

July 10, 2018

Dear Mayor Bowser,

We, the undersigned organizations and businesses, are writing to strongly urge that the District government stop installing synthetic turf and poured in place (PIP) playgrounds in Washington, D.C. There is a growing body of evidence that these synthetic surfaces endanger children's health, are harmful to our environment, and are very expensive to install and maintain compared to natural grass.¹
2 3 4

- In the District, children have been endangered by surface **temperatures** that have been measured in excess of **160 degrees** Fahrenheit.^{5 6 7 8}
- For years, children in the District have been endangered by playing fields that are excessively hard, far out of compliance with any safety standards. Until last year, the District did not correctly monitor Gmax testing of field hardness (called impact attenuation) to ensure even a minimum safety standard to prevent injuries when children fall. A score of 165 or higher is considered too dangerous for children by the Synthetic Turf Council. Dozens of DCPS playing fields exceeding that 165 score remain in service with no remediation at all.^{8 9 10 11}

When products with known risks of injuries from infection, high temperature and hardness are installed, the District has an obligation to provide monitoring and safety standards. That hasn't been done in a timely manner,¹² and students have been harmed.^{13 14 15}

We oppose the District's plans to install more synthetic turf of any type on playing fields or playgrounds. These plastic carpet systems and infills are exposing our children and environment to harmful toxicants, as documented by independent researchers at Yale,¹ Mount Sinai Children's Environmental Health Center,^{16 17} and the National Center for Health Research.¹⁸

Synthetic rubber playground materials (often called PIP) that are used under slides, swings, and other children's play areas contain similarly harmful toxicants.¹⁹

- Claims from vendors or industry-funded scientists that the materials are proven safe are inaccurate. Misleading claims that there is "no evidence" of harm does not mean that the synthetic systems are proven to be safe. On the contrary, concerns about safety have been documented by independent scientists noted above, and were examined during the Obama Administration by the Consumer Product Safety Commission (CPSC) and the Environmental Protection Agency (EPA).²⁰ The CPSC and EPA reviews were not completed as expected in 2016 or 2017, and it is not clear whether those reviews are held to the scientific standards that had previously been established.
- In addition to the health risks to school children and athletes, approximately three tons of infill materials migrate off of each synthetic turf field into the greater environment each year. About 2-5 metric tons of infill, such as tire crumb, must be replaced every year for each field, meaning that tons of the infill have migrated off the field into grass, water, and our homes,²¹ and the fields also continuously shed microplastics as the plastic blades break down.^{22 23} These materials may contain additives such as PAHs, flame retardants,

UV inhibitors, etc., which can be toxic to marine and aquatic life; and microplastics are known to migrate into the oceans, food chain, and drinking water and can adsorb and concentrate other toxins from the environment.^{24 25 26}

- Synthetic surfaces also create heat islands.^{27 28} In contrast, organically managed natural grass saves energy in urban areas by dissipating heat, cooling the air, and reducing energy to cool nearby buildings. Natural grass and soil protect groundwater quality, biodegrade polluting chemicals and bacteria, reduce surface water runoff, and abate noise and reduce glare.²⁹

We urge your support for the installation of organically managed natural grass fields and Engineered Wood Fiber (EWF) playgrounds that are properly engineered, installed, and maintained for ADA compliance. It is incumbent upon the District of Columbia to:

1. Halt all installation of synthetic playgrounds and playing fields.
2. Remove synthetic playgrounds and playing fields instead of renovating them or replacing with new synthetic materials.
3. Prioritize proper installation and maintenance of ADA compliant natural surfaces.
4. Solicit public ideas for increasing the inventory of playing fields and recreation opportunities.

We endorse the January 2018 policy [recommendations made by DC Safe Healthy Playing Fields](#), which provide a measured and reasonable approach to phasing out of synthetic fields and playgrounds in DC and replacement with natural surfaces.

As noted above, there is well-documented evidence on the environmental and health dangers of synthetic fields and playground surfaces. The scientists and consultants denying these risks to the DC Government have financial and other ties to the companies that manufacture and install synthetic turf or to the recycled rubber industry.

Tax dollars should not be spent on products that endanger children's health and harm our environment.

Sincerely,

DC Safe Healthy Playing Fields

[Alliance of Nurses for Healthy Environments](#)

[American Academy of Environmental Medicine](#)

[Audubon Naturalist Society](#)

[Beyond Pesticides](#) ([October 2017 Testimony to DC City Council](#))

[Cedar Lane Unitarian Universalist Church Environmental Justice Ministry](#)

[Center for Environmental Health](#)

[Children's Environmental Health Network](#) ([October 2017 Testimony to DC City Council](#))

[Kids in Danger](#)

[MOM's Organic Market](#)

[Maryland Public Interest Research Group](#)

[Maryland Environmental Health Network](#)

[Moms Clean Air Force](#)

[National Center for Health Research](#)

[Neighbors of the Northwest Branch of the Anacostia River](#)

[New Hampshire Safe Water Alliance](#)

[Non Toxic Communities](#)

[Public Employees for Environmental Responsibility \(Statement on EPA Study\)](#)

[Safe Grow Montgomery](#)

[Safe Healthy Playing Fields Coalition](#)

[Sierra Club DC](#)

[Trash Free Maryland](#)

[Toxics Action Center Campaigns](#)

[Women's Alliance for Democracy & Justice](#)

CC:

City Administrator Rashad Young

Department of Energy & the Environment Director Tommy Wells

Deputy Mayor of Education Ahnna Smith

Deputy Mayor for Health and Human Services HyeSook Chung

Department of Parks and Recreation Director Keith Anderson

Department of General Services Director Greer Gillis

DCPS Chancellor Amanda Alexander

Interagency Synthetic Turf Task Force

Evan Lambert, Fox5

Mike Ozanian, Forbes

Rachel Sadon, DCist

Endnotes:

- ¹ Benoit G, Demars S. Evaluation of organic and inorganic compounds extractable by multiple methods from commercially available crumb rubber mulch. *Water Air Soil Pollut* 2018. 229(3): 64. <https://doi.org/10.1007/s11270-018-3711-7>
- ² Llompарт M, Sanchez-Prado L, Pablo Lama J, Carcia-Jares C, Roca E, Dagnac T. Hazardous organic chemicals in rubber recycled tire playgrounds and pavers. *Chemosphere*. 2013. 90: 423-431. http://www.elcorreodelsol.com/sites/default/files/chemosphere_maria_llompарт.pdf
- ³ Massachusetts Toxics Use Reduction Institute. Sports turf alternatives assessment: Preliminary results: Cost analysis. September 2016. http://www.turi.org/Our_Work/Home_Community/Artificial_Turf/Cost_Analysis
- ⁴ Ozanian M. How taxpayers get fooled on the cost of an artificial turf field. *Forbes*. September 28, 2014. <https://www.forbes.com/sites/mikeozanian/2014/09/28/how-taxpayers-get-fooled-on-the-cost-of-an-artificial-turf-field/#ea43caf5db28>
- ⁵ [Images](#) of the high temperatures recorded at Janney Elementary on June 12, 2017. On a day when the ambient air temperature was 96°F, poured-in-place surfaces were 164°F and 165°F, artificial turf field was 162°F, while mulch and concrete were 122°F and 127°F, respectively.
- ⁶ [Image](#) of the high temperature of an Envirofill field at Janney Elementary on October 1, 2017. The field was 136°F when the ambient air was 64°F.
- ⁷ As temperatures increase, surface hardness also increases: Vidair C, Haas R, Schlag R. Testing impact attenuation on California playground surfaces made of recycled tires. *Int J Inj Contr Saf Promot*. 2007. 14(4): 225-30. <https://www.ncbi.nlm.nih.gov/pubmed/18075871>
- ⁸ National Center for Health Research. Letter to the DC City Council on Artificial Turf. October 26, 2017. <http://www.center4research.org/nchr-letter-dc-city-council-artificial-turf/>
- ⁹ Evaluation of D.C. testing results found that dozens of DCPS playing fields exceeded a g-max score of 165: Zuckerman D. Risks of head injuries on artificial turf fields in Washington, D.C. National Center for Health Research. 2017. <http://www.center4research.org/risks-head-injuries-artificial-turf-fields-washington-d-c/>
- ¹⁰ Sadon R. Hardness test results reveal wider scope of artificial turf failures. *DCist*. October 12, 2017. http://dcist.com/2017/10/even_more_artificial_turf_fields_fa.php
- ¹¹ Synthetic Turf Council. Guidelines for synthetic turf performance. 2011. https://cdn.ymaws.com/www.syntheticurfCouncil.org/resource/resmgr/guidelines/STC_Guidelines_for_Synthetic.pdf
- ¹² D.C. Department of General Services. Artificial athletic turf fields: Frequently asked questions. September 21, 2017. https://dgs.dc.gov/sites/default/files/dc/sites/dgs/service_content/attachments/UPDATED%20-%20FAQ%20Artificial%20Athletic%20Turf%20Fields%20-%202017-11-17.pdf
- ¹³ McCray Q. Safety checks at D.C. playgrounds under question after boy injured on crumb rubber floor. *WJLA*. October 27, 2017. <http://wjla.com/news/local/safety-checks-at-dc-playgrounds-under-question-after-boy-injured-on-crumb-rubber-floor>
- ¹⁴ Infections are the result of increased incidence of abrasions on artificial turf, see Williams S, Trewartha G, Kemp SP, Michell R, Stokes KA. The influence of an artificial playing surface on injury risk and perceptions of muscle soreness in elite rugby union. *Scand J Med Sci Sports*. 2016. 26(1): 101-108. <https://www.ncbi.nlm.nih.gov/pubmed/25644277>. Kazakova SV, Hageman JC, Matava M, et al. A clone of methicillin-resistant staphylococcus aureus among professional football players. *N Engl J Med*. 2005. 352(5): 468-475. <https://www.nejm.org/doi/full/10.1056/NEJMoa042859>. Van den Eijnde W, Masen M, Lamers E, van de Kerkhof P, Peppelman M, Van Erp P. The load tolerance of skin during impact on artificial turf using ex-vivo skin as the readout system. *Science and Medicine in Football*. 2018. 2(1): 39-46. <https://www.tandfonline.com/doi/full/10.1080/24733938.2017.1390593>
- ¹⁵ [Graphic one-minute video of student with serious infection from synthetic turf in DC](#)
- ¹⁶ The Children’s Environmental Health Center of the Icahn School of Medicine at Mount Sinai. [Letter to DC City Council](#) concerning state of fields and playgrounds maintained by the District Public Oversight Roundtable. October 12, 2017.
- ¹⁷ The Children’s Environmental Health Center of the Icahn School of Medicine at Mount Sinai. Artificial turf: A health-based consumer guide. May 2017. http://icahn.mssm.edu/files/ISMMS/Assets/Departments/Environmental_Medicine_and_Public_Health/CEHC_Position_Statement_on_Recycled_Rubber_Turf_Surfaces_May_10_2017.pdf
- ¹⁸ Booker N, Fox-Rawlings S. Children and athletes at play on toxic turf and playgrounds. National Center for Health Research. 2018. <http://www.center4research.org/children-athletes-play-toxic-turf-playgrounds/>
- ¹⁹ Canepari S, Castellano P, Astolfi ML, Materazzi S, Ferrante R, Fiorini D, Curini R. (2018) Release of particles, organic compounds, and metals from crumb rubber used in synthetic turf under chemical and physical stress. *Environ Sci Pollut Res Int*. 25(2): 1448-1459. <https://link.springer.com/article/10.1007%2Fs11356-017-0377-4>
- ²⁰ EPA. Federal research on recycled tire crumb used on playing fields. 2018 <https://www.epa.gov/chemical-research/federal-research-recycled-tire-crumb-used-playing-fields>
- ²¹ York T. Greener grass awaits: Environmental & fiscal responsibility team up in synthetic turf. *Recreation Management*. February 2012. http://recmanagement.com/feature_print.php?fid=201202fe02.

-
- ²² Magnusson K, Eliasson K, Fråne A, et al. Swedish sources and pathways for microplastics to the marine environment, a review of existing data. Stockholm: IVL- Swedish Environmental Research Institute. 2016. <https://www.naturvardsverket.se/upload/miljoarbete-i-samhallet/miljoarbete-i-sverige/regeringsuppdrag/utslapp-mikroplaster-havet/RU-mikroplaster-english-5-april-2017.pdf>
- ²³ Kole PJ, Löhr AJ, Van Belleghem FGAJ, Ragas AMJ. Wear and tear of tyres: A stealthy source of microplastics in the environment. *Int J Environ Res Public Health*. 2017 14(10). pii: E1265. <https://www.ncbi.nlm.nih.gov/pubmed/29053641/>
- ²⁴ Kosuth M, Mason SA, Wattenberg EV. Anthropogenic contamination of tap water, beer, and sea salt. *PLoS One*. 2018. 13(4): e0194970. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5895013/>
- ²⁵ Oehlmann J, Schulte-Oehlmann U, Kloas W et al. A critical analysis of the biological impacts of plasticizers on wildlife. *Phil Trans R Soc B*. 2009. 364: 2047–2062. <http://rstb.royalsocietypublishing.org/content/364/1526/2047>
- ²⁶ Thompson RC, Moore CJ, vom Saal FS, Swan SH. Plastics, the environment and human health: Current consensus and future trends. *Philos Trans R Soc Lond B*. 2009. 364: 2153–2166. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2873021/>
- ²⁷ Thoms AW, Brosnana JT, Zidekb JM, Sorochana JC. Models for predicting surface temperatures on synthetic turf playing surfaces. *Procedia Engineering*. 2014. 72: 895-900. <http://www.sciencedirect.com/science/article/pii/S1877705814006699>
- ²⁸ Penn State's Center for Sports Surface Research. Synthetic turf heat evaluation- progress report. 2012. <http://plantscience.psu.edu/research/centers/ssrc/documents/heat-progress-report.pdf>
- ²⁹ Stier JC, Steinke K, Ervin EH, Higginson FR, McMaugh PE. Turfgrass benefits and issues. *Turfgrass: Biology, Use, and Management, Agronomy Monograph 56*. American Society of Agronomy, Crop Science Society of America, Soil Science Society of America. 2013. 105-145. <https://dl.sciencesocieties.org/publications/books/tocs/agronomymonogra/turfgrassbiolog>