

Downtown Lomita Multi-Benefit Stormwater Project

City of Lomita | Safe, Clean Water Infrastructure Program – Design Funding Request

Project Overview

Description:

The Project will divert 5.6 acre-feet of stormwater from three LACFCD storm drains in the downtown area of Lomita to an infiltration gallery and a series of drywells. Additional features include bioretention areas, pervious pavement, planting of vegetation with drought tolerant, native plants, 45 new shade trees, 10 benches, and a bike lane along Lomita Boulevard.

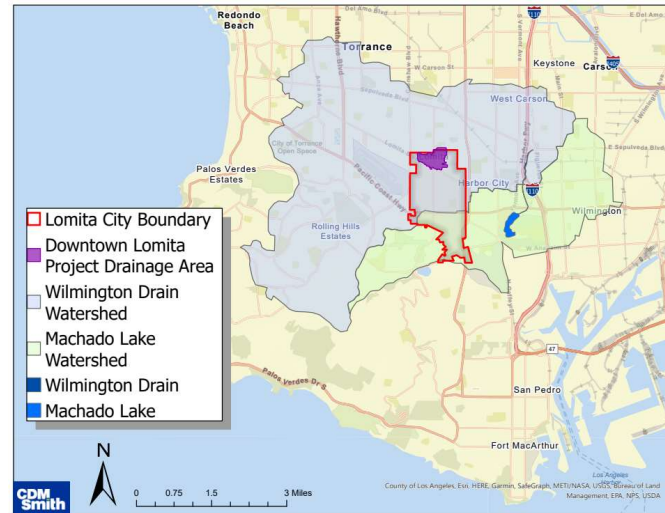
- **Total Project Cost: \$6,288,800**
- **Design Cost: \$898,800**
- **Funding Request: \$449,400**

Benefits:

- **Mitigates Flood Risk:** large scale subsurface infiltration, bioinfiltration, and porous pavement will reduce local and downstream flooding;
- **Greenscaping and Community Benefits:** Native, drought tolerant vegetation and shade trees will beautify the neighborhood; bike lane will promote a healthy mode of transportation and recreation;
- **Reduced Heat Island Effect:** New vegetation and shade trees will lower temperatures.

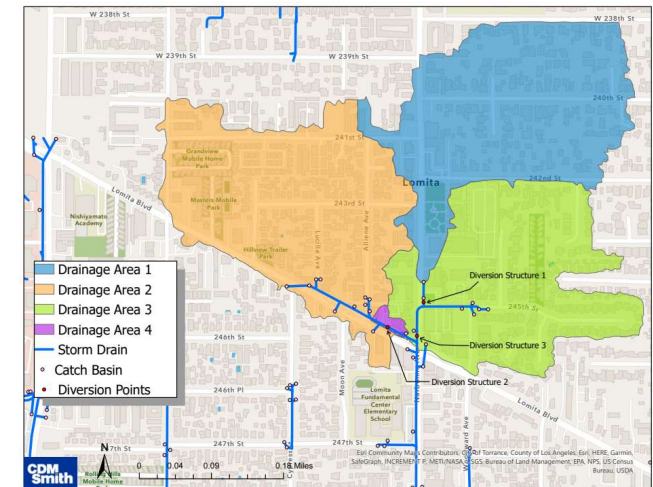
Project Location

Location: Southeast of the intersection of Interstate 110/Sepulveda Boulevard in Downtown Lomita, CA
Coordinates: 33°48'8.9"N, 118°19'11.8"W
Stormwater Captured: 5.6 acre-feet



Drainage Area

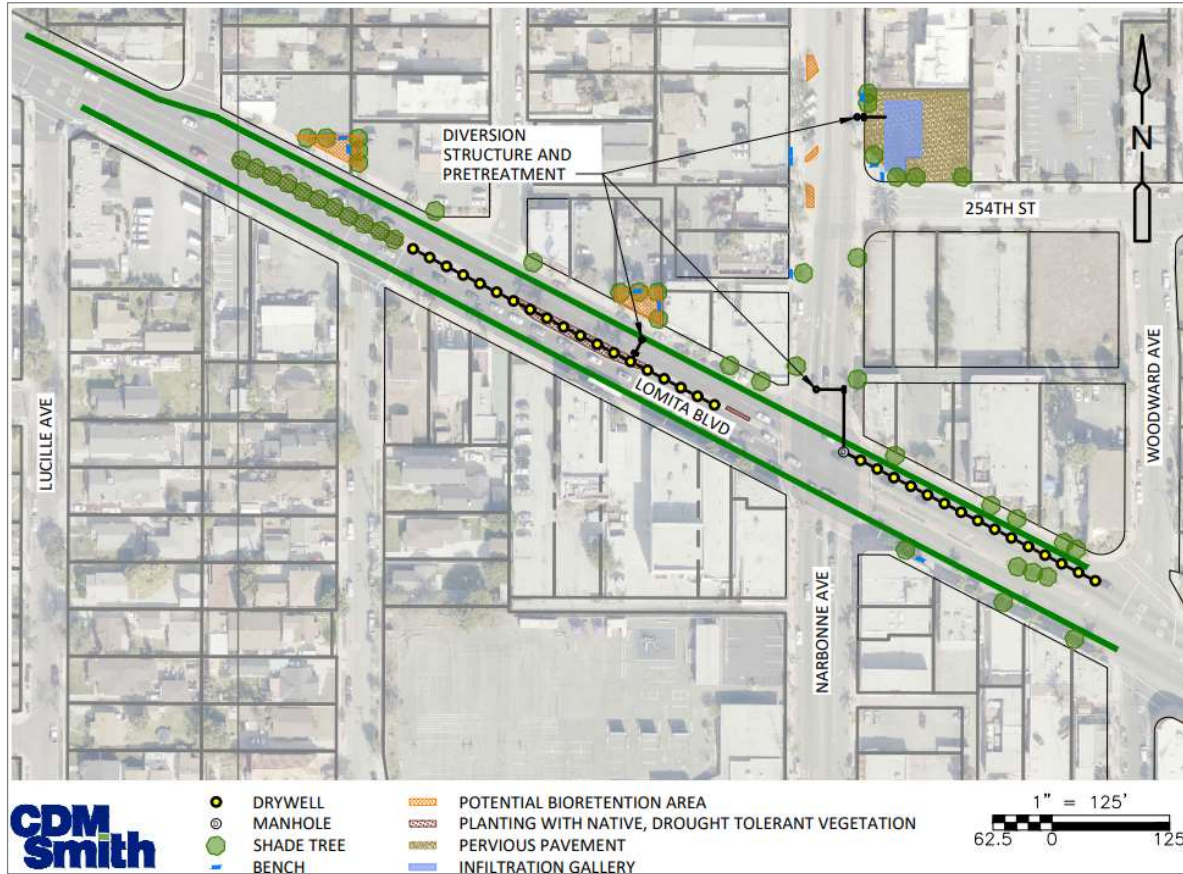
Total Drainage Area: 110 acres
Watershed: Wilmington Drain Watershed/Machado Lake Watershed
Depth to Groundwater: 80 ft
Infiltration Rate: 16.9 in/hr
Pollutants: Zinc (primary), Lead (secondary)



Public Outreach and Engagement

The City has received numerous letters of support from the community. During the design phase, the City will foster a two-way dialogue through stakeholder workshops designed to gain input from the community. The City will listen to the needs of the community with the goal of developing a Project that is collaborative and meets both the water quality goals and community enrichment goals of the City.

Design Features



Water Quality Features:

The Project will treat flow from the 85th percentile, 24-hour storm from three storm drains, totaling 5.6 ac-ft of stormwater. Each diversion includes a pretreatment debris separating baffle box (DSBB) that will remove debris and sediment before flow continues to a subsurface infiltration gallery on Narbonne Avenue and two series of drywells on Lomita Boulevard totaling 34 drywells.

Surface water quality features include bioinfiltration along Narbonne Avenue and Lomita Boulevard, pervious pavement in the parking lot at the location of the infiltration gallery, and 45 shade trees and native, drought tolerant plants which will reduce the heat island effect.

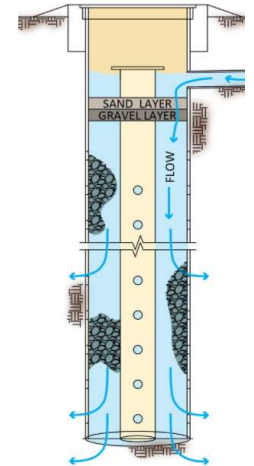
Nature-Based Solutions

A Focus on Nature-Based Solutions:

- Infiltration galleries, drywells, pervious pavement, and bioinfiltration provide an effective means of managing stormwater by working with the existing environment in a natural, non-invasive manner.
- Green infrastructure has a smaller carbon footprint than traditional end-of-pipe treatment methods.
- Treatment through vegetation and the addition of trees has the added benefit of reducing the heat island effect that occurs in highly developed areas such as downtown Lomita.



Typical Infiltration Gallery (Source: StormTrap)



Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)



Typical Bioretention and Tree Well (Source: Philadelphia Green Streets Design Manual)



Community Benefits

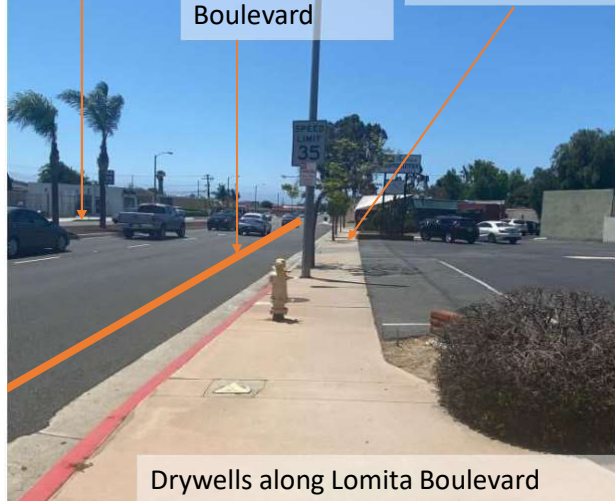
Community Benefits:

- **Recreation:** The bike lane will provide safe space for bicyclists and encourage exercise.
- **Health:** Shade trees will provide refuge from the heat and reduce the heat island effect. Benches placed near shade trees will encourage rest and socialization in the downtown area which will be beneficial to residents' physical and mental well-being.
- **Improved Water Quality:** Polluted stormwater will be diverted for treatment which will create healthier receiving waterbodies which will benefit the community.
- **Nature-Based Solutions:** Natural, non-invasive treatment methods have a smaller carbon footprint which contributes to a sustainable future.

Shade trees along median

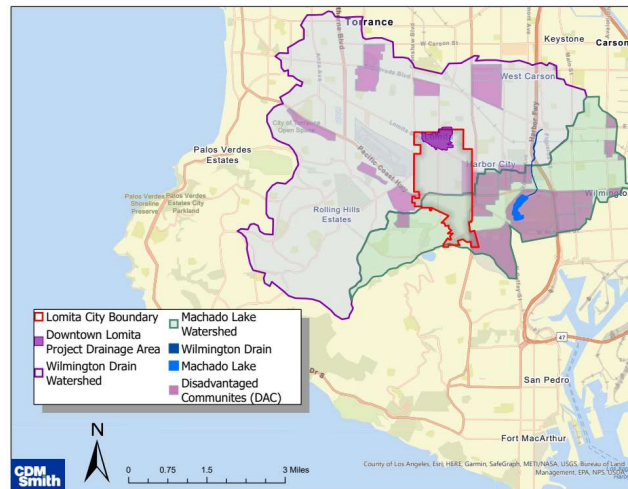
New bike lanes along west and east bound sides of Lomita Boulevard

Bioinfiltration and tree wells along Lomita Boulevard



Drywells along Lomita Boulevard

Disadvantaged Communities



Disadvantaged Communities:

Several areas downstream of the Project are designated as Disadvantaged Communities (DAC), including the area surrounding Machado Lake. These communities will benefit from the Project through improved water quality and mitigated flood risk. Since two of the beneficial uses of Machado Lake include water recreation (REC-1) and non-contact water recreation (REC-2), improving the water quality in the lake will have a direct benefit on the community's ability to utilize this urban lake as it is intended.

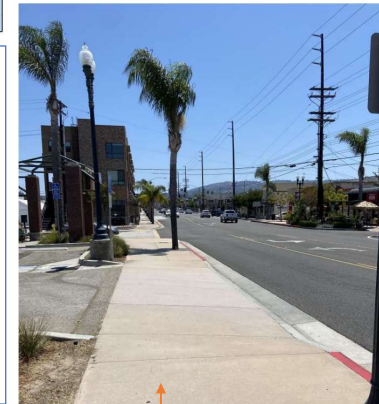


Pervious pavement and shade trees in parking lot over infiltration gallery

Water Supply Considerations

Water Supply:

- Reducing water demands is an important goal for the region and the Project includes elements that aid in this goal.
- Native, drought tolerant plants will be installed throughout the alignment, which will not require significant watering once they are established (2-3 years).
- During the design phase, the Project team will evaluate the benefits of installing an irrigation system that draws from captured stormwater to irrigate vegetated areas. Since care will be taken in the selection of plants that do not require significant long-term watering, a cost benefit analysis will be conducted to evaluate the benefits.



Shade trees and improvements to bus stops at Lomita Boulevard and Narbonne Avenue

Bioinfiltration and shade trees along Narbonne Avenue

