ED COMMITTEE #2
January 28, 2013
Worksession

MEMORANDUM

January 25, 2013

TO: Education Committee

FROM: Essie McGuire, Senior Legislative Analyst EMcG

SUBJECT: **Worksession – Supplemental Appropriation to the FY13 Capital Budget and Amendment to the FY13-18 Capital Improvements Program, Montgomery County Public Schools, Building Modifications and Program Improvements Project, $1,100,000 for Wootton High School Artificial Turf Field**

Today the Education Committee will review a supplemental appropriation to the FY13 Capital Budget and Amendment to the FY13-18 Capital Improvements Program, Montgomery County Public Schools (MCPS), Building Modifications and Program Improvements (BMPI) Project. The appropriation amount is $1,100,000 to construct an artificial turf stadium field at Wootton High School, and the source of funds is private contributions.

The Board of Education requested this appropriation on November 13, 2012 (circles 5-7). The County Executive transmitted this request to the Council on December 3, 2012, and recommended approval of the appropriation (circle 1). The Council introduced this resolution on December 11, 2012 and held a public hearing on January 15, 2013 (resolution at circles 2-3 and PDF on circle 8). Four speakers testified, three in favor and one opposed. Pending the outcome of this Education Committee review, the Council is tentatively scheduled to consider action on this request on February 5.

The following individuals are expected to attend today's worksession:

- James Song, Director, Department of Facilities Management, Montgomery County Public Schools
- Mike Riley, Deputy Director, Montgomery County Department of Parks
- Ginny Gong, Executive Director, Community Use of Public Facilities

I. BACKGROUND

The Council has been discussing issues around installation of artificial turf athletic fields for several years, primarily in the context of capital projects for park athletic fields and high school stadium fields. Throughout these discussions, the Council has heard from advocates both for and against artificial turf. Concerns have included the need for increased use and availability

of public playing fields and the health and environmental impact of artificial turf in comparison to natural grass.

In July 2010, the Transportation, Infrastructure, Energy, and Environment (T&E) Committee met with staff from the Montgomery County Public Schools (MCPS), Montgomery County Department of Parks, Department of Environmental Protection (DEP), and the Department of Health and Human Services (DHHS) to review health and environmental safety issues associated with artificial turf. The T&E Committee requested that staff from the represented agencies and departments as well as Council staff analyze the programming, costs, use, and environmental and health impacts of artificial turf and develop a report to the Committee. This report was presented to the T&E Committee in September 2011. **The Committee did not find sufficient basis to recommend a moratorium on the use of artificial turf in the County, and required the agencies to take several follow-up actions related to environmental testing, procurement practices, and community use guidelines. Information on the status of these action items is provided later in this packet.**

There are currently seven artificial turf playing fields in outdoor public facilities: one each at Blair Recreational Park/HS; Fairland Recreational Park; Richard Montgomery HS; and Walter Johnson HS, and three at the SoccerPlex.

- **There are six synthetic turf fields presently planned in the 6-year Capital Improvements Program (CIP) period.** These include: new turf fields at the future Laytonia Recreational Park and North Potomac Community Recreation Center; and conversions of existing natural grass fields to artificial turf at Paint Branch HS, Gaithersburg HS, and two at the SoccerPlex.

II. Project Description – Supplemental for Wootton High School

This supplemental appropriation would fund installation of an artificial turf stadium field at Wootton High School. This will be the first artificial turf stadium field installed independent of a related construction project at the school (other than the Blair HS field, which is also a Parks field).

A complete description and history of the project is on circle 5-6. The private funding is a result of a proposal from the Bethesda Soccer Club to contribute $900,000 toward the installation of the field in return for approximately 900-1000 hours of use per year for a 10 year period. Bethesda Soccer Club participated in a similar arrangement for the artificial turf field at Walter Johnson HS. The Wootton HS Booster Club has committed to raise and contribute $200,000 toward the project.

Together these contributions comprise the $1.1 million total in the supplemental appropriation request which meets the MCPS projected estimate of the installation cost. MCPS states that any unforeseen cost overruns can be addressed through community use funds and operational savings.

Previous high school artificial turf stadium fields have been installed as replacement fields during modernizations and the funding has been appropriated as part of the modernization project. This appropriation is recommended for the BMPI project as a stand-alone installation. Council staff concurs that this appropriation is consistent with the scope of the BMPI project.

Timeline: The goal is to complete the project by August of this year, which MCPS acknowledges is a tight timeframe. MCPS plans to further develop the timeframe following meetings with the project consultant and the City of Rockville. **The Committee may want to ask MCPS to comment more about the feasibility of August completion, and the implications for the school and for the Bethesda Soccer Club if the project takes longer to complete.**

Modernization: Wootton High School is scheduled for a modernization with the building to be completed in August 2020 and the site to be completed in August 2021. Given this schedule, the feasibility study would begin in FY2015. MCPS staff states that an analysis was conducted to ensure that the modernization would not impact the artificial turf field, given that future construction is within the expected lifetime of the field. MCPS provided the following explanation in response to Council staff's question:

> *In order to analyze the impact of artificial turf installation prior to the modernization, a site analysis was conducted to ensure that the stadium field can remain in its current location during the modernization project. While feasibility study is not conducted yet to explore all possible options in detail, the modernization options will likely include renovating most of the existing structures along with building expansion in approximate current location due to the site size and conditions. Because bus loop and parking lots have to be retained during the school year and have to be a phased construction, parking and access to the stadium field will be available throughout the modernization process. Any unanticipated loss of time or schedule conflicts will be coordinated with Bethesda Soccer Club and make up hours, if any, will be addressed per contract.*

Council staff recommendation: This proposal is consistent with recent approaches to installing artificial turf high school stadium fields, and will not incur significant, if any, public funds to install. The contribution of the Booster Club speaks to the school community's interest in the new field. Although this installation is being conducted outside of school construction, the Board of Education has determined that it will not be impacted by future construction and that it is consistent with Board policy on privately funded individual school improvements (circle 7). **Council staff recommends approval of the $1.1 million supplemental appropriation as requested to install an artificial turf stadium field at Wootton High School, funded by private contributions as discussed.**

III. FOLLOW-UP INFORMATION: 2011 STAFF REVIEW OF ARTIFICIAL TURF

1. Field Testing and Documentation

The field at Laytonia Recreational Park will be in a Special Protection Area, and the T&E Committee requested that Parks include specific monitoring of the artificial turf field in its environmental monitoring program for the park. Parks provided the following update:

> *Laytonia's construction has been delayed in the past due to funding issues. The project is currently in final design and permitting, and will be advertised for construction in Fall 2013. Construction will be completed in 2016. The final water quality plan has been approved by the Montgomery Department of Environmental Protection and includes extensive artificial turf field monitoring and testing requirements. The post construction monitoring period will last five years, and is anticipated to begin in 2016.*

The Committee also requested follow-up testing or certification to document that existing fields are lead-free. Parks stated that fibers from the Blair HS field and the Wheaton Sports Pavilion both were tested and concentrations were "found to be acceptable". MCPS was asked to provide information that the product being used (FieldTurf) also meets lead-free standards. A brochure from Field Turf on their product is attached at circles 9-27. It addresses several health and safety concerns about artificial turf. Information on lead and lead chromate is included at circles 11-13.

2. Alternative Infill

Parks had indicated its intent to seek alternative infill for the Wheaton Sports Pavilion (formerly the ice rink), and provided the following update on the process and status of the field:

> *...Parks proceeded with construction of the Wheaton Sports Pavilion's synthetic turf field using Nike Grind infill. Nike Grind is an alternative infill made out of recycled athletic shoes. Prior to installation, all components of the infill were required to meet material and performance standards as outlined in the updated Parks specification (see Contract requirements response below). It is noted that the alternative infill material was more expensive than the infill typically used (ca. $110K vs. $85K). The facility opened in late 2012 and is currently in use and meeting expectations. Parks will continue to monitor performance and maintenance of this field.*

3. Procurement Practices

The T&E Committee requested that the agencies add certain requirements to future RFPs and contracts for artificial turf to reflect best practices in other jurisdictions related to environmental testing requirements and recycling. Parks provided the following update on its efforts:

> *Parks updated our artificial turf field specification based on the San Francisco example. We incorporated elements to address heavy metal testing, materials certifications, end of life recycling, brominated flame retardants, and post-consumer recycled content. The*

updated specification was used for the Wheaton field construction. The updated specification resulted in minimal additional construction costs for the Wheaton project, but did require additional staff time to ensure all the requirements were met prior to installation.

MCPS is procuring FieldTurf for the Wootton HS field. MCPS will continue to look at examples, such as San Francisco and changes made by Parks, when considering future procurements.

4. School and Community Use Guidelines

The T&E Committee requested that the agencies develop policies and guidelines regarding the increased heat of artificial turf fields.

Parks responded that the following language was incorporated into the permit for parks artificial turf fields and posted on signs at each field:

"WARNING: This field can get very hot on warm, sunny days. If you experience symptoms of heat-related illness, such as dizziness, weakness, headache, vomiting, or muscle cramps, move to a shaded area. Drink water, rest, and seek medical attention if you do not feel better. In extreme temperatures, please cease all activities and get off of the artificial turf field."

MCPS developed the following specific guidelines that are printed in its athletics handbook:

"Artificial surface fields generate greater heat than natural surface fields on warm and hot days. Anytime the outdoor temperature exceeds 80 degrees, coaches should exercise caution in conducting activities on artificial surface fields. When temperatures exceed 90 degrees, coaches may hold one regular morning or evening practice (before noon or after 5:00 pm); coaches must restrict practices between noon and 5:00 pm to one-hour, with water breaks every 20 minutes. Code red or code purple guidelines prevail, if applicable."

The Director of CUPF provided the following response regarding CUPF, MCPS, and Parks consolidating their policies and procedures:

CUPF, Parks, and MCPS have been working for some time to better consolidate policies and procedures facilitating customers' ability to navigate one system.

As part of the effort to enhance uniformity, we have reviewed a number of matters including, but not limited to, scheduling windows, priority status, Adopt a Field, summer field closures, rain-out protocols, cancellations and refunds, as well as matters related to artificial turf.

While certain of our consolidation efforts have been phased in, the current field scheduling window, which we are in the process of wrapping up, represents the first opportunity we've had

to put forth to customers an overall more fully aligned set of policies and procedures. Permits that include the language below are currently being issued for requests submitted during the December/January window for use of artificial turf fields beginning this spring.

- *"If you experience symptoms of a heat related illness, take appropriate action. During periods of excessive heat, vacate the field and alert the CUPF Emergency Line (240-777-2727) that you are leaving"*

- *Requests for refunds will be honored provided heat conditions forcing the cancellation are consistent with current weather conditions.*

In addition, information advising artificial turf users about the conditions of use and the refund policy will be updated on our field webpage by the end of the month.

In anticipation of the increase in MCPS artificial turf fields, CUPF will create bi-lingual signs and work with MCPS on installation. These signs will be posted by April 1, 2013 in preparation for the summer season. Advisory signs are already posted on some Parks artificial turf fields.

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OFFICE OF THE COUNTY EXECUTIVE
ROCKVILLE, MARYLAND 20850

Isiah Leggett
County Executive

MEMORANDUM

December 3, 2012

TO: Roger Berliner, President, County Council

FROM: Isiah Leggett, County Executive

SUBJECT: Supplemental Appropriation #15- S13-CMCPS-4 to the FY13 Capital Budget and the FY13-18 Capital Improvements Program
Montgomery County Public Schools
Building Modifications and Program Improvements (No. 076506)
Contributions, $1,100,000

I recommend a supplemental appropriation to the FY13 Capital Budget in the amount of $1,100,000 for Montgomery County Public Schools (MCPS) to receive funding under Contributions for the Building Modifications and Program Improvements project for artificial turf installation on the stadium field at Thomas S. Wootton High School.

The Board of Education requested a supplemental appropriation of $1,100,000 in Contribution funds for the Building Modifications and Program Improvements Project. The Bethesda Soccer Club proposed a contribution of $900,000 towards the cost of engineering, permitting, and installation of an artificial turf stadium in exchange for preferred use of a schedule agreement for a period of ten years. MCPS also indicates that the remaining $200,000 contribution will be raised through the Thomas S. Wootton High School Booster Club.

I recommend that the County Council approve this supplemental appropriation in the amount of $1,100,000 and specify the source of funds as Contributions. I appreciate your prompt consideration of this action.

IL:jm

Attachment: Board of Education Request

Resolution: _____
Introduced: _____
Adopted: _____

COUNTY COUNCIL
FOR MONTGOMERY COUNTY, MARYLAND

By: Council President at the Request of the County Executive

SUBJECT: Supplemental Appropriation #15- S13-CMCPS-4 to the FY13 Capital Budget and Amendment to the FY13-18 Capital Improvements Program
Montgomery County Public Schools
Building Modifications and Program Improvements (No. 076506), $1,100,000

Background

1. Section 307 of the Montgomery County Charter provides that any supplemental appropriation shall be recommended by the County Executive who shall specify the source of funds to finance it. The Council shall hold a public hearing on each proposed supplemental appropriation after at least one week's notice. A supplemental appropriation that would comply with, avail the County of, or put into effect a grant or a Federal, State or County law or regulation, or one that is approved after January 1 of any fiscal year, requires an affirmative vote of five Councilmembers. A supplemental appropriation for any other purpose that is approved before January 1 of any fiscal year requires an affirmative vote of six Councilmembers. The Council may, in a single action, approve more than one supplemental appropriation. The Executive may disapprove or reduce a supplemental appropriation, and the Council may reapprove the appropriation, as if it were an item in the annual budget.

2. Section 302 of the Montgomery County Charter provides that the Council may amend an approved capital improvements program at any time by an affirmative vote of no fewer than six members of the Council.

3. The Board of Education requested a supplemental appropriation for the Montgomery County Public Schools' Building Modifications and Program Improvements FY13 capital project as follows:

Project Name	Project Number	Amount	Source of Funds
Building Modifications and Program Improvements	076506	$1,100,000	Contributions

4. The Board of Education requested a supplemental request of $1,100,000 in Contribution funds for the Building Modifications and Program Improvements Project. The Bethesda Soccer Club proposed contribution of $900,000 will be towards the cost of engineering, permitting, and installation of an artificial turf stadium in exchange for preferred use of schedule agreement for a period of ten years. MCPS also proposes that the $200,000 contribution will be raised through the Thomas S. Wootton High School Booster Club.

5. Notice of public hearing was given and a public hearing was held.

Action

The County Council for Montgomery County, Maryland, approves the following action:

The FY13 Capital Improvements Program of the Montgomery County Government is amended as reflected on the attached project description form and a supplemental appropriation is approved as follows:

Name	Project Number	Project Amount	Source of Funds
Building Modifications and Program Improvements	076506	$1,100,000	Contributions

This is a correct copy of Council action.

Linda M. Lauer, Clerk of the Council

Office of the Superintendent of Schools
MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

November 20, 2012

MEMORANDUM

To: The Honorable Isiah Leggett, County Executive
The Honorable Roger Berliner, President, County Council

From: Joshua P. Starr, Superintendent of Schools

Subject: Transmittal—Fiscal Year 2013 Supplemental Appropriation Request for Building Modifications and Program Improvements (BMPI)—Thomas S. Wootton High School Artificial Turf

Board of Education Meeting Date: November 13, 2012

Type of Action:

[X] Supplemental Appropriation

[ ] Transfer

[ ] Notification

JPS:JS:ak

Attachments

Copy to:
Mr. Bowers
Mr. Klausing
Montgomery County Office of Management and Budget

ACTION
5.2.12

Office of the Superintendent of Schools
MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

November 13, 2012

MEMORANDUM

To: Members of the Board of Education

From: Joshua P. Starr, Superintendent of Schools

Subject: Thomas S. Wootton High School—Request to Fund Artificial Turf Installation–Policy CNE

Background

During the summer 2012, the Department of Facilities Management was contacted about the possibility of installing artificial turf on the stadium field at Thomas S. Wootton High School. Staff in the Department of Facilities Management evaluated the feasibility of artificial turf installation at Thomas S. Wootton High School and determined that the current grass stadium field can be replaced with artificial turf.

Subsequently, staff publicly advertised a Request for Proposals for private organizations that would be interested in participating in the private/public partnership to install the artificial turf on the Thomas S. Wootton High School stadium field. Only one proposal was received from the Bethesda Soccer Club, which participated in a similar arrangement for artificial turf installation at Walter Johnson High School. The proposal includes a $900,000 contribution toward the installation of artificial turf at Thomas S. Wootton High School in return for approximately 900 to 1,000 hours of use per year for a 10-year period.

Further, the Thomas S. Wootton High School Booster Club submitted a letter of commitment to raise and contribute $200,000 toward the installation of artificial turf. These two offers total $1.1 million in private contributions, which is the estimated cost to install artificial turf at Thomas S. Wootton High School. If the project cost exceeds the $1.1 million contribution amount, the shortfall can be paid through the funds collected for community use and the savings accumulated each year from not having to maintain the current grass field—such as grass cutting, fertilizing, over-seeding, and irrigating. It is anticipated that approximately 150 hours or more, pending weather conditions, will be available for the community to use the artificial turf field after calculating hours used by the school and the Bethesda Soccer Club.

A community meeting was held on the evening of October 22, 2012, to present the proposed project and gather feedback from the community. Of approximately 40 people in attendance, the majority of the participants were representatives of the Thomas S. Wootton High School Booster Club and parents who live in the community. While there was overwhelming support for the proposed project, two concerns were raised from two individuals. The first concern was related to the timeline to complete the project by mid-August 2013, understanding the time it takes to get the necessary permits from the City of Rockville. While the project timeline is tight, staff in the Department of Facilities Management will develop a detailed project schedule and determine the final completion date after the Board of Education has approved the project, a consultant has been selected, and meetings are held with City of Rockville permit officials to better define the scope of work involved.

The second issue was related to the use of crumb rubber for the infield mix and a concern that there are harmful effects if swallowed. This issue recently was researched jointly by staff from Montgomery County Public Schools (MCPS), the Maryland-National Capital Park and Planning Commission, the County Council, and the Montgomery County Recreation Department and determined that there was no data to support this concern.

Following my memorandum to the Board of Education of September 28, 2012, I strongly recommend your approval of the artificial turf installation on the Thomas S. Wootton High School stadium field. Given the shortage of playing fields available in this county and the constant demand for use of our school fields, the artificial turf on our stadium field is a great solution which will provide safer playing conditions for MCPS students while allowing many hours for the community to use our stadium fields. Further, the entire project will be funded privately without having an impact on our current budgets. The following resolutions are recommended for your approval:

WHEREAS, There is an interest to install artificial turf on the stadium field at Thomas S. Wootton High School; and

WHEREAS, There is a shortage of playing fields in Montgomery County; and

WHEREAS, Artificial turf on the stadium field at Thomas S. Wootton High School will provide safer playing conditions and allow significantly more hours of use than the current grass field; and

WHEREAS, Artificial turf would benefit the school and the community; and

WHEREAS, In June 2012, staff in the Department of Facilities Management publicly advertised for Request for Proposals from private organizations for partnering on the installation and shared use of an artificial turf field at the Thomas S. Wootton High School stadium field; and

WHEREAS, The single response to the Request for Proposals was submitted by the Bethesda Soccer Club, which includes a contribution of $900,000 toward the cost of engineering, permitting, and installation of an artificial turf stadium field in exchange for a preferred use schedule agreement for a period of ten years; and

WHEREAS, The Thomas S. Wootton High School Booster Club has requested permission to raise and contribute $200,000 for the shared cost of the artificial turf field; and

WHEREAS, The cost of the project is approximately $1.1 million; and

WHEREAS, Staff has reviewed this request for compliance with Board of Education Policy CNE, *Facility Improvements That Are Not Funded with Montgomery County Revenues,* and finds that it complies with the criteria for acceptable contributions established in the policy; now therefore be it

Resolved, That the Board of Education approves the request of the Thomas S. Wootton High School Booster Club to raise and contribute $200,000 for the artificial turf installation on the stadium field at Thomas S. Wootton High School; and be it further

Resolved, That the contributions from the Bethesda Soccer Club and the Thomas S. Wootton High School Booster Club be accepted in accordance with Board of Education Policy CNE, *Facility Improvements That Are Not Funded with Montgomery County Revenues*; and be it further

Resolved, That the Montgomery County Council be requested to accept the contributions for the installation of an artificial turf field at Thomas S. Wootton High School; and be it further

Resolved, That a Stadium Field Agreement be executed between Montgomery County Public Schools and the Bethesda Soccer Club for the sum of $900,000; and be it further

Resolved, That the Board of Education president and the superintendent of schools be authorized to execute the documents necessary for this transaction; and be it further

Resolved, That this resolution be forwarded to the county executive and County Council for consideration and action.

JPS:LAB:JS:jlc

Building Modifications and Program Improvements -- No. 076506

Category	Montgomery County Public Schools	Date Last Modified	May 14, 2012
Subcategory	Countywide	Required Adequate Public Facility	No
Administering Agency	MCPS	Relocation Impact	None
Planning Area	Countywide	Status	On-going

EXPENDITURE SCHEDULE ($000)

Cost Element	Total	Thru FY11	Est. FY12	Total 6 Years	FY13	FY14	FY15	FY16	FY17	FY18	Beyond 6 Years
Planning, Design, and Supervision	3,132	1,552	200	1,380	690	690	0	0	0	0	0
Land	0	0	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	~~17,202~~ 0	0	0	~~4,120~~ 0	~~2,600~~	0	0	0	0	0	0
Construction	~~16,682~~	11,682	1,800	~~3,020~~	~~1,510~~	1,510	0	0	0	0	0
Other	350	150	0	~~200~~	100	100	0	0	0	0	0
Total	21084 ~~19,984~~	13,384	2,000	5,700 ~~4,600~~	3,100 ~~2,300~~	2,300	0	0	0	0	0

FUNDING SCHEDULE ($000)

G.O. Bonds	21084 19,984	13,384	2,000	4,600	2,300	3,400 2,300	0	0	0	0	0
Total	21084 ~~19,984~~	13,384	2,000	4,600	~~2,300~~ 1,100	2,300	0	0	0	0	0

DESCRIPTION Contribution

This project will provide facility modfications to support program offerings at schools that are not scheduled for capital improvements in the six-year CIP. These limited modifications to instruction and support spaces are needed to provide adequate space for new or expanded programs and administrative support space for schools that are not included in the modernization program. The approved FY 2007 appropriation will be used to provide modifications to support the middle school magnet programs at A. Mario Loiederman and Argyle middle schools, administrative and guidance suite modifications at Poolesville High School, and various high school laboratory modifications throughout the county. Also, the FY 2007 appropriation will be used at Potomac Elementary School to provide minor modifications to the facility. An amendment to the FY 2007-2012 CIP in the amount of $558,000 was approved to provide funding for modifications at Thomas S. Wootton High School to accommodate two new computer laboratories for the Academy of Information Technology.

An FY 2009 appropriation was approved to provide facility modifications for the following high schools to accommodate signature or academy programs: Northwest HS for a CISCO Academy Laboratory; Northwood HS for the Musical Dance Academy; Quince Orchard HS for a Digital Art/Music Laboratory; and Wheaton HS for the Project Lead the Way Biomedical Laboratory. The FY 2009 appropriation also will fund science laboratory improvements at Thomas Wootton, Bethesda-Chevy Chase, and Winston Churchill high schools. Also, the FY 2009 appropriation will fund building modifications for Bradley Hills ES, Roberto Clemente and A. Mario Loiederman middle schools, and Damascus, Thomas Edison, Quince Orchard, Wheaton and Thomas Wootton high schools.

An FY 2012 appropriation was approved to continue to provide facility modifications at various schools throughout the system. Facility modifications in FY 2013 and beyond will be determined based on the need for space modifications/upgrades to support new or modified program offerings. Due to fiscal constraints, expenditures requested in the Board of Education's FY 2011-2016 CIP for FYs 2013-2016 were removed by the County Council in the adopted FY 2011-216 CIP. An FY 2013 appropriation was approved to renovate science laboratories at one high school and provide special education facility modifications for two elementary schools and two high schools.

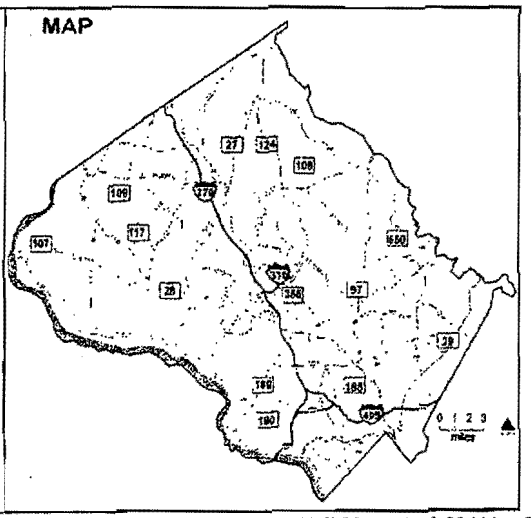
APPROPRIATION AND EXPENDITURE DATA

Date First Appropriation	FY07	($000)
First Cost Estimate Current Scope	FY07	0
Last FY's Cost Estimate		15,384
Appropriation Request	FY13	2,300
Appropriation Request Est.	FY14	2,300
Supplemental Appropriation Request		1,100
Transfer		0
Cumulative Appropriation		15,384
Expenditures / Encumbrances		13,516
Unencumbered Balance		1,868
Partial Closeout Thru	FY10	2,474
New Partial Closeout	FY11	0
Total Partial Closeout		2,474

COORDINATION

Mandatory Referral - M-NCPPC
Department of Environmental Protection
Building Permits:
Code Review
Fire Marshall
Department of Transportation
Inspections
Sediment Control
Stormwater Management
WSSC Permits

MAP



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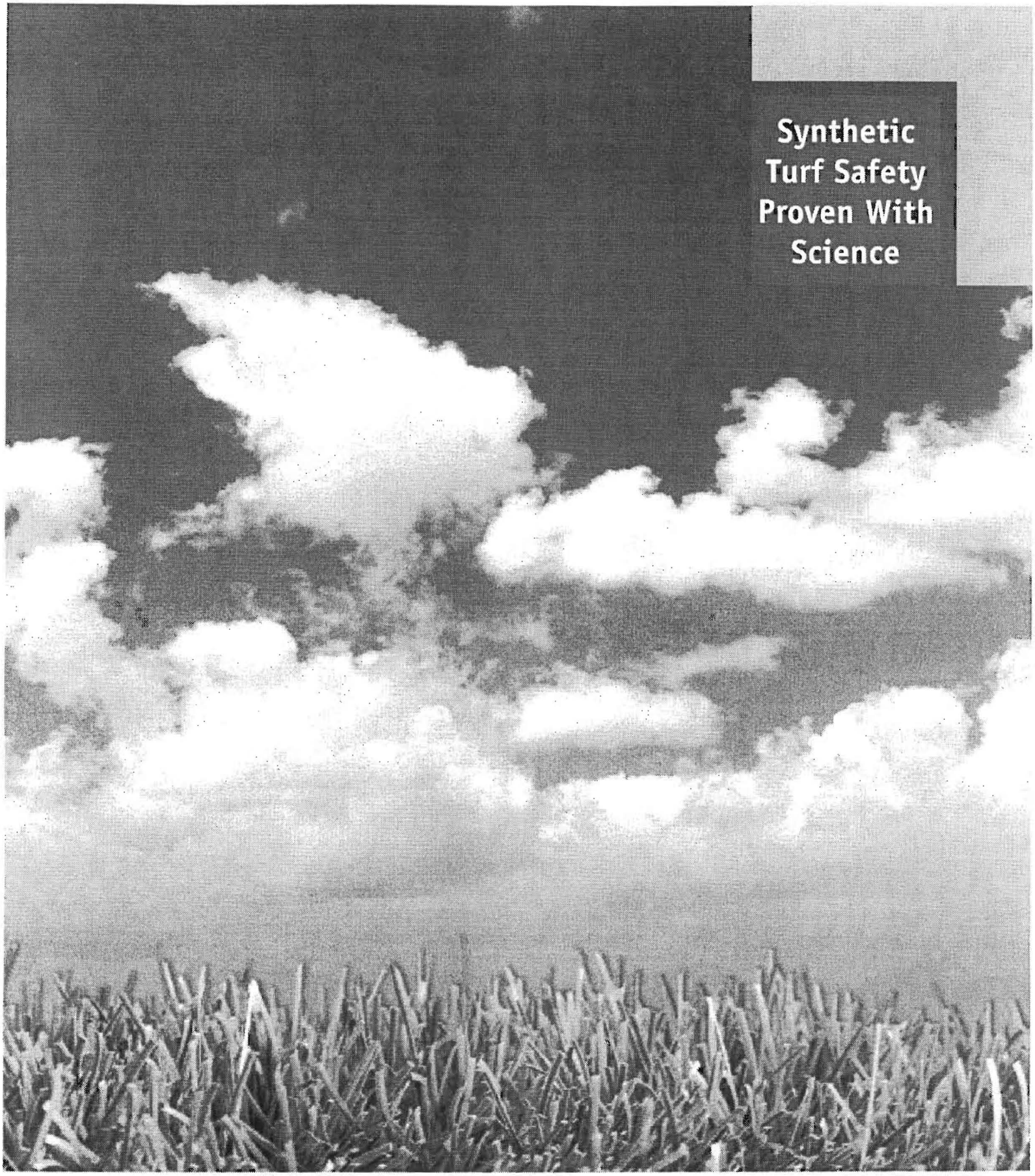
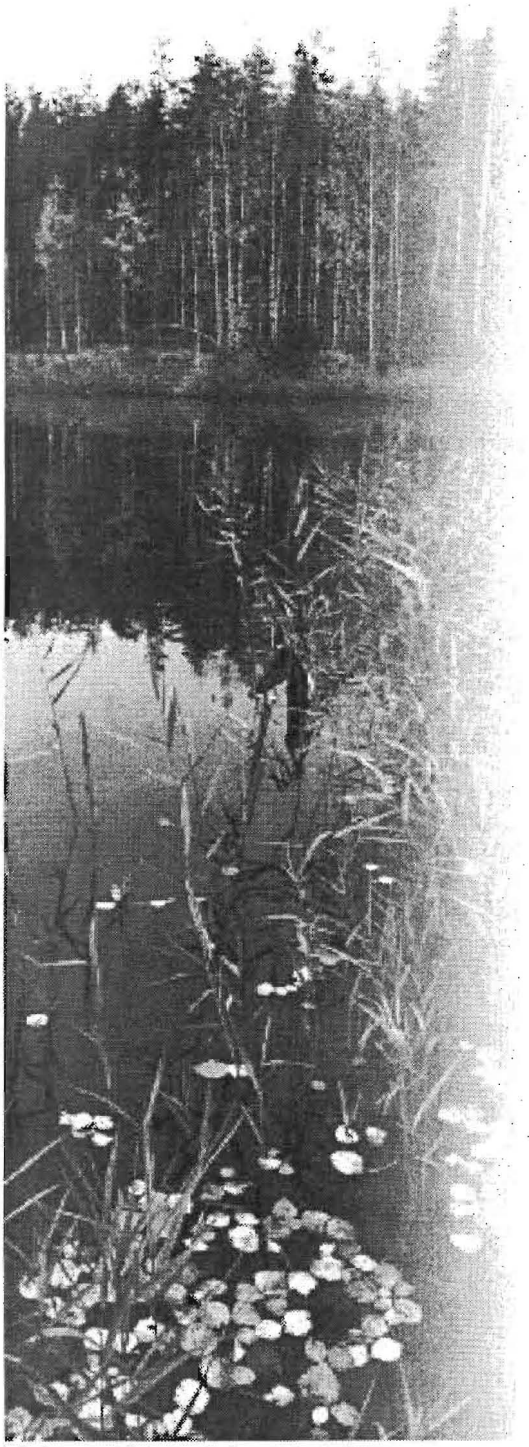
Synthetic Turf Safety Proven With Science



FieldTurf
A Tarkett Sports Company

THE ULTIMATE
SURFACE EXPERIENCE

Synthetic Turf Safety Proven With Science



FieldTurf synthetic turf products lead the industry by setting higher performance and environmental standards. With well over 15,000 sports and landscape installations, FieldTurf is the world's most trusted brand of artificial turf and has steered a high growth industry in the proper direction by setting the strictest of environmental standards.

As the popularity of synthetic turf escalates, so has scrutiny about its usage. Over the past couple of years, natural grass pundits have raised questions about synthetic turf's potential negative impact on the environment.

Reports surrounding the environmental safety of artificial turf may, on the surface, be alarming. However, simply put, artificial turf is safe and the science is there to prove it. While FieldTurf acknowledges the concerns of the groups behind these initiatives, the truth is that their questions have already been answered. Volumes of research and testing from academics, federal and state governments like California, Massachusetts and Connecticut, and school systems have examined everything called into question about synthetic turf. In nearly every case, their conclusions suggest synthetic turf poses no health risks. One has to wonder that with all its fertilizers, pesticides, use of water and carbon emitting lawnmowers, would natural grass fare as well under similar scrutiny?

Synthetic turf is, and has always been safe. There is no legitimate scientific or medical evidence that synthetic turf poses a human health or environmental risk.

For a listing of the hundreds of studies carried out and a collection of the actual research and the factual conclusions, please download the documents at:
www.fieldturf.com/environmental-downloads

Let's review some of the key issues that were surrounding synthetic turf in the past.

LEAD

People panic when the word "lead" is mentioned, as it conjures up images of peeling paint that negatively affects a child's development. But lead chromate is very different. It was used to improve colorfastness in the pigments of many consumer products like synthetic turf. This inorganic substance is encapsulated to prevent it from being readily absorbed by the body or released into the environment. In over 40 years there has never been an instance of human illness or environmental damage caused by synthetic turf.

SO HOW DID THE MEDIA-HYPED LEAD HYSTERIA WITH ARTIFICIAL TURF START?

In April 2008, some synthetic turf fields in New Jersey were shut down by the New Jersey Department of Health and Senior Services for elevated levels of lead. However, test results have since indicated there was no lead in the air, soil or in the dust created by the removal of one of the fields. The synthetic turf fields at the Old Tappan and Demarest High Schools, which initially had been closed, were sampled on June 6, 2008. The testing found lead in the green turf fiber at concentrations of 4000 mg/kg (Old Tappan field) and 6300 mg/kg (Demarest field). However, when Dust Wipe sampling was conducted on the aforementioned Northern Valley (Old Tappan and Demarest) fields in New Jersey the values of the wipe test produced values between 10-35 µg/wipe which falls below the EPA guideline for dust on floors (40µg) and Interior Window Sills (250µg).

BOTH FIELDS WERE SUBSEQUENTLY RE-OPENED.

Over 90% of synthetic turf yarns have very low or undetectable levels of lead chromate. Lead chromate is not lead carbonate, the lead formerly found in paint. This inorganic substance is used to color the synthetic turf fiber. In synthetic turf, the silica-coated, encapsulated pigment particles are used to improve performance characteristics and reduce toxicity. Bioavailability of lead from pigment is extremely low. It is almost completely insoluble, not an inhalation hazard and not absorbed by the body if ingested.

LEAD CHROMATE

"In July 2008, a U.S. Product Safety Commission staff report concluded that synthetic turf fields are OK to install and play on for people of all ages. The evaluation of older and newer synthetic turf fields concluded that 'young children are not at risk from exposure to lead in these fields.' The report showed that newer fields had no lead or generally had the lowest lead levels. Although small amounts of lead were detected on the surface of some older fields, none of the tested fields released amounts of lead that would be harmful to children."

U.S. Consumer Product Safety Commission, July 2008, "CPSC Staff Finds Synthetic Turf Fields OK to Install, OK to Play On"

"Testing on FieldTurf fields have consistently shown 10-20 ppms or less than 5% of the lead level regarded as problematic. No cases of elevated blood lead levels in children have been linked to artificial turf on athletic fields in New Jersey and elsewhere."

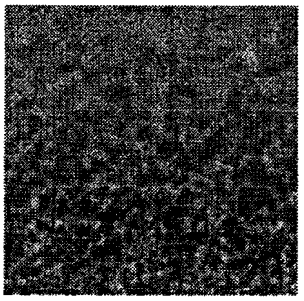
Center for Disease Control (CDC), June 2008, "Potential Exposure to Lead in Artificial Turf: Public Health Issues, Actions, and Recommendations"

"Based on existing HUD Guidelines and EPA standards, lead hazard risk assessments at these four DPR synthetic turf fields did not identify lead hazards."

New York City Department of Health and Mental Hygiene, January 2008

"Lead chromate levels are well below that necessary to cause harm to children and athletes using the popular playing field surfaces. No acute health risks due to use of artificial turf fields, and risks due to chronic and repeated exposure are unlikely."

New Jersey Department of Health and Senior Services (NJDHSS), April 2008



"A sample of stormwater was collected from the drainage system of two fields on April 28, 2008, and July 24, 2008, respectively. The results showed that lead was not detected in the drainage from either field."

Milone & MacBroom, engineering, landscape architecture, and environmental science firm based in Connecticut, December 2008, 'Evaluation of the Environmental Effects of Synthetic Turf Athletic Fields'

'young children are not at risk from exposure to lead in these fields'

"Because the lead chromate is encapsulated in the fibers, it is presumed not to be bioavailable (is not released through contact) and cannot be absorbed by humans or other living systems. Research shows that contact with, or incidental ingestion of, the fibers or rubber infill poses no health risk."

Ridgewood Environmental Advisory Committee (REAC) January-October 2009, 'Assessment of Environmental, Health and Human Safety Concerns Related to the Synthetic Turf Surface at Maple Park in Ridgewood, NJ'

WHAT THE EXPERTS SAY

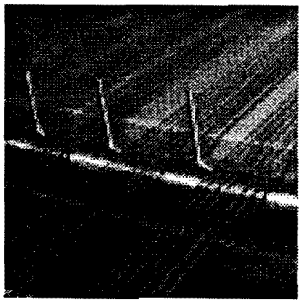
"The lead levels that were discovered are isolated to the core samples of the turf, and did not appear in the samples of dust, wipes and blades of artificial grass taken from the field - in other words, the lead is encapsulated in the fibers inside the turf and not leaching out to the surface to be ingested."

Patrick Guilmette - PMT Group; premier environmental and consulting engineering firm in NY, NJ, CT, PA

"If a green synthetic turf field containing lead chromate is still green, then the lead chromate is still in the yarn. If the Yellow Chromate had leached out, the field would likely be blue. Lead chromate is stable when encapsulated in the fiber into which it is extruded. Being encapsulated in the fiber, the lead in the lead chromate is not readily bio-available - meaning that even if the yarn breaks down, the lead in the complex compound which is lead chromate is not readily absorbed by the body."

Dr. Davis Lee, Ph.D, Synthetic Organic Chemistry, Executive in Residence at the Georgia Institute of Technology School of Polymer, Textile, and Fiber Engineering, April 2008

"In interpreting the health risk from these results, it is important to recognize that people do not ingest the actual turf fibers. The NJ and EPA soil standards of 400 mg/kg are based on an assumption that small children may ingest approximately 100 mg of soil per day through hand to mouth activity. Thus, comparing the concentration of lead in the turf fiber to an acceptable soil lead concentration is not an accurate way to evaluate the human health risk from exposure to lead in turf fibers and is likely to overestimate risk, because the turf fiber is unlikely to be ingested (if at all) to the same extent as lead in soil.



The best way to evaluate exposure to lead on synthetic turf fields is to evaluate the dust present on the surface of the field. When people play on the field, they may get dust onto their hands or other exposed skin, and transfer the dust into their mouth through normal hand to mouth activity. Thus, the primary route of exposure we are concerned with is ingestion of dust. Lead has no appreciable absorption through the skin, and the inhalation of dust from the field is expected to be minimal, as any dust is likely to adhere to the turf fiber or rubber crumb padding rather than becoming airborne."

Toxicologist Dr. Barbara D. Beck, a lecturer in Toxicology at Harvard; Former Chief of Air Toxics Staff in Region I EPA; Fellow, Interdisciplinary Programs in Health at the Harvard School of Public Health, May 2008

'none of the tested fields released amounts of lead that would be harmful to children'

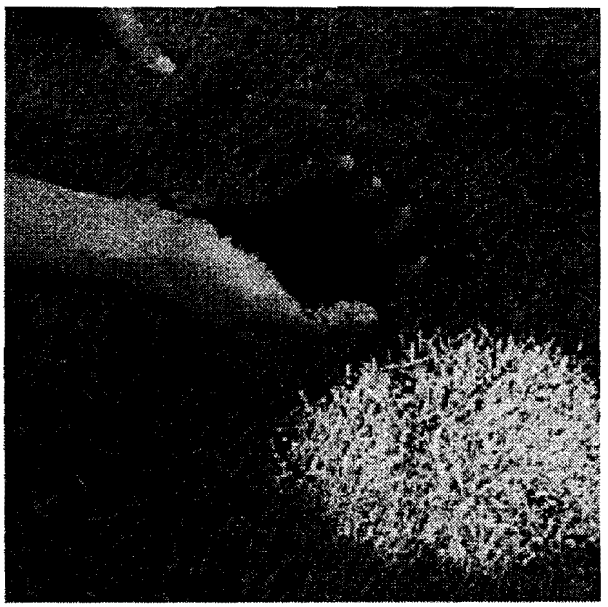
CRUMB RUBBER

Crumb rubber, made from reclaimed tires, is an important part of the industry's premiere infill option for synthetic turf fields. It has been safely used in many products since being introduced in the early 1990s, and in playgrounds and tracks for much longer. The notoriously resilient SBR rubber material provides enhanced durability and cushioning to prevent injuries and keeps playing surfaces safe. Aside from its use in synthetic turf sports fields, crumb rubber is also used in a variety of products from children's rubber toys to surgical gloves to food packaging, and even in chewing gum.

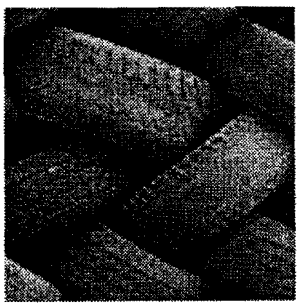
With the growing popularity of synthetic turf, questions have surfaced about the safety of the little black rubber pellets that protect our athletes. Hundreds of studies have been completed to discover the truth about any potential risks of artificial turf and its components. Government health ministries and environmental bodies around the world have commissioned extensive research.

So have world health organizations, leading universities and independent scientific committees. Elected officials have reacted to the concerns of their constituents by commissioning studies to get the facts. But certain headlines reveal the tactics being used by some with a different agenda. They do not report the truth. The research has been done. The studies exist.

Read what the experts have to say in independent testing, studies and reports on the potential health and environmental impact of artificial turf.



'crumb rubber is also used in a variety of products from children's toys to surgical gloves to food packaging, even chewing gum'



INGESTION/ INHALATION

"Genotoxicity testing of tire crumb samples following solvent extraction concluded that no DNA or chromosome-damaging chemicals were present. This suggests that ingestion of small amounts of tire crumb by small children will not result in an unacceptable hazard of contracting cancer."

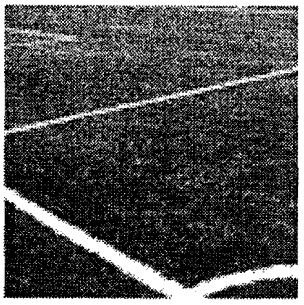
Enviro-Test Laboratories, Alberta Centre for Injury Control and Research, Department of Public Health Sciences, July 2003, 'Toxicological Evaluation for the Hazard Assessment of Tire Crumb for Use in Public Playgrounds'

"Based upon the current evidence, a public health risk appears unlikely. A variety of governmental bodies including Norway, Sweden, New Jersey and California have recently reviewed the health issues; their assessments have not found a public health threat. Sources of exposure unrelated to artificial turf fields are likely more important than the turf fields for many chemicals."

Connecticut Department of Public Health, October 2007, 'Artificial Turf Fields: Health Questions'

"Based on the minimal concentrations of chemicals detected, it is considered very unlikely that any significant adverse vapor (inhalation) exposures would occur to humans in close proximity to where crumb rubber is used in outdoor applications."

New Jersey Department of Environmental Protection, Division of Science, Research, and Technology, June 2007, 'Environmental Assessment and Risk Analysis - Preliminary Assessment of the Toxicity from Exposure to Crumb Rubber: its use in Playgrounds and Artificial Turf Playing Fields'



"In summary, an analysis of the air in the breathing zones of children above synthetic turf fields do not show appreciable impacts from COPCs [Contaminants of Potential Concern] contained in the crumb rubber. Therefore, a risk assessment was not warranted from the inhalation route of exposure."

New York City Department of Health and Mental Hygiene, March 2009, 'Air Quality Survey of Synthetic Turf Fields Containing Crumb Rubber Infill'

'sources of exposure unrelated to artificial turf fields are likely more important than the turf fields'

"Tire crumb does not contain chemicals with high vapour pressures, exposure via inhalation deemed low risk. Oral ingestion deemed low risk because ingestion not likely, furthermore, question of how effective stomach acids and enzymes are at extracting toxic chemicals from tire crumb and transporting them into the blood stream."

D.A. Birkholz, Director, Research & Development, ALS Laboratory Group, Edmonton, Alberta, October 2006, 'Assessing the Health and Environmental Impact from the Use of End-of-Life Tire Rubber Crumb as Artificial Turf in Sports Arenas'

DERMAL CONTACT

"Based on the available literature on exposure to rubber crumb by swallowing, inhalation and skin contact and our experimental investigations on skin contact we conclude that there is not a significant health risk due to the presence of rubber infill from used car tyres."

INTRON, commissioned by two tyre associations, and supervised by the National Institute for Public Health and the Environment and by the Ministry of Housing, Spatial Planning and the Environment in the Netherlands, April 2008, 'Follow-up study of the environmental aspects of rubber infill'

"Dermal exposure deemed low risk because carrier solvent is needed to extract toxic chemicals from tire crumb and to penetrate protective skin layers"

D.A. Birkholz, Director, Research & Development, ALS Laboratory Group, Edmonton, Alberta, October 2006, 'Assessing the Health and Environmental Impact from the Use of End-of-Life Tire Rubber Crumb as Artificial Turf in Sports Arenas'

"The uptake of PAH by athletes who have contact with crumb rubber synthetic turf is negligible. As far as dermal contact is concerned, the Norwegian Institute of Public Health and Radium Hospital (2006) carried out an extensive analysis of possible health concerns. The study found that there was no evidence to suggest that allergic reactions were caused by exposure to crumb rubber and speculated that latex in car tires was either - less available for uptake or was - deactivated as an allergen."

University of California, Berkeley and the Corporation for Manufacturing Excellence (Manex), February 2010, 'Review of the Impacts of Crumb Rubber in Artificial Turf Applications'

'there is not a significant health risk due to the presence of rubber infill'

AIR QUALITY

"Levels of chemicals in the air at synthetic turf fields do not raise a significant health concern. "

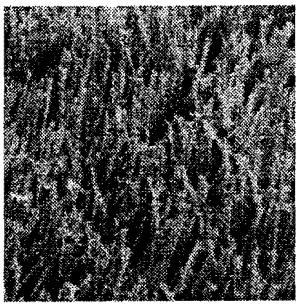
New York State Department of Environmental Conservation & New York State Department of Health, May 2009, 'An Assessment of Chemical Leaching, Releases to Air and Temperature at Crumb-Rubber Infilled Synthetic Fields'

"Twenty air samples were collected above and around two synthetic turf playing surfaces in Connecticut. Ten of the samples were analyzed for volatile nitrosamine content and 10 were analyzed for benzothiazole and 4-(tert-octyl) phenol content. The samples were collected on warm, late summer days during periods of light to calm winds. In one case, the synthetic turf surface had been groomed three days prior to the sampling. The sampling was conducted during periods when the temperature of the crumb rubber in-fill material was elevated due to exposure to the sun. The combination of air temperatures, surface temperatures, wind speed and, the recent maintenance of one of the fields, are believed to be conditions favorable for generating maximum concentrations of the analytes in the air column above and around the playing surfaces. This study determined that under favorable conditions for vapor generation, no detectable concentrations of volatile nitrosamines or 4-(tert-octyl) phenol existed in the air column at a height of four feet above the tested synthetic playing surfaces or in the air either upwind or downwind of the fields."

Milone & MacBroom, engineering, landscape architecture, and environmental science firm based in Connecticut, December 2008, 'Evaluation of the Environmental Effects of Synthetic Turf Athletic Fields'

"The majority of the studies have been on higher surface area particles and have concluded they are currently acceptable. Therefore the larger granules used in artificial turf will have even less potential for emissions. For example a study undertaken by the Danish Ministry of the Environment concluded that the health risk on children's playgrounds that contained both worn tyres and granulate rubber was insignificant. The available body of research does not substantiate the assumption that cancer resulting from exposure to SBR granulate infills in artificial turf could potentially occur."

Prof. Dr. Jiri Dvorak, FIFA, July 2006, 'An Open Letter concerning the potential cancer risk from certain granulate infills from artificial turf'



'larger granules used in artificial turf will have even less potential for emissions.'

AIR QUALITY/ VOCS & PAHS

"It is unlikely that any losses could occur to air or water in concentrations that would pose serious human or environmental risk. This opinion is supported by the reports and academic studies reviewed, which have shown insignificant environmental effects of such chemicals or release of volatiles and particulates into the atmosphere."

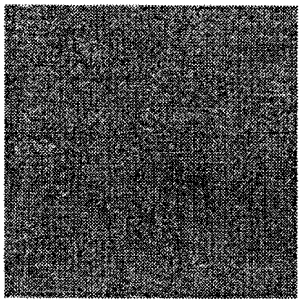
British Standards Institute (BSI), the Sports and Play Construction Association (SAPCA), March 2007, 'Twenty Questions [and Answers] on Rubber Granulate'

"The results of the INERIS Health Risk Evaluation, based on the concentration of the substances and worst-case scenarios, indicate that the VOC and aldehyde emissions from the three types of artificial grass fields studied in small and poorly ventilated indoor gymnasium situations are of no cause for concern for human health, for the workers installing the surfaces as well as for the general public, professional or amateur athletes, adults and children. In conclusion to its study, the INERIS stipulates that the health risks associated with the inhalation of VOC and aldehydes emitted by artificial grass fields in outdoor situations give no cause for concern towards human health."

Aliapur & Ademe (Environmental French Agency), 2007, 'Environmental and Health Evaluation of the Use of Elastomer Granulates (Virgin and from Used Tyres) as Filling in Third-Generation Artificial Turf'

"Based upon the information reviewed on PAH exposure in humans and the results of the PAH air testing performed by J.C. Broderick & Associates, the potential for exposure to PAHs during normal use of the athletic field at Schreiber and Comsewogue appears to be minimal or insignificant."

J.C. Broderick & Associates, commissioned by Schreiber High School and Comsewogue High School (NY), October 2007, 'Ambient Air Sampling for PAH's'



'indoor gymnasium situations are of no cause for concern for human health'

"The studies to date have concluded that PAHs (Polynuclear Aromatic Hydrocarbons) are not released or at most negligibly released from tyre abradate (The University of Dortmund Institute for Environmental Research 1997). Epidemiological studies conducted by the Health Effects Institute, The World Health Organisation and other investigators do not implicate tyre wear particles in ambient air as contributing to human health effects (respiratory and cardiovascular diseases)."

Prof. Dr. Jiri Dvorak, FIFA, July 2006, 'An Open Letter concerning the potential cancer risk from certain granulate infills from artificial turf'

"This study provides evidence that uptake of PAH of football players active on artificial grass fields with rubber crumb infill is minimal. If there is any exposure, then the uptake is very limited and within the range of uptake of PAH from environmental sources and/or diet."

Joost G. M. van Rooij, Frans J. Jongeneelen, 'Hydroxypyrene in urine of football players after playing on artificial sports field with tire crumb infill', September 2009.

WATER QUALITY

"There is no significant threat from chemicals leaching into surface water and groundwater. While some chemicals can be released from crumb rubber over time, they are in small concentrations and are reduced by absorption, degradation and dilution - resulting in no significant impact on groundwater or surface water. "

New York State Department of Environmental Conservation & New York State Department of Health, May 2009, 'An Assessment of Chemical Leaching, Releases to Air and Temperature at Crumb-Rubber Infilled Synthetic Fields'

"The evaluation of the stormwater drainage quality from synthetic turf athletic fields included the collection and analysis of eight water samples over a period of approximately one year from three different fields, the collection and analysis of samples of crumb rubber in-fill from the same three fields plus a sample of raw crumb rubber obtained from the manufacturer, and the evaluation of the effect of the stone base material on the pH of the drainage water. The results of the study indicate that the actual stormwater drainage from the fields allows for the complete survival of the test species called Daphnia pulex. An analysis of the concentration of metals in the actual drainage water indicates that metals do not leach in amounts that would be considered a risk to aquatic life as compared to existing water quality standards. Analysis of the laboratory based leaching potential of metals in accordance with acceptable EPA methods indicates that metals will leach from the crumb rubber but in concentrations that are within ranges that could be expected to leach from native soil."

Milone & MacBroom, engineering, landscape architecture, and environmental science firm based in Connecticut, December 2008, 'Evaluation of the Environmental Effects of Synthetic Turf Athletic Fields'

"Given that undiluted runoff is not likely and that three months is an outside estimate of the duration of toxicity, it is doubtful that tire crumb would present a significant risk of contamination in receiving surface waters or groundwater."

Enviro-Test Laboratories, Alberta Centre for Injury Control and Research, Department of Public Health Sciences, July 2003, 'Toxicological Evaluation for the Hazard Assessment of Tire Crumb for Use in Public Playgrounds'

'no basis for health or environmental concern due to leaching of hazardous materials'

"Several recent studies explored this concern in great depth and found no basis for health or environmental concern due to leaching of hazardous materials from synthetic turf installations, similar to the one at Maple Park. REAC believes that there is sufficient evidence to support the conclusion that the field design at Maple Park poses no risk to the local environment in Ridgewood."

Ridgewood Environmental Advisory Committee (REAC) January-October 2009, 'Assessment of Environmental, Health and Human Safety Concerns Related to the Synthetic Turf Surface at Maple Park in Ridgewood, NJ'

MRSA/STAPH

One of the greatest causes of public outcry has been the increased occurrence of more virulent staph infections among school-age athletes. The spread of MRSA has prompted parents and other concerned citizens to rightfully question why their children are getting sick. Recent research has proven that synthetic turf does not play a role in promoting MRSA/staph and the hysteria is often brought on by companies or lobbyists with a vested interest in anti-microbial products.

HERE ARE JUST SOME OF THE STUDIES SUPPORTING THE SAFETY OF ARTIFICIAL TURF AS IT RELATES TO MRSA/STAPH:

'the speed with which we obtained the results is a testament to how clean things are there'

"Outbreaks of antibiotic-resistant strains of staph last year gained significant media attention, resulting in the temporary closing of school buildings and athletic facilities. Our research found that infilled synthetic turf systems do not harbor significant populations of staph bacteria to warrant concern."

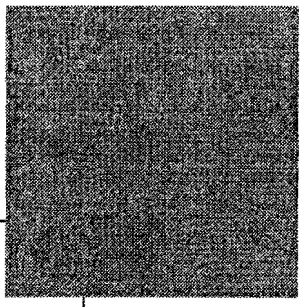
Dr. Andrew McNitt, Associate Professor of Soil Science at Penn State University, June 2007, 'A Survey of Microbial Populations in Infilled Synthetic Turf Fields'

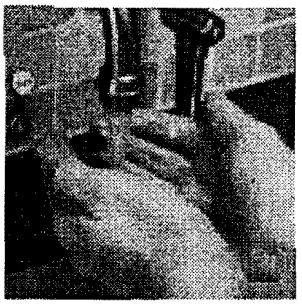
The California EPA's Office of Environmental Health Hazard Assessment conducted a review of available literature entitled, Chemicals and Particulates in the Air Above the New Generation of Artificial Turf Playing Fields, and Artificial Turf as a Risk Factor for Infection by Methicillin-Resistant Staphylcoccus Aureus (MRSA). The review concluded that "there is a negligible human health risk from inhaling the air above synthetic turf and it is unlikely that the new generation of artificial turf is itself a source of MRSA."

California EPA Office of Environmental Health Hazard Assessment, July 2009, 'Chemicals and Particulates in the Air Above the New Generation of Artificial Turf Playing Fields, and Artificial Turf as a Risk Factor for Infection by Methicillin-Resistant Staphylcoccus Aureus (MRSA)'

"This confirms what we thought all along," Cole said. "The speed with which we obtained the results is a testament to how clean things are there."

Allegheny County Health Department, October 2007





'there is no connection between current generation synthetic surfaces and MRSA infections'

"There is no data to suggest that turf will ever spread MRSA. We sampled the turf for the Rams' investigation and didn't find it. We actually observed the game. We mapped where the contact on the turf occurred. We sampled those areas where the players were tackled. And then we sampled areas where there wasn't any direct contact to the turf. We didn't find any Staph or MRSA."

Jeff Hageman, Centers for Disease Control, May 2006

"In the outbreaks of MRSA, the environment has not played a significant role in the transmission of MRSA. MRSA is transmitted most frequently by direct skin-to-skin contact. You can protect yourself from infections by practicing good hygiene (e.g., keeping your hands clean by washing with soap and water or using an alcohol-based hand rub and showering after working out); covering any open skin area such as abrasions or cuts with a clean dry bandage; avoiding sharing personal items such as towels or razors; using a barrier (e.g., clothing or a towel) between your skin and shared equipment; and wiping surfaces of equipment before and after use."

Centers for Disease Control, February 2005

"We have an injury reporting tracking system and it's limited by sample size, but we haven't had any linkage to turf," said the NCAA's David Klossner. "I know there have been some reports in the media. The CDC continues to tell us that the turf is not a harbor for this MRSA/staph infection. And if things are handled appropriately as far as hygiene practices, common sense, and wound cleaning and coverage, then a lot of these things can be prevented."

NCAA Director of Health and Safety, David Klossner, November 2006

"MRSA infection has never been reported in connection with the synthetic surface at Maple Park or similar field designs. Several studies have proven that there is no connection between current generation synthetic surfaces and MRSA infections."

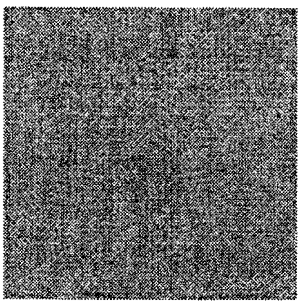
Ridgewood Environmental Advisory Committee (REAC) January-October 2009, 'Assessment of Environmental, Health and Human Safety Concerns Related to the Synthetic Turf Surface at Maple Park in Ridgewood, NJ'

HEAT OVERVIEW

On a hot day, things outside get hot. There may be a few stretches in the summer where people should make adjustments for play on synthetic turf, but for the majority of the year it should not be an issue.

People should also take a practical approach to the situation. Dr. Andy McNitt, head of the Penn State Center for Sports Surface Research, advises trainers to be aware of the heat when practicing in the summer on clear days. He recommends cutting down some on practice times, considering pulling players off fields earlier and taking more breaks to cool down.

HERE ARE JUST SOME OF THE STUDIES SUPPORTING THE SAFETY OF ARTIFICIAL TURF AS IT RELATES TO HEAT:



'measured air temperatures ranged from 2° F lower to 2° F greater than the ambient air temperature'

Collected data indicated that the air temperature as measured at a distance of two feet above the synthetic turf surface ranged from one to five degrees greater than the observed ambient air temperature, while the temperature at the same height above the natural turf ranged from 3° F lower to 1° F greater than the ambient air temperature. The measured air temperature at a height of five feet above the synthetic turf more closely approximated the ambient air temperature. Measured air temperatures ranged from 2° F lower to 2° F greater than the ambient air temperature.

"The results of the temperature measurements obtained from the fields studied in Connecticut indicate that solar heating of the materials used in the construction of synthetic turf playing surfaces does occur and is most pronounced in the polyethylene and polypropylene fibers used to replicate natural grass, rather than the crumb rubber particles. Rapid cooling of the fibers was noted if the sunlight was interrupted or filtered by clouds. Significant cooling was also noted if water was applied to the synthetic fibers in quantities as low as one ounce per square foot. The elevated temperatures noted for the fibers generally resulted in an air temperature increase of less than five degrees even during periods of calm to low winds."

Milone & MacBroom, engineering, landscape architecture, and environmental science firm based in Connecticut

"The study entitled 'Incidence, Mechanisms, and Severity of Game-Related College Football Injuries on FieldTurf versus Natural Grass - A Three Year Prospective Study', shows that there were double the amount of heat-related illnesses on natural grass playing surfaces compared with FieldTurf artificial turf fields."

Michael C. Meyers, PhD, FACSM, Department of Health and Human Development Montana State University

"The ambient air above both surfaces differed by only 3°F at 12" above the surface and approximately 2°F at 39" (the approximate chest height of a typical youth athlete). The differences in the ambient air were undetectable without a thermometer. In both cases, the ambient air temperature above the surfaces was slightly higher than the general air temperature."

Ridgewood Environmental Advisory Committee (REAC) January-October 2009, 'Assessment of Environmental, Health and Human Safety Concerns Related to the Synthetic Turf Surface at Maple Park in Ridgewood, NJ'

'there were double the amount of heat-related illnesses on natural grass playing surfaces compared with FieldTurf artificial turf fields'

IRRIGATION TO REDUCE HEAT

Ripken Experience Myrtle Beach, SC - Case Study

The Ripken Baseball Myrtle Beach Complex is the nation's premier tournament facility for baseball, complete with six FieldTurf fields to replicate some of the most famous ballparks in the history of the game.

The facility is outfitted with an irrigation system for days where the outside temperature becomes too hot and the fields need to be watered for a brief period of time. Myrtle Beach, being on the ocean in South Carolina, is a legitimate place to test the cooling effects of irrigation.

The complex has a health and safety group within Extra Bases, LLC (owner) that has mandated the temperatures where play must stop. At or about 125 degrees F (surface temperature), watering must begin.

Prior to the very first game played, the safety people and the management staff ran several tests to determine how to best water the fields. It was observed that 5 minutes (roughly 2 rotations of a typical sprinkler head) of irrigation dropped the temperature an average of 20 degrees.

Moreover, an additional 2 cycles dropped the temperature another 10 degrees. The temperatures did not breach the 125 degree F threshold for 2 to 2-1/2 hours. The ambient air temperature was in the 90's, and the sky was clear.

The tests were conducted during the most extreme of conditions around noon, when the UV was the greatest. The 125 degree F mandate is required by their insurance company, so it is not an arbitrary number.

The Ripken Baseball facility is proof of the effects of cooling because they have a lot of games played, and are situated in an area where the heating of the turf can be substantial.

'5 minutes (2 rotations of a typical sprinkler head) dropped the temperature an average of 20 degrees'

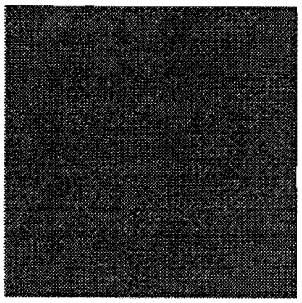
CONCLUDING REMARKS

Going Green. Eco-friendly. Environmentally safe. These are common phrases heard over and over in these turbulent times. Suddenly, the push for a clean, sustainable future is a major concern in the Western world. The recent spate of media coverage concerning artificial/synthetic turf is a prime example. Suddenly and without warning, one of the greatest advances in ecological technology is vilified, tried, and convicted—without the benefit of a fair hearing. It is important to realize that not a single injury or sickness has ever been reported anywhere in the world as a result of inhalation, ingestion, or of exposure to any of the components in the FieldTurf system.

With everything we do in our day-to-day lives, concern for a safe and healthy environment must always be of paramount importance. Certainly no one would ever imply anything different when the topic is an artificial grass playing surface. Research and testing has been and continues to be done, confirming that properly manufactured synthetic turf surfaces are a safe and sizeable contributor to an eco-friendly lifestyle.

It is important to consider all the facts surrounding the benefits of synthetic grass. As an example, recent major media publications have dealt with the nation's concern about obesity amongst our children today. At the same time, a growing population continues to put extreme pressures on the facilities within our school systems. So while educators extol the health virtues of exercise for youth, natural turf surfaces simply can't provide the 24/7 playability of synthetic turf.

'there is the ever-present issue of chemicals and pesticides applied to natural turf fields'



Another example is the potential to recycle the field at its end of life. New EPA-approved technologies allow worn-out artificial turf fields to be wholly consumed as fuel in certain plants, providing a truly "womb to tomb" environmentally sustainable solution.

Today, America's obsession with everything sports-related drives a multibillion dollar industry ever forward. Yet with record fuel prices wreaking havoc on personal, public and corporate budgets everywhere, it is tough to ignore the pockets of hypocrisy that appear in various segments of today's populace. On the one hand, there are knee-jerk reactions to such issues as crumb rubber infill and possible high levels of lead content in artificial turf.

On the other hand, there is the ever-present issue of chemicals and pesticides applied to natural turf fields—and the millions of gallons of precious water used annually to feed them. FieldTurf artificial turf fibers are produced 100 % lead-free. As the baby boom generation retires to warmer climates in the Southwest and Southeast, the strain on the finite water supply is already reaching extreme levels. We need to save the water resources for farms, not sport fields.

Hundreds of studies have been completed to discover the truth about any potential risks of artificial turf. Government health ministries and environmental bodies around the world have commissioned extensive research. So have world health organizations, leading universities and independent scientific committees. Elected officials have reacted to the concerns of their constituents by commissioning studies to get the facts. But recent headlines reveal the tactics being used by some with a different agenda. They do not report the truth.

The research has been done. The studies exist. Get the facts and find out for yourself.

Read what the experts have to say in independent testing, studies and reports on the potential health and environmental impact of artificial turf.

As the world leader in artificial grass, FieldTurf has led the way in advancing the environmental and safety benefits of artificial turf products. FieldTurf was designed not as a replacement for muddy fields but as an alternative to the best natural grass, to provide a playing surface where athletes of all ages could enjoy increased playing time on a consistently safe playing field through all weather conditions.

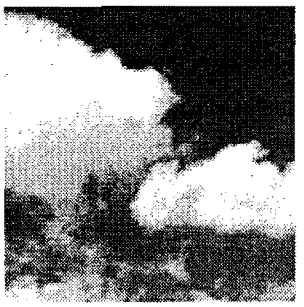
Countless studies, including a five-year study of high school football injuries and a three-year study of college football injuries, along with a multi-year study of soccer injuries, has shown that FieldTurf artificial grass significantly reduces the number and severity of injuries as compared to those recorded on natural grass.

Aside from the high volume of recycled materials used in our infill material, our artificial grass eliminates the wasteful and sometimes dangerous use of water, pesticides and chemicals, normally required to keep a natural grass field in good condition.

Countries all over the world have commissioned and executed hundreds of extensive studies to identify any potential dangers of crumb rubber (SBR). Over the past many years such research and testing has been carried out by world health associations, national health departments, municipal and federal groups, sporting associations, environmental protection groups, government ministries and official bodies of every description.

These studies originated in countries where environmental issues have always been of paramount importance. When the potential dangers were first presented, some countries even outlawed the use of SBR rubber in artificial grass fields. Every country that originally restricted or outlawed the use of SBR has reversed its position since reviewing the data and results of the comprehensive studies they instituted, especially when it comes to protecting the health of our children. But such investigation requires a more thorough approach, involving science and long-term studies as opposed to catchy headlines and political agendas.

THE RESEARCH HAS BEEN DONE. THE STUDIES EXIST. GET THE FACTS AND FIND OUT FOR YOURSELF



'FieldTurf significantly reduces the number and severity of injuries compared to natural grass'