



**City of Santa Barbara  
PARKS AND RECREATION COMMISSION REPORT**

**DATE:** May 25, 2011  
**TO:** Parks and Recreation Commission  
**FROM:** Creeks Division, Parks and Recreation Department  
**SUBJECT:** MacKenzie Park Parking Lot Storm Water Infiltration Project

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**RECOMMENDATION:** That the Commission receive a report on the MacKenzie Park Parking Lot Storm Water Infiltration Project.

**DISCUSSION:**

Background

Stormwater and urban runoff from impervious surfaces are major sources of surface water quality degradation. Runoff from parking lots often contains pollutants including hydrocarbons, fine sediments, polycyclic aromatic hydrocarbons (PAHs), metals, nutrients, and additional pollutants that are toxic to aquatic organisms and potentially harmful to human health when untreated.

To address the problem of pollutants being carried directly to the creeks, estuaries, and ocean through storm water runoff, we can reduce the amount of impermeable surfaces and allow stormwater runoff to infiltrate into the soil by mimicking pre-development conditions. This can be done by retrofitting existing infrastructure using Low Impact Development (LID) designs that treat stormwater runoff close to the source. By implementing LID projects throughout the City, the problem of non-point source pollution can be addressed.

MacKenzie Park Parking Lot was chosen for several reasons, including the deep groundwater table, its simple shape and stormwater runoff conveyance, and its location situated a safe distance from existing underground contamination plumes. Due to some constraints of the site, the volume of runoff to be treated, and the need to construct a project with little operational energy or maintenance requirements with maximum watershed benefit, an infiltration system utilizing permeable pavers was determined to be the most suitable treatment method for the parking lot.

### Project Description

The Creeks Division intends to design and install permeable pavers to treat stormwater and urban runoff through infiltration at the MacKenzie Park Parking Lot.

The primary purpose of the pavers will be to detain and filter polluted stormwater and incidental urban runoff through passive infiltration without compromising the existing use of the parking lot or surrounding structures.

A secondary purpose of this project will be to serve as a demonstration of how to retrofit existing parking lots to improve water quality while minimizing the cost of construction and post construction maintenance. This design will demonstrate a retrofit that complies with the City's Storm Water Management Program requirements of treating the volume generated from a one inch, 24 hour storm event.

### Design

The project includes the following design elements (see Attachment):

- Permeable pavers will be installed in the area of the parking stalls.
- Pavers will be outlined with a six inch wide concrete ribbon border at grade.
- Pavers will also be installed to replace a portion of the decomposed granite path from the parking lot leading to the adult building.
- Additional car and motorcycle spaces will be added to the northern end of the parking lot.
- Two low gently sloping speed bumps will be installed in the driving lanes in order to strategically direct the stormwater to the pavers for maximum treatment benefit.
- Two planters will be constructed in the middle of each of the two main parking rows and two trees will be added to these planters.
- A tree will be planted in the existing vacant planter in the northwest corner of the lot.
- All existing trees in the park will remain.
- The design will add six parking spaces to the lower parking lot for a new total of 75 spaces.

### Timeline

City Council will need to approve a construction contract once a contractor is chosen for the project. Construction is planned to begin on August 22, 2011 and is expected to last two weeks. The construction period was chosen to minimized interference with existing uses of the park. Construction begins after Nature Camp, Lego Camp, Early Drop Off, and the Horticultural Sale. Construction ends before the start of the Fall Ball Season. During construction, parking will be available at the Lawn Bowls parking lot for access to MacKenzie Park.

Budget

The cost of the project is estimated to be approximately \$120,000. Funds for this project are budgeted in the Creeks Division Fiscal Year 2012 operating budget, however the Creeks Division is seeking grant funding.

**ATTACHMENTS:** MacKenzie Parking Lot Project Design Plans

**PREPARED BY:** Timothy Burgess, Creeks Division Water Resources Specialist

**SUBMITTED BY:** Cameron Benson, Creeks Division Manager

**APPROVED BY:** Nancy L. Rapp, Parks and Recreation Director