



# Council Priority Project ESD 17-01

*Eliminate the use of Chemical Pesticides  
on City Owned or Leased Property*

Emma Hinojosa  
Parks & Recreation Commission - June 10, 2026



# Agenda

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## **Study Issue Background**

Pesticide Policies and Regulations

City's Current Pesticide Use and Application

Alternatives to Synthetic Pesticides

Benchmarking other cities

Findings and Draft Recommendations

# ESD 17-01 Background

*Eliminate the use of Chemical Pesticides on City Owned or Leased Property:*

- Evaluation of the City's current pesticide use practices and the feasibility of eliminating chemical pesticides.
- Proposed by the Sustainability Commission
- Elevated to a Study issue in 2017, ranked above the line by the City Manager and initiated in 2025
- \$100,000 budgeted for 2-year study
- Joint effort by led by ESD with support from DPW staff

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# Pesticide Regulations

Pesticides in California are regulated by multiple agencies

- Federal EPA
- California EPA
  - ◆ *Department of Pesticide Regulation (CADPR)*
- San Francisco Regional Water Quality Control Board
  - ◆ *NPDES Municipal Regional Permit*
- California Prop 65



# Risk Assessment: Chemical Label Explainer

Signal Word	Toxicity	Category
<b>DANGER</b>	high	I
<b>WARNING</b>	moderate	II
<b>CAUTION</b>	low	III
<b>N/A</b>	Not toxic	IV



Source: National Pesticide Information Center

# Pesticide Type Overview

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Pre-emergent **vs** Post-emergent

**WHEN**

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Selective **vs** Non-selective

**WHAT**

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Systemic **vs** Contact

**HOW**



# Pesticide Type Overview



## Synthetic

Chemically manufactured  
compounds

*Examples:  
Glyphosate, pyrethroids*



## Organic

Derived from natural  
sources

*Examples:  
Plant Oils, Copper Sulfate,  
Pyrethrin*

# Pesticide Training

## Annual Parks Staff Trainings

**Department of  
Pesticide Regulation  
(DPR)**

Pesticide SDS sheets

Prepares staff for  
applicator licenses

**Internal**

City's IPM Policy

Water pollution  
prevention education



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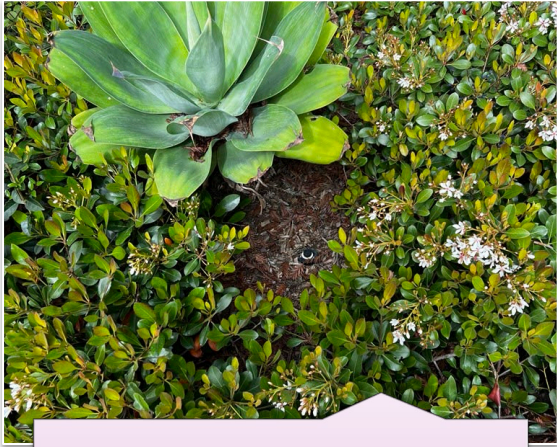
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# How and Where Pesticides are Used



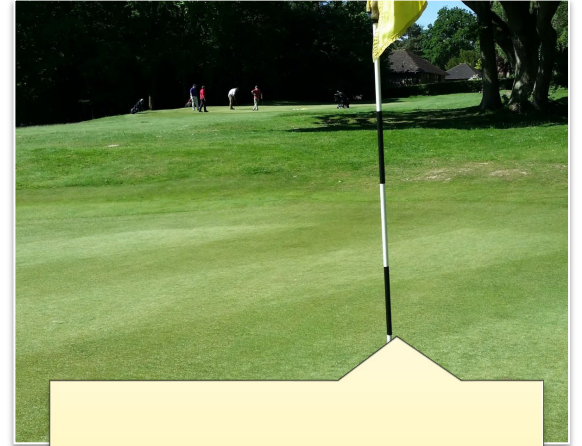
**Herbicides**  
in parks and landscape  
to remove weeds



**Pesticides**  
to protect trees from  
pests and diseases



**Insecticides**  
to deter and remove  
pests from buildings



**Fungicides**  
used on golf courses  
protect greens &  
reducing slips and falls  
on pavers

Examples used in Sunnyvale:

**Roundup**

Non-Selective, Post-emergent  
Caution

**Safari**

Selective, Post-emergent  
Warning

**Ant Bait Stations**

Selective  
Caution

**Syngenta**

Non-selective, Pre-emergent  
Caution

# Parks Application Process

City's IPM policy

Carry safety data sheets (SDS)

Backpack, truck & hand spraying

Restricted-entry interval

Signage and mailings

Staff follows DPR's Healthy Schools Act



# Example: Hackberry Application



The problem:  
Hackberry aphids



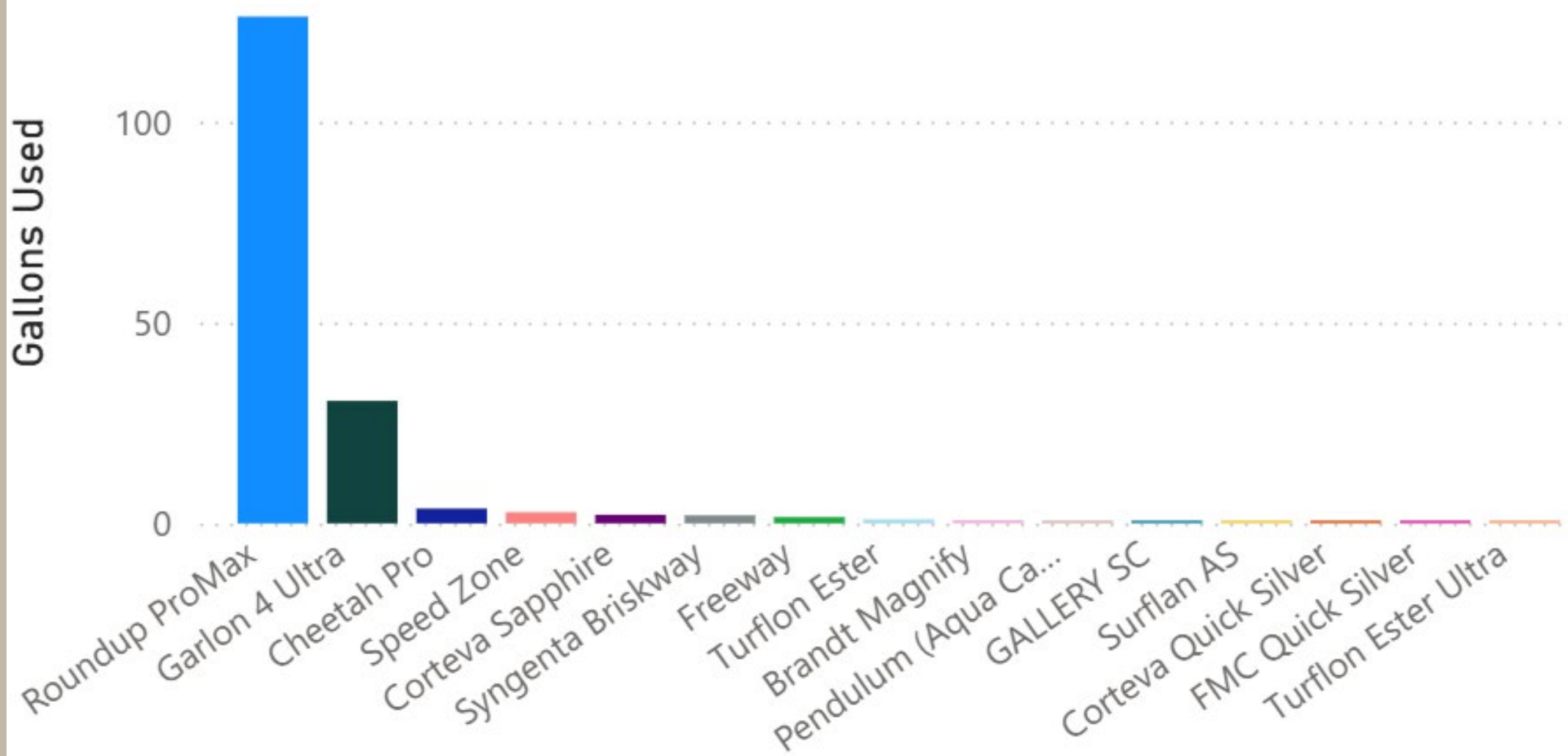
Old solution:  
Freeway and Safari pesticides  
(pesticide of concern)



New technique:  
Soil fertilizing and aeration

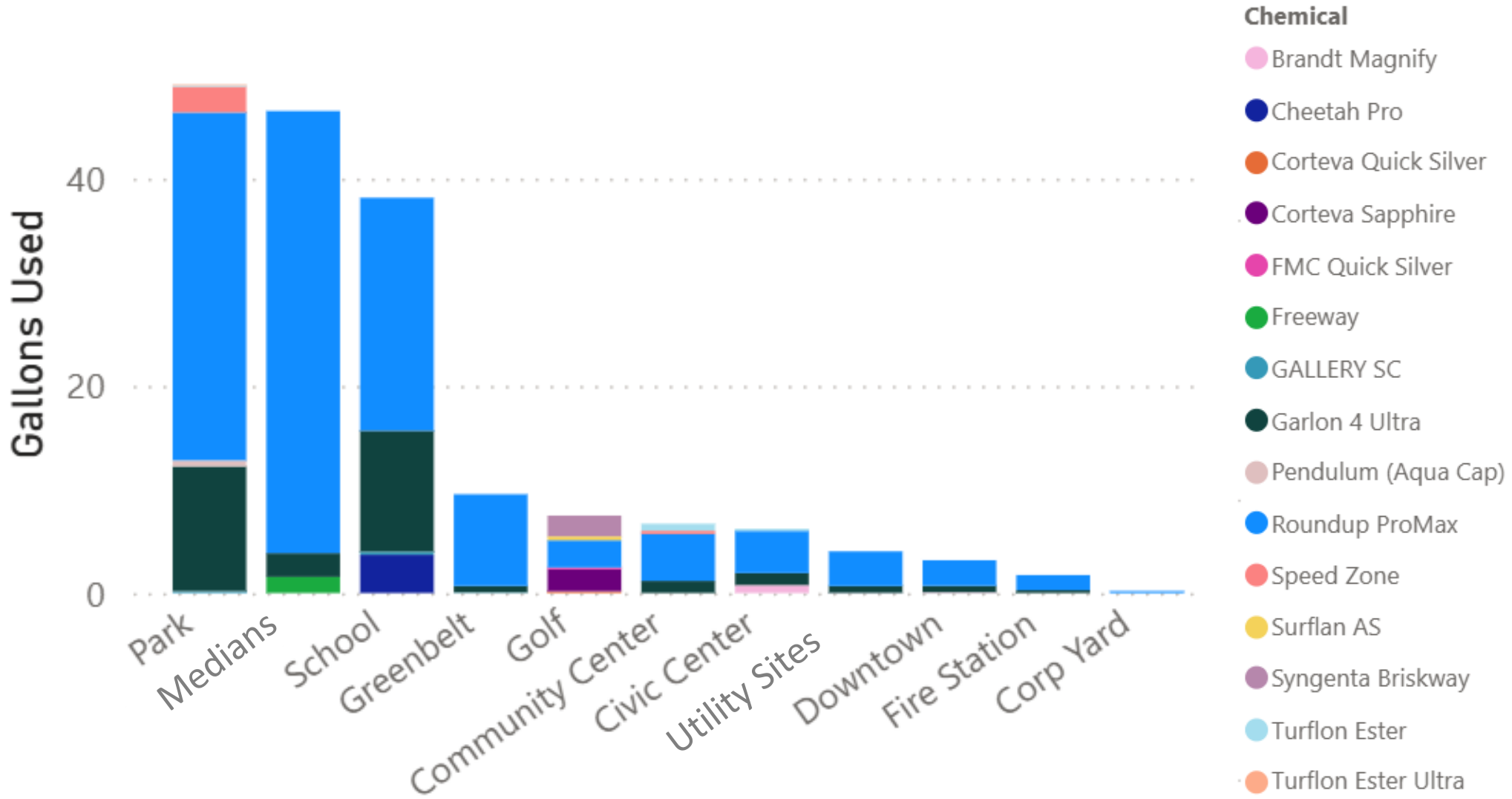
# Annual Pesticide Use by Type

2025



[Open in Power BI](#)  
Study Issue Power BI Desktop  
Data as of 4/20/26, 2:16 PM  
Filtered by Year (is 2025)

# Annual Pesticide Use By Location Type



2025

[Open in Power BI](#)  
Study Issue Power BI Desktop  
Data as of 4/20/26, 2:16 PM  
Filtered by Year (is 2025)

# Annual Pesticide Use in Gallons per Acre

2025

Location	Total Acres	Gallons per Acre Used
Parks	260	0.18
Schools	87	0.43
Medians	57	0.81
Greenbelt	48	0.19
Community Center	21	0.32
Fire Stations	10	0.17
Utility Sites	8.5	0.47
Downtown	7	0.45

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# Research on Organic Pesticides

## *Organic Herbicides for Weed Control in Urban Landscapes*

University of California Agriculture and Natural Resources (UC ANR)

2023 Study



DAT: Days after treatment

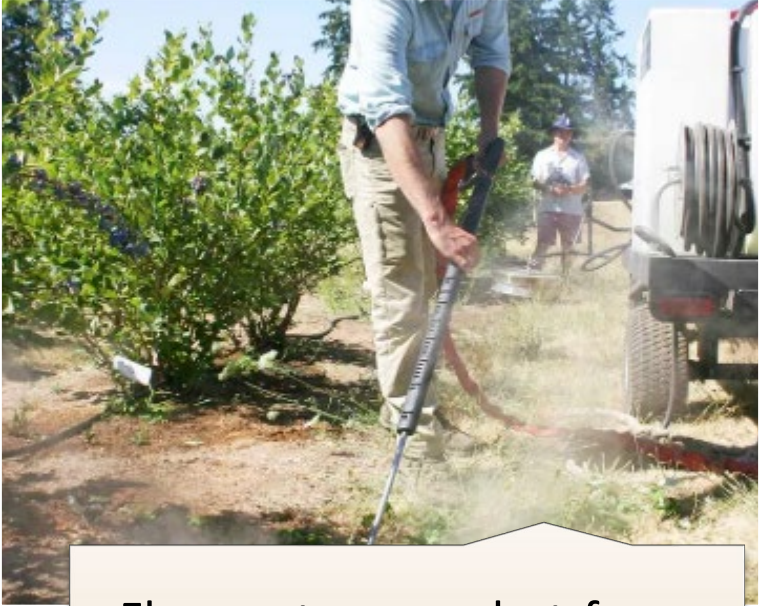
- Can effectively control weeds for about 14 days
- Work best during warm weather and full sun applications
- Require increased applications, lower dilution rates, and higher application volumes compared to glyphosate-containing products

Windbiel-Rojas, K. (2023, March 26). *Organic Herbicides for Weed Control in Urban Landscapes*. UC Weed Science – Weed Control, Management, Ecology, and Minutia. University of California Agriculture and Natural Resources (UC ANR). <https://ucanr.edu/blog/uc-weed-science-weed-control-management-ecology-and-minutia/article/organic-herbicides-weed>

# Mechanical Alternatives



Manual Removal

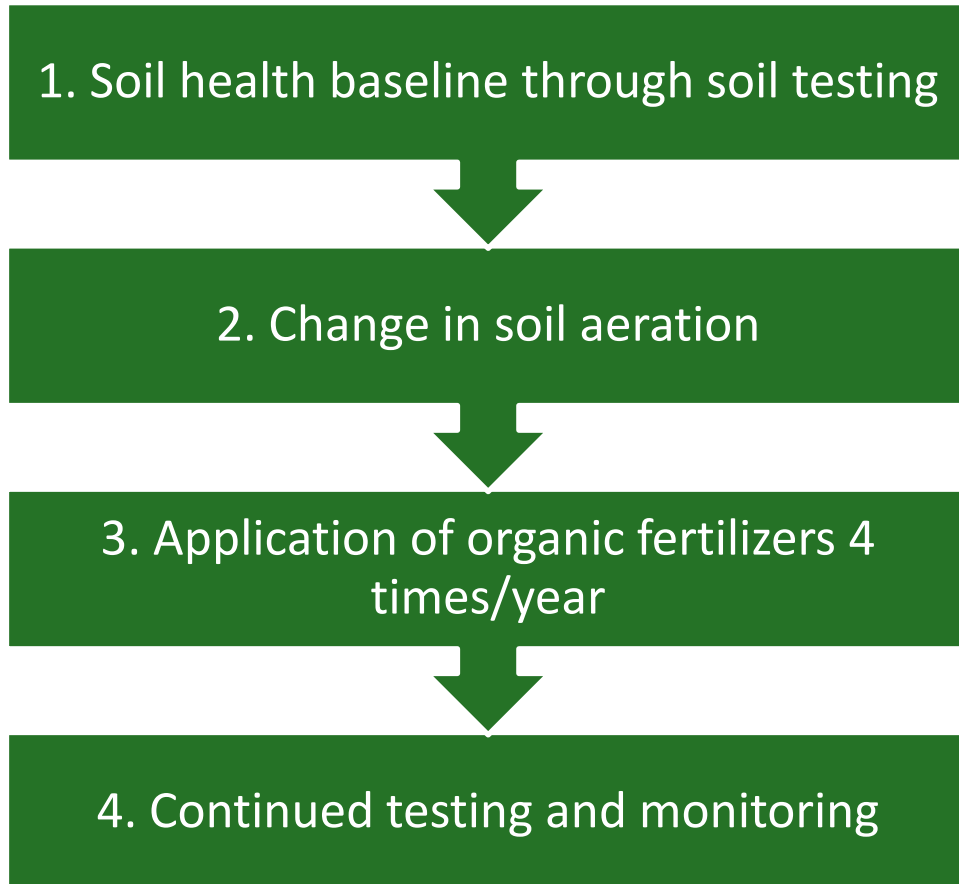


Flame, steam, or hot-foam weeding



Mulch

# Alternative Turf Approach



## GOALS

- Synthetic pesticide free
- Less water
- Improved soil health
- Stronger root system

\*Note: Potential need to renovate annually with field closures up to three months

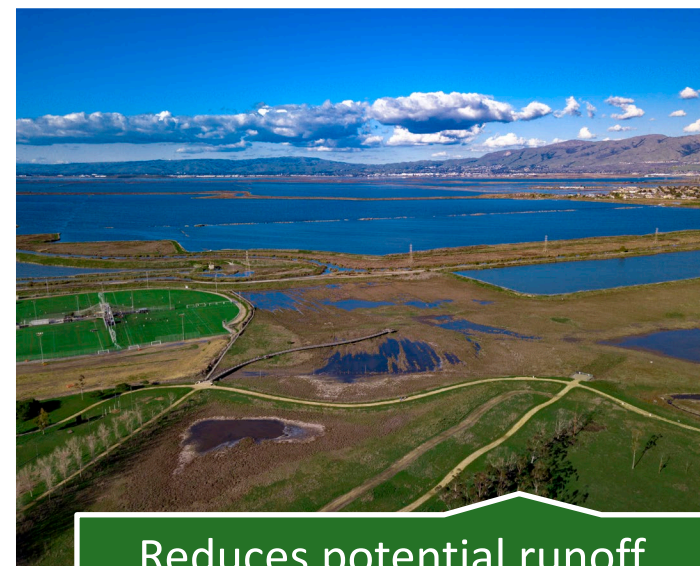
# Benefits



Potential reduced health risks to City employees and the public



Protects pollinators (although we already work to avoid this)



Reduces potential runoff contamination into waterways

# Actions that Support Alternative Methods



Targeted and efficient irrigation



Adjusting plant palettes



Soil regeneration



Resetting expectations and educating public

# Other Considerations

## Considerations with alternative methods both mechanical and organic

### Equipment

#### Line Trimmers *(most practical mechanical alternative)*

- High volume
- Disperse debris & dust
- Additional safety and nuisance concerns
- Replacement frequency



### Applications

- 2x-4x increase in labor hours depending on site
- More frequent applications
- Changes application times/periods
  - ◆ Organic chemicals: work best in full sun and warm temperatures
  - ◆ Trimmers: cannot be used during early morning hours

### Changes

- Fundamental shift away from weed removal
- Risk of deteriorating aesthetics and increasing public comment



# Cost Analysis

Estimated Costs associated with further reducing and eliminating all pesticide use on City Property

Average Annual Total Cost of Applying Pesticides:

**\$716,000**

Estimated Annual Cost of Removing Glyphosate

**\$1,230,000**


+ \$514,000

 76%

Estimated Annual Cost of Removing Pesticides

**\$ 1,623,000**

+ \$907,000

 135%

# Enhanced Public Outreach Costs

## Existing

### Internal

- ◆ Advertisements (Bay Area New Group advertisements, Utility Bills, employee emails, newsletters, social media)
- ◆ Tabling events (Farmers markets, National Night Out, Earth Day)
- ◆ Workshops (Sunnyvale Senior Center Workshop)
- ◆ Elementary school presentations
- ◆ **Estimated cost of materials: ~\$1000**
- ◆ **Estimated staff time: 100 hrs/year**

### External

- ◆ Countywide Program/Watershed Watch
- ◆ Our Water Our World (statewide)



## Expanded Options

- Increased posting pre/post applications
- Potential survey of residents and businesses to identify level of awareness and concern on pesticides

# Pilot Park Study

*Proposed work with a consultant on pilot park at Panama Park*

## Study Objectives:

- **Evaluate:**
  - Labor requirements
  - Weed control effectiveness
  - Turf quality
  - Environmental benefits
  - Resident satisfaction
  - Cost impacts
- **Duration:** 2 Years
- **Potential Deliverables:** Final report to City Council with recommendations



**Estimated Cost**

**\$50,000 /yr**

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## **Benchmarking Other Cities**

Findings and Draft Recommendations

# Benchmarking Summary

City	Approach	Results Summary
	Immediate ban	Operational challenges and infrastructure impacts
	Gradual transition	50% increase in costs; utilize contractor support
	Glyphosate moratorium	400% increase in costs; moratorium ended

# Benchmarking Summary

A pesticide ban cannot be successful without more funding, more staffing, and better planning on alternatives

Overall significant increase in costs and reliant on support from contractors to achieve implementation

Cities with near or total bans are not comparable in size

Agencies of comparable size are continuing to use synthetic pesticides

Aesthetics and infrastructure issues

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**Findings and Draft Recommendations**

## Study Findings Summary

City is using pesticides in a measured manner only where necessary

Pesticide free options have community benefits

Other Cities have found mixed results using alternatives to pesticides

Pesticide free management will have lower aesthetics

Pesticide free methods will cost more in terms of labor and equipment

- + \$ 335,000 One-time costs
- + \$900,000 Ongoing operating cost (+ 4 FTE)

Pilot study has merit; will potentially cost around \$50,000 per year

# Potential Transition Impacts and Effects



Substantially higher costs to the City



Will take time to implement



Deteriorating aesthetics



Unknown or unintended consequences

# Draft Recommendations



Do not recommend eliminating all chemical pesticides from City use



Complete a pesticide free pilot park study



Improve transparency by improving data collection and reporting on chemical usage



Post signage when necessary for safety



Direct Staff to maintain City's existing IPM Program



Questions?