



Green Infrastructure & Stormwater Management CASE STUDY

Doyle Hollis Park

Location: 1327 62nd Street, Emeryville, CA

Client: City of Emeryville

Design Firm(s): Gates & Associates

Landscape architect/Project contact:

Project Contact: Annie Youngerman,
DC&E (Bay Friendly Landscaping Rater)

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ASLA Chapter: Northern California



Project Specifications

Project Description: Doyle Hollis Park is a Bay Friendly Rated landscape completed in September 2009, distinguished by rain gardens, a drought tolerant lawn alternative amphitheater, and water-efficient bathroom facilities with a green roof. The project transforms a former industrial property that was nearly 100% impervious. Stormwater pollution is being minimized through rain gardens that filter and allow for infiltration of stormwater, Silva cells and structural soil which create rootable soil volumes to support large stature trees that help manage stormwater on-site, and integrated pest management to minimize chemical use and thus pollutants into the stormwater.

Project Type:

Open space - park

A retrofit of an existing property

Design features: Rain garden, green roof, porous pavers, and curb cuts. Much of the rainwater that falls on urban areas never has an opportunity to percolate into the soil, but instead flows straight off of buildings, sidewalks and streets into storm drains, carrying road oil and other pollutants into the storm sewer system and eventually into local waterways. To address stormwater runoff, three areas of Doyle Hollis Park have shallow vegetated depressions called rain gardens. These have been designed to capture and naturally filter more than 85% of stormwater runoff that might otherwise have flowed from the park into storm drains. The green roof on the bathroom facility reduces the number of pollutants reaching the local

drainage system, and Silva Cells and structural soil support large stature trees that help manage stormwater on-site. In addition to harvesting runoff from the park, two curb cuts direct stormwater runoff from the street on the park's north side into a rain garden. Designing landscapes to take drainage off streets is part of a "green streets" movement gaining traction in the stormwater management field.

This project was designed to meet the following specific requirements or mandates:

Local ordinance, to meet funding criteria - this project was built to meet Bay-Friendly requirements for Civic and Commercial Landscapes and also complied with the Regional Municipal Stormwater Permit and City of Emeryville design standards.



Impervious area managed: 5,000 sq/ft to 1 acre

Amount of existing green space/open space conserved or preserved for managing stormwater on site: 1 acre to 5 acres

The regulatory environment and regulator was supportive of the project.

Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements? The project is a Bay-Friendly rated landscape and was required to approach the design, construction, and maintenance to contribute to the health of the San Francisco Bay Watershed. The park includes Bay-Friendly educational signage, a maintenance manual to adhere maintenance to Bay-Friendly landscaping requirements, as well as measures to reduce energy and water use. The design, construction, and maintenance plan of Doyle Hollis Park as a Bay-Friendly Landscape was guided by the seven principles of Bay-Friendly Landscaping which are conserve water, landscape locally, nurture the soil, wildlife habitat, water and air quality, less to the landfill, and conserve energy.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: \$1,000,000-\$5,000,000 (Public funding: Federal, state, local - USA EPA Brownfield Assessment Grant, StopWaste.org Grant, City of Emeryville, Community Development Block Grants, California)

Was a green vs. grey cost analysis performed? No

Cost impact of conserving green/open space to the overall costs of the site

design/development project: The entire site was rehabilitated from a brownfield, thus no green space was preserved or conserved. The site rehabilitation costs are unknown.

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Slightly increased.

Number of jobs created: Not available

Job hours devoted to project:

Planning and Design: Planning (including community outreach), Design and Construction Administration represented approximately 3,000 design hours

Construction: Not Available

Annual Maintenance: Not Available

Other: Bay-Friendly Rating and Technical Assistance 75 hours

Performance Measures

Stormwater reduction performance analysis:

It is estimated that over 85% of all stormwater is treated on-site. Additionally, some stormwater from the adjacent street is also treated within the project.

Community & economic benefits that have resulted from the project: The park has greatly enhanced the existing property, has added considerable recreational space for the community, as well as significant stormwater management for the property. Group picnic areas in the park are rented on a fee basis and community events are held at the park.

Project Recognition

Bay-Friendly Landscaping Rated Recognition

Additional Information

Links to images: <https://dceplanning.sharefile.com/d/s7bf373be73f4a13a>

In addition to protecting water quality by treating stormwater, the park takes many measures to reduce water and energy consumption including low-water use planting, recycled mulch that helps retain soil moisture, compost that feeds the soil naturally eliminating the need for synthetic fertilizers, a high-efficiency weather-based irrigation controller, a dedicated landscape water meter to report water use on a regular schedule, recycled-content site furniture and rubber

playground surfacing, 50% of cement in all exterior concrete displaced by flyash and slag, and nearly 100% of construction and demolition debris recycled.

