

Attachment 11 *Stormwater Flood Management Grant Proposal
City of Palmdale
Program Preferences*

Attachment 11 consists of the following items:

- ✓ **Program Preferences.** Attachment 11 contains detailed information on how the proposal will meet the program preferences described in the IRWM Guidelines.

Program Preferences Met by Proposal

The Amargosa Project meets eight out of eight Program Preferences identified in the Proposition 84 & Proposition 1E IRWM Guidelines. This attachment details the specific Program Preferences that are met by the Project, the certainty that the Proposal will meet Resource Management Strategies, the certainty that the Proposal will assist in meeting the Program Preferences, and the breadth and magnitude to which the Program Preferences will be met. Table 11-1, below identifies the Program Preferences which the project will assist in meeting.

Table 11-1: Program Preferences Met by Proposal

Project	Program Preferences							
	(1) Includes Regional Projects or Programs	(2) Integrates Projects within a Hydrologic Region	(3) Resolves Significant Water-Related Conflicts Within Region	(4) Contributes to Attainment of one or more CALFED objectives	(5) Addresses Critical Water Supply or Quality Needs of DAC	(6) Integrates Water Management with Land Use Planning	(7) Eligible for SWFM funding	(8) Addresses Statewide Priorities
Upper Amargosa Creek Flood Control, Recharge, and Habitat Restoration Project	✓	✓	✓	✓	✓	✓	✓	✓

Specific program preference, certainty, breadth and magnitude:

- (1) Project includes regional projects and programs:
 - Provides regional water supply and conservation benefits by utilizing all SWP water during wet years and preventing this water from being lost to evaporation or to the ocean
 - Provides water quality by increasing the water in the upper aquifer and preventing the lower quality water in the lower aquifer from mixing with the upper aquifer
- (2) Project integrates projects within an identified Region:
 - Project will integrate with the planned future Lower Amargosa Creek Recharge project
 - Project will integrate with planned future recycled water recharge projects in Amargosa Creek

- (3) Project will help resolve the groundwater adjudication by providing opportunities to pumpers to store water for dry years and help recharge the aquifer from its overdraft condition.
- (4) The Project would contribute to the attainment of CALFED objectives by:
 - Increasing the flexibility of water systems at the state, federal and local level through improvements in conveyance, storage and water project operation; and
 - Development of groundwater storage to boost flexibility and provide additional supplies for agriculture, urban and environmental use.
- (5) The Project will help to address critical water supply or quality needs of a disadvantaged community (DAC) by recharging stormwater into the upper Amargosa groundwater aquifer. The the water quality will be improved for about 500,000 people in more than 16 communities, six of which are considered to be disadvantaged according to the State of California definition.¹
- (6) The Project effectively integrates water management with land use planning by combining water supply projects with flood protection facilities, habitat restoration, and recreational open space.
- (7) The Project is eligible for Stormwater Flood Management (SWFM) funding because:
 - The project is not part of the State Plan Flood Control (SPFC);
 - The project is designed to manage stormwater runoff to reduce flood damage;
 - The project yields multiple benefits including ecosystem benefits, reduction of in-stream erosion and sedimentation, and groundwater recharge; and
 - The project is consistent with the applicable Regional Water Quality Control Plan to manage stormwater runoff to reduce flood damages.
- (8) The Project addresses Statewide priorities as detailed in Table 11-2 below.

Table 11-2: Address Statewide Priorities

Project	Assist in Meeting Statewide Priorities							
	Drought Prepared-ness	Use and Reuse Water More Efficiently	Climate Change Response Actions	Expand Environmental Stewardship	Practice Integrated Flood Management	Protect Surface Water Quality and Groundwater Quality	Improve Tribal Water and Natural Resources	Ensure Equitable Distribution of Benefits
Upper Amargosa Creek Flood Control, Recharge, and Habitat Restoration Project	✓	✓	✓	✓	✓	✓		✓

¹ The State of California defines a disadvantaged community as a community with an annual median household income (MHI) that is less than 80% of the statewide MHI.

The project addresses seven Statewide Priorities:

- **Drought Preparedness** - by storing water in the ground for drought years when the SWP cannot provide the quantities required for the region.
- **Use and Reuse Water More Efficiently** - by increasing water supply reliability through groundwater recharge of SWP water and stormwater into the underlying aquifer. The Project would increase local supply reliability for the region through replenishment of local groundwater. The project would capture and recharge approximately 400 AFY of stormwater and 14,600 to 53,600 AFY of SWP water.
- **Climate Change Response Actions** - by adapting conjunctive management of multiple local water supply sources such as imported water, stormwater, and groundwater that will also address anticipated climate change impacts to the region.
- **Expand Environmental Stewardship** - by enhancing and restoring the local environment at Amargosa Creek with re-introduction of riparian vegetation, native desert scrub, and other wildlife habitat. The restoration of Amargosa Creek's instream functions and flood management ecosystems will aid in preventing floods and flood cost damages to surrounding property, businesses, and streets. Additionally, educational displays will be placed throughout the project site to provide information on the watershed processes, urban runoff, native habitat, and local biological and water resources to promote environmental stewardship throughout the region.
- **Practice Integrated Flood Management** - by preventing flooding and providing other benefits such as sustainable food and water management system, improved flood protection, and enhancing the floodplain ecosystem through implementation of the project.
- **Protect Surface Water and Groundwater Quality** - by collecting stormwater within Amargosa Creek channel berms and allowing percolation to the groundwater. Within the Antelope Valley groundwater basin, the lower aquifer contains arsenic. Continued overdraft from the upper aquifer could result in vertical migration from the lower aquifer and result in arsenic in drinking water supplies. Recharging the upper aquifer could help reduce the vertical groundwater gradient and thereby reduce potential for arsenic migration. Additionally, collecting stormwater flows in the creek will slow the velocity and cause sediment to drop out of the flow. Amargosa Creek has problems in transporting sediment in high flow situations.
- **Ensure Equitable Distribution of Benefits** - by recharging stormwater and imported water into the upper Amargosa groundwater aquifer, the water quality will be improved for about 500,000 people in more than 16 communities, six of which are considered to be disadvantaged.

Certainty that the Proposal will meet Resource Management Strategies

The Project will implement the following Resource Management Strategies identified in the California Water Plan Update 2009:

- **Flood Risk Management** - by applying multiple strategies that address not only flood management but other water resource issues such as water supply. The project will use a structural approach, channelization, to improve the ability of the Amargosa Creek to convey flood flows and a Land Use Management approach, floodplain restoration, by acquiring land subject to inundation for preserving and restoring the natural ability of an undeveloped floodplain to absorb, hold, and release floodwaters.
- **Conjunctive Management & Groundwater** - by coordinating the use of both surface water and groundwater resources for providing a reliable source of water and increasing the available water

supply for the region. The Amargosa project will recharge SWP water and stormwater into the underlying aquifer for storage.

- **Ecosystem Restoration** - by restoring and enhancing riparian and floodplain ecosystems at the Amargosa Creek project site. This includes restoring natural communities and vegetation which will reduce ecosystem damages and improve flood management.
- **Recharge Area Protection** - by constructing eight catch basins for recharging groundwater into the local aquifer. Plaques will be placed at the project site to educate visitors on urban stormwater runoff to prevent pollution from entering Amargosa Creek and the groundwater.
- **Watershed Management** - by restoring, sustaining, and enhancing vital watershed functions that will increase and sustain the watershed’s ability to provide for the needs of communities that depend on these water resources.

Certainty that the Proposal will meet Program Preferences

The Project has undergone extreme scrutiny during the IRWMP stakeholder process and therefore, there is great certainty the project selected for this proposal will meet the Program Preferences. The project will meet criteria designed to address Proposition 1E requirements and achieve the Antelope Valley IRWMP objectives. The project has the ability to achieve its required benefits, is technically feasible, has secured more than 50% of matching funds, and is implementable within a reasonable length of time after the grant award date.

The existing data and studies that demonstrate the project is technically sound and likely to be implemented are listed below in Table 11-3.

Table 11-3: Existing Data and Studies

Project	Existing Data and Studies
Upper Amargosa Creek Flood Control, Recharge, and Habitat Restoration Project	<ul style="list-style-type: none"> • A study titled “Study of Potential Recharge Sites in the Antelope Valley” was prepared for the Antelope Valley State Water Contractors Association by Stetson Engineers, Inc. in September 2002; • Amargosa Creek Percolation Demonstration Report was prepared by SAIC in July 2007; • Upper Amargosa Creek Concept Report was prepared by SAIC in January 2008; • Upper Amargosa Creek Recharge Project Environmental Impact Report (EIR) was prepared by SAIC in July 2009; • Preliminary 20th Street West-Amargosa Creek Improvements Project Report was prepared by LAN Engineering (now AECOM) 2007 • Water Resources Evaluation of Amargosa Creek was prepared by SAIC in July 2009; • Antelope Valley Integrated Regional Water Management Plan, Proposition 50 Round 2, Step 5 Grant Application was prepared by the City of Palmdale and submitted in January 2008

Breadth and Magnitude to which Program Preference will be Met

The breadth and magnitude to which the Program Preferences be gauged by the project meeting the IRWM Plan goals, as described in detail in *Attachment 3 - Work Plan*. The IRWM Plan articulated five goals, three of which the project will meet. The goals of the Antelope Valley IRWM Plan are as follows:

- Improve water supply reliability;
- Protect and improve quality of water resources;
- Reduce negative impacts of stormwater, urban runoff, and nuisance water;
- Preserve open space and natural habitats that protect and enhance water resources and species in the Antelope Valley Region;
- Meet growing demand for recreational space and improve integrated land use planning to support water management.

Table 11-4 provides both quantitative and qualitative data on the breadth and magnitude to which the projects meet the IRWM Plan goals.

Table 11-4: Breadth/Magnitude to which Program Preferences will be Met

Project	Breadth/Magnitude to Which Program Preferences Will Be Met	
	Eligible for SWFM funding	Address Statewide Priorities
Upper Amargosa Creek Flood Control, Recharge, and Habitat Restoration Project	<ul style="list-style-type: none"> • The project will capture and recharge approximately 400 AFY of stormwater • By recharging stormwater and imported water into the upper Amargosa groundwater aquifer, the water quality will be improved for about 500,000 people in more than 16 communities, six of which are considered to be disadvantaged. • By recharging the groundwater it will reduce the vertical groundwater gradient and reduce the potential for arsenic to migrate from the lower to upper aquifer. 	<ul style="list-style-type: none"> • Improved flood protection and flood management by implementing a multi-benefit project that will reduce flood impacts and increase water supplies