



Sunnyvale

# Green Stormwater Infrastructure Plan

City Council  
September 10, 2019

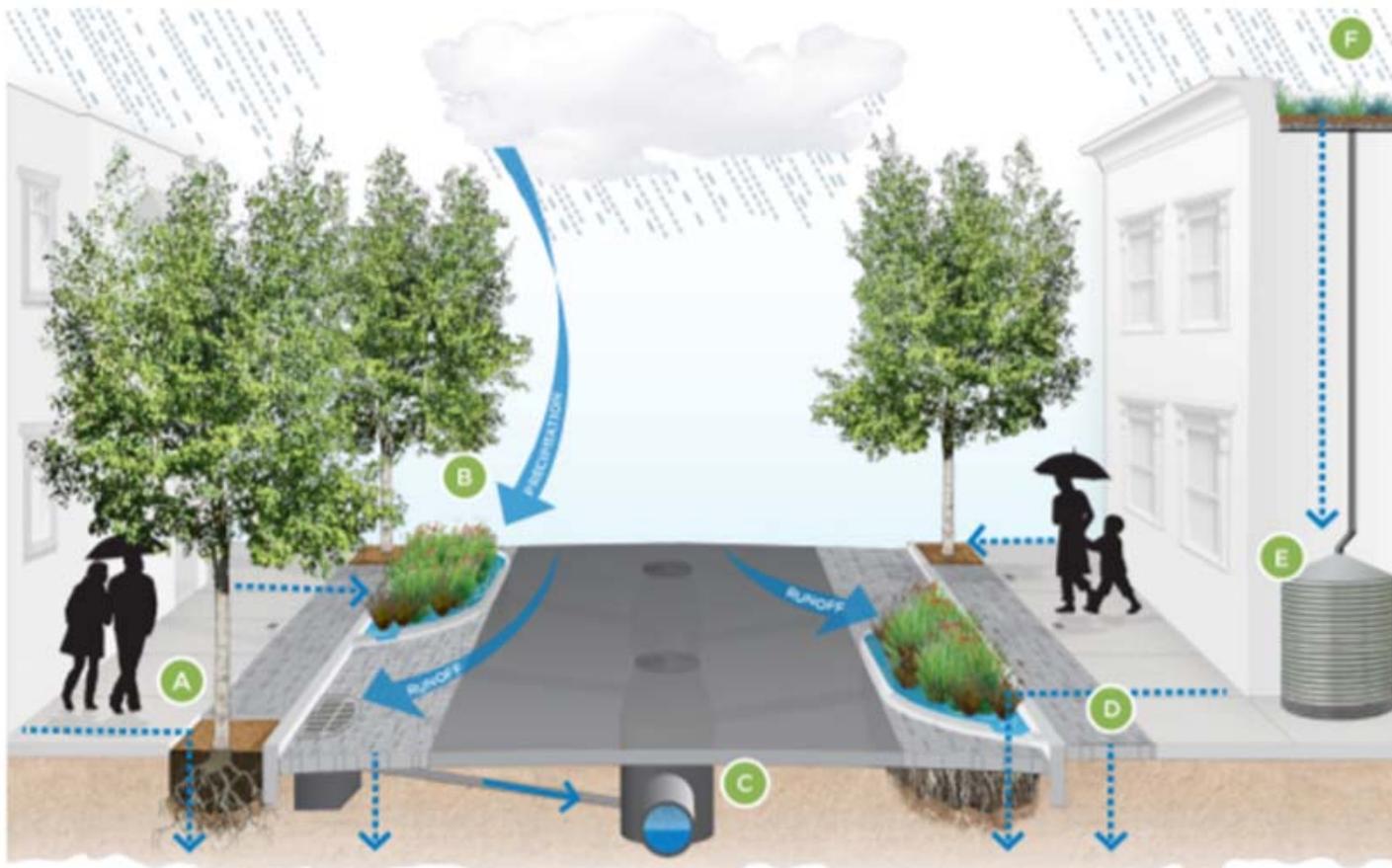


# Agenda

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- What is Green Stormwater Infrastructure?
- Regulatory Context
- GSI Plan Requirements
- Sunnyvale Plan and Implementation

# What is Green Stormwater Infrastructure?



(A) Street trees with flow through planters (B) rain gardens (C) storm system  
(D) Permeable pavement (E) cisterns (F) vegetated roofs

# Gray and Green Infrastructure

**Grey.**



**SYSTEM AND SEISMIC  
RELIABILITY &  
REDUNDANCY**

**Green.**



**INNOVATIVE  
STORMWATER  
MANAGEMENT SOLUTIONS**

**Clean.**



**PROTECTING PUBLIC HEALTH  
& THE ENVIRONMENT**

*Image credit: SFPUC*

# Potential for Multiple Benefits

- Pollutant reduction
- Reduced local flooding
- Urban greening
- Traffic calming
- Improved bike and pedestrian safety
- Climate resiliency
- Increased wildlife habitat



# Green Infrastructure Example: Hacienda Ave, Campbell



- Road Diet
- Pavement Repair
- Bike Lane Needed



*Drawing courtesy of Callendar Associates*

# Hacienda Avenue, Campbell



# Regulatory Context

- Part of Stormwater Municipal Regional Permit
- Framework Approved by Council – June 2017
- GSI Plan due to Regional Board – September 30, 2019
- Core Driver – PCBs and Hg reductions per TMDL
  - Sunnyvale: Significant progress with GSI through new development and onsite requirements
- Water Board Staff emphasize broader context and benefits... and next permit

# GSI Plan – Required Elements

- ① Mechanism to ID and Prioritize Public GSI Projects
- ② Prioritized Projects and Timeframes
  - Targets for 2020, 2030, and 2040 (private and public)
- ③ GSI Project Tracking
  - ◆ Private and public
- ④ Guidelines and Specifications
- ⑤ Integration with Other Plans
- ⑥ Evaluation of Funding Options



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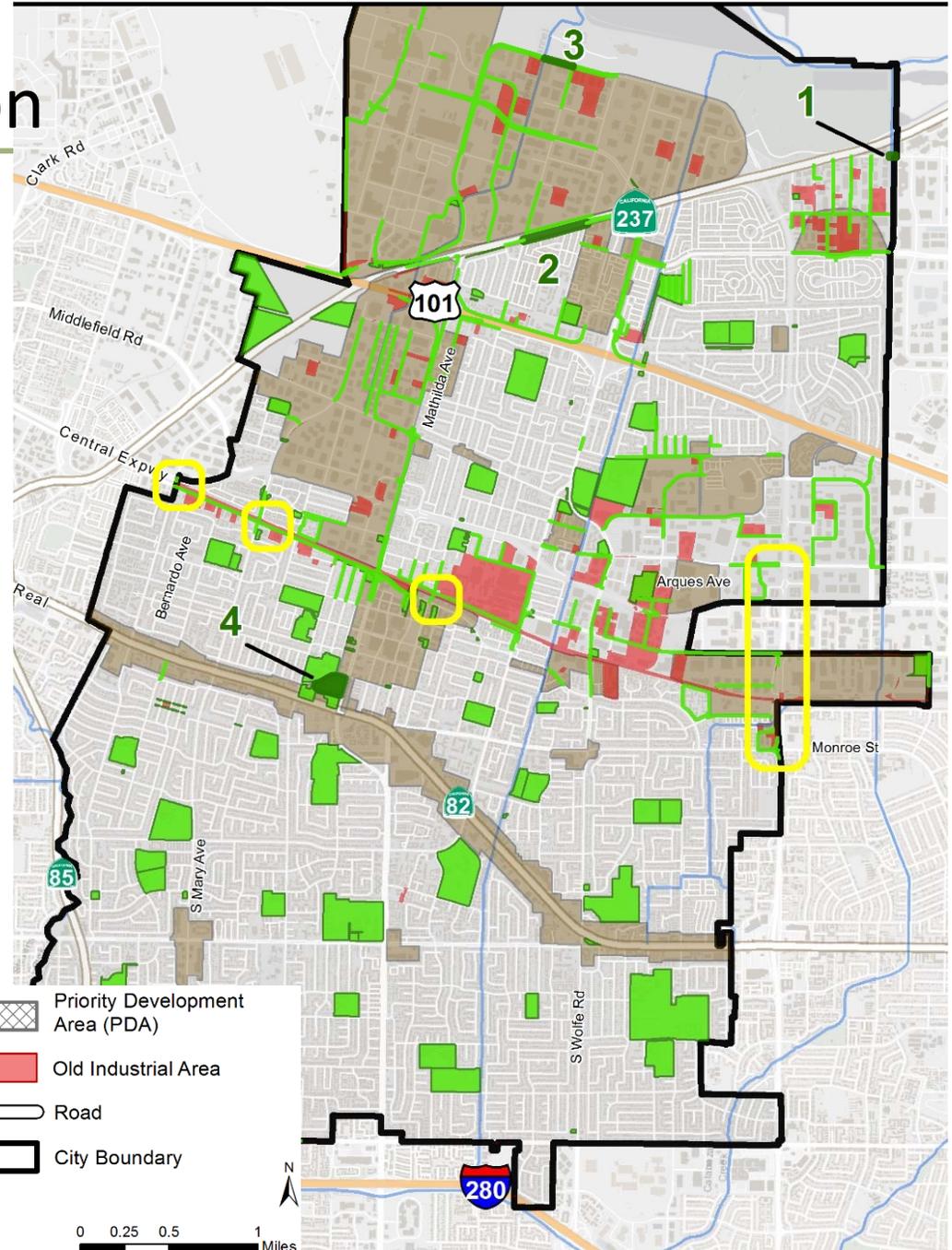
# Sunnyvale Plan and Implementation

# ① Project Prioritization

## Approach

- Start with results of Santa Clara Basin Stormwater Resource Plan
  - ◆ Identified, screened, and ranked based on evaluation of feasibility and benefits
- Overlay City of Sunnyvale local priorities
  - ◆ Proximity to PDAs, Precise and Specific Plan Areas
  - ◆ Coordination with planned capital projects
  - ◆ Proximity to old industrial and old urban areas

## City of Sunnyvale GSI Overview



Existing, Planned, & Potential GSI Projects

- 1 - Calabazas Creek Bridge (Completed)
- 2 - Persian Drive Green Street (Under Construction)
- 3 - Caribbean Drive Green Street (In design)
- 4 - Civic Center Phase I (In design)

Public Parcel with Potential for GSI

Street Segment with Potential for GSI

Specific Plan/  
Precise Plan Area

Potential Grade  
Separation Project

Priority Development  
Area (PDA)

Old Industrial Area

Road

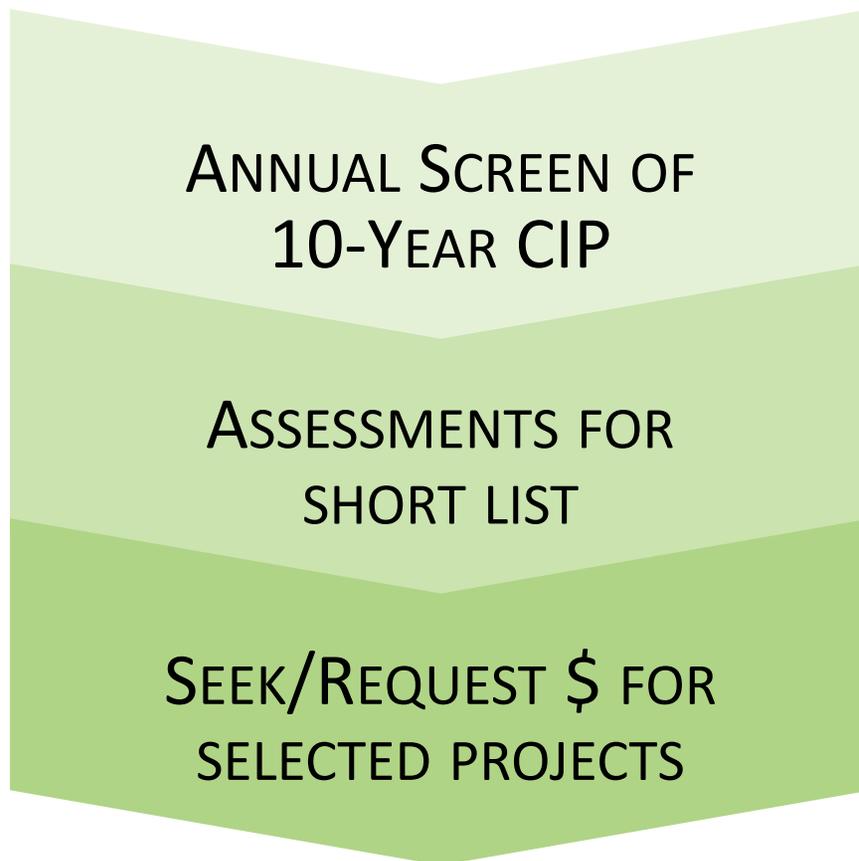
City Boundary

0 0.25 0.5 1 Miles

# GSI Project ID

- Primary Approaches (Beyond “Onsite Requirements”)
  1. CIP Screening
    - 2 Projects in progress: Caribbean and Persian
  2. Transportation Project Integration
  3. New Development – Require treatment of adjacent roadways and surfaces
    - Moffett Park Specific Plan Update - opportunity

# CIP Screening and Funding

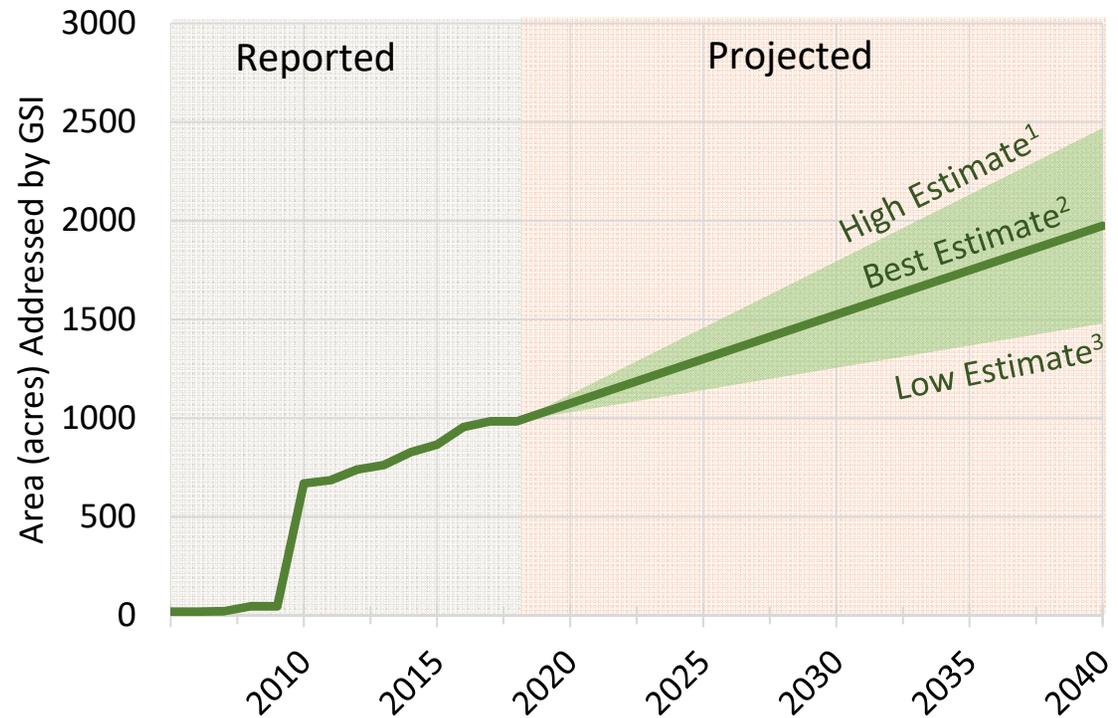


*Requesting Budget  
Modification No. 7 for  
\$100,000 to fund  
Assessments, to be  
conducted over 1-2 year  
period.*

## ② GSI Targets through 2040

### Existing and Projected GSI

- Based primarily on private development patterns.
- May be sufficient to meet current permit objectives.
- Regional analysis pending
- New permit 2021



Year	Low <sup>1</sup>	Best <sup>2</sup>	High <sup>3</sup>
Existing GSI <sup>4</sup>	-	984	-
2020	1,029	1,074	1,119
2030	1,254	1,524	1,794
2040	1,479	1,974	2,469

## ⑤ Alignment with City Plans

### Recently Updated

- ✓ General Plan/LUTE
- ✓ Climate Action Playbook
- ✓ Vision Zero Plan
- ✓ Peery Park Specific Plan

### Upcoming

- Active Transportation Plan
- El Camino Real Precise Plan
- Moffett Park Specific Plan (and others)

#### VISION ZERO PLAN

##### GREEN INFRASTRUCTURE INITIATIVE

Sunnyvale is currently developing a citywide Green Infrastructure Plan. Green infrastructure includes trees, rain gardens, and infiltration planters that slow the course of runoff and filter it naturally before it reaches major waterways and sensitive plant and animal life. Vision Zero projects may provide an opportunity for green infrastructure improvements. For example, curb extensions or bulb outs may be constructed with planters for trees and other vegetation.

## ⑥ Cost and Funding Options

- Planning Level Cost Ranges

Project Type	Cost/Impervious Acre (low)	Cost/Impervious Acre (high)
Regional Projects (parcels >0.25 ac)	\$34,600	\$236,000
Parcel-based LID Projects (parcels <0.25 ac)	\$482,000	\$607,000
Green Streets	\$276,000	\$539,000

- Funding Options

- ◆ Property-related fees
- ◆ Grants
- ◆ Community Benefits Programs
- ◆ Integration with Transportation Projects
- ◆ Alternative Compliance
- ◆ Long-term Debt Financing

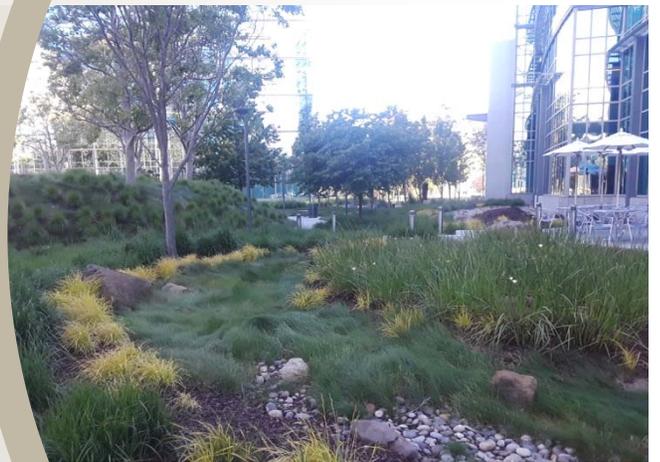
# Recommendation

- ➔ Alternative 1: Approve the GSI Plan, Approve Budget Modification No. 7 for \$100,000, and Find the Action Exempt from CEQA Pursuant to Section 15308.
- Alternative 2: #1 with Modifications
- Other direction to staff



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THANK YOU!





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# Pocket Slides

# GSI Considerations

- Multiple Potential Benefits
  - ◆ Pollutant reduction
  - ◆ Reduced local flooding
  - ◆ Urban greening
  - ◆ Traffic calming
  - ◆ Improved bike and pedestrian safety
  - ◆ Climate resiliency
  - ◆ Increased wildlife habitat
- Site Considerations
- Capital Cost
- Maintenance Cost



# Integration with Other Plans

*Red = needs attention.  
Need staff contact and updated info*

Name of Plan	Last Updated	Next Projected Update	Includes Language to Support GI?	If No, Date to Complete GI Update
General Plan Land Use and Transportation Element (LUTE)	Apr 2017	N/A	No	N/A
General Plan Environmental Management Element	Jul 2011	N/A	Yes	TBD
Peery Park Specific Plan	Sep 2016	N/A	Yes	N/A
Lawrence Station Area Plan	Dec 2016	N/A	Yes	N/A
Lakeside Specific Plan	Dec 2016	N/A	No	N/A
El Camino Real Precise Plan	Jan 2007	2018	Will include as appropriate	N/A
Moffett Park Area Plan	Dec 2013	N/A	No	TBD
Downtown Specific Plan	Mar 2013	N/A	No	TBD
Transportation Plan and Completes Streets Plan (Ch 3 of the GP)	2011	TBD	No	TBD
Bicycle Plan	2007	2018/19*	Will include as appropriate	N/A
Pedestrian Plan	2012	2018/19*	Will include as appropriate	N/A
Vision Zero Plan	N/A	2018/19	Will include as appropriate	N/A
Urban Forestry Plan	Sep 2014		Yes	TBD
Storm Drain Master Plan	Dec 2015		No	TBD
Parks of the Future Plan	Nov 2008		No	TBD
Climate Action Plan 	May 2014	2018	Will include as appropriate	N/A
Safe Routes to School Plan	N/A	2018/2019**	Will include as appropriate	N/A