 301.430.7283 f

We are concerned that the bill would discourage further reuse and recycling technological advancements and successful recycling processes currently taking place in the state.

The history of scrap tire disposal is a great success story. And the number of synthetic turf fields is a major part of that story. Whether it be playground turf, pet and dog turf, indoor sports turf, or athletic fields for all levels of play, almost 62 million used tires are recycled every year for this use. Advantages of artificial turf athletic fields includes all weather utility, versatility, and no growing required.

A 1984 amendment to the Resource Conservation and Recovery Act, the Federal law that created the framework for the proper management of hazardous and non-hazardous solid waste, introduced by (at the time) Maryland Congresswoman Barbara Mikulski stipulated that used oil, tires, batteries, and antifreeze were not to be classified as a hazardous waste.

By mandating this program with additional costs for synthetic turf, the use of synthetic turf in the state of Maryland will decline. Therefore, TIA opposes House Bill 857.

Thank you for your consideration.

Sincerely,

Roy Littlefield IV
Director of Government Affairs
Tire Industry Association
Rlittlefield2@tireindustry.org

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STATEMENT OF ISRI MD HB857.pdf
Uploaded by: Rannie, Mark
Position: UNF

STATEMENT OF

MARK RANNIE

CHAIRMAN, TIRE AND RUBBER DIVISION

INSTITUTE OF SCRAP RECYCLING INDUSTRIES

REGARDING MARYLAND H.B. 857

BEFORE THE

MARYLAND HOUSE ENVIRONMENT AND TRANSPORTATION COMMITTEE

FEBRUARY 24, 2021

ANNAPOLIS, MARYLAND

Members of the Committee, I respectfully submit this statement on behalf of the Institute of Scrap Recycling Industries (ISRI) Tire and Rubber Division and its member companies. ISRI is the trade association that represents approximately 1,300 companies that process, broker, and industrially consume recyclable commodities including metals, paper, plastics, glass, textiles, rubber, and electronics. My company, Emanuel Tire, LLC, is an ISRI member company based in Baltimore, MD, and employs over 200 individuals. In the state of Maryland, the recycling industry directly supports over 2,000 jobs.

Thank you for the opportunity to submit testimony in opposition of House Bill 857, an act concerning synthetic turf and turf infill. By mandating that manufacturers of individual components of a synthetic turf field system are responsible for the end-of-life management of fields, ISRI believes that this legislation will hurt Maryland businesses like mine that have invested in the Maryland recycling infrastructure to help develop end markets for recycled content for materials such as tires, and will limit the beneficial use and recycling of synthetic turf and infill, which is a valuable end market for recycled tires and rubber.

Emanuel Tires and the Tire Recycling Industry

Emanuel Tire Family of Companies, under the leadership of Norman Emanuel, has been in the scrap tire business for 60 years. We have received national recognition for our efforts to establish standards in the scrap tire industry and for deriving new uses for shredded tires. Emanuel Tire was a founding member of the National Association of Scrap Tire Processors (NASTP) – which is now the Tire & Rubber Division of the Institute of Scrap Recycling Industries (ISRI). Emanuel Tire has sat on the ISRI Board of Directors and is innately familiar with the development of state and national scrap tire recycling programs.

The Emanuel Tire Family of Companies processes over 17 million tires per year, typically received from one of three sources: tires delivered to our plant by individuals or companies; trailers or pick-up services at locations where customers have large volume of tires; and the clean-up of private or government owned stockpiles.

Tires are shred and used in one of a number existing and promising markets, including:

- Tire Chips shredded to customer specification and used in civil engineering projects;
- Safe-T-Play and Safe-T-Footing 100% wire free playground and horse arena material;
- Recycled Reclaim Industry Material (RRIM), used by industry processors who fine grind our material then mold them for cattle mats, athletic surfacing and flooring tiles;
- Tire Derived Fuel (TDF) a fuel source in many kilns and energy plants;
- Septic System Material (SSM) used in commercial and residential drainage fields;
- Sound Wall Material rubber chips used to make highway noise reduction walls; and
- Forever Mulch, a colorized chip used in landscaping and architectural enhancement.

Emanuel Tire is committed to the environmentally safe use of tire products. We are licensed and recognized by the Maryland Department of the Environment, Pennsylvania Department of Environment and the Virginia Department of Environmental Quality as a Scrap Tire Hauler, Scrap Tire Collection Facility and a Scrap Tire Recycler. Additionally, Emanuel Tire employs an OSHA approved Environmental, Health and Safety program at all of our facilities.

Maryland Recycling Businesses & Individual Property Rights will be Harmed

HB 857 deprives property owners control, management, and bargaining rights of their own property. Synthetic turf and infill for athletic fields bring value-added benefits that offset the up-front cost to the property owner, such as limited maintenance compared to grass fields, extended use during colder seasons, and the intrinsic value of the materials used to construct the field. If the property owner chooses to uninstall the synthetic turf, the owner has numerous options to recover some of that value including the recycling and reuse of the valuable commodities that make up the turf. This legislation denies property owners the right to recover this value by eliminating any option for independent recycling and reuse.

This legislation hurts Maryland businesses like my own that have invested in recycling technology and infrastructure here in the state of Maryland, which helps Maryland achieve its own recycling goals. The legislation usurps control of the free market flow and management of recyclable materials from recyclers. Property owners are forbidden from reselling their synthetic turf and infill for recycling and reuse; instead, they would be forced to appeal to the manufacturer for it to request permission from the state to retake custody. This entire concept is troubling at the very least and clearly stifles innovation and new entries into the market for the reuse and recycling of materials such as the components in the turf.

Recyclables Are Not Waste

The components of synthetic turf are not solid waste but valuable commodities traded and sold in global markets. Recyclables are commodities processed into tradable and highly valued specification-grade products that manufacturers use as raw material inputs to make new products. HB 857 imposes a producer-responsibility control mechanism on synthetic turf and turf infill components that is not appropriate for valuable recyclable commodities for which there is a vibrant and active marketplace.

Conclusion

Maryland HB 857 will deprive turf field owners of their property and bargaining rights to seek out best use recycling options for their fields at the end of their current use, and harm the beneficial use and ultimate recycling of synthetic turf and synthetic turf infill. By mandating that manufacturers of individual components of a synthetic turf field system are responsible for the end-of-life management of fields, ISRI believes that this legislation will take power over end-of-life management decisions from field owners and limit the recyclability of synthetic turf and infill, not encourage it.

Because of this, and on behalf of all tire recyclers working to improve our environment and economy by keeping valuable recyclable materials out of landfills, I urge this distinguished committee to oppose this legislation.

Mark Rannie
Chairman, Tire and Rubber Division, ISRI
Vice President, Emanuel Tire LLC
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HB857_MDE_LOI.pdf
Uploaded by: abbott, tyler
Position: INFO

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

February 24, 2021

The Honorable Kumar P. Barve, Chair
House Environment and Transportation Committee
House Office Building, Room 251
Annapolis, MD 21401

Re: House Bill 857 - Environment - Synthetic Turf and Turf Infill - Chain of Custody and Reuse

Dear Chair Barve and Members of the Committee:

The Maryland Department of the Environment (MDE) has reviewed House Bill 857, entitled *Environment - Synthetic Turf and Turf Infill - Chain of Custody and Reuse* and would like to provide additional information regarding the bill. MDE has discussed this bill with the sponsor, and supports efforts that facilitate the proper management of post-consumer material as a means of preventing litter.

Beginning January 1, 2022, the bill would require a producer of synthetic turf and turf infill to establish a system to track the chain of custody of the synthetic turf and turf infill from their manufacture to their installation, use, reuse, recycling, and final disposal. The bill would also require owners of synthetic turf and turf infill installed in the State as of January 1, 2022 to establish a system to track the chain of custody of the synthetic turf and turf infill from their use to their reuse, recycling, and final disposal. The chain of custody is required to be transmitted in writing to MDE. MDE is required to review and approve requests from an owner of synthetic turf and turf infill to reuse the synthetic turf and turf infill. MDE is also required to develop and maintain a website that contains copies of chains of custody submitted to MDE, as well as the names of producers and brands associated with the chains of custody.

Synthetic turf is typically composed of plastic blades of grass and an infill material that can be made of various materials, including crumb rubber from recycled tires. Depending on the materials used, synthetic turf and infill would often constitute nonhazardous solid waste that could be managed similarly to other municipal wastes. Additionally, while MDE regulates and imposes certain requirements on the disposal and the recycling of scrap tires, crumb rubber and other products composed of recycled tires are not considered scrap tires. Used synthetic turf and turf infill that is nonhazardous solid waste may currently be reused, recycled, or properly disposed in a permitted solid waste facility.

Thank you for your consideration. We will continue to monitor House Bill 857 during the Committee's deliberations, and I am available to answer any questions you may have. Please feel free to contact me at 410-260-6301 or by e-mail at tyler.abbott@maryland.gov.

Sincerely,

Tyler Abbott

cc: The Honorable Mary A. Lehman
Ms. Kaley Laleker, Director, Land and Materials Administration