Sunnyvale

Artificial Turf Policy Study

City Council
Study Session

July 28, 2026

Agenda

- Project Overview and Timeline
- Community Engagement Results
- Research Findings
- Recommendations + Discussion

Project Overview and Timeline

- Funded with FY 25/26 Budget as a Study Issue: $150,000
  - ESD 24-01, now Council Priority Project SU-2
- Project team: Led by ESD, supported by DPW, LRS, and CDD

Apr. – Sept. 2025	Oct. 2025	Jan. – Mar. 2026	Apr. - May 2026	Jun. – Jul. 2026
RFP + Contracting	Kick Off	Community Engagement	Report Development	Study Sessions

Policy Study Scope (ESD 24-01)

- Background:
  - Community concern was raised over environmental and health impacts of artificial turf, ESD 24-01 was sponsored in response to this
  - ESD 24-01 detailed a comparative analysis between artificial turf and natural grass, including costs, for both public and private use
  - Council asked for analysis of operations and maintenance of current natural grass fields with recommendations for optimal maintenance practices to be included in 24-01

Policy Study Scope (ESD 24-01)

Included in Study Scope

- Comparative analysis of artificial turf and natural grass
- Using only currently available research (literature review)
- Analysis of current maintenance practices and evaluate optimal practices
- Collected community input

NOT Included in Study Scope

- Any sampling or testing of surfaces
- A full analysis of recreational playing time demands and field availability
- Any modeling or quantification of environmental or health impacts of surface types

Sunnyvale Parks

- Purpose of the City of Sunnyvale's Parks is to provide:
  - Recreational opportunities
  - Open space
  - Community gathering places
  - Environmental benefits
  - Connections throughout the city for residents of all ages

- 52 rentable fields across 9 city parks and 16 school sites. All are maintained by Parks staff, with fields for a variety of recreational uses.

Hours of Play on Fields

	Natural Grass	Artificial Turf
Industry Recommendations	600 - 800	1,000+
Potential Availability (calculated)	1,800	2,800
Average Actual Hours of Play (based on Sunnyvale reservations data 2023-2025)	572 - 576	806 - 859
Actual Hours of Play Range (based on Sunnyvale reservations data 2023-2025)	23 - 1,075	10 - 2,260

Community Engagement Results

Community Engagement

Focus Group

- Jan. 27, 2026
- 8 attendees
- Invitation only to representatives of sports and environmental groups

Online Survey

- Available from Jan. 29 to March 6, 2026
- 850 responses submitted

Farmers Market Tabling

- Feb. 7, 2026
- ~40 attendees
- Attendees were asked to provide feedback on pre-written statements

Communitywide Workshop

- Feb. 10, 2026
- 31 attendees
- Attendees rotated through discussion topics: playing time, environmental, health, and field maintenance

Communitywide Workshop

People were divided into tables, each table hosted a discussion on a topic, and attendees had the chance to go to each table.

Playing Time

- Prioritize Sunnyvale Residents
- Maximize general use of natural grass space over open space used for sports
- Maximize playtime on existing natural grass fields

Environmental Factors

- Concerns for artificial turf regarding plastic pollution, heat island effect, and recyclability
- Concerns for mowing and fertilizer and pesticide use impacts of natural grass
- Loss of ecosystem biodiversity

Health Factors

- More concerns for artificial turf than natural grass (chemicals, heat, and bacteria exposure)

Maintenance

- More concern for natural grass than artificial turf
- General call for better maintenance practices to maximize playability

Community Survey Results

Overview

850 individual responses, 37 days

60% indicated “very/moderately concerned” about environmental and health impacts of AT

26% indicated “not concerned” about environmental and health impacts of AT

29% indicated “very/moderately concerned” about the environmental impacts of natural grass

40% said “artificial turf should generally be restricted”

38% said “artificial turf should generally be allowed”

20% said “artificial turf should only be allowed for specific use cases”

Community Survey Results

739 Responses indicated they live in Sunnyvale	
Artificial turf should generally be restricted	43%
Artificial turf should generally be allowed	34%
Artificial turf should be allowed only for specific use cases	20%

789 Users of Sunnyvale Public Fields	Sports League (72)	Both (320)	Recreation (394)
Artificial turf should generally be restricted	17%	19%	41%
Artificial turf should generally be allowed	64%	62%	36%
Artificial turf should be allowed only for specific use cases	19%	20%	21%

Community Survey Results

Reasons for not installing artificial turf were (select all, 812)

- Environmental concerns 42%
- Health concerns 34%
- Appearance 28%
- Never considered it 22%
- N/A 22%
- Other 15%
- Costly 13%

112 Responses indicated they have AT on their Property

- 78% would not replace it
- 70% think a City policy should generally allow Artificial Turf
- 18% indicated they would replace it if they could
- Reduced water use and lower maintenance were the top reasons for installing it

Research Findings

Environmental and Human Health Impacts

Environmental Impacts Artificial Turf	Environmental Impacts Natural Grass
• Plastic pollution • Chemical leaching • High-carbon footprint from production and disposal • Retains heat and creates hot surfaces	• High water usage • Potential for high chemical use • High carbon footprint from maintenance operations

- Minimal data is available to correlate human health impacts from these environmental factors
- When taking into account hours of play for natural grass and artificial turf, one study found environmental impacts for unfilled artificial turf were lower on a per hour of play basis.
  - At 800 hours for natural grass and 1,600 hours for artificial turf, GHG impacts are equal.

Environmental and Health Impacts

	Artificial Turf	Natural Grass
High Water Usage		✓
Chemical Exposure and Leaching	✓	✓
Increased Heat	✓	
Microplastic Pollution	✓	
Greenhouse Gas Impacts	✓	✓
End of Life/Disposal	✓	
Personal Health/Injury	✓	✓

Cost Comparisons

Data reflects case study of fields in the City of Los Gatos

Comparison of Natural Grass Field and Artificial Turf Life Cycle Costs (20 Year Cycle)

Natural Grass Field (148,500 SF Turf)		***Artificial Turf Field (148,500 SF Turf)***	
Initial Major Renovation Construction Cost	***$750,000***	**Initial Major Renovation Construction Cost**	***$2,100,000***
Refurbishing/Rest Cost - 5 times over 20 years	**$475,000**	**Refurbishing Cost**	**$975,000**
Average Annual Maintenance Natural Grass	**$57,360**	**Average Maintenance Synthetic Turf over 20 Years**	**$30,770**
20 Year Maintenance Costs	**$1,365,000**	**20-Year Maintenance Costs**	**$606,600**
20-Year Total Maintenance + Capital	**$2,590,000**	**20-Year Total Maintenance + Capital**	**$3,681,600**
Average Maintenance Cost/Year over 20 Years	$68,250	*Average Maintenance Cost/Year over 20 Years*	*$30,330*
Avg. Annual Cost: Capital +Maintenance	**$129,500**	*Avg. Annual Cost: Capital + Maintenance*	**$184,080**
Natural Grass Field Use		**Artificial Turf Field Use**	
32 weeks @ 2 hours per day on weekdays and 5 hours per day on weekends less 15% rain dates		40 weeks @ 6 hours per day on weekdays and 10 hours per day on weekends	
Average Available Play Hours Per Year	640	Average Available Play Hours Per Year	2000
Hours per Year minus 15% for Rain	544		
Hours per Year * 20 years	10,880	Hours per Year * 20 years	40,000
Total Average Available Play Hours in 20-Year	8,880	Total Average Available Play Hours in 20-Year	39,000
Cost per Use	**$292**	**Cost per Use**	**$94**
(Total Maint. + Capital)/(Total Permitted Hours in 20-Year Cycle)		*(Total Maint. + Capital)/(Total Permitted Hours in 20-Year Cycle)*	

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Recommendations + Discussion

Maintenance Recommendations to Improve Field Quality

The following recommendations will improve the quality of the natural grass sports fields, but not change playing time

Improve Irrigation

Replace existing irrigation systems.
Increase staff time spent maintaining and adjusting systems.

Adjust Mowing Technique

Split maintenance into 2 modes, (1) Sports Fields (more frequent mowing at lower height) and (2) Open Space (less frequent at taller height).

Irrigation replacements occur with Park renovations.

Will need additional 8 FTE Parks Workers to implement irrigation and mowing recommendations ($1.2M/year).

Will need additional mowing equipment.

Recommendations

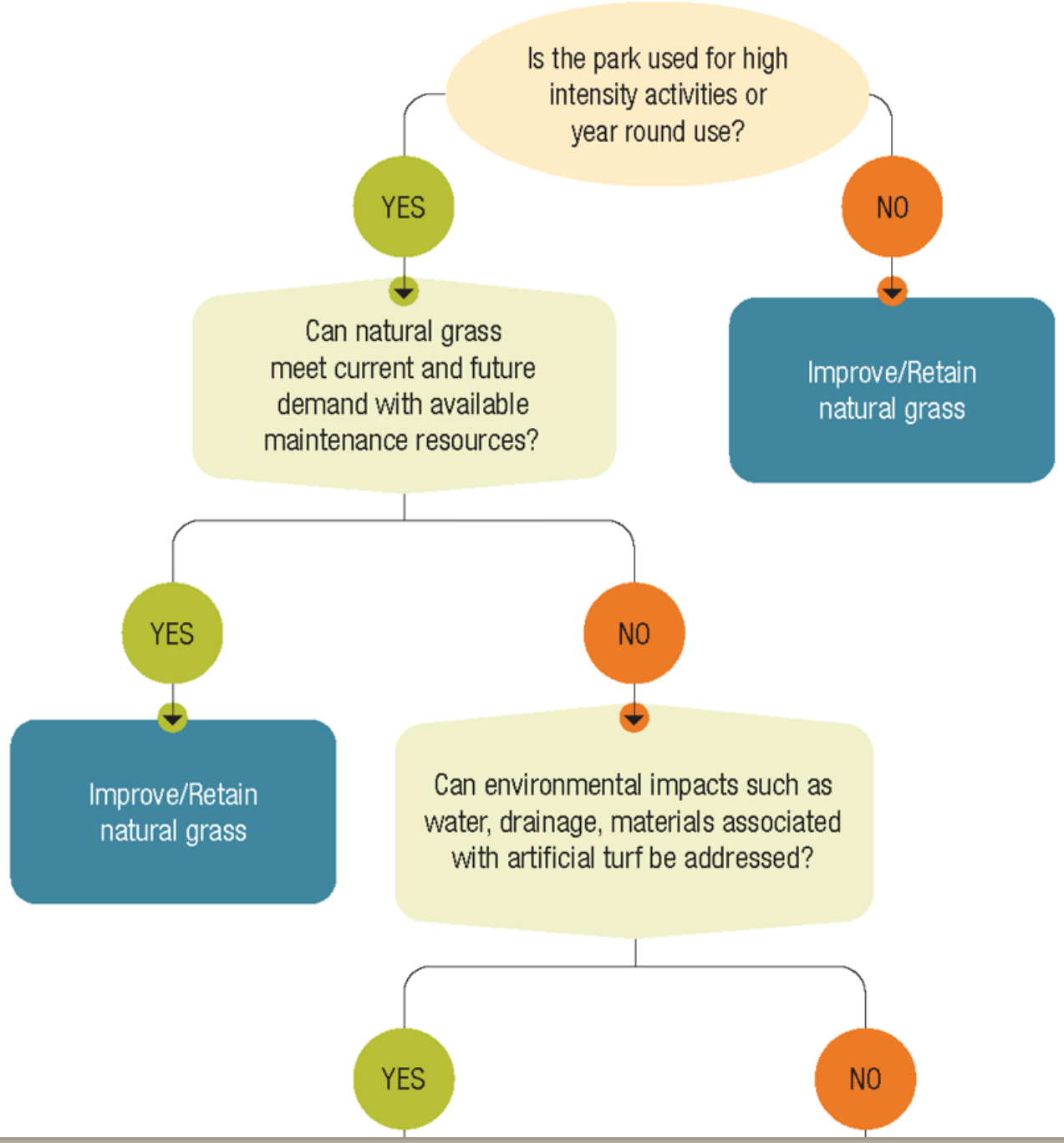
Report includes 10 Recommendations + Decision Tree Highlights from the 10:

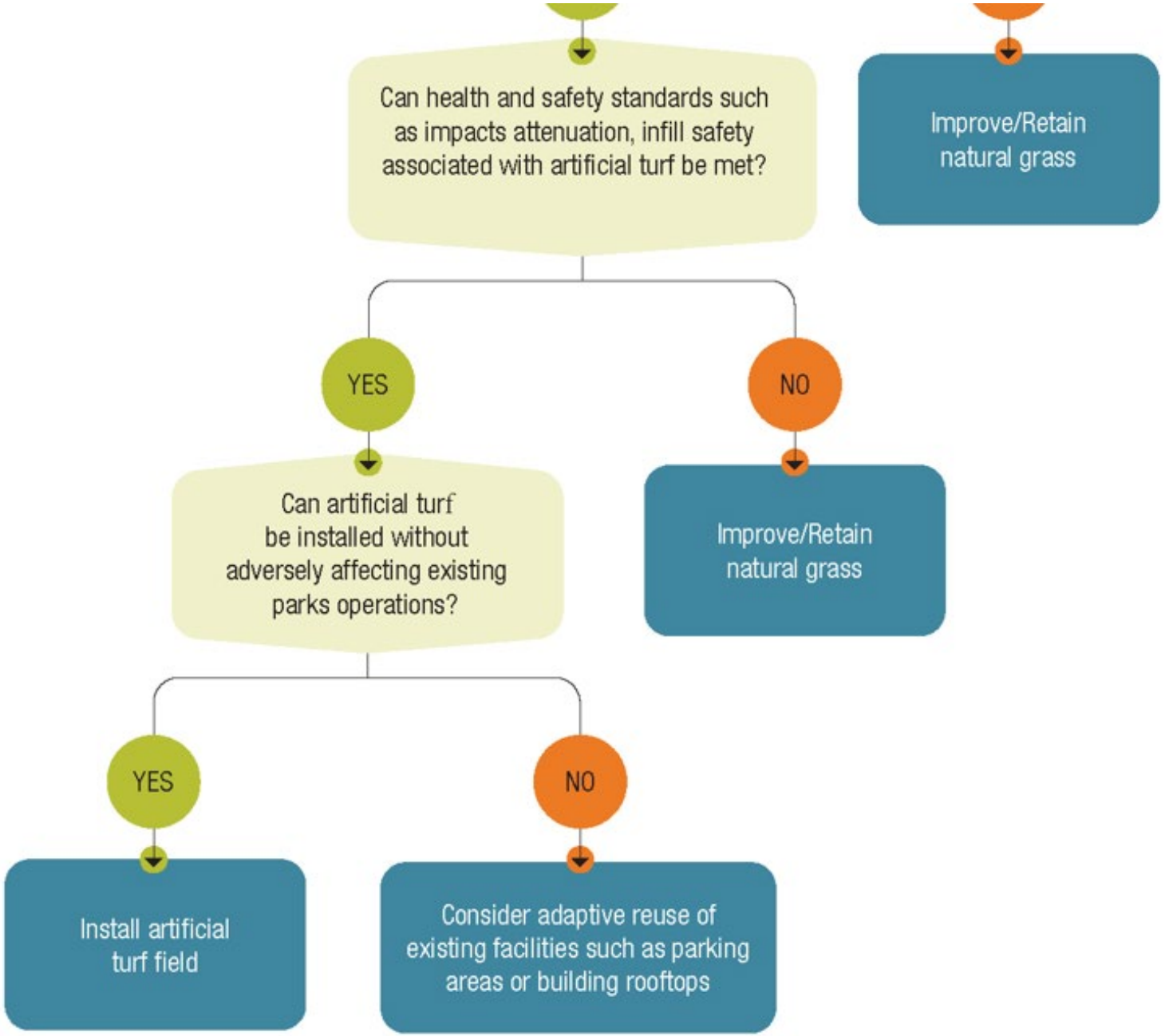
Prioritize and conserve natural grass. Consider piloting an organic field and investing more resources into maintenance of sports fields.

Consider artificial turf only when high-use field determined necessary; conduct life-cycle analysis for each project prior to moving forward with artificial turf. Consider adaptive reuse as well.

When using artificial turf, implement best management practices to minimize environmental pollution and health impacts.

Consider creating artificial turf standards for private property development that ensures alignment with local and regional water conservation and other environmental goals.


Is the park used for high intensity activities or year round use?
YES
NO
Improve/Retain natural grass
Can natural grass meet current and future demand with available maintenance resources?
YES
NO
Improve/Retain natural grass
Can environmental impacts such as water, drainage, materials associated with artificial turf be addressed?
YES
NO


Can health and safety standards such as impacts attenuation, infill safety associated with artificial turf be met?
Improve/Retain natural grass
YES
NO
Can artificial turf be installed without adversely affecting existing parks operations?
Improve/Retain natural grass
YES
NO
Install artificial turf field
Consider adaptive reuse of existing facilities such as parking areas or building rooftops

Recommendations

Staff Recommendations
(based on report, community input, and operational considerations)

- Accept the report on Artificial Turf Policy.
- Operationalize the decision tree, to be used during Park renovations process.
- If use of artificial turf is needed, require mitigation measures to minimize environmental pollution and health impacts.
- Implement organic field management pilot
- Consider proposal for improved maintenance methods at Lakewood Park.
- Further study is required to identify parameters and goals of a private property regulation or standard for artificial turf

Discussion

Staff are looking for Council Feedback on:

- Overall report and recommendations
- Operationalizing Decision Tree for future parks projects
- Consideration of a private property standard or regulation on artificial turf
- Implementing an organic field management pilot
- Implementing an increased maintenance program at Lakewood Park

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Thank You!

Contact: green@sunnyvale.ca.gov
for questions or comments