



SOUTHGATE NEIGHBORHOOD

GREEN STREET PROJECT
PALO ALTO, CALIFORNIA

Project Description

The Southgate Neighborhood Storm Drain Improvement and Green Street Project was a partnership project between the Southgate Neighborhood residents and the City of Palo Alto to help alleviate localized drainage issues while providing opportunities for improved water quality. In addition, the project integrated elements of the City of Palo Alto Bicycle and Pedestrian Transportation Plan to allow for traffic calming and safer pedestrian and bicycle access for the neighborhood.

Key Elements

- Project site is residential neighborhood with narrow streets and on-street parking.
- Two types of biotreatment areas used -- with underdrain and with infiltration columns -- for a total surface area of approx. 3,200 sq. ft.
- Permeable pavers were used in crosswalks and along a walkway, covering approx. 3,200 sq. ft.
- Biotreatment area planter designs minimized the impact to mature trees
- Biotreatment bulb-outs were also utilized for traffic calming and to minimize parking loss
- Project included new storm drain inlets, pipelines, and pavement resurfacing in some areas



Completion Date
February 2015

Project Duration
Community Meetings:
2012 – 2013

Construction:
May – Oct. 2014

Construction of crosswalks:
February 2015

Funding and Costs
Project funded by City of Palo Alto Stormwater Management Fees

Total Cost
\$1,894,025

Construction Cost
- \$1,589,025

Design Cost (Design Consultant Services Fee)
- \$305,000

Photo: Curb cuts allow stormwater to enter depressed biotreatment areas, which are installed in curb bulb-outs at multiple street corners and intersections in the neighborhood.

Stormwater Control Measures



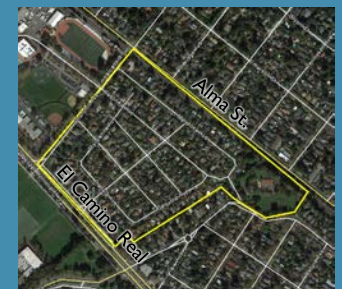
Biotreatment

16 biotreatment areas (approx. 3,200 sq. ft. of bulb-outs and planter strips) treat stormwater runoff



Pervious Pavement

Permeable concrete pavers covering approx. 3,200 sq. ft. are used along crosswalks and a pedestrian walkway



LOCATION

Neighborhood between El Camino Real and Alma St. (east of Palo Alto High School)

Palo Alto, CA

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Project Outcomes and Lessons Learned

- Utility conflicts, existing trees, and flat slope affected shape of some biotreatment areas.
- Shallower aggregate layer was used in biotreatment areas with underdrains due to conflicts with the storm drain system (existing drain depth).
- Early community outreach helped shape the streetscape design to address rideability and concerns regarding potential reductions in on-street parking.
- Early coordination with City Arborist on street trees and coordination with other city projects within the neighborhood were keys to success.
- Potholing was used to identify potential utility conflicts; however, more utility relocations occurred than anticipated.
- Sand layers below the concrete interlocking pavers enhance pollutant removal and protect groundwater quality.
- Installation of concrete bands prevents paver migration in crosswalks.
- Use of infiltration columns allows stormwater to infiltrate into a more porous soil layer.



Additional Information

City Website

www.cityofpaloalto.org/news/displaynews.asp?NewsID=1872&TargetID=109

Project updates, community meeting agendas / presentations.

Other Project Information

SCVURPPP C.3 Workshop Presentation on Southgate Neighborhood:

http://www.scvurppp-w2k.com/pdfs/1314/workshop060414/12_Carlet_Southgate%20Neighborhood_%20une%204%202014.pdf

PROJECT CONTACTS

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