

## Attachment 4 Project Description

### Project Description

The Crescenta Valley Water District (CVWD) Stormwater Recharge Facility Study (Study) will gather data and geologic information that is essential to determining the feasibility of capturing and infiltrating stormwater and dry-weather flow to Crescenta Valley County Park (CVC Park) to recharge the Verdugo Basin. To this end, the Study will monitor groundwater levels, test the recharge capacity of the soil, gage flow and quality of source water, and model groundwater flow. The Study is the first phase of a two-phased project. The second phase of the project will be the actual construction of the facilities to capture runoff and recharge the Basin. CVWD and the Verdugo Basin are located in the Upper Los Angeles River Area Watershed (see Figure 4-1).

Stormwater recharge in the Verdugo Basin will achieve the goals of increasing groundwater supplies, improving local water supply reliability particularly during times of drought, and improving groundwater quality by reducing surface water runoff from the existing parking areas of CVC Park. The Study is estimated to increase the local water supply by an annual average of 340 acre-feet per year.

Elements of the Study include:

- Monitoring and sampling of stormwater runoff to evaluate its quality and assess the amount of stormwater runoff available for recharge at and near CVC Park;
- Testing and evaluating the recharge capacity of soils through percolation testing at CVC Park;
- Installing two groundwater monitoring wells and providing groundwater modeling to evaluate the amount of recharge storage capacity beneath and near CVC Park; and
- Establishing and collaboratively working with a Task Force to provide input regarding the Study, its conclusions, and to help ensure that stakeholder interests are considered.

### Project Goals

The goal of the Study is to evaluate the feasibility of using portions of CVC Park to capture and recharge stormwater which would ultimately reduce dry weather runoff, and reduce surface water pollution. Recharge of stormwater and surface water runoff will help improve groundwater quality, increase water-supply reliability, and improve surface water quality in downstream receiving waters.

### Needed Facilities and Project Location

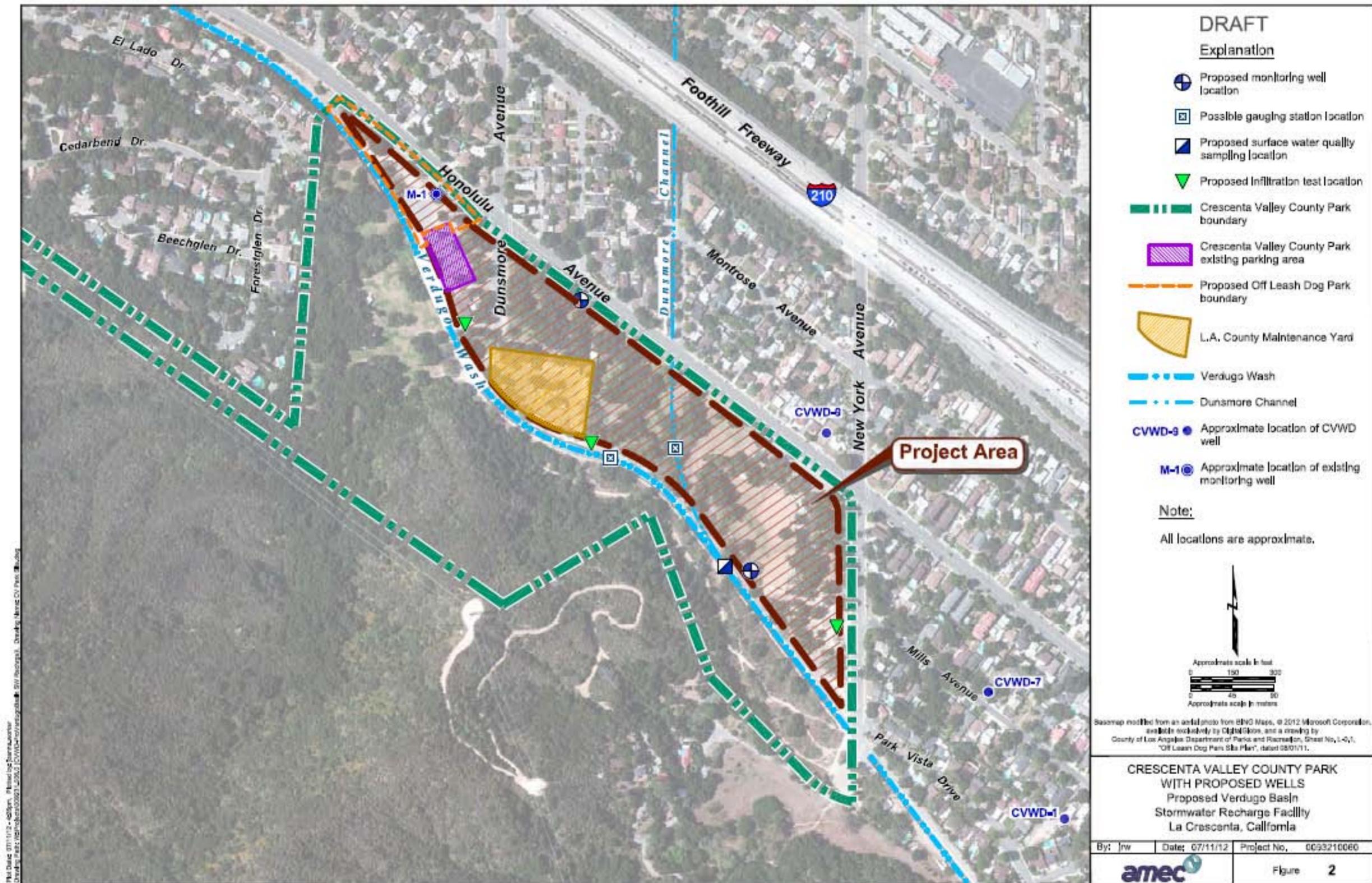
#### Project Location

The Verdugo Basin is located north and east of the Verdugo Mountains, consists of 4,400 acres, and comprises 3.6 percent of the total San Fernando Valley groundwater basin area. It is bounded on the north by the San Gabriel Mountains; on the east by a groundwater divide separating it from the Monk Hill Subarea of the Raymond Basin; on the southeast by the San Rafael Hills; and on the south and southwest by the Verdugo Mountains. The Verdugo Basin is one of four distinct basins in the Upper Los Angeles River Area (ULARA).

Figure 4-1: Area Map and Existing Facilities



Figure 4-2: Project Area with Proposed Facilities



## Needed Facilities

The following lists the needed facilities for the Study:

- Channel gauging stations to measure flow and water quality
- Monitoring wells
- Percolation testing pits (to be excavated and then refilled after testing)

See Figure 4-2 for a map of the project area and needed facilities.

## Background

Stormwater capture is proving to be one of the most effective strategies to increase the reliability of local supplies in Los Angeles County. The Los Angeles County Flood Control District (LACFCD) infiltrates an average of 270,000 acre-feet of captured stormwater, imported water, and recycled water on an annual basis. Recharge facilities in the Verdugo Basin are not presently in use but capturing stormwater or dry-weather run-off has long been envisioned by CVWD. Years of research, planning, and groundwater modeling have culminated in this proposed Stormwater Recharge Facility Study.

Existing research, planning and modeling that support the Study include:

- **Past Department of Water Resources Local Groundwater Act (AB 303) funding (FY 2001-2002, FY 2002-2003 and FY 2004-2005) for the Verdugo Basin** – funding of projects regarding the need and potential for augmenting groundwater management;
- **Verdugo Basin Groundwater Evaluation and Monitoring Study, (Bookman-Edmonston, June, 2004)** – determined by the drilling, installation and sampling of three monitoring wells to accomplish the following goals: protect water quality; balance management and development of water resources; and reduce dependency on imported State Water Project (SWP) supplies.
- **Verdugo Basin Groundwater Recharge, Storage, and Conjunctive Use Feasibility Study, (Geomatrix, June, 2005)** – Study was conducted to investigate the potential for recharging and storing groundwater in the Basin and the feasibility of implementing a conjunctive use program. The study concluded that it may be possible to recharge up to 1,500 AFY of stormwater that could replenish groundwater supplies in the Verdugo Basin.
- **Verdugo Basin Geophysical Evaluation Project, (Geomatrix, June, 2006)** - The purpose of the Geophysics Project was to increase the current understanding of the Basin water storage capacity, identify subsurface features that affect the movement of groundwater, provide Crescenta Valley Water District (CVWD) with hydrogeologic and aquifer information for use in locating future production wells, and provide CVWD with a better understanding of the subsurface conditions at potential artificial recharge sites
- **Annual Report ULARA Watermaster, 2010-2015 Water Years, and Groundwater Pumping and Spreading Plan for ULARA, Los Angeles County, California (July 2011)** – The Watermaster commends CVWD for its ongoing efforts to “begin an evaluation of potential stormwater recharge projects in Verdugo Basin.” In addition, the Watermaster states, “It is the opinion of this Watermaster that, over the forthcoming years, it will be essential to...define and implement new locations and/or other methods for recharging these groundwater basins...”

- **Water Augmentation Study (Watershed Council, 2005)** - Demonstrated that infiltration galleries in the San Fernando Valley performed well with the benefits of treating stormwater, reducing stormwater volume, and recharging groundwater supplies. It determined there is no significant degradation of groundwater quality from the infiltration of stormwater-borne pollutants. Based on trend analysis collected between 2000 and 2007, groundwater quality was stable or improved for most constituents at sites with shallow groundwater and sites with deep groundwater. It also stated that there is considerable potential for the implementation of small neighborhood projects distributed across the Basin. Infiltration galleries were considered the “favorable way” to recharge water in the (Upper Los Angeles River) groundwater basin.
- **Sun Valley Watershed Management Plan** (Montgomery Watson Harza, 2003) - recognized stormwater infiltration as a priority for managing stormwater.
- **Greater Los Angeles County (GLAC) Integrated Regional Water Management Plan (IRWMP) of 2006** - calls for the increase of capture and reuse of stormwater runoff. The 2006 GLAC IRWMP set a 20-year target of reducing and reusing 220,000 acre-feet of stormwater runoff. The 2012 IRWMP target is expected to increase that target.
- **Los Angeles County Department of Public Works (LACDPW) and Los Angeles Department of Water and Power (LADWP) Stormwater Recharge Committee** – LACDPW and LADWP have formed a Stormwater Recharge Committee to focus on projects to enhance the recharge capacity of County spreading basins. The CVWD Study goals are synchronized with the Stormwater Recharge Committee goals. Of note is the participation of all Stormwater Recharge Committee agencies on the proposed CVWD Study Task Force including LACDPW, LACFCD, MWD (Foothill MWD), Tree People, and the Council for Watershed Health (formerly the Los Angeles and San Gabriel Rivers Watershed Council).
- **Verdugo Hills Storm Water Project** – the potential to recharge the Verdugo Basin has been realized by other entities. The proposed Verdugo Hills Storm Water Project, that is eligible to receive City of Los Angeles Prop O funding, has been developed by the City of Los Angeles Bureau of Sanitation and proposes to recharge stormwater runoff from the Verdugo Hills Golf Course.
- **Los Angeles Basin Stormwater Conservation Study, Bureau of Reclamation** - Reclamation is sponsoring this study “that will analyze the long-term potential for existing and new facilities.” CVWD is a participant in the study and is providing technical in-kind services to the Stakeholder Technical Advisory Committee.

### **Crescenta Valley Water District**

The Crescenta Valley Water District (CVWD) was established as a County Water District in 1950 under Division 12 of the California Water Code, County Water District Law, and currently provides water and sewer service to 35,000 residents in La Crescenta and adjacent portions of Glendale, Montrose and La Canada-Flintridge. The District owns and operates 11 production wells in the Verdugo Basin. The Verdugo Basin is an adjudicated basin within the ULARA. The basin has an adjudicated "safe yield" of 7,150 acre-feet per year (AF/Y). The District shares groundwater with the City of Glendale. As the only two water-rights holders in the Verdugo

Basin, the District has an annual entitlement of 3,294 acre-feet and the City of Glendale have an annual entitlement of 3,856 acre-feet.

## Support for Goals and Objectives of the GWMP

### Relevance to GWMP

The Verdugo Basin is part of the groundwater adjudication for the ULARA with groundwater management overseen by the ULARA Watermaster. The ULARA Watermaster strongly supports best management practices for stormwater recharge. The CVWD Study is fully consistent with the goals and objectives for the ULARA groundwater basins, including the Verdugo Basin. The Study is relevant to the Watermaster's goals and objectives from the "Annual Report, ULARA Watermaster, 2010-11 Water Year" as demonstrated in Table 4-1.

**Table 4-1: Project Goals Support GWMP Goals**

Study Goal	ULARA (GWMP) Goal
Increase groundwater recharge	Increase recharge to local groundwater basins (Annual Report, 2010-11, p. 2-11)
Improve quality of stormwater runoff and surface runoff	From a hydrogeologic perspective, and in the opinion of this Watermaster, whenever and wherever deep percolation (infiltration) of "treated" stormwater can be appropriately enhanced, then recharge to the local groundwater basin can be beneficially increased. (Annual Report, 2010-11, p. 3-25)
Improve water quality	The Watermaster supports "reducing the amount and improving the quality of surface water runoff from each storm event." (Annual Report, 2010-11, p. 3-24)

### Usefulness of Information to be Obtained

The information collected as part of the Study will be of value to a number of agencies and stakeholders in addition to CVWD. Data collection activities for the Study include:

- **Drilling and logging of soil conditions, and construction and monitoring of groundwater monitoring wells.** Soil conditions and groundwater level data are of interest to the ULARA Watermaster and will help in managing the groundwater basin. Groundwater level data from the new wells will be useful to CVWD, the City of Glendale Water and Power Department and the ULARA Watermaster in better understanding groundwater flow conditions in the area. This information is useful in understanding the amount of groundwater in storage and the movement of groundwater of various quality.
- **Soil infiltration testing.** This information will also be of interest to the ULARA Watermaster and other parties as other stormwater recharge projects are considered in the future in the Verdugo Basin. Infiltration rate data from this project can be used by other agencies and parties in planning for other recharge projects to improve groundwater management and conservation in the Verdugo Basin.
- **Survey of CVC Park facilities and trees.** This information will be useful to the Los Angeles County Parks Department and the City of Glendale. As future improvements are

made to the park, the maps and data generated from the survey will help in planning and design of the improvements and modifications to the park.

Data collected for the Study will be of sufficient quality for purposes of the Study and for use by other stakeholders. Data collection activities for the Study will be performed under the supervision of California licensed Professional Geologists, Certified Hydrogeologists, Professional Engineers, and Land Surveyors. Data collection activities will be performed using widely utilized and proven field, laboratory, and analytical methods and techniques. In addition to oversight and review by licensed professionals, CVWD anticipates that some stakeholders and Task Force members may provide additional review and critique of the data and information collected during the course of the Study.

## **Collaboration and Outreach Process**

Specific work will be undertaken by CVWD to encourage participation, and collaboration by local public agencies, regional stakeholders and the general public, and State and federal agencies. The Outreach process will include the establishment of the CVC Park Stormwater Study Task Force (Task Force), regular meetings (the first meeting took place on July 11, 2012 – see Appendix D for announcement), and various forms of communication. Task Force members are listed below in Table 4-2.

### **Local and Regional Public Agencies**

CVWD has a long history of close collaboration with other local public agencies and stakeholders. For previous AB 303 grant projects, CVWD successfully conducted task force and technical advisory committee meetings to solicit input and to support sound management of the groundwater basin.

During the course of this Study, CVWD will form a Task Force and convene a series of Task Force meetings. The first meeting of the Task Force was held July 11 at CVC Park and attended by agencies listed below in Table 4-2.

At future meetings, CVWD will inform Task Force members on the progress of the Study and solicit input regarding key Study components. Following each meeting, CVWD will distribute meeting minutes and copies of handouts from the meeting so that stakeholders, including groundwater users, can stay informed about the Study. CVWD will also notify local news papers regarding the Study and provide information on the CVWD website.

**Table 4-2: Local and Regional Agency Collaboration**

Local Agencies	Regional Agencies
City of Glendale	Los Angeles County Department of Public Works
Foothill Municipal Water District	Council for Watershed Health
Crescenta Valley Town Council	Southern California Water Committee
ULARA Watermaster	Regional Water Quality Control Board
City of Los Angeles	Los Angeles County Supervisor Michael Antonovich
Raymond Basin Management Board	Metropolitan Water District of Southern California
Tree People (non-profit organization)	Upper Los Angeles River Area Watermaster

As with previous AB 303-funded projects, CVWD will make presentations on the results of the study to the ULARA Watermaster meetings and conferences including those of the Association of California Water Agencies (ACWA), the California Association of Groundwater Agencies (AGWA), and the American Water Works Association – California-Nevada Section (AWWA). CVWD will participate in Greater Los Angeles Integrated Regional Water Management (IRWM) planning and provide support for local stormwater capture and infiltration.

#### State and Federal Agency Collaboration

State and federal agencies will be included on the stakeholder email and mailing list and informed of all Task Force and Public Meetings. Agencies that will be included in this outreach are listed below.

- Department of Water Resources, Southern California representative and headquarters
- State Water Resources Control Board
- U.S. Army Corps of Engineers
- U.S. EPA

#### Stakeholders – Groundwater Users and General Public

CVWD will reach out to other stakeholders in the Crescenta Valley and local foothill areas. Other stakeholders include individuals, groups, coalitions or others that are involved in, affected by, or have an interest in groundwater management. Stakeholder organizations include the Crescenta Valley Town Council, Task Force members, Glendale-Crescenta V.O.I.C.E. (Volunteers Organized in Conserving the Environment) and the Arroyo Seco Foundation.

#### Dissemination of Information

The dissemination of information will be conducted at Task Force meetings, public notices, informational mailings, and on the CVWD website. Dissemination of information will be aided by the following methods:

- **Website** - CVWD website (<http://www.cvwd.com/Articles.aspx>), News and Information, will provide both general and technical information for the benefit of the public and interested stakeholders. Information available on the website will be provided in print form at meetings as appropriate in order to ensure that those without computer access have access to information that is available online. The website will be maintained by

CVWD with the Task Force providing content and materials for the site. Task Force meeting notices and summaries will be posted on the CVWD website along with other related information.

- **Press Releases** - Press releases will be sent at various times to local media to provide important information such as background information, advisement of upcoming meetings, and key milestones.
- **Mailing List** – A mailing list will be established and expanded to facilitate communication electronically.
- **Email and Local News Articles** – Information will be distributed via email and through local news articles regarding the Study, the Study process and schedule, and opportunities for public comment on Study outcomes. Outreach communications will continue throughout the process. Meeting summaries will be taken and posted on the CVWD website and submitted to DWR in the monthly progress report.
- **Additional Meetings** – Additional meetings will be held with interested stakeholders and stakeholder groups, as appropriate

**Point-of-Contact** – For additional information, questions, or comments on the Study, CVWD has designated a Point-of-Contact: David Gould, District Engineer, CVWD, 2700 Foothill Blvd., La Crescenta, CA 91214, [dgould@cvwd.com](mailto:dgould@cvwd.com), (818) 248-3925.

## On-Going Funding for Study Products

On-going funding for the Study products – surface water gauges, groundwater modeling, infiltration galleries, and participation in other stormwater capture studies – will be included in CVWD's annual maintenance and operations budget.

## **Appendix D - Task Force Meeting Announcement**



# Crescenta Valley County Park Storm Water Recharge Project Stakeholder Kick-Off Meeting

**Date:** July 11, 2012  
**Location:** Crescenta Valley Park Community Room  
3901 Dunsmore, La Crescenta, CA 91214  
**Time:** 9:00 am

Crescenta Valley Water District (CVWD) is proposing to construct a stormwater recharge area at the Crescenta Valley County Park. This project would collect storm water to recharge the Verdugo Basin and refurbish the parking areas to "No-runoff" parking lots.

The District is setting up a Task Force of stakeholders to meet and discuss the project for input and suggestions.

The project will be in two (2) phases with Phase 1 being a Preliminary Study called "The Verdugo Basin Stormwater Recharge Facility Study". CVWD is applying for grant funding for Phase 1.

The proposed study will include the following:

- Verify and gauge surface water flows and water quality in the Verdugo Wash
- Drill monitoring wells to assess soil conditions and monitor groundwater levels
- Perform percolation tests to evaluate soil infiltration capacity
- Survey topography of CV County Park including identifying and cataloging the trees on the property
- Perform groundwater modeling simulations to evaluate groundwater mounding beneath CV County Park and surrounding areas
- Perform environmental regulatory compliance and permit review
- Establish a Task Force Group to evaluate and oversee the project data and conclusions, to interact and coordinate with Los Angeles County Dept. of Public Works, Los Angeles County Parks & Recreation Department, City of Glendale, ULARA Watermaster, and other parties regarding design considerations

Phase 2 will include the construction of the project based on data from the study. The proposed project will allow CVWD to increase storm water capture by using portions of Crescenta Valley County Park for the following:

- Installation of underground storm water infiltration galleries within the park area for groundwater recharge
- Installation of rubber dams in the Verdugo Wash to divert storm water flow and low-dry weather runoff into the storm water infiltration galleries
- Construction of a "No-Runoff" parking lot by utilizing the existing parking area retrofitted with infiltration basins, permeable paving, landscaping and storm water filtration devices to prevent contaminants from entering the basin, all with a larger parking area for better accessibility to the park

If you have any questions or comments, please contact David Gould at (818) 236-4119 or e-mail [dgould@cvwd.com](mailto:dgould@cvwd.com)