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ARTIFICIAL TURF FACT SHEET

Artificial Turf is NOT the Solution – Nature-based Solutions Are!

The Climate Reality Project, Los Angeles and San Fernando Valley Chapters, the Los Angeles Neighborhood Council Sustainability Alliance, and other coalition partners support a ban on new installations of artificial turf due to human health hazards, environmental contamination, and negative impacts on wildlife. We support natural grass fields and planting of native California plants.

All artificial turf contains hazardous (PFAS) chemicals. PFAS “forever chemicals” have been identified as carcinogens, neurotoxins, and hormone disruptors that can cause thyroid disease, decreased fertility, early puberty, impaired vaccine response, and are associated with learning and behavioral problems in infants and children, as well as a long list of cancers. PFAS microplastic exposure can occur through inhalation, ingestion, and dermal (skin) absorption. Children and athletes playing on artificial turf are subject to all three routes of exposure. PFAS chemicals bioaccumulate, and are therefore especially harmful to children who are still developing.

Artificial turf is too hot, too hard, and may come with liability issues. It can reach temperatures up to 80° higher than the air temperature, readily reaching 160°F or 180°F and more. This can lead to serious thermal burns and heat stress. Turf burns from friction and non-contact lower extremity injuries are also more frequent on synthetic grass. It has also been found to cause a “heat island effect,” raising the surrounding temperature in the local environment. Artificial turf uses an inordinate amount of water for cooling before use on hot days. With time, it can become extremely hard, increasing the risk of concussions. There are also liability risks – the EPA has begun issuing regulatory limits on some PFAS; California is proposing more stringent regulations, and there have been class action suits for contaminated water and exposure to artificial turf’s PFAS cancer-causing chemicals.

Artificial turf pollutes local waters, soil, and air. Unlike natural grasses and surfaces, artificial turf is an impervious surface (per State of Calif and US EPA), negatively affecting the recharging of groundwater and increasing the risk of flooding. Stormwater run-off from artificial turf can cause PFAS to leach into groundwater, contaminating our drinking water. The EPA has recently reported there is no “safe” amount of PFAS for drinking water. Artificial turf sheds microplastics that pollute the soil and waterways, where they can end up in our oceans, never breaking down. The California Coastal Commission recently vetoed UC Santa Barbara’s proposed 3-acre artificial turf baseball field because of its negative impacts on water and mandated that they use natural grass. Artificial turf can’t be recycled and will end up in our landfills, where it will continue to pollute the environment. Artificial turf also off-gasses ethylene and methane (contributing to the climate crisis) versus real grasses and plants, which serve as a carbon sink.

Nothing lives in plastic grass. California is one of the world’s 36 biodiversity hotspots with more native plant species than any other state in the U.S. Not only does artificial turf not support life, it actually kills the soil and the living organisms in it for generations to come. Artificial turf takes away habitat from insects, birds, and local wildlife, contributing to the loss of biodiversity. Studies also show that children benefit from interactions with natural surfaces and nature.

Artificial turf playing fields cost more than natural grass fields. Studies show that over time, artificial turf can cost 2 to 4 times more than properly installed and maintained natural grass fields; synthetic turf is a poor investment. When comparing natural grass playing fields to artificial turf, it is important to compare the entire product life cycle including the capital cost of installation, annual maintenance, sod replacement as needed for natural fields, and surface/in-fill replacement of the synthetic fields, as well as disposal of artificial turf (removal, transport, and landfill fees).

Summary – Artificial turf is **NOT** a safer playing surface, does not significantly reduce water usage, and is not a sound investment. Installing artificial turf does not take into account the true cost to our children’s health and the health of our environment. The solution is nature-based solutions – California native plants and drought-tolerant grasses that use less water, thrive in our climate, recharge our groundwater, and provide food and habitat for local wildlife.

RESOURCES – Health & Environmental Impacts

CalMatters, *Once it was hailed as a drought fix—but now California’s moving to restrict synthetic turf over health concerns*, 10/18/23, by Shreya Agrawal <https://calmatters.org/environment/2023/10/california-synthetic-turf-pfas/>

Safe Healthy Playing Fields, Inc., <https://www.safehealthyplayingfields.org/> Fact Sheets and Articles, <https://www.safehealthyplayingfields.org/fact-sheets>

Public Employees for Environmental Responsibility, Artificial Turf fact sheet, https://peer.org/wp-content/uploads/2022/10/PEER_fact_sheet_ArtificialTurf_v03-1.pdf, articles <https://peer.org/?s=artificial+turf>

TURI Toxics Use Reduction Institute UMASS Lowell, Athletic Playing Fields Selecting Safer Alternatives: resources on artificial turf impacts on human health and the environment, and cost of installation and maintenance of artificial turf vs natural grass, https://www.turi.org/Our_Work/Community/Athletic_Playing_Fields

Beyond Plastics, Synthetic Turf is Hazardous fact sheet, <https://www.beyondplastics.org/fact-sheets/synthetic-turf>

National Center for Health Research, 4/18/22, NCHR Letter to Board of Los Gatos Union School District outlining artificial turf health concerns, Dr. Diana Zuckerman, President, NCHR <https://www.center4research.org/nchr-letter-to-members-of-the-board-of-the-los-gatos-union-school-district-on-artificial-turf-and-playgrounds/>

Associated Press, *EPA to limit toxic “forever chemicals” in drinking water*, 3/14/23, by Michael Phillis <https://apnews.com/article/epa-pfas-forever-chemicals-water-contamination-regulations-560d0ce3321e7fa8ed052f792c24f16f>;

Associated Press, *Toxic “forever chemicals” about to get their first US limits*, 3/2/23, by Michael Phillis, <https://apnews.com/article/pfas-epa-water-regulations-d2d5052c36a5a95f4e56866f028c9c4f>

CHE Collaborative for Health and Environment Environmental Health Impacts Synthetic Turf & Safer Alternatives Webinar, 1/27/22, Toxics Use Reduction Institute (TURI); Northeastern University; Ichan School of Medicine Mount Sinai,

https://www.healthandenvironment.org/assets/images/webinarimages/Artificial%20Turf%20Q&A_FINAL.pdf

Is Artificial Turf & Grass Toxic?, The Filtery, 8/23/23, by Jeanne Yacoubou, MS, <https://thefiltery.com/is-artificial-turf-grass-toxic/>

Risky Play, A stew of toxic chemicals lurks in artificial turf. Some experts worry they could be linked to cancer in young athletes, Philadelphia Inquirer, 2/20/24, Barbara Laker and David Gambacorta, <https://www.inquirer.com/news/pennsylvania/inq2/pfas-artificial-turf-cancer-athletes-pennsylvania-nj-20240220.html>

National Football League Players Association, 9/30/20, NFLPA President JC Tretter, calls for NFL clubs to change all field surfaces to natural grass due to increased rate of lower extremity injuries on artificial turf fields <https://nflpa.com/posts/only-natural-grass-can-level-the-nfls-playing-field>

Opinion: *Pediatricians Warn That Synthetic Turf Is Especially Dangerous For Children And Teens*, AmherstIndy, 12/2/2022, by Maura and Art Keene, cites Environmental Health Center at the Icahn School of Medicine Mt. Sinai Hospital in N.Y., <https://www.amherstindy.org/2022/12/02/opinion-pediatricians-warn-that-synthetic-turf-is-especially-dangerous-for-children-and-teens/>

COST OF ARTIFICIAL TURF PLAYING FIELDS VS NATURAL GRASS

TURI Athletic Playing Fields *Selecting Safer Alternatives*, TURI Report #2018-002 December 2018 (updated April 2019), https://www.turi.org/var/plain_site/storage/original/application/b9727dedf5860ae7e83e3226d058b7ee.pdf

Safe Healthy Playing Fields Factsheet,

<https://mail.google.com/mail/u/0/#sent/KtbxLwGnQsdjQxnGLghCXMvsvtvkZRbdQq?projector=1&messagePartId=0.2>

LEGISLATION / ORDINANCES

Statewide 2023 (Passed [SB676](#), Proposed AB1423, SB499)

City of Millbrae Artificial Turf Ordinance (2023) prohibits installation of synthetic turf and artificial grass landscaping effective 1/1/24, <https://www.ci.millbrae.ca.us/276/Prohibition-of-Artificial-Turf>

California Coastal Commission, 11/30/2023, Notice of Impending Development UCS-NOID-0002-23 (Baseball Stadium Turf) for Public Hearing and Commission Action 12/13/2022, Commission vetoes UCSB’s proposed 3-acre artificial turf baseball field due to negative impacts on water, and mandates natural grass <https://documents.coastal.ca.gov/reports/2023/12/W13.1a/W13.1a-12-2023-report.pdf>

RESOURCES FOR ALTERNATIVES Osborne Organics, <https://osborneorganics.com/>

Toxics Use Reduction Institute, UMass Lowell - Organic Grass Care

https://www.turi.org/Our_Work/Community/Topic_Areas_and_Past_Grants/Healthy_Schools/Organic_Grass_Care