Testimony in Support of H.7141 Roberta Lacey, Burrillville Resident

Good afternoon, members of the Committee.

My name is Roberta Lacey, and I am a resident of Burrillville. I urge your support for H.7141, which establishes a critical chain of custody system for artificial turf in Rhode Island.

Our community's experience shows why this oversight is a public health necessity. In an August 15, 2024, letter to the Burrillville Town Council, the directors of RIDEM and RIDOH warned against our local turf project due to the risk of PFAS groundwater contamination. They cited a study at North Smithfield Junior-Senior High School, where a well downgradient from a turf field reached PFAS levels of 61 ng/L—triple the state's drinking water standard. Furthermore, state experts noted that turf marketed as "PFAS-free" often contains these "forever chemicals" when independently tested.

Since RIDEM currently serves as the regulatory body that issues freshwater wetlands permits for synthetic turf projects—including the permit issued on April 11, 2024, for the Burrillville High School site—granting them the authority to track the chain of custody of these fields is a logical expansion of their existing role in protecting our state's jurisdictional water resources from contamination. H.7141 addresses these risks by requiring transparency from installation to disposal. It mandates that custodians report the turf's composition and its distance to the nearest downgradient body of water, with all data made available on a publicly accessible website.

This legislation is vital to Burrillville because our town sits on an Aquifer Overlay Zone. Our 2021 Hazard Mitigation Plan identifies aquifer contamination as the #1 hazard risk facing our residents. Our local fire district is already involved in class-action litigation

against PFAS manufacturers to protect our drinking water. We cannot afford to leave the fate of our water to chance. H.7141 ensures we know exactly what materials enter our environment and where they go once removed. Please pass this bill to protect our health and our precious water resources.

Thank you.

Department of Environmental Management
235 Promenade Street
Providence, RI 02908

www.dem.ri.gov

Department of Health
Three Capitol Hill
Providence, RI 02908-5097
TTY: 711
www.health.ri.gov

August 15th, 2024

Burrillville Town Council
105 Harrisville Main Street
Harrisville, RI, 02830

To the members of the Burrillville Town Council,

Several stakeholders have brought concerns about the installation of an artificial turf football field at Burrillville High School to the Rhode Island Department of Health and Department of Environmental Management (RIDOH and RIDEM, respectively). RIDOH and RIDEM have reviewed the available scientific literature and case studies of similar fields around the country and in Rhode Island. We request that the Council review the results of our analysis and provided resources to aid their deliberation over the installation of the field.

Potential risks to health

Artificial turf fields contain a variety of chemicals; however, exposure to these chemicals during playtime is unlikely to increase the risk of negative health effects. Artificial turf made of crumb rubber was the subject of a series of studies from the Environmental Protection Agency (EPA) and Centers for Disease Control/Agency for Toxic Substances and Disease Registry (CDC/ATSDR).[1,2] These studies examined artificial turf fields for the potential to expose people to a variety of chemicals, including metals, polycyclic aromatic hydrocarbons, and volatile organic compounds.[1,2] They concluded that, while these chemicals are present in the turf, people likely have a negligible (meaning zero or close to zero) amount of contact with the chemicals during play.[1,2] Since the amount of contact with contaminants is low, the health risks posed by the chemicals are low during playtime.[1,2]

Per- and polyfluorinated alkyl substances (PFAS) have also been reported in artificial turf in scientific literature.[3] PFAS are used during the production of artificial turf to prevent the machines that extrude the plastic from clogging.[4,5] News reports show that artificial turf fields in Boston[6], Philadelphia[7], and Portsmouth (NH)[8] contain PFAS. PFAS are a group of chemicals known as "forever chemicals" because they do not break down in the environment. Exposure to PFAS over a long period of time can increase the risk for negative health effects such as higher cholesterol levels, lower infant birth weights, weakened immune response, and some cancers, including kidney cancer.[9] Some types of artificial turf that are advertised as "PFAS free" have still been shown to contain PFAS when tested by independent third parties.[8,10]

While PFAS is present in artificial turf, exposure during playtime would likely be similar to exposures to the contaminants monitored in the EPA/CDC/ATSDR report. This means that exposures to PFAS during playtime would not likely increase the risk of negative health effects.

Department of Environmental Management
235 Promenade Street
Providence, RI 02908

www.dem.ri.gov

Department of Health
Three Capitol Hill
Providence, RI 02908-5097
TTY: 711
www.health.ri.gov

RIDOH and RIDEM are most concerned about the potential for PFAS from the turf field to contaminate groundwater in the area. The scientific literature has yet to produce a study conclusively linking artificial turf fields with PFAS contamination in groundwater. However, sampling data collected by both RIDOH and RIDEM at North Smithfield Junior-Senior High School suggest that the artificial turf field (first constructed in 2007 and upgraded/replaced in 2021) may be partly or wholly contributing to the contamination of nearby private and public drinking water supply wells. In this area, groundwater flows from Well #1 to the artificial turf field and then to Well #2. We call Well #1 "upgradient" and Well #2 "downgradient" based on the groundwater flow and their locations with respect to the artificial turf field. Well #1 is located approximately 1000 feet upgradient of the artificial turf field, so it should not be affected by PFAS from the field. Water from this well has consistently been at or below detection limits (i.e., 2 ng/L or less) for PFAS. Well #2 is located approximately 150 feet downgradient of the artificial turf and exceeds the Rhode Island Drinking Water Quality Standard for PFAS of 20 ng/L. In the most recent sampling (6/12/24), the concentration of PFAS in Well #2 was 61.00 ng/L, which is double the concentration detected in 2019 (30 ng/L). Drinking water is one of the major routes of exposure for PFAS, which have a variety of potential health impacts. The most important of these include suppression of the body's response to vaccines and disruption of normal liver and kidney function.[11]

The groundwater quality standard for the sum of regulated PFAS compounds (i.e., PFOS, PFOA, PFNA, PFDA, PFHxS, and PFHpA) is 20 ng/L for the groundwater in the Burrillville area. The Rhode Island Groundwater Quality Rules (Section 3.14(D)) identify the remedial measures that may be required of facility owners that release a pollutant which results in a violation of the groundwater quality standards. These measures include, but are not limited to, sampling of private wells, installing and monitoring additional wells, providing drinking water to properties that have had their wells impacted, and/or implementing remedial actions to restore groundwater quality. Based on RIDOH's review, there are private wells supplying about 20 single and multifamily homes within a quarter mile of the proposed location of the artificial turf field. If PFAS is present in the artificial turf and results in PFAS concentrations in groundwater above 20 ng/L, the School District and/or Town may be required to complete the remedial measures noted above.

Pending Ban of Artificial Turf

Rhode Island recently passed the Consumer PFAS Ban Act of 2024 (the "Act"), which bans certain uses of PFAS in covered products by January 1, 2029. This Act defines "artificial turf" as "man-made material which simulates the appearance of live turf, organic turf, grass, sod or lawn" and bans the manufacture, sale, or distribution of artificial turn containing intentionally added PFAS on January 1, 2029. It should be noted that, since artificial turf fields require periodic maintenance (e.g., replacement of the turf), any materials necessary for future maintenance will be subject to this Act.

The following are more resources that the Town Council may wish to examine before installing the artificial turf field:

Department of Environmental Management
235 Promenade Street
Providence, RI 02908

www.dem.ri.gov

Department of Health
Three Capitol Hill
Providence, RI 02908-5097
TTY: 711
www.health.ri.gov

- PFAS Testing in Artificial Turf (UMass Lowell)
- PFAS in Artificial Turf (Massachusetts Toxics Use Reduction Institute)
- Considerations for Municipalities and Institutions (Massachusetts Toxics Use Reduction Institute)

Thank you for reviewing this information. Please reach out with any questions.

Sincerely,

Jerome Larkin, MD

Jerome Larkin, MD
Director
Department of Health

Terrence Gray

Terrence Gray, P.E.
Director
Department of Environmental Management

Department of Environmental Management
235 Promenade Street
Providence, RI 02908

www.dem.ri.gov

Department of Health
Three Capitol Hill
Providence, RI 02908-5097
TTY: 711
www.health.ri.gov

References:

(1) US Environmental Protection Agency; Centers for Disease Control and Prevention; Agency for Toxic Substances and Disease Registry. *Synthetic Turf Field Recycled Tire Crumb Rubber Research Under the Federal Research Action Plan: Final Report Part 2 - Exposure Characterization Volume 1*; EPA/600/R-24/020; Washington, DC, 2024. https://www.epa.gov/system/files/documents/2024-04/tcrs-exposure-characterization-volume-1.pdf.

(2) US Environmental Protection Agency; Centers for Disease Control and Prevention; Agency for Toxic Substances and Disease Registry. *Synthetic Turf Field Recycled Tire Crumb Rubber Research Under the Federal Research Action Plan: Final Report Part 2 - Exposure Characterization Appendices Volume 2*; EPA/600/R-24/020); Washington, DC, 2024. https://www.epa.gov/system/files/documents/2024-04/tcrs-exposure-characterization-volume-2.pdf.

(3) Lauria, M.; Naim, A.; Plassmann, M.; Faldt, J.; Suhring, R.; Benskin, J. Widespread Occurrence of Non-Extractable Fluorine in Artificial Turfs from Stockholm, Sweden. *Environ. Sci. Technol. Lett.* **2022**, *9*, 666–672. https://doi.org/10.1021/acs.estlett.2c00260.

(4) Lerner, S. Toxic PFAS Chemicals Found in Artificial Turf. *The Intercept*. October 8, 2019. https://theintercept.com/2019/10/08/pfas-chemicals-artificial-turf-soccer/.

(5) State of New Jersey Department of Environmental Protection - Division of Science and Research. *Technical Memorandum. Subject: PFAS in Artificial Turf*; 2023. https://dep.nj.gov/wp-content/uploads/dsr/pfas-artificial-turf-memo-2023.pdf.

(6) Perkins, T. Boston Bans Artificial Turf in Parks Due to Toxic "Forever Chemicals." *The Guardian*. Boston, MA September 30, 2022. https://www.theguardian.com/environment/2022/sep/30/boston-bans-artificial-turf-toxic-forever-chemicals-pfas.

(7) Wein, S. Dangerous Play: Studies Find Harmful "forever Chemicals" in Artificial Turf Fields. *Penn Environment Research & Policy Center*. March 13, 2024. https://environmentamerica.org/pennsylvania/center/updates/dangerous-play-studies-find-harmful-forever-chemicals-in-artificial-turf-fields/.

(8) Chow, S. Artificial Turf Wars: People Fighting to Protect Their Communities. *Sierra Club*. May 30, 2024. https://www.sierraclub.org/loma-prieta/blog/2024/05/artificial-turf-wars-people-fighting-protect-their-communities#:~:text=In%20Portsmouth%2C%20New%20Hampshire%2C%20an,and%20other%20serious%20health%20problems.

(9) ATSDR. *PFAS and Your Health*. Agency for Toxic Substances and Disease Registry. https://www.atsdr.cdc.gov/pfas/index.html#print (accessed 2023-10-31).

(10) Gambacorta, D.; Laker, B. City Officials Believed a New South Philly Turf Field Was PFAS Free. Not True, Experts Say. *The Philadelphia Inquirer*. Philadelphia, PA February 23, 2024. https://www.inquirer.com/news/philadelphia/philadelphia-pfas-artificial-turf-field-murphy-recreation-20240223.html#loaded.

(11) Barlow, C.; Boyd, C. A.; Kemp, M.; Hoppe Parr, K. *PFAS Toxicology - What Is Driving the Variation in Drinking Water Standards*; GZA GeoEnvironmental, Inc., 2019. https://portal.ct.gov/-

Department of Environmental Management
235 Promenade Street
Providence, RI 02908

www.dem.ri.gov

Department of Health
Three Capitol Hill
Providence, RI 02908-5097
TTY: 711
www.health.ri.gov

/media/DEEP/PFASTaskForce/HHCBarlowBoydKempHoppeParr2019PFASToxicologypdf.pdf.

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
235 Promenade Street
Providence, Rhode Island 02908

April 11, 2024

Town of Burrillville
Jeffrey McCormick, PE – DPW Director
200 Clear River Drive
Oakland, RI 02858

Freshwater Wetlands Permit

Re: Application No. 23-0256 and RIPDES No. RIR102603 and UIC No. 002235 in reference to the property and proposed project located:

At 425 East Avenue (Burrillville High School), and approximately 1,180 feet southwest of the intersection of East Avenue and Whipple Avenue, near Utility Pole Nos. 442 and 459 ½, Assessor's Plat 144, Lots 23, 26, and 31, Assessor's Plat 161, Lot 5, Burrillville, RI.

Dear Mr. McCormick:

Kindly be advised that the Department of Environmental Management's ("DEM") Freshwater Wetlands Program ("Program") has completed its review of your **Application for a Freshwater Wetlands Permit** as described in Rule 3.11 of the Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act, 250-RICR-150-15-3 ("Rules"). This review included a site inspection of the above referenced property ("subject property") and an evaluation of the proposed construction of a new synthetic turf field, handicap accessible parking area, ADA field viewing platform, bleachers, parking area, sidewalks, retaining walls, chain-link fence, utilities (connection to town sewer, water, and electric), stormwater mitigation system, four (4) athletic field lighting poles and appurtenances, 288 sq. ft. concession stand and ticket booth structure, 600 sq. ft. restroom structure, 288 sq. ft. press box structure, 2,420 sq. ft. field house/locker room structure, and landscaping with associated clearing, grading, and soil disturbance as illustrated and detailed on site plans submitted with your application. These site plans were received by the DEM on February 26, 2024.

Our observations of the subject property, review of the site plans and evaluation of the proposed project reveals that alterations of jurisdictional areas are proposed. However, pursuant to Rule 3.7.3B of the Rules, this project meets the Variance Criteria for Public and Governmental Bodies, and a **Freshwater Wetlands Permit** may be issued under the following terms and conditions:

Terms and Conditions for Wetlands Application No. 23-0256; RIPDES No. RIR102603; Groundwater Discharge/UIC No. 002235:

1. This letter is the DEM's permit for this project under the R.I. Fresh Water Wetlands Act, R.I. Gen. Laws § 2-1-18 et seq. This application review has also included review of any stormwater infiltration system subject to the DEM Groundwater Discharge Rules (Rules for the Discharge of Non-Sanitary Wastewater and Other Fluid to or Below the Ground Surface), 250-RICR-150-05-4.

2. This determination also includes your final authorization to discharge storm water associated with construction activity under the **2020 RIDPES General Permit for Stormwater Discharge During Construction Activity ("CGP")**. For future references and inquiry, your permit authorization number is **RIPDES No. RIR102603.** This **RIPDES CGP** permit is not transferable to any person except after written notice to the Director, in the form of a Permit Transfer Form available on the RIDEM Stormwater Construction Permitting website.

3. This permit is specifically limited to the project, site alterations and limits of disturbance as detailed on the site plans submitted with your application and received by the DEM on February 26, 2024. A copy of the site plans stamped approved by the DEM is enclosed. Changes or revisions to the project that would alter freshwater wetlands are not authorized without a permit from the DEM.

4. Where the terms and conditions of the permit conflict with the approved site plans, these terms and conditions shall be deemed to supersede the site plans.

5. You must notify this Program in writing of the anticipated start date, and of your contractor's contact information, by submitting the Notice of Start of Construction Form prior to commencement of any permitted site alterations or construction activity. You must also notify this Program in writing upon completion of the project. The Start of Construction Form can be found on the webpage: dem.ri.gov/stormwaterconstruction.

6. A copy of the stamped approved site plans and a copy of this permit must be kept at the site at all times during site preparation, construction, and final stabilization. Copies of this permit and the stamped approved plans must be made available for review by any DEM or town representative upon request.

7. Within ten (10) days of the receipt of this permit, you must record this permit in the land evidence records of the Town of Burrillville and supply this Program with written documentation obtained from the Town showing this permit was recorded.

8. The effective date of this permit is the date this letter was issued. This permit expires five (5) years from the date of this letter unless renewed pursuant to the Rules.

9. Any material utilized in this project must be clean and free of matter that could pollute any jurisdictional area.

10. Prior to commencement of site alterations, you shall erect or post a sign resistant to the weather and at least twelve (12) inches wide and eighteen (18) inches long, which boldly identifies the initials "DEM" and the application number of this permit. This sign must be maintained at the site in a conspicuous location until such time that the project is complete.

11. Both the owner and the contractor retained to undertake the construction activity are required to comply with all terms and conditions of the CGP. This includes maintaining the Soil Erosion and Sediment Control (SESC) Plan, performing the required inspections and maintenance of the selected Best Management Practices (BMPs), and retaining inspection records. Further information on the requirements of the CGP is available at:

    http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/pdfs/cgp092620.pdf.

12. Temporary erosion and sediment controls detailed or described on the approved site plans shall be properly installed at the site prior to or commensurate with site alterations. Such controls shall be

properly maintained, replaced, supplemented, or modified as necessary throughout the life of this project to minimize soil erosion and to prevent sediment from being deposited in any freshwater wetland, buffer, floodplain, area subject to storm flowage, or other jurisdictional areas not subject to disturbance under this permit.

13. Upon permanent stabilization of all disturbed soils, temporary erosion and/or sediment controls must be removed.

14. You are responsible for the proper installation, operation, maintenance and stability of any mitigative features, stormwater treatment facilities, and systems of treatment and control that are installed or used in compliance with this permit to prevent harm to adjacent freshwater wetland, buffer or floodplain, area subject to storm flowage, or other jurisdictional areas until documentation is provided that this responsibility has been assigned to another entity. The long-term operation and maintenance plan shall be strictly followed. The long-term operation and maintenance plan shall be as described in the plan entitled "Stormwater Operation, Maintenance and Pollution Prevention Plan, For Proposed, Synthetic Turf Athletics Field, Burrillville High School, 425 East Avenue, Burrillville, Rhode Island, AP 144, Lot 26 & AP 161, Lot 5" bearing the latest revision date of February 2024, dated received Feb. 26, 2024, as prepared by: Joe Casali Engineering, Inc. 300 Post Road, Warwick, RI 02888.

15. You are obligated to install, utilize, maintain, and follow all best management practices detailed or described on the approved site plans in the construction of the project to minimize or prevent adverse impacts to any adjacent freshwater wetland, buffer or floodplain, area subject to storm flowage or jurisdictional areas and the functions and values provided by such freshwater wetlands, buffer or floodplain, area subject to storm flowage or jurisdictional areas.

16. All plantings of shrubs, trees or other forms of vegetation as detailed in the buffer zone restoration note on Sheet 4 of 19 of the approved plans, or detailed in this permit, must be installed as soon as possible after completion of final grading; weather and season permitting. <u>You must notify this Program in writing upon completion of the required plantings for a compliance inspection by a Program representative.</u>

17. Mitigation or screen plantings of trees and/or shrubs proposed between the project and any adjacent freshwater wetland areas and buffers except for necessary replacement, must be allowed to develop naturally without being subjected to mowing or manicuring.

18. Any plantings which fail to survive one full growing season shall be replaced. Replacement plantings shall be similarly guaranteed for one full growing season.

19. Artificial lighting authorized by this permit must be directed away from all vegetated wetland and buffer areas. Where this is not possible, the use of deflectors to concentrate lighting away from vegetated wetlands must be employed.

20. You must provide written certification from a registered land surveyor or registered professional engineer that the stormwater drainage system including any and all basins, piping systems, catch basins, culverts, swales and any other stormwater management control features have been constructed/installed in accordance with the site plans approved by this permit. This written certification must be submitted to this Program within twenty (20) days of its request or upon completion of the project.

21. If at any time during this project there is evidence of a "Recognized Environmental Concern" as defined in ASTM E-1527-13, soils must be sampled to determine if they exceed the soil objectives outlined in 250-RICR-140-30-1, "Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases", Rule 1.6.1(C) effective 1-8-19, ("Remediation Regulations"). If the soil sampling exceeds Table 1 or Table 2 in Rule 1.9.2 of the Remediation Regulations, the RIDEM Office of Water Resources and Office of Land Revitalization and Sustainable Materials Management must be notified.

Please be aware that the RIDEM's Rules and Regulations Governing the Establishment of Various Fees (250-RICR-30-00-1) require that RIPDES CGP permit holders to pay an Annual Fee of $100.00. An invoice will be sent to the owner on record in May/June of each year if the construction was still active as of December 31st of the previous year. The owner will be responsible for the Annual Fee until the construction activity has been completed, the site has been properly stabilized, and a completed Notice of Termination (NOT) has been received by the RIPDES Program.

You are required to comply with the terms and conditions of this permit and to carry out this project in compliance with the Rules at all times. Failure to do so may result in an enforcement action by this Department.

In permitting the proposed alterations, the DEM assumes no responsibility for damages resulting from faulty design or construction.

Kindly be advised that this permit is not equivalent to a verification of the type or extent of freshwater wetlands on site. Should you wish to have the types and extent of freshwater wetlands verified, you may submit the appropriate application in accordance with 250-RICR-150-15-3.9.3.

This permit does not remove your obligation to obtain any local, state, or federal approvals or permits required by ordinance or law and does not relieve you from any duties owed to adjacent landowners with specific reference to any changes in drainage.

Please contact Jessica Lord of this office (telephone: 401-537-4249) should you have any questions regarding this letter.

Sincerely,

Nancy L. Freeman

Nancy L. Freeman, Environmental Scientist III
Office of Water Resources
Freshwater Wetlands Program
NLF/JAL/jal

Enclosure: Approved site plans

ec: Joseph Casali, PE, MBA, Joe Casali Engineering, Inc.
Scott P. Rabideau, PWS, Principal, Natural Resource Services, Inc.
Neal Personeus, DEM Stormwater Program
Steven Detonnancourt, Zoning Official, Town of Burrillville
DEM UIC Program