



# **Zone 7 Water Agency**

## **Flood Protection Program**

### **2013 Annual Report**

**May 2014**

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# OVERVIEW

## ***Introduction and Background***

Zone 7 of the Alameda County Flood Control & Water Conservation District (Zone 7 Water Agency) was established in 1957 by the voters of the Livermore-Amador Valley in order to place water management, including flood control, under local control through a locally-elected Board of Directors. Zone 7's programs for flood protection and water supply are integrated. Since the 1960s, Zone 7 has imported water from the State Water Project and artificially recharged the local groundwater basin using abandoned quarries and operating flood facilities, the latter during the dry season when capacity is not needed to convey storm flows.

In addition to providing wholesale potable water supply to the businesses and residents of Dublin, Livermore, Pleasanton and the Dougherty Valley portion of San Ramon, Zone 7 provides groundwater basin management for the Livermore-Amador Valley and untreated irrigation water to Eastern Alameda County agricultural customers. Zone 7 also provides for the management of flood and storm waters in order to protect life, property and habitat from damage and destruction within a 430-square-mile area.

Although many programs and projects satisfy multiple objectives, Zone 7's Flood Protection Program includes four major sub-programs. Additional details about these sub-programs and descriptions of some of the major activities which occurred during 2013 are in the sections which follow.

- Administration

*Administration includes staffing and training, legal, safety, property management, and regulation compliance.*

- Watershed Stakeholders Collaboration

*Watershed Stakeholder Collaboration Program includes participation in a variety of local and regional efforts with specific emphasis on collaboration with the many public and individual stakeholders in the watershed*

- Capital Improvements

*The key Capital Improvement Program activities include planning, data collection, hydrologic and hydraulic modeling, financing and budgeting, design and construction management, and working with other entities such as developers, cities, and NGOs to further partnerships on projects identified in the Stream Management Master Plan (SMMP).*

- Maintenance

*The key Maintenance program activities for the 37 miles of Zone 7-owned channel facilities include emergency repairs, routine maintenance and repairs, clearing debris*

*from channels and access roads, vegetation management along the channels, inspections to ensure the system is in good working condition to receive and convey storm waters, and rehabilitation of existing facilities.*

### ***Highlighted Accomplishments from 2013***

The following are some of the key accomplishments related to the Flood Protection Program by Zone 7 in 2013, all of which are described in more detail in the following chapters:

- Collaborated with local municipalities and park districts in their planning and construction of trail projects utilizing flood control channel maintenance access roads.
- Coordinated with the U.S. Army Corps of Engineers for the bi-annual inspection of Zone 7 facilities to maintain Zone 7's eligibility status for federal funding in the event of a storm disaster.
- In support of the Stream Management Master Plan (SMMP) updating effort, staff developed a system-wide hydrology and hydraulic models calibrated for the 1998 flooding event and prepared a draft model report. The report and models were sent to three local flood control agencies for their peer review and comment. In addition, staff also completed a majority of the field work necessary to complete an environmental baseline report to support the updating effort.
- Collaborated with the City of Pleasanton and Alameda County Surplus Property Authority on the extension of Stoneridge Drive into Staples Ranch. The bridge, as well as the Arroyo Mocho trail, was opened to traffic in November 2013.
- Initiated design of the Arroyo las Positas Improvement at Vasco Road Project and collaboration with the City of Dublin on the Chabot Canal Regional Stormwater Detention Project.
- Zone 7 staff chaired three multi-agency working groups that support environmental studies and collaboration in the Alameda Creek watershed.
- Zone 7 continued in a collaborative effort involving the U.S. Department of Agriculture's Natural Resources Conservation Service on two bank stabilization projects at Line G-1-1 and Pleasanton Canal (Line B-5). A two-year post-planting monitoring effort has begun.
- Zone 7 collaborated with the City of Pleasanton on an arroyo clean-up effort to remove tires, shopping carts and other debris along a two-mile reach of the Arroyo Mocho between I-680 and Santa Rita Road.
- The earth works portion of the Arroyo Mocho–Stanley Reach Project was completed over the summer of 2013. Implementation of the planting plan is underway via Zone 7's Living Arroyo Program, with collaboration between the Urban Creeks Council, City of Livermore and Zone 7. This Living Arroyo Program seeks to improve the urban streams and streamside habitats of the Livermore-Amador Valley and engage the local community. Further, design planning for a smaller section of the project, a downstream reach referred to as Phase 2, is underway.

- In 2013, Zone 7 continued to collect data for a sediment study to better understand the sediment transport process within the upper Alameda Creek watershed area.
- Collaborated with Castlewood Country Club, Castlewood Home Owners Association and Alameda County Public Works on an emergency maintenance project to remove large slabs of a concrete structure crossing that had collapsed and were obstructing the flow in the Arroyo de la Laguna within the Castlewood Country Club property, thus avoiding a potential threat to public health and safety.
- Thirty-three bank repairs, four biotech brush walls, 2,019 linear feet of access roadway and drainage renovation was completed using contract laborers under the direction of Zone 7 staff at a construction cost of \$850,000. In addition, the planning, permitting, design and construction management was performed directly by Zone 7 staff.
- Other field activities such as vegetation management, graffiti abatement, mowing, and fencing were completed.
- Completed the purchase of approximately 5,000 acres of land commonly referred to as “Patterson Ranch” for the purpose of watershed protection and preservation.
- Staff development activities in 2013 included training in hydrology and hydraulic modeling programs, hazardous materials handling and other safety-related classes, and a technical writing class. In addition, staff attended the Floodplain Management Association annual conference, San Francisco Estuary annual conference and a UC Berkeley seminar on the future of concrete-lined channels.

## **ADMINISTRATION**

The Zone 7 Flood Protection Program's administrative tasks include those related to staffing, planning, budget preparation, preparing board agendas and presentations, updating and managing current agreements and contracts, and issuing permits as appropriate. Flood Protection staff coordinated extensively with other agencies to minimize impacts to the public and utilize Zone 7-owned properties for other compatible community uses such as trails. In addition, Flood Protection staff routinely engaged with the public to address citizen complaints and inquiries.

Following is a description of the key administrative activities which occurred in 2013.

### ***Mitigation Monitoring and Reporting Program***

A typical Zone 7 Flood Program capital improvement project usually does not end after the construction is completed. Typically, a project requires ongoing monitoring and mitigation of impacts resulting from that project. As a requirement for project approval, Zone 7 must provide a mitigation and monitoring report to various regulatory agencies, such as the California Department of Fish and Wildlife, California Regional Water Quality Control Board, U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service, for a period of five to ten years after project completion to show that the mitigation for the improvements are doing what they were intended to do. In 2013, with the completion of the Arroyo Mocho Stanley Reach Riparian Restoration and Channel Enhancement Project, Phase 1, Zone 7 began its monitoring and reporting requirements as stipulated in the regulatory permits acquired for the project. Zone 7 is required to monitor both the biological and physical conditions of the restored channel reach for a period of ten years to insure that restoration work does not affect the channel integrity. Zone 7 staff performs the mitigation monitoring and reporting.

### ***Contract Administration and Management***

Zone 7 staff is responsible for administering and managing various consultant and vendor contracts related to flood protection projects. This includes the preparation and administration of requests for proposals, contracts, and right-of-way documents. Staff is also responsible for preparing Zone 7 Board agenda items pertaining to flood protection.

Zone 7 staff routinely receives requests from private entities, as well as public agencies, regarding use of a flood protection facility for their projects. While temporary access is usually granted through encroachment permits, long-term access is usually provided, when warranted, through a license agreement. A license agreement will generally spell out the terms of operating within a Zone 7 facility, as well as indemnify Zone 7 from any liabilities that may occur from that entity's use of the property.

In 2013, Zone 7 staff worked on several requests with developers and performed a number of requests for proposals, annual purchase orders, consultant contracts, and construction contract administration. A license agreement was entered with Dublin San Ramon Services District to allow for a landscape improvement project by DSRSD to be extended along a small strip of the top of bank areas of Line G-1-1 adjacent to their wastewater treatment plant. In addition,

right-of-way transfers were executed with Caltrans and the City of Livermore for the construction of the Highway 84 Widening Project and the North Front Road Improvement Project, respectively.

### ***Encroachment Permit Program***

The Encroachment Permit Program involves engineering design review, inspection, and issuance of encroachment permits. Encroachment permits are necessary when adjacent neighbors have exhausted all other options and request use of Zone 7's access roads for access to work within their properties, or when improvement work is proposed within Zone 7's right-of-way or easement by a local or state agency. The program involves developing permit terms, conditions, fees, insurance and bond requirements. In the past twelve months, Zone 7 staff issued 36 permits to both private and public agencies and coordinated with applicants to provide safe access to Zone 7 facilities. See Appendix A for a list of encroachment permits issued in 2013.

### ***U.S. Army Corps of Engineers PL 84-99 Federal Assistance Program***

Zone 7 participates in the U.S. Army Corps of Engineers' (COE) PL 84-99 Federal Assistance Program. The program provides federal funding for Presidential-declared storm related disasters to complete and rehabilitate damaged and eligible facilities participating in the program. One of the conditions required to participate in the program is a bi-annual eligibility inspection conducted by the Army Corps inspectors on all eligible Zone 7 facilities. In 2013, a total of 29 eligible reaches of flood control channels were inspected by the Army Corps inspectors to determine their continued eligibility status. Inspection results have yet to be released. Zone 7 continues working with the COE to maintain eligibility in the program.

### ***Trail-Use Collaboration and Support***

In 2013, Zone 7 staff continued collaboration with the City of Pleasanton, City of Livermore, City of Dublin, East Bay Regional Park District and local trail groups to make sure that the trail use and license agreement terms and conditions were up-to-date, reflecting current concerns. In addition, staff collaborated on the Iron Horse Trail Extension Project with the East Bay Regional Park District in Pleasanton, where construction broke ground in May 2013 and continued through the end of the year. With the completion of this trail extension project scheduled for Fall 2014, the public may travel along trails between Pittsburg and Livermore without interruption. Further, staff participated in workshop discussions with the City of Dublin on their Dublin Bikeway and Pedestrian Master Plan update effort and provided support to the City of Livermore on a trail pavement resurfacing project along a reach of the Arroyo las Positas near Paseo Laguna Seco. As incidents relating to trail-use occurred, Zone 7 staff worked with the public to ensure safety as a number one priority.

## ***Alameda Countywide Clean Water Program***

In 2013, Zone 7 participated in the Alameda Countywide Clean Water Program by implementing best management practices in its maintenance activities, responding to illicit discharges, and contributing data for the Clean Water Program semi-annual reports. Per Clean Water Program requirements, staff kept track of violations such as shopping carts, debris, and spills in the channels and prepared reports for the Clean Water Program. By staying proactive and being prepared for action when violations arose, Zone 7 has been able to effectively reduce the amount of runoff pollution. Zone 7 also participated in Earth Day 2013, Coastal Clean-Up Day and Dublin Pride Week activities.



In May 2013, Zone 7 collaborated with the City of Pleasanton on an arroyo clean-up effort to remove tires, shopping carts and other debris along a two-mile reach of the Arroyo Mocho between I-680 and Santa Rita Road. Working in concert, while the City crew retrieved the debris from the channel floor, Zone 7's contractor worked behind the city crew to place the debris in a dump truck for proper disposal. A total of 37 tires, 10 carts and a lot of miscellaneous pipe debris, with an estimated weight of 2,500 pounds, were removed from the arroyo.

## ***Joint Exercise of Powers Agreement for Aquatic Pesticides NPDES Permit***

In compliance with the 2001 statewide General National Pollutant Discharge Elimination System (NPDES) Permit for the discharge of aquatic pesticides to waters of the United States, Zone 7 entered into a Joint Exercise of Powers Agreement (JEPA) in 2003 with the Contra Costa County Public Works Department, Contra Costa County Flood Control and Water Conservation District, Alameda County Public Works Agency, City of Antioch and City of Concord to monitor and implement aquatic pesticide use. Flood Control staff is responsible for attending all meetings and contract agreements with the selected consultant. All JEPA member agencies share equally in the costs of monitoring and testing for each pesticide being used and for the costs associated with coordination and administration of the JEPA. With the NPDES permit, Zone 7 is in compliance when aquatic pesticides are used for keeping flood protection channels clear of obstructive vegetation.

The 2001 general aquatic pesticide NPDES permit expired on November 30, 2013. It was replaced with an updated Statewide General NPDES Permit for Residual Aquatic Pesticide

Discharges from Algae and Aquatic Weed Control Applications on December 1, 2013. Zone 7 actively participated in the JEPA work group to convey the group's collective comments to the State Water Resources Control Board during the public comment period. Zone 7 then developed the Aquatic Pesticide Application Plan to meet the new permit requirements and subsequently received approval from the State Board for our proposed aquatic pesticide application procedures and program.

### ***Employee Development and Staff Training***

In 2013, Zone 7 staff had the opportunity to participate in a number of training classes to improve staff productivity and employee development. Classes included hydrology and hydraulic modeling programs, hazardous materials handling and other safety-related classes, and technical writing training. In addition, staff attended the Floodplain Management Association annual conference, San Francisco Estuary annual conference and a UC Berkeley seminar on the future of concrete-lined channels. With increased knowledge of these new programs, Flood Control staff was able to accomplish daily tasks, as well as new assignments, with greater safety and efficiency.

## **WATERSHED STAKEHOLDER COLLABORATION PROGRAM**

During 2013, Zone 7 staff participated in a variety of local and regional efforts with specific emphasis on collaboration with the many public and individual stakeholders in the Northern Alameda Creek Watershed. In 2013, Zone 7 staff chaired three multi-agency working groups that support environmental studies and collaboration in the watershed: the Alameda Creek Fisheries Restoration Workgroup, the Alameda Creek Watershed Forum (Council), and the Arroyo de la Laguna Agency Collaborative, as described below. Zone 7 also initiated a multi-partner collaboration program called Living Arroyos.

### ***Alameda Creek Fisheries Restoration Workgroup***

The Alameda Creek Fisheries Restoration Workgroup was formed in early 1999 as a collaborative effort among many parties focusing on water flows and habitat restoration in the Alameda Creek watershed to support steelhead trout. A Memorandum of Understanding (MOU) was authorized by the 17 Workgroup members in 2006, and Zone 7 is one of the core funding partners.

A comprehensive study plan, the “Alameda Creek Population Recovery Strategies and In-Stream Flow Assessment for Steelhead Trout,” was completed in 2008. Work included an assessment of hydrologic and habitat conditions, identification of strategies for population recovery, and monitoring.

As Chair of this Workgroup, Zone 7 develops the agendas and facilitates the meetings. As a funding partner, we also help guide the studies done on behalf of the Workgroup, and seek ongoing collaboration from all stakeholders. Meetings are held quarterly and are open to the public.

These efforts are in addition to Zone 7’s collaborative approach with the National Marine Fisheries Service, under the Statement of Understanding which focuses on NMFS’ preparation of a recovery plan for the Central California Coast Steelhead.

### ***Alameda Creek Watershed Forum***

The Alameda Creek Watershed Forum (formerly the Alameda Creek Watershed Council) consists of representatives from several local agencies, environmental groups, industries and organizations. The Forum’s mission is to protect and enhance water-related beneficial uses and resources in the Alameda Creek Watershed in order to create a healthy and sustainable watershed for the community. The Forum promotes collaboration and the sharing of information among all stakeholders.

The Forum has previously held quarterly meetings and an annual conference. As Chair of the Forum, Zone 7 helps to develop the agendas and facilitates the meetings (in coordination with the Alameda County Resource Conservation District, who receives limited funding to assist). In an effort to better align with the needs and wishes of their stakeholders, the Forum is considering

moving to two annual conferences and relying more on periodic “e-blasts” to disseminate useful information.

### ***Arroyo de la Laguna Agency Collaborative***

The Arroyo de la Laguna Agency Collaborative is comprised of agencies and municipalities with facilities that drain into the arroyo itself and the greater Alameda Creek Watershed. More specifically, collaborators include the Alameda County Flood Control and Water Conservation District (Zone 5/6), Alameda County Water District, Contra Costa County Flood Control and Water Conservation District, San Francisco Public Utilities Commission, Zone 7, and the Cities of Dublin, Livermore, Pleasanton, and San Ramon. The Alameda County Resource Conservation District (RCD) and Natural Resources Conservation Service (NRCS) are also engaged in the Collaborative, as much of their work is in or around our waterways. This Collaborative discusses the arroyo as a whole to better understand the scientific and engineering data that is available along with what goals for the arroyo will benefit the stakeholders and local residents. The RCD is particularly interested in working to better position the local agencies for possible future federal funding or grant opportunities.

Zone 7 serves as unofficial Chair of the Collaborative. In this capacity we set meetings and agendas, and help to foster inter-agency collaboration.

### ***Living Arroyos Program***

The Living Arroyos Program is a partnership between Zone 7, the City of Livermore, and the Urban Creeks Council that was initiated in 2013. This program seeks to improve the urban streams and streamside habitats of the Livermore-Amador Valley and engage the local community. Under professional supervision, restoration apprentices (local college students) work with the community to plant native vegetation.

The program increases

***Living Arroyos helps promote healthy streams while enhancing existing flood protection channels***



opportunities for local residents to engage in hands-on stewardship and establish relationships to the streams in their own backyards, while contributing to long-term vegetation management strategies across the Valley. To date, volunteers have planted nearly 1,500 acorns at the top of the bank along a one-mile stretch of the Arroyo Mocho called the Stanley Reach Project. Planting

activities in Spring 2014 will focus on the riparian zone using a plant palette that compliments both floodplain management and function.

## ***Stoneridge Drive Bridge***

The City of Pleasanton and the Alameda County Surplus Property Authority began construction in April 2012 on the extension of Stoneridge Drive into Staples Ranch. The extension required a non-clear span bridge over the Zone 7-owned reach of the Arroyo Mocho. Zone 7 collaborated extensively with the County as well as the City on this project. The bridge, as well as the Arroyo Mocho trail, was opened to traffic in November 2013.



## ***Sediment Study***

Beginning in the winter of 2010/11, Zone 7 undertook a sediment study to better understand the magnitude of the sediment transport process within the upper Alameda Creek watershed area. Understanding the way the system erodes and deposits sediment will allow Zone 7 to develop a more environmentally sound and cost effective maintenance plan to reduce flooding risks from sediment buildup that can decrease stormwater carrying capacity in some areas. It will help Zone 7 clarify the need, location, size and maintenance frequency of sedimentation basins and other facilities used for stormwater detention during the SMMP updating process. Furthermore, it will provide basic data on sediment flows affecting various riparian habitats. In 2013, Zone 7 staff continued working with San Francisco Estuary Institute staff in this endeavor.



***Zone 7 and SFEI staff in action***

## ***Lines B-5 and G-1-1 Revegetation Demonstration Project***

With federal funding administered by the Alameda County Resource Conservation District (RCD), Zone 7 is collaborating with the RCD and the U.S. Natural Resources Conservation Service (NRCS) on a demonstration project assessing the feasibility of improving bank stability at two locations in Pleasanton. Line G-1-1 has suffered many bank failures due to existing poor soil conditions. With limited additional flow capacity, deep-rooting native grasses (sod)

***Line G-1-1 (sod installed on left)***



***Pleasanton Canal (planting on right)***

planted area in Line B-5 where staff had to relocate ten newly planted trees to adjacent neighboring areas in order to make room for the bank slide repair. Subsequently, the ten relocated young trees as well as all the other recent plantings are found to be adapting well to the environment.

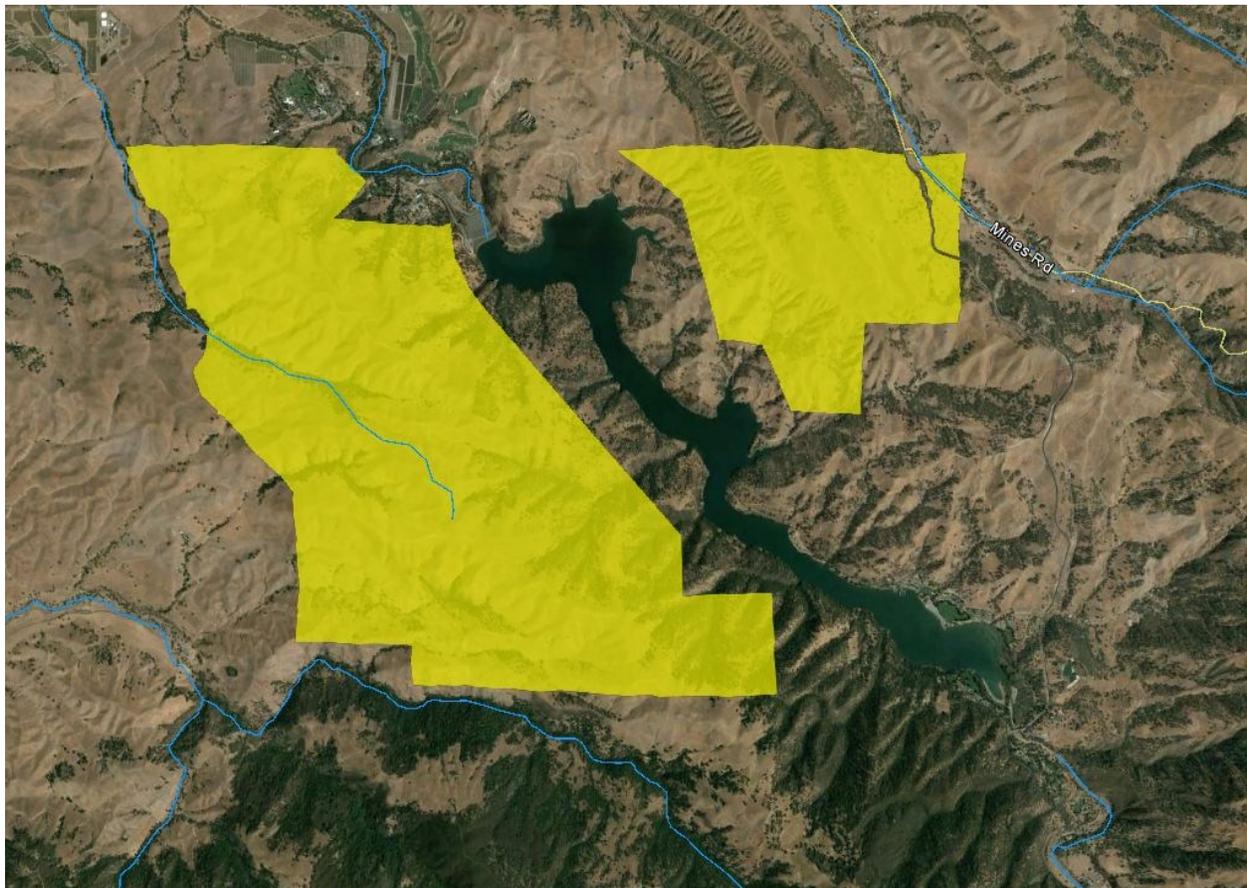
were installed here in lieu of larger shrubs or trees to preserve capacity. A short distance away is Line B-5 (i.e., Pleasanton Canal), which has additional flow capacity above the 1% storm flow and can accommodate adding native trees and shrubs for bank stabilization. Following the planting in winter 2012 at both locations, a two-year post planting monitoring program began to ensure the planting are thriving and receiving the proper care. In 2013, a small bank slide occurred within the

### ***Public Outreach***

Zone 7 recognizes the importance of public concern over flood control activities. In 2013, Zone 7 staff documented, responded to, and investigated 113 complaints and inquiries. Typical inquiries included trail user complaints over graffiti and illegal dumping (e.g., shopping carts, tires, sofas, mattresses, etc.), complaints about downed branches and untrimmed vegetation on Zone 7's property, and neighbors' complaints of dust and vibration generated by moving equipment. By working calmly and reasonably with residents, staff was able to resolve many of their concerns while educating them about flood protection activities. See Appendix B for a list of complaints and inquiries which occurred in 2013.

## ***Patterson Ranch Acquisition***

In 2013, Zone 7 completed the purchase of approximately 5,000 acres of land commonly referred to as “Patterson Ranch” for the purpose of watershed protection and preservation. Patterson Ranch is located adjacent to, and largely drains into, Lake Del Valle, which provides flood control for Alameda Creek and captures a portion of local runoff for water supply purposes. The acquisition and management of land adjacent to Lake Del Valle enhances public benefits as stated in the Memorandum of Understanding that Zone 7 has with the East Bay Regional Park District, in particular for the purpose of preserving and protecting this portion of the watershed. The acquisition cost of the property was \$19 million, which was funded as an integrated project (\$13 million from flood reserves).



# **CAPITAL IMPROVEMENT PROGRAM**

## ***Stream Management Master Plan (SMMP)***

In August 2006, the Zone 7 Board adopted a new Flood Control Master Plan, the Stream Management Master Plan (SMMP). The SMMP includes 45 individual multi-benefit projects throughout the Livermore-Amador Valley while focusing mainly on regional storage of flood and storm waters within the Chain of Lakes. The SMMP also focuses on achieving project goals by being multi-benefit and environmentally friendly while forming partnerships with related agencies.

Staff continues to implement the SMMP, incorporating key projects into the Capital Improvement Program (CIP). While the SMMP currently collects Development Impact Fees (DIF) to mitigate for the creation of new impervious surfaces in developments, additional sources of funding are necessary to implement the SMMP in whole. Long-term financial planning for SMMP projects is ongoing.

## ***Updates to the SMMP and the Development Impact Fee (DIF) Programs***

In 2013, Zone 7 staff completed preliminary hydrologic and hydraulic models and a report and completed a majority of the field work necessary to complete an environmental baseline report to help guide the update of the SMMP.

### Hydrologic and Hydraulic Models

In August 2013, staff developed hydrologic and hydraulic models that represent the existing conditions of the watershed to help clarify the priorities for the proposed SMMP projects. The hydrologic model used City and County General Plans (for land use information), soil parameter data, rainfall data, and stream gage data to calibrate to historic storm events. The hydraulic model represents the major existing flood protection system (channels, culverts, bridges etc.) in the upper Alameda Creek Watershed.

Zone 7 staff submitted the hydrologic and hydraulic models to three other flood control agencies for peer review in September 2013. The three agencies included Alameda County Flood Control and Water Conservation District – West, Contra Costa County Flood Control and Water Conservation District, and Santa Clara Valley Water District. Zone 7 staff received most of the results of the peer review in December 2013 and began addressing comments received.

## ***Environmental Baseline Study to Support the SMMP Update***

Zone 7 initiated environmental baseline studies in the spring and summer of 2013 to assess the overall health of creeks in the Zone 7 service area. The study, in part, targets five parameters to quantify ecological conditions:

- Water Quality
- Aquatic Habitat Quality
- Terrestrial Habitat Quality
- Geomorphic Conditions
- Habitat Connectivity

As part of this effort, key staff received specialized training and, therefore, much of the field work was completed using in-house personnel. Field work included bioassessment surveys, water quality sampling, riparian habitat assessments, and fish surveying at up to 25 randomly selected sites plus two targeted sites. Results are being processed and interpreted now and will be used to guide selection and implementation of SMMP projects.



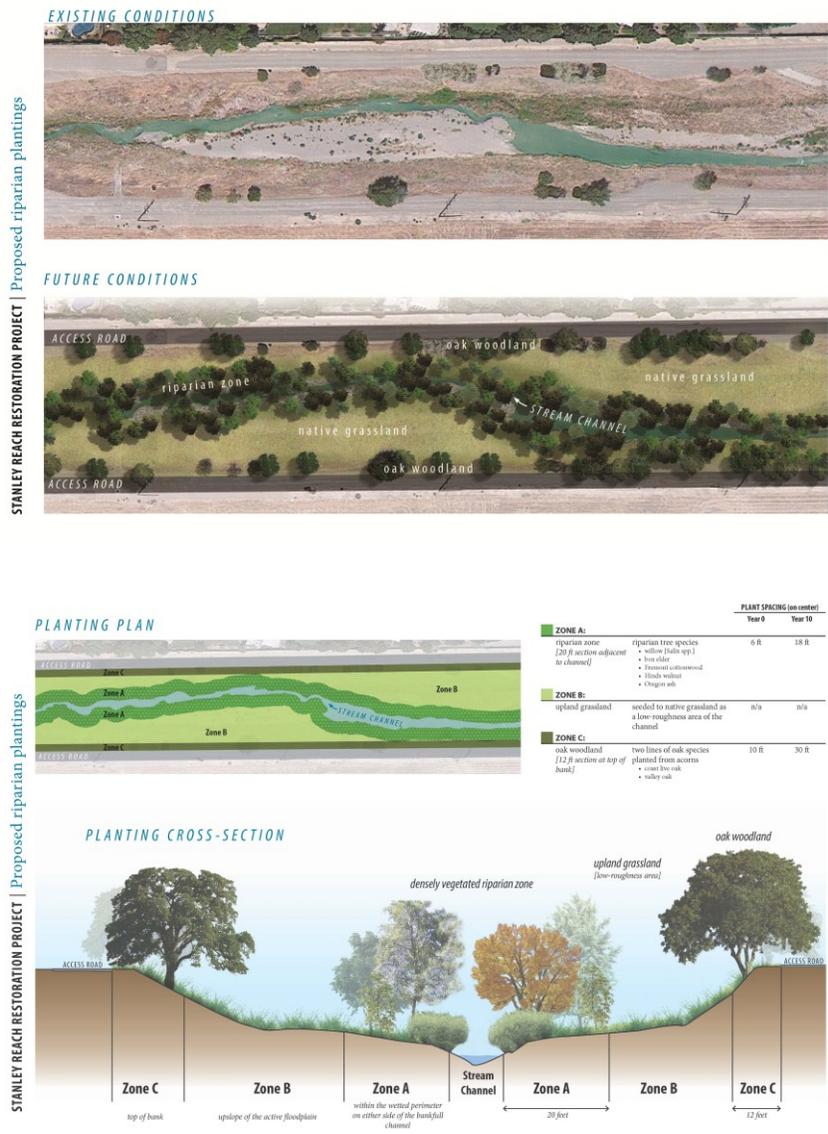
***Bioassessment collection and sample preparation***

# Arroyo Mocho Stanley Reach Riparian Restoration and Channel Enhancement Pilot Project

One project identified in the SMMP was advanced under a pilot program to explore alternatives to funding similar projects in the future. Project R.3-5 (now known as the Arroyo Mocho Stanley Reach Riparian Restoration and Channel Enhancement Pilot Project) is located adjacent to Stanley Boulevard between Murrieta Boulevard and Isabel Avenue in the City of Livermore. This area is also identified as a location that is of interest for the portion of the Regional Iron Horse Trail in the City of Livermore.

A unique feature of this project is its creative approach to partnerships and funding. Mitigation dollars from other agencies help cover costs. This allows outside agencies to complete their own mitigation requirements (for unrelated projects) by funding this restoration project. Staff has been successful in securing mitigation funding from one agency, and continues to identify partnering opportunities with other agencies.

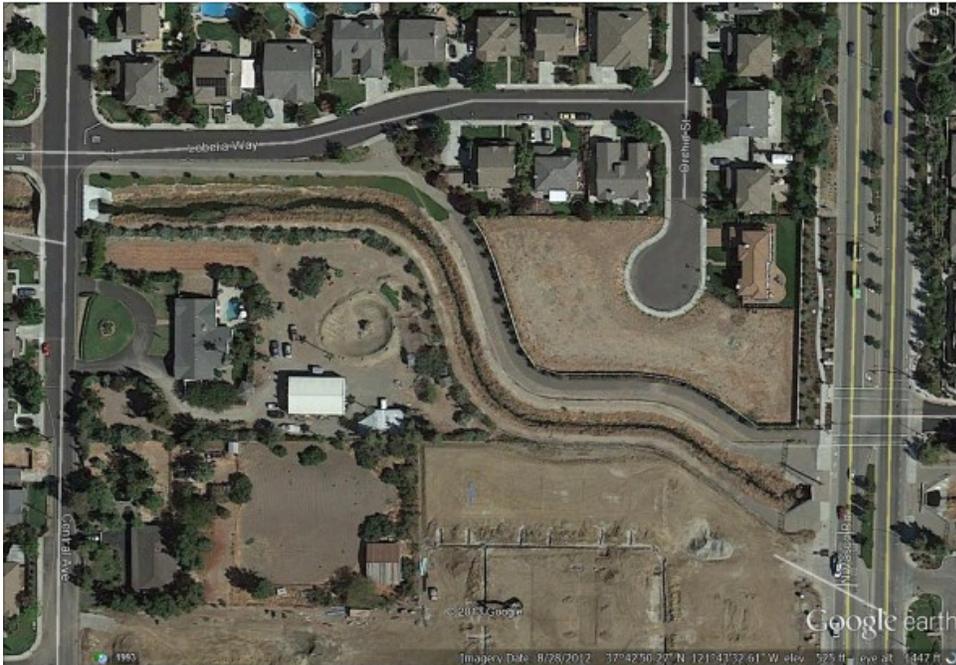
The earth works portions of the project were completed over the summer of 2013. Implementation of the planting plan is underway via our Living Arroyos program, a collaboration of the Urban Creeks Council, City of Livermore, and Zone 7. Design planning for a smaller section of the project, a downstream reach referred to as Phase 2, is underway.



STANLEY REACH RESTORATION PROJECT | Proposed riparian plantings

STANLEY REACH RESTORATION PROJECT | Proposed riparian plantings

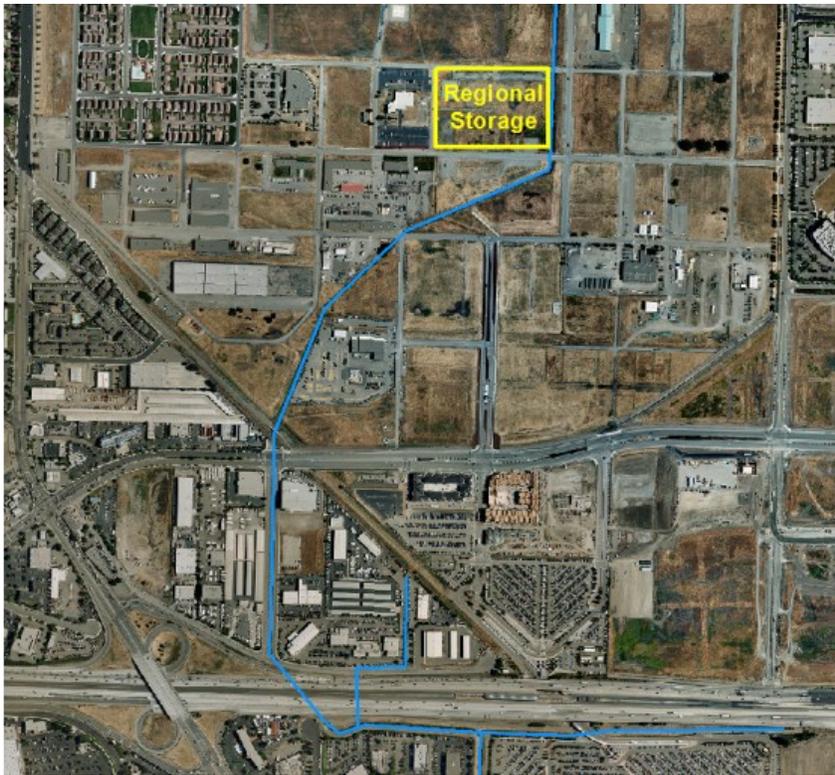
## ***Arroyo las Positas Improvements at Vasco Road Project***



This reach of the Arroyo las Positas was acquired by Zone 7 from Alameda County in 2011; upon transfer, the reach was in a partially improved state. The channel is undersized to carry 100-year capacity and does not have full maintenance roads along the top of bank. In 2012, Zone 7 worked with an adjacent landowner to the

south to pilot an experimental stormwater/channel overflow detention area. Construction work for the development, including the detention area, began in 2012 and was substantially completed in 2013. This creative detention is not sufficient, however, to alleviate the need to expand the existing undersized channel. Zone 7, also, initiated preliminary channel expansion design work as well as contacted a second adjacent neighbor to the west to explore the possibility of acquiring a narrow strip of the owner's property to accommodate the proposed channel width in order to bring this reach of the Arroyo las Positas into compliance with the standards of the Zone7 flood protection system. In 2013, Zone 7 staff initiated hydraulic modeling work and biological resources studies to support project permitting and construction. Construction of in-stream work is anticipated in summer 2015.

## ***Chabot Canal Regional Stormwater Detention (SMMP Project R.8-2)***



In 2013, Zone 7 staff began working with the City of Dublin, the U.S. Army, and Argent Management to incorporate regional flood protection elements of the SMMP into the Dublin Crossings development. The purpose of these elements is to provide regional flood detention storage in the Camp Parks area to reduce the risk of flooding and potential sediment loading while promoting a more natural hydrograph that mimics historical conditions. The project will also create additional capacity in areas experiencing bank slides, allowing Zone 7 to plant riparian plants that will help

stabilize the banks in an environmentally sensitive manner. First phase of the development may start in the Army Camp Parks property as early as 2014.

### ***Development Referral Review Program***

The Development Referral Program is an interagency program designed to keep public agencies abreast of public projects and private developments that may have an impact on an agency's facilities or operations. Staff reviews and evaluates other public agencies' and private parties' development plans and inquiries, environmental documents (CEQA), master plans, improvement plans, and engineering studies for impacts on Zone 7 flood control facilities and/or proposed projects identified in the SMMP. In 2013, Zone 7 staff conducted 21 reviews. Typical reviews included evaluating the impact of developing Garaventa Ranch, north of Altamont Creek; floodplain partnering opportunities with the proposed Sage Development in Livermore, north of the Arroyo Las Positas; and evaluating flood plain detention in the Dublin Camp Parks area as part of the Dublin Crossing development.

### ***Development Impact Fee Program Administration***

Zone 7 staff continued to answer questions related to the Development Impact Fee and interpretation of its ordinance. Staff continued to evaluate developer's projects to determine when and if fees are applicable or not.

## **MAINTENANCE PROGRAM**

Zone 7 owns and maintains approximately 37 miles of improved channels throughout the Livermore-Amador Valley. Maintenance is one of the Flood Protection Program's highest priorities and involves routine, major, and emergency maintenance and repair of Zone 7's flood protection facilities. Such activities are directed toward preventing minor problems from becoming major flooding problems, minimizing unnecessary damage to private property through proactive planning, preserving and maximizing flood carrying capacity of existing creeks and channels, and post-storm rehabilitation of flood protection facilities damaged in storms.

To implement the various maintenance projects, Zone 7 staff is responsible for all aspects of the project, including program management, planning, scheduling, CEQA compliance, permit acquisition, surveying, design, cost estimates, construction management and inspection. Following is a description of the key maintenance activities that were conducted in 2013.

### ***Emergency Removal of a Collapsed Concrete Structure Crossing in the Arroyo de la Laguna on Castlewood Country Club Property***

Large slabs of a concrete structure crossing had collapsed and were obstructing the flow in the Arroyo de la Laguna on private property owned by the Castlewood Country Club in late winter 2012. Zone 7 communicated its concerns to Castlewood about the instability of the broken concrete slab pieces, which were a threat to public health and safety because they could become dislodged, wash downstream, and further obstruct and impede the floodwater conveyance downstream during a high-flow event. It could also cause erosion, sedimentation, backwatering, possible overbank flooding and other property damage. However, Castlewood did not have the resources to have the slabs removed prior to the beginning of the rainy season in Fall 2013. To avoid harm to the public and with the winter season fast approaching, Zone 7, under the District Act, stepped up to complete the needed CEQA document, led the permitting effort through various regulatory agencies, mobilized our contractor forces, removed the concrete slabs and restored the area before the State Department of Fish and Wildlife closed its window for allowing work in creeks. Subsequently, Zone 7 communicated with various regulatory agencies for post-construction reporting and mitigation and monitoring requirements, where applicable. A portion of this work was performed by trained Zone 7 staff. In addition, Zone 7 worked with Castlewood to recover Zone 7's project related expenses.

### ***Castlewood Concrete Removal***



***Before***



***After***

### ***Annual Maintenance/Repairs***

In 2013, Zone 7 staff identified, planned, designed and managed the \$850,000 Annual Maintenance and Emergency Contract with Fanfa, Inc.

- Began: April 29, 2013
- Projects Completed: 33 bank repairs, 4 biotech brush walls for bank erosion, and 2,019 linear feet of access road and drainage renovation.
- End: November 1, 2013;
- Zone 7 staff utilized to design, supervise and manage contract: one engineer and one technician.

The following highlights a few of the key projects implemented under this year's contract:

### ***Alamo Creek, Dublin, bank scour repair***



***Before***



***After***



***Arroyo de la Laguna, next to Highway 680 - bank repair***



***Chabot Canal - bank repair***



***Alamo Creek, Dublin, flood protection access road renovation***



***Line J-1 storm drain inlet structure repair and improvement***



## ***Vegetation Management Program***

In 2013, Zone 7 staff administered a Vegetation Management Program, which cleared obstructive vegetation such as weeds and tall grasses that could impair the flow of water in channels and vehicle access along channel access roads. The program also aimed at reducing the fire fuel loads per the requirements of the local Fire Marshals. In addition, herbicides were applied to inhibit the growth of obstructive vegetation and control weed growth.

With the exception of clearing vegetation for annual maintenance/repair projects by staff, in 2013 the majority of vegetation clearing was handled through various maintenance contractors under annual service contracts. Zone 7 utilized the following contract labor providers to assist with such maintenance activities under Zone 7's direction: Alameda County Public Works Agency, California Conservation Corps, East Bay Conservation Corps, Pacheco Brothers Gardening, Inc., and Bruce Balala Mowing.

### **Contract with Alameda County Public Works Agency - \$400,000**



During 2013, Zone 7 contracted with the Alameda County Public Works Agency to provide contract labor for certain routine maintenance activities within Zone 7's facilities. Such activities included spraying of maintenance roadways and control of broad leaf plants and aquatic vegetation within the facilities. The contract also allowed Zone 7 staff to use County labor for

***County crew  
at work***

graffiti abatement, cleaning debris from drainage inlets, cleaning concrete v-ditches and cleaning up of homeless encampments. As with all contract labor, services are performed at the direction of and under the supervision of Zone 7 staff.



## Contract with Bruce Balala Mowing - \$95,000

In 2013, Zone 7 staff administered and managed an annual contract with Bruce Balala Mowing to provide District-wide mowing services for all 37 miles of Zone 7 channels. The mowing consisted of cutting tall weeds and grasses along channel embankments to meet the local Fire Marshal's requirements for establishing a fire break.

*Bruce Balala mows the grass per Fire Department's request on Alamo Canal in Pleasanton.*



## Contracts with California Conservation Corps (CCC) and East Bay Conservation Corps (EBCC) - \$35,000 each



In 2013, annual contracts with the CCC and EBCC involved labor crew usage for projects requiring manual labor such as biotech bank stabilization projects, concrete v-ditch cleaning and vegetation clearing.



## **Contract with Pacheco Brothers Gardening, Inc., Landscape Contractor - \$25,000**

Zone 7 uses this annual contract for more specific vegetation maintenance, such as tree trimming to ensure adequate vehicle clearance, removal of broken tree limbs and replanting of trees where applicable.



*Down tree across road*



## ***Inspection Program***

Throughout the year, Zone 7 staff performed inspections to ensure that Zone 7's flood protection channels were ready for the next big storm event. The inspection program comprised of multiple elements including routine facilities inspection, project-specific inspection, storm watch inspection, and on-call emergency response.

### **Routine Facilities Inspection**

Zone 7 staff performed routine inspections by thoroughly inspecting Zone 7 facilities and past repair projects at a minimum of once per month and documenting any problems. Problematic areas were tracked on a spreadsheet with relevant information, such as description, priority, location, and dates. These spreadsheets are used to prioritize future repairs and improvements.

### **Project-Specific Inspection**

Zone 7 staff performed inspections for both Maintenance and Capital Project related projects. Staff is generally responsible for inspecting any project that requires an encroachment permit from Zone 7 as well. Staff inspectors act as the eyes and ears for the project engineer and report

their findings on a daily basis. Only after communicating with the project engineer, does the inspector inform a contractor of the directive.

## Storm Watch Inspection

During major storm events, Zone 7 staff immediately shift into a pre-emergency response mode, working to minimize the loss of life and property. Flood-fighting activities such as responding to emergency phone calls, storm monitoring, and field patrolling were top priorities during the storm season. Zone 7 staff documented all areas that are more prone to problems during storms.

## On-Call Emergency Response



*Grease spill  
along Arroyo  
Seco*

For emergency situations, such as flooding or major damage to facilities and other property related issues (e.g., hazardous materials spilled into Zone 7's flood protection facilities), Zone 7 staff are on-call and ready to respond as necessary. In addition, Zone 7 issues annual contracts to support these efforts. During 2013, both Fanfa, Inc. and the Alameda County Public

Works crews were available to assist Zone 7 staff by providing both labor and equipment to deal with such emergencies. In 2013, there were no flooding emergencies; however, Zone 7 staff responded to three separate incidents where grease and black ink were found in Zone 7-owned flood protection facilities. In all three incidents, the spills were cleaned up.



*Black ink  
found along  
Arroyo las  
Positas*

## ***Horizontal Drilling Bank Stabilization Program***

This program involves the installation of a number of horizontal drains to minimize bank instability due to the high groundwater table or otherwise trapped water along the west bank of Alamo Canal. These horizontal drains are perforated PVC pipes that are strategically installed at locations with seepage evident in the bank. Perforations are designed to capture the surrounding water and empty it into the channel, releasing hydrostatic pressure and thereby avoiding bank failures. This program also involves a monitoring program to evaluate the effectiveness of the drains and periodic surveying of the banks. Sixteen horizontal drains were installed in 2013.



***Water draining out of the bank through the drains***

## ***Miscellaneous Facility Maintenance Activities***

### **Facility Fencing Repairs**



***Fence damage***

utilized to repair fences that have been cut or damaged, install new fence netting and access gate repair to maintain the required level of safety and security in Zone 7-owned facilities.

Zone 7 protects its facilities from trespassers through the use of fencing along the property line. When fencing is damaged, it becomes a liability to Zone 7 if the fencing is not repaired. An annual fencing contract with a fencing contractor has been



***Fence damage***

## Hydroseeding

After channel embankment repairs, all denuded areas are hydroseeded by Zone 7 contractors. Hydroseeding of repaired embankments encourages the re-establishment of appropriate vegetative cover. During 2013, an annual hydroseeding contract was used to meet this need.

## Homeless Encampments

Homeless encampments along flood protection facilities are another issue Zone 7 had to deal with under our routine maintenance program. In 2013, staff, with the assistance of the respective cities' Police Departments, removed and cleaned up one site in Dublin, two sites in Pleasanton and five sites in Livermore.

*Camping set up in creek bottom*



*Trash/Debris leftover*



Camps had to be promptly removed before they became a safety and sanitation liability to the agency and the trash/debris left behind inhibited flow within the creeks.

## Storm Drain Pipe Inspection

Some of Zone 7's storm drain pipes are corroded and leaking, thereby causing channel embankment failure. Inspection of the storm drain pipes is needed and is routinely performed as part of facility inspections to locate and repair damaged pipes before any embankment failure.

Proactive replacement of corroded storm drain piping has prevented embankment failure in many of Zone 7's flood control facilities. Inspections continued in 2013.

## Rodent Control



*Fox Holes  
Approximately  
1'x 2'*

When considering the maintenance of a flood protection facility, the inevitable subject of rodent control always arises. Rodents, specifically ground squirrels, cause damage to the flood control banks by burrowing through the ground, causing water intrusion and destabilization of the flood control banks. In 2013, an infestation of red

tailed foxes also caused damage to Zone 7's Facilities. Zone 7 executes contracts to control and trap rodents within the 37 miles of channels that Zone 7 owns. In 2013, a contract was issued to the Alameda County Community Development Agency, Department of Agriculture to provide these services.



## Graffiti Abatement



In 2013, Zone 7 staff continued efforts to abate graffiti found within flood protection facilities.