



**The Elmer Paseo Stormwater Improvements Project**  
(aka – Green Alleyway Landscape Retrofit for Water Conservation)  
**Los Angeles, California**

# **Final Report**



**Agreement: R09AP35262**  
**Council for Watershed Health**  
(dba - Los Angeles & San Gabriel Rivers Watershed Council)  
**May 5, 2015**

**Recipient Name:** Los Angeles & San Gabriel Rivers Watershed Council

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**Project Name:** Green Alleyway Landscape Retrofit for Water Conservation

**Agreement No.:** R09AP35262

**Date of Award:** 09/14/2009

**Estimated Completion Date:** 06/30/2015

**Actual Completion Date:** 05/05/2015

**Final Funding Information:**

Non-Federal Entities:

Council for Watershed Health	\$119,772.31
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Other Federal Entities - none

Requested Reclamation Funding	<u>\$100,000.00</u>
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<b>Total Project Funding:</b>	<b>\$219,772.31</b>
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**One Paragraph Project Summary:**

This final report describes the progress accomplished during the grant period. The Green Alleyway Landscape Retrofit for Water Conservation project was a strong success. Through expenditure of this Federal grant, matched by local and state funds, Council for Watershed Health successfully completed pre-planning, project management, project monitoring and evaluation, construction and community training of the Elmer Paseo Stormwater Improvements Project. The project revitalized a paved alleyway used for Stormwater conveyance by converting it to a green space with bioswales, pervious walkway, native plants, green walls, solar-powered drip irrigation, monitoring equipment and interpretive signs.

**Final Project Description:**

The Paseo Stormwater Improvements Project is now a natively-planted pocket-park in a park-poor low-income community in Los Angeles. This project captures dry weather and wet weather flow for infiltration to the San Fernando Groundwater Basin. High flows pass through the Paseo bioswales, but do receive treatment by green infrastructure that diminishes pollutant loading. The native plants draw local pollinators and provide respite for the neighborhood. Interpretive signage, once installed this May, will provide educational information and monitoring for the project. Tour groups from professional and government groups, as well as classes of students are regular visitors to learn the benefits of green infrastructure retrofits for water conservation.

**Accomplishment of Project Goals:**

<b><u>Deliverable</u></b>	<b><u>Due Date</u></b>	<b><u>% Complete</u></b>	<b><u>Funds Expended</u></b>
Project Pre-Planning	May 2012	100%	\$76,563.78
Project Management	June 2013	100%	\$12,239.67
Project Monitoring & Evaluation	June 2015	100%	\$130,968.86
Paseo Construction	January 2013	100%	\$0.00
Paseo Community Training	June 2015	100%	\$0.00

**Discussion of Amount of Water Conserved**

The Elmer Paseo is engineered to capture all dry-weather flow from 7 acres of residential land, and up-to six acre-feet of storm water during an average rainfall year. The project was completed during the prolonged drought, and has not been in-service during an average rainfall year.

The expected capture is drawn from modeling performed by our construction technical consultant. Monitoring equipment has been deployed to measure actual flow into the system, however because of the drought we do not yet have sufficient data to express actual flow-on and capture values. Like the Elmer Avenue Project, the Paseo will eventually have a run-on / run-off / infiltration curve that can express the amount of water over the long term that the project will capture.

The water captured by the Elmer Paseo enters the San Fernando Groundwater Basin, to which the City of Los Angeles has the majority groundwater rights. This basin has been operating in an overdraft condition for several years, with the WaterMaster asserting an agreement between pumpers to not access their full rights. Additional flows like those captured by the Elmer Avenue Neighborhood Retrofit and the Elmer Paseo are helping the basin recover to the adjudicated safe-yield conditions.

**Discussion of Amount of Renewable Energy Added**

The Elmer Paseo had no designed on renewable energy, however, both the irrigation system and some of the installed monitoring equipment are solar powered. A negligible amount of power, however worth mentioning that this project pursued a comprehensive sustainability strategy.

**Describe how the project demonstrations collaboration, stakeholder involvement or the formation of partnerships, if applicable:**

As with all Council for Watershed Health projects, the Elmer Paseo was a collaborative effort. CWH led, however included the LA City Bureaus of Engineering and Sanitation, the Santa Monica Mountains Conservancy, and the California Strategic Growth Council in the partnership. This project was a component of the Los Angeles Basin Water Augmentation

Study, which itself is a large partnership (current roster attached). During the project we engaged with North Carolina State University, UCLA, and Scripps Institution of Oceanography to assist with monitoring. Students from nearby Sun Valley Middle School have helped with art in the Paseo, and come to the project for part of their watershed curricula. New partnerships have formed between CWH and the Los Angeles Beautification Team and Graffiti Busters, two organizations that work with underserved youth by offering employment in community beautification projects. The two groups have been trained in maintaining the Paseo, and assist with its upkeep.

And the most important partners, the residents of the area, remain strongly a part of the collaborative team. We have been told stories of tour groups arriving at the Paseo, groups we didn't know about, only to have a resident come out to give them a walk-through tour.

During 2012 and 2013 CWH staff made a significant number of presentations about the Paseo project. A record of those presentations is also attached.

The Elmer Paseo has been featured in several publications, also included in the attachments.

**Describe any other pertinent issues regarding the project:**

The Elmer Paseo now joins the Elmer Avenue Neighborhood Retrofit Project as the most significant demonstration of green infrastructure in a residential setting within the City of Los Angeles. US EPA maintains Elmer Avenue as one of their example green infrastructure project.

Moving forward, the Council is committed to maintaining monitoring and educational activities at the Paseo, and per the MOU (attached) with the City of Los Angeles, the Stormwater management features of the project will be maintained by the Bureau of Sanitation.

Below is a summary of the benefits the project is bringing to Los Angeles:

This project sought to retrofit an urban, paved alleyway to a Stormwater project that served multiple benefits. It has been a very successful project, performing at a higher level than was anticipated. This grant proposed a benefit of 4 acre feet per year, however the final design calculated that acre feet will be captured from storm flows in an average year. Additional volumes are being captured by the system during dry weather from "up-stream" leakage (sprinklers or car washing, for instance).

Monitoring funded by this grant in the Paseo also permitted improvements to be made to the earlier Elmer Avenue Neighborhood Retrofit project, adjacent to the Paseo. These improvements, funded by LA City local bond proceeds, have doubled the infiltration capacity at Elmer, from about 20 to about 40 in an average rainfall year.

The project within the Paseo, by capturing and infiltrating flows, is also reducing pollutant loading in the regulated streams below the project. The benefits claimed in the proposal were an 80%

reduction of bacteria, metals, oil & grease, and pesticides. Monitoring to-date suggests that X% of the flow into the Paseo is captured, and in larger storms the water that flows through the Paseo receives a reduction in pollutants by the resident time in the Paseo.

The Paseo has become an important tool for technical training and educational opportunities. During the grant period about 50 people received technical training related to green infrastructure design, construction, and maintenance. Well over 400 people have toured the Paseo, including hundreds of students from nearby Sun Valley Middle School, who have come to meet our project team and learn about watersheds and native plants.

Here is a good side note about the Paseo. In the early 2000's the residents of Elmer Ave formed a block-watch group to help keep an eye on the negative activities taking place in the alleyway. This was part of what brought the community together as a unit to be in-support of the Elmer Avenue efforts that Council for Watershed Health undertook with our partners. Today, that same block watch group meets regularly, however now they take their lawn chairs and dinner and meet IN the Paseo.

This represents how important small interventions like the Elmer Paseo can be for residential communities. It is providing a critical water management capacity for the City of Los Angeles, but for the residents it is tranquil green space that gives respite, draws butterflies and hummingbirds, and makes their neighborhood a better place to live.





*Figure 1 - Paseo South Entrance Before Project*



*Figure 2 - Paseo South Entrance Following Project*