



DATE: June 13, 2023

TO: City Councilors

FROM: Doug May, Planner III; Community Development Department

RE: Council Initiative 06-2023: Comparative Analysis of Standards for Artificial Turf

Greetings:

Council Initiative #06-2023 seeks to review current standards for artificial turf and identify whether a Development Code amendment should be made to allow artificial turf to be used as a landscape component in front yards and yards visible from public rights of way.

Currently, pursuant to Greeley Development Code Section 24-802, Table 24-8-1, up to 50% of any landscape area may consist of inorganic (non-living) decorative material such as river rock, colored pea gravel, boulders, pavers, or similar natural material, provided it is designed and arranged in a way that can infiltrate runoff through associated planting areas. Artificial turf is only acceptable as ground cover for areas not visible from public rights of way and streets--and may be subject to other engineering specifications such as grading or drainage plans.

Staff performed an analysis of peer communities in our region to gather information regarding artificial turf regulations. The analysis consisted of the following communities: Fort Collins, Loveland, Longmont, Windsor, Aurora, Northglenn, Erie, and Thornton. The majority of these municipalities' development codes did not specifically address artificial turf in residential applications. It can be deduced that artificial turf in residential applications is not common enough at this point to warrant regulations around this topic. Only one municipality, Aurora, explicitly allows artificial turf in residential front yards with the stipulation that at least 50% of the front yard be living plant material. The Greeley community has determined through its Development Code that artificial turf is not an appropriate landscape feature in front yards and yards visible from public rights of way. Allowing artificial turf in these areas could create possible code enforcement issues. Additionally, to ensure that artificial turf is installed correctly and to ensure that it meets the Development Code requirements of living versus inorganic plant material, City staff would need to provide a review of each artificial turf installation in residential applications.

In addition to peer city research, staff also analyzed data regarding water demands, costs, and other environmental issues. While artificial turf reduces the demand for water, it does not eliminate it. Water is still needed to flush pet waste, clean/disinfect the turf surface, and cooling due to heat effects. Additionally, the estimated costs of artificial turf compared to water-wise

landscaping and traditional turf are higher. The table below outlines estimated costs and lifespan of artificial turf compared to living plant material:

	Install costs/sq. ft	Lifespan	1,000 sq. ft/install	Water cost
Artificial Turf	\$6.00-\$15.00+	5-10 years	>\$6,000	\$0+?
Water-wise	\$0.80-\$5.00	20+ years	>\$800	\$49
Traditional Turf	\$1.35-\$2.40	20+ years	>\$1,350	\$108

In terms of environmental impacts, according to a 2022 report from Western Water Advocates, artificial turf releases harmful chemicals into the groundwater. Additionally, because artificial turf is an impervious surface, it has potential stormwater impacts. Finally, artificial turf increases energy and greenhouse gas emissions as illustrated in the table below:

	Pounds of CO2 Emissions	Cars on the road/year	Miles driving a gas car	Trees needed to plant to off-set
Artificial Turf	1,161,824	117	1,350,990	8,714
Traditional Turf	257	0.026	299	1.9

Considering the life cycle costs, variability in installation quality, potential negative environmental impacts, as well as the potential need for a new review processes for individual residential landscape plans, staff advances the following recommendation.

Staff Recommendation: In residential applications, maintain the current standard of requiring 50% of all open space to be living material. Continue to disallow artificial turf in front yards and yards visible from the public rights of way, as well as commercial applications.

cc: Raymond C. Lee III, City Manager
 Don Tripp, Deputy City Manager
 Community Development Planning Staff
 File

ATTACHMENT A: Greeley Development Code
Title 24, Chapter 8 “Landscape Design”
Section 24-202.b. “Planting Requirements”

Table 24-8-1		
Site Element	Trees	Evergreen Trees
Other. All other unbuilt or unpaved areas of a site.	<p>All other unbuilt or unpaved areas of a site shall require ground cover, perennials, grasses, rock, mulch, or other natural and permeable surfaces.</p> <p>Up to 50% of any landscape area may consist of inorganic (non-living) decorative material such as river rock, colored pea gravel, boulders, pavers, or similar natural material, provided it is designed and arranged in a way that can infiltrate runoff through associated planting areas.</p> <p>Artificial turf is only acceptable as ground cover for areas not visible from public rights of way and streets and may be subject to other engineering specifications subject to grading or drainage plans. Native grass or native grass seed shall be planted in detention and retention ponds and areas not highly trafficked by pedestrian activity.</p>	