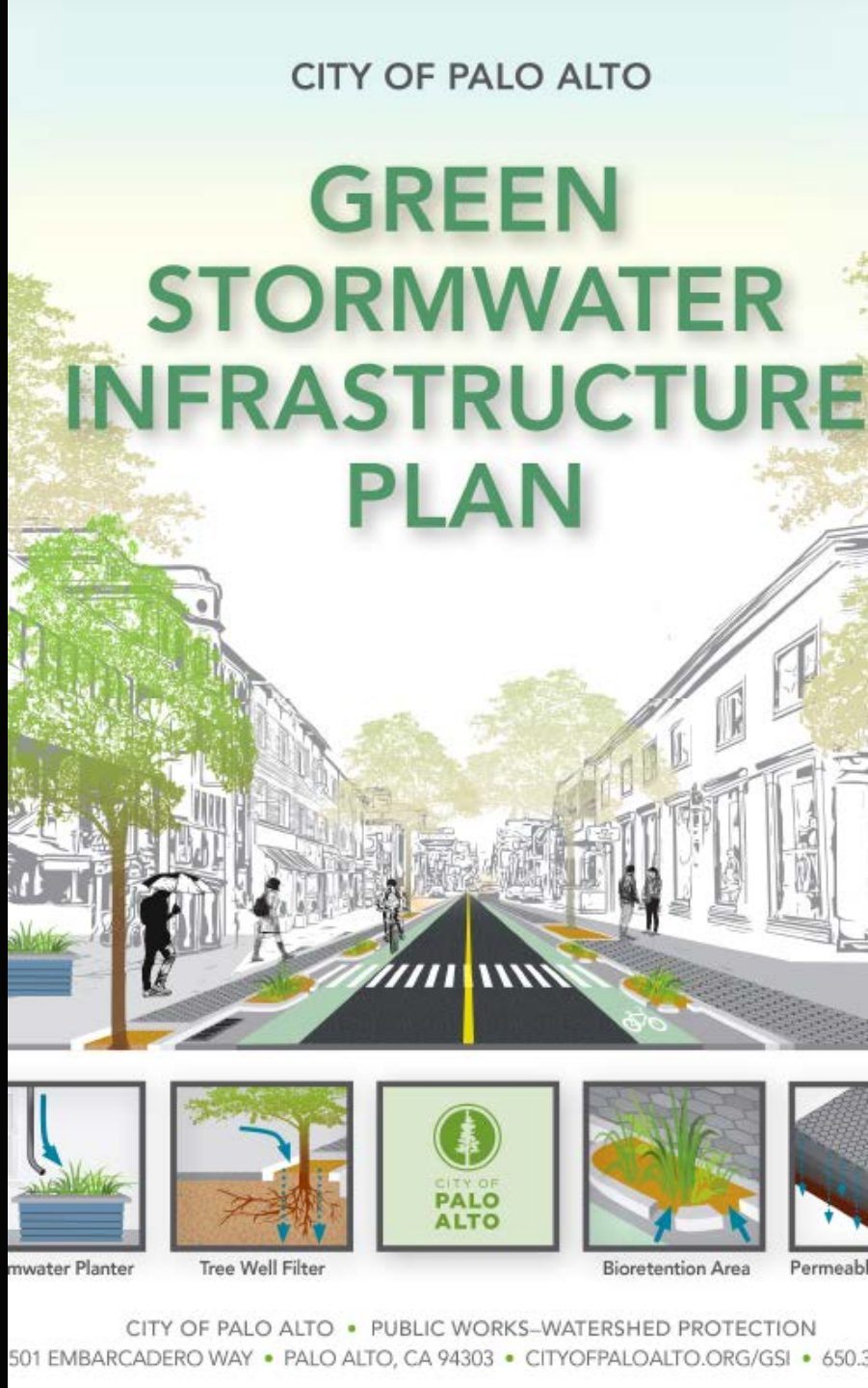
Implementation Update

Pam Boyle Rodriguez
Stormwater Compliance Mgr.
PW Watershed Protection



GSI Plan Vision

GRAY – traditional approach

Transform Storm Drain System

GREEN – veg, soils, natural processes


GSI Benefits
Flow Reduction
Pollutant Load Reduction
Climate Resiliency
Community Value
Improved Air and Water Quality
Traffic Calming
Safer Pedestrian & Bicycle Facilities

GSI at Parks

Parking Lots

- Bioretention in landscaped areas, medians, and roundabouts
- Permeable pavement in parking stalls, overflow parking, and walkways
- Trees in landscaped areas
- Amended soils to improve infiltration, pollutant removal, and plant health

Visitor Centers

- Bioretention demonstration gardens
- Pollinator gardens that treat stormwater
- Green roofs
- Rainwater barrels and cisterns
- Planter boxes in space-limited areas

Playing Fields

- Temporary detention storage
- Permeable pavement in parking stalls, overflow parking, and walkways

Paved Trails, Walkways, and Roads

- Permeable pavement walkways, parking, and fire lanes
- Trees planted along roadsides and pathways

Wetlands and Drainage Systems

- Natural areas along stream channels
- Constructed wetlands created in existing drainage areas
- Wildlife habitat areas that serve as stormwater runoff areas

Suspended Pavement Systems

Soak It Up, Philly!

What is a stormwater tree trench?

These trees are connected by a trench beneath the sidewalk that stores stormwater and also waters the trees.

Inlet catches the rain

Water flows down the street and enters the trench through the stormwater inlet, where a perforated pipe distributes water throughout the trench.

Roots soak it up

The tree's root system uses the rainwater to help it grow.

Stone & soil spread it out

A storage trench beneath the ground holds the water. Water is absorbed into the earth or flows slowly into the sewer.

PHILADELPHIA WATER DEPARTMENT

Green City, Clean Waters

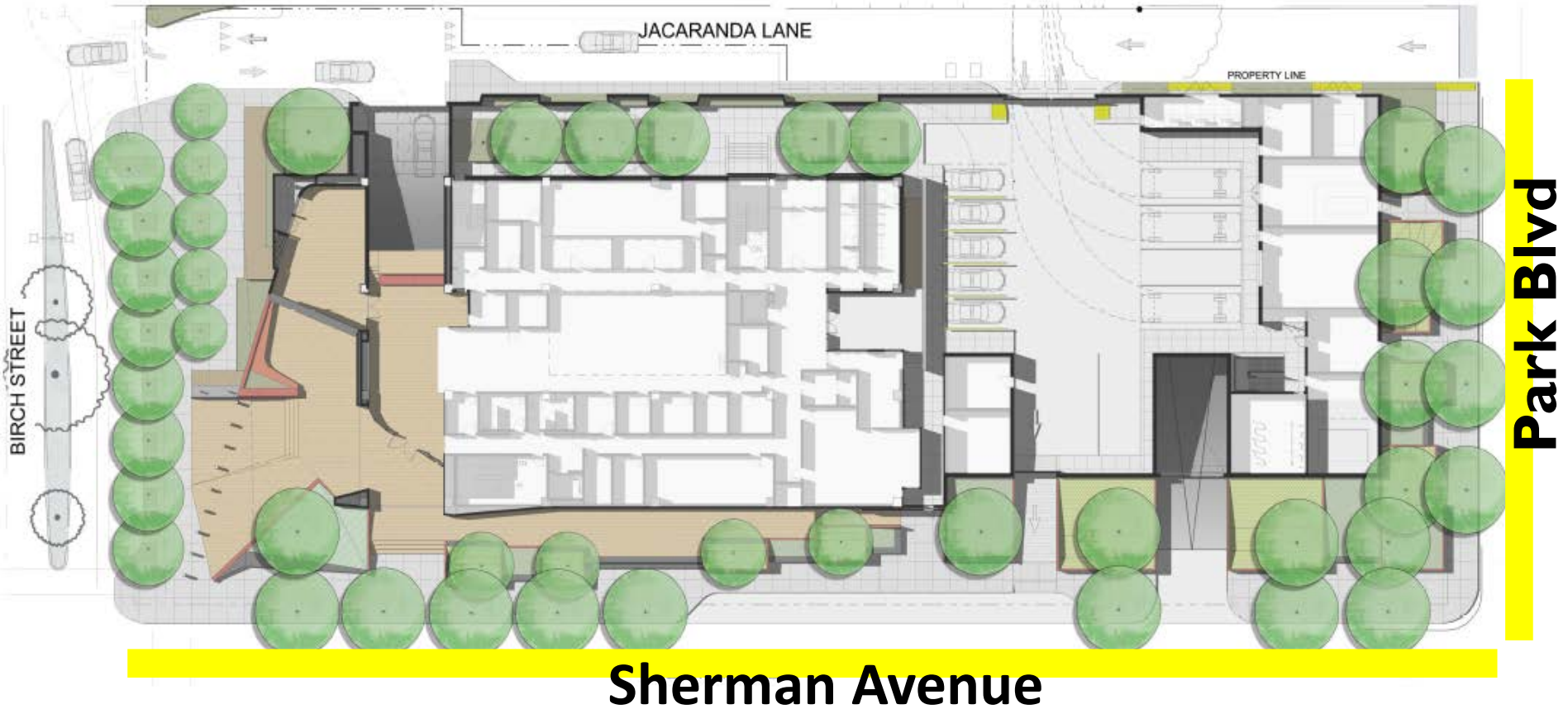
Setting the national standard for environmentally-friendly stormwater management in our communities.

@phillyH2O #cleanwatersPHL

Scan here to watch a video about stormwater tree trenches!

www.phila.gov/tree-trench

Public Safety Building Pilot

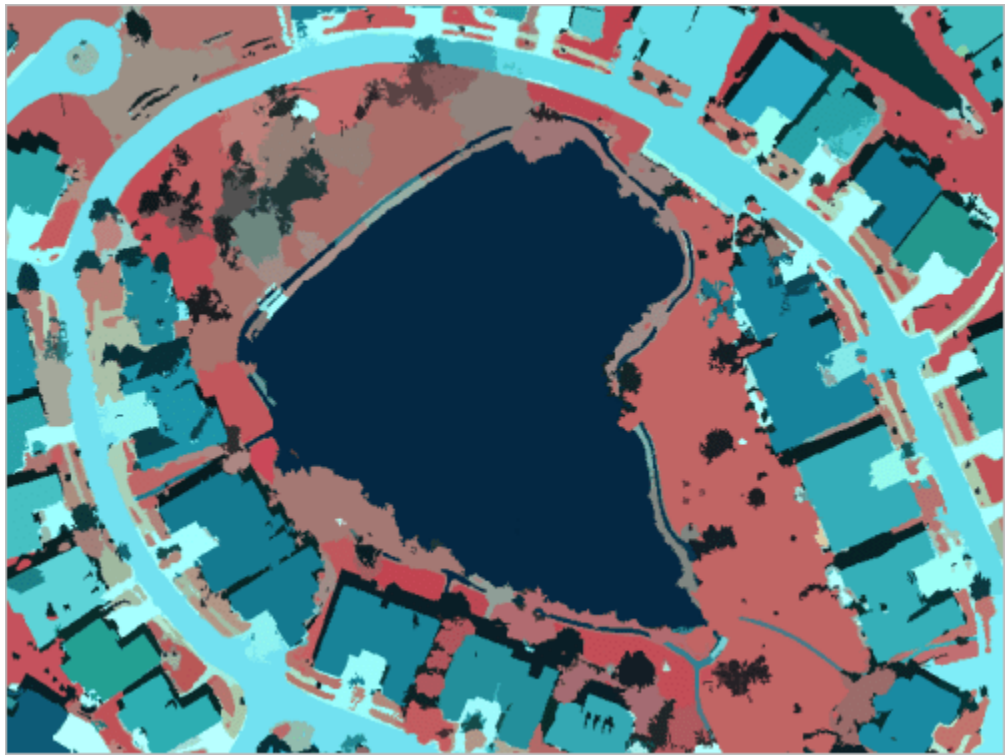


Onsite Impervious Area Treated: 49,812 sq. ft.

Offsite Impervious Area Treated: 21,483 sq. ft.

GSI Plan Implementation Update

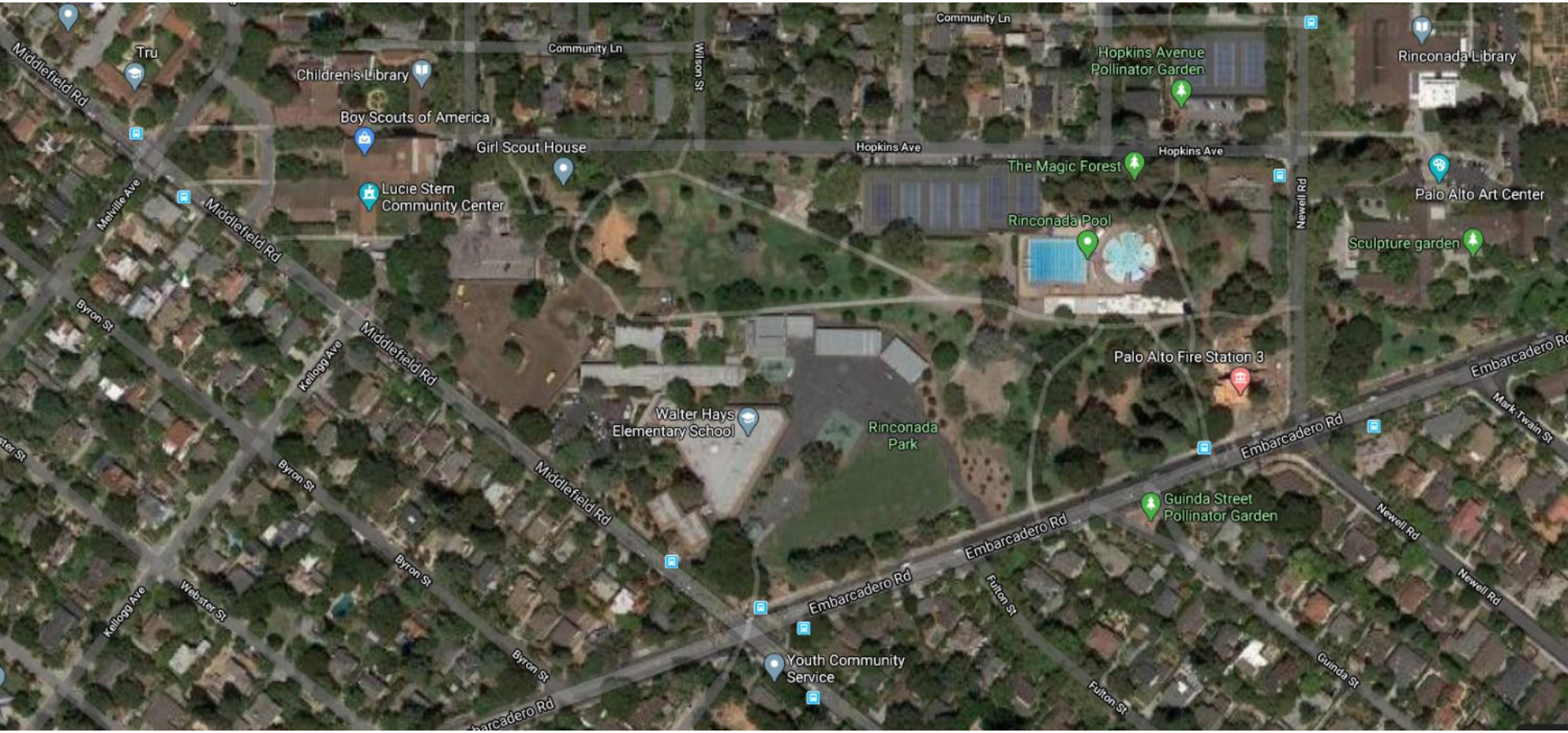
- Implementation support contract
- Impervious surface analysis
- Outreach efforts
- Rinconada project
- Rebate Program
- Southgate pilot



GSI Funding

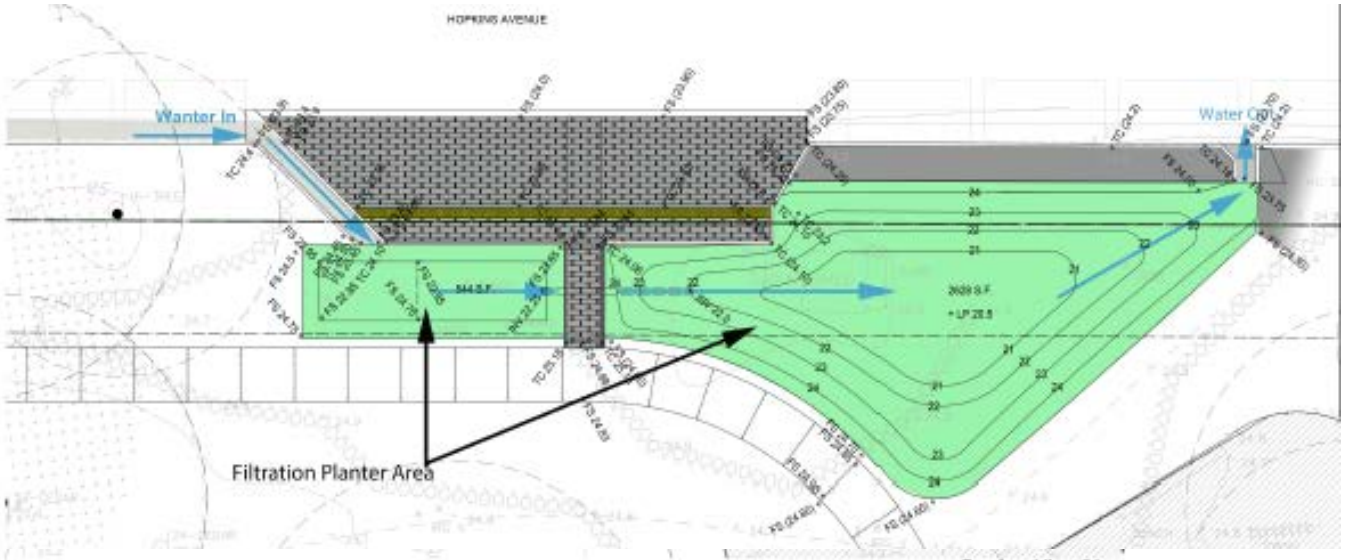
Item	Details	FY19-20	FY20-21 est.
Plan Implementation	• Engineering Specifications • Maintenance Monitoring Manual • Performance metrics & baseline	$130k Year 1	$130k Year 2
Funding Strategy Analysis	• Determine feasible funding opportunities	$58k	--
Outreach Plan and Education	• Create an outreach strategy and plan • Promote Rebate Program • Develop outreach materials	$70k Year 1-2	$20k
Bioretention Area Maintenance	• Support City Parks Department • Begin to develop a trained workforce	--	$80k Year 1
Rebate Program	• Partner with Valley Water to issue rebates (except pervious pavement)	$3k	$25k

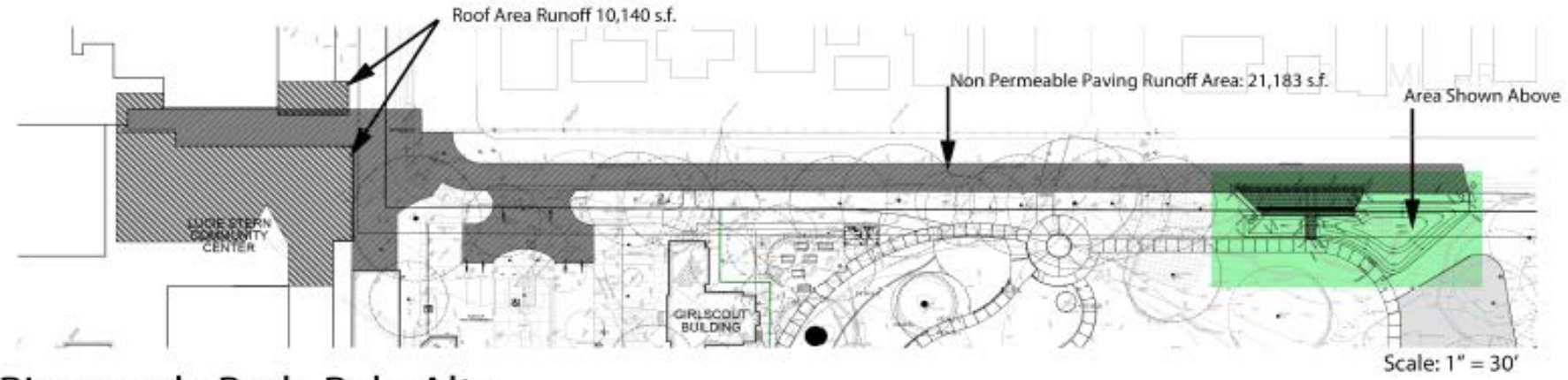
Hopkins Ave GSI @ Rinconada Park



Hopkins Ave GSI

Budget = $250K; Captures 31,323 sq. ft.



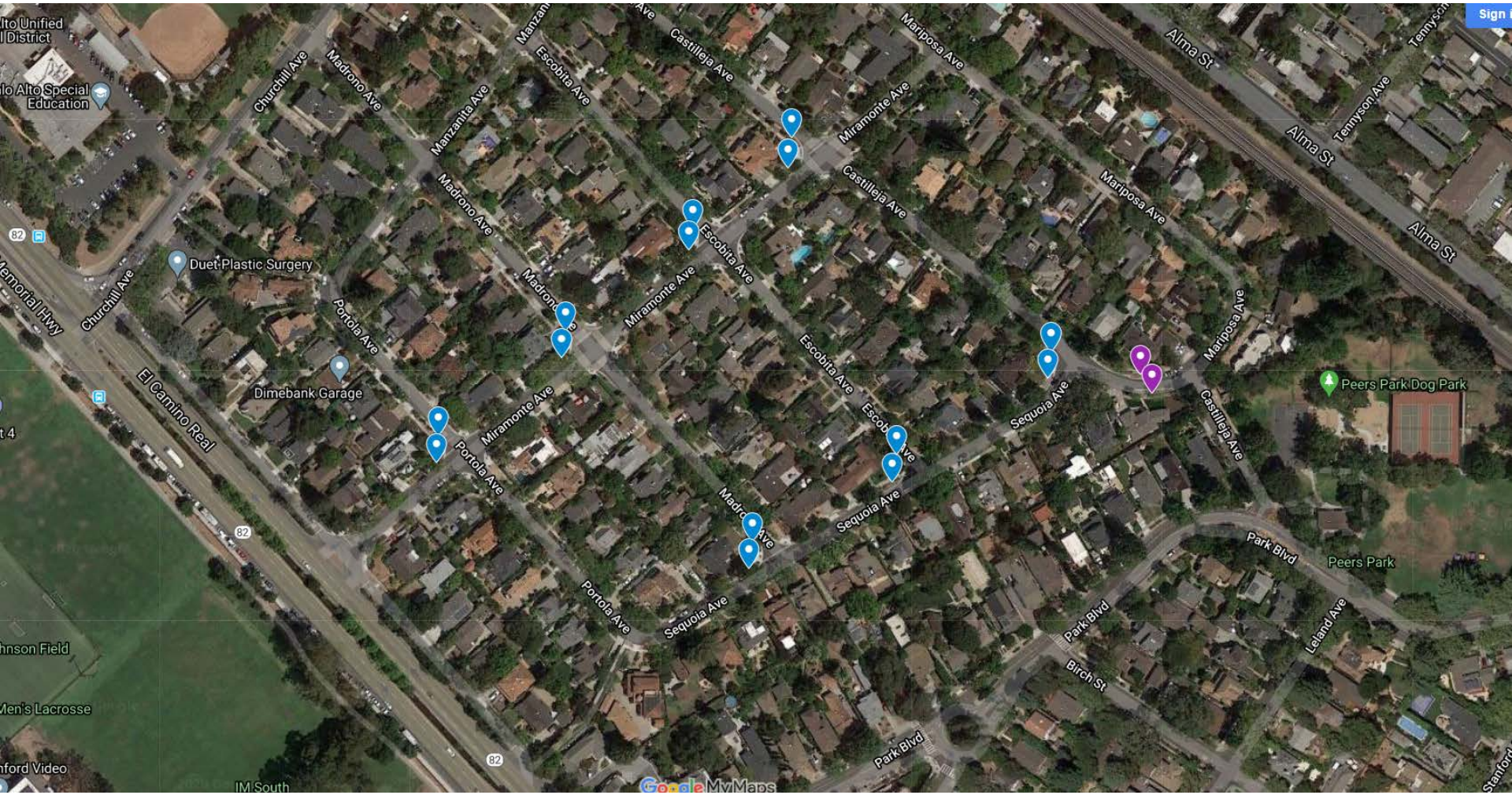


Rinconada Park, Palo Alto

Stormwater Rebate Program

- Valley Water (as of 7/1)
- Phone interviews
- Online survey
- Website reboot
- Signage

Southgate Neighborhood GSI Project (2014)



https://www.google.com/maps/d/viewer?mid=17WuP8XAk71KndgvLDxeRmQDz_ydhrPZg&ll=37.43236779883761%2C-122.15058955304107&z=18

Installed 2014

- Settling of material
- Lack of plants and ecological value
- Broken irrigation system

City/Grassroots Ecology Partnership Pilot Objectives

- Increase community awareness and engagement
- Improve function of bioretention measures
- Reduce demand on City maintenance crews
- Support standardization
- Increase pollinator species
- Beautify the neighborhood

Pilot Location: Sept. 2019

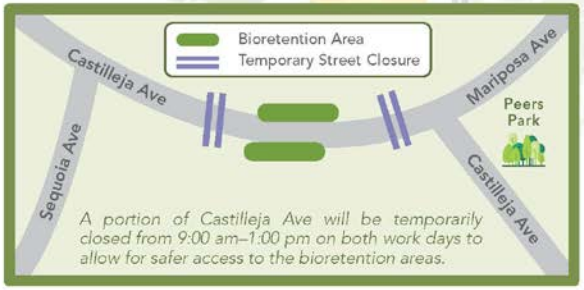
Phase I (GrE & City)

- Site rejuvenation (end of October)
- Monitoring
- Adaptive management
- Limited public engagement
- Signage

SOUTHGATE BEAUTIFICATION & RE-GREENING PROJECT

Coming Soon!

The City of Palo Alto is partnering with Grassroots Ecology to spruce up bioretention areas with new, native plants and mulch near Castilleja Ave and Mariposa Ave on Wednesday, October 28th and Thursday 29th. Staff will be onsite from 9:00 am–1:00 pm both days to work on these bioretention areas (planted areas that capture rain to decrease street ponding). A portion of Castilleja Ave will be temporarily closed (as shown in the map) to allow for safer access to the bioretention areas. Due to COVID-19, the City is not able to accept any volunteers for these two re-planting days.



In the future, we hope to expand this project to other bioretention areas in the neighborhood with the help of community members after this pilot is evaluated.

What is Green Stormwater Infrastructure?

Green Stormwater Infrastructure (GSI), such as a bioretention area, is a design approach used to reduce street ponding in wet weather, capture and filter stormwater before it enters creeks and the Bay, and beautify neighborhoods. GSI can replenish groundwater by capturing runoff. Soil and plant roots filter pollutants such as oil and grease, heavy metals, and microplastics that would otherwise enter local creeks and the Bay.

Source: https://www.wetlands.com/dc-water-lid

Escobita Ave and Sequoia Ave >

The GSI measures in this Southgate neighborhood were installed in 2014 and reduced deep street ponding during storms. Before then, Southgate did not have a storm drain system, and flooding occurred frequently.

Taken October 2011

Taken December 2015

GRASSROOTS ECOLOGY

CITY OF PALO ALTO

For more information, contact Isabel Zacharczuk at 650-329-2585 or isabel.Zacharczuk@cityofpaloalto.org or visit cityofpaloalto.org/southgate

Phase II (TBD)

- Next sites (~ late spring)
- Integrate San Jose Conservation Corps (GrE grant from Valley Water)
- Train and educate
- Increase community engagement
- Pilot stewardship program

Coming Up

- Coastal Cleanup Day (Month)
- Green Streets Symposium (3 webinars): 9/10, 9/25 and 10/8
- Stormwater Permit Draft
- S/CAP webinars
- Social media ads
- GSI website reboot (~ Jan. 2021)