Merced Integrated Regional Water Management
Merced Region Drought Grant Proposal

Attachment 7:
Program Preferences

Attachment 7 consists of the following item:

- ✓ **Program Preferences**
  This attachment contains information regarding how this *Merced IRWM Implementation Grant Proposal*- assists the Merced region in meeting the Program Preferences set by PRC § 75026.(b) and CWC § 10544.

This attachment identifies the specific Program Preferences that the proposal will meet; describes the certainty that the Proposal will meet each Program Preference; and details the breadth and magnitude to which the Program Preferences will be met by the following projects:

- Highlands Groundwater Conservation Project
- Cressey Recharge Enlargement Basin Project
- Water Meter Conservation Project

Human Right to Water Policy

As indicated in the *2014 IRWM Drought Solicitation IRWM Implementation Program Guidelines*, proposals that address and consider the Human Right to Water needs within a region contribute to meeting the statewide priority of equitable distribution of benefits. The project proponents are serious in addressing this policy, because many of the communities within the Region are considered DAC and groundwater is the sole source of potable water supply. There is a high risk of not meeting basic drinking water needs and violating drinking water MCLs if groundwater levels continue to decline at the current rate (up to 50 feet in some areas). The Region is addressing this policy as follows:

- Recognizing the need to address the over drafted state of the basin by increasing water levels, the Region conducted the Groundwater Recharge Feasibility Study in 2013 to define areas with high potential for recharge. This follows a history of groundwater recharge activities in the Merced Region (from irrigation of agricultural fields, recharge from unlined canals, development of artificial recharge facilities, and other previous studies. This study is important in that an understanding of the areas with high potential for recharge will allow the Region to define specific projects that can then be planned, designed, and implemented.
- The voluntary and mandatory conservation efforts described in Attachment 2 are designed to reduce the overall extraction of groundwater in an attempt to address the current critical shortage of suitable drinking water supplies. Thus, these efforts would contribute to the Human Right to Water policy by providing access to clean, safe drinking water.

The specific projects proposed in this application also address the Human Right to Water Policy as described below.

Two of the projects, the Highlands Groundwater Conservation Project and the Water Meter Conservation Project, are located within DACs. The Highlands Groundwater Conservation Project, an in-lieu recharge project, would provide surface water to the Highlands area users in-lieu of groundwater. By reducing groundwater pumping, water would be preserved in the groundwater for potable use. In addition, in-lieu recharge reduces the rate of groundwater drawdown thereby reducing secondary impacts on water quality such as maximum contaminant level (MCL) exceedances that threaten Human Right to Water. The Water Meter Conservation Project is a water efficiency and conservation project that directly addresses the critical water supply and quality needs for the community of Le Grand. In this area, groundwater level elevation changes have been substantial due to over pumping in the vicinity of Le Grand. Thus both water supply and quality have suffered as production wells have been rendered inoperable and water quality is threatened by increasing concentrations of arsenic and 1,2,3-TCPP. Although the Cressey Recharge Basin Enlargement Project is not located in an area designated as a DAC, the purpose of this project is to artificially recharge the groundwater basin to address overdraft issues. The DAC of Livingston and Winton would receive the most benefit as they are located down-gradient from the static groundwater levels at the recharge location. As such, the Region will benefit from both increased water supply and improved water quality. Therefore, all three projects would address and the Human Right to Water policy.

Program Preferences Met by the Proposal

Table 7-1 below shows the Program Preferences that will be addressed by each of the projects within this Proposal, and identifies the degree of certainty and the magnitude and breadth to which each Program Preference will be addressed.

Table 7-1: Proposed Projects and Program Preferences

Proposed Projects	Program Preferences							
	Include Regional Projects or Programs	Integrate Water Management Programs and Projects	Resolve Significant Water-Related Conflicts	Contribute to Attainment of CALFED Bay-Delta Program Objectives	Address Critical Water Supply or Water Quality Needs of DACs	Integrate Water Management with Land Use Planning	Reduce Reliance on the Sacramento-San Joaquin Delta for water supply	Address Statewide Priorities
Highlands Groundwater Conservation Project	✓	✓	✓	N/A	✓		N/A	✓
Cressey Recharge Basin Enlargement Project	✓	✓	✓	N/A	✓	✓	N/A	✓
Water Meter Conservation Project	✓	✓	✓	N/A	✓		N/A	✓
Degree of Certainty Preference will be Addressed	HIGH	HIGH	HIGH	N/A	HIGH	HIGH	N/A	HIGH
Magnitude and Breadth to Which Preference will be Addressed	Local, Regional	Local, Regional	Local, Regional and Statewide	N/A	Local, Regional	Local	N/A	Local, Regional and Statewide

Note: N/A – Not Applicable

None of the projects would contribute to attainment of one or more of the objectives of the CALFED Bay-Delta Program because while the Merced region is upstream of the Bay-Delta, the projects include in this proposal are focused on groundwater rather than surface water supplies. Furthermore, none of the projects would reduce reliance on the Delta for water supply. As such, these preferences are not applicable to the proposal or the individual projects.

Program Preferences by Project - Highlands Groundwater Conservation Project

The Highlands Groundwater Conservation Project, sponsored by MID, is an in-lieu groundwater recharge (conjunctive use) project. It will provide surface water to existing groundwater users in-lieu of groundwater when surface water is available. The existing groundwater wells would be left on standby for conjunctive use during droughts. The project would provide immediate and long-term drought preparedness and contributes to water supply reliability and resiliency during water shortages. The project would also address the drinking water supply needs of the Highlands area, a DAC. This project meets the following Program Preferences:

- **Regional Project:** This project meets the regional criteria as defined by CWC §10537, because it will increase benefits to drinking and agriculture supplies through groundwater storage and conjunctive water management throughout the Merced Groundwater Subbasin. In addition, it would improve water quality of the Merced Subbasin through increased groundwater levels and improve groundwater management of a basin that is currently in mild decline. This project is considered regional pursuant to CWC §10544, and it is fully certain that this project will adhere to this Program Preference on a regional level.

- **Integrate Water Management Programs and Projects:** The project will address the Program Preference of effectively integrating water management programs and projects within a hydrologic region specifically identified by DWR (the Merced Region). This Project has multiple benefits and integrates multiple water management strategies, including meeting demands for all uses (by stabilizing groundwater levels), correcting groundwater overdraft conditions, protecting and improving water quality for all beneficial uses, and addressing water-related needs of DACs.

- **Resolve Significant Water-Related Conflicts:** Groundwater is the sole source of potable water in the Region. Surface water and groundwater (from both municipal and private wells) are both used in agricultural irrigation. During droughts, drinking water supply can be diminished substantially if pumping in the groundwater basin is increased dramatically. The project would benefit both the Highlands area and the City of Livingston by providing surface water to meet agricultural demands and allowing in-lieu recharge to increase groundwater levels to meet potable demands. The project is located approximately one and a half miles from the City of Livingston, which is experiencing water supply/quality hardships during this drought. The project would alleviate conflict created by a cone of depression east of Livingston by elevating groundwater supplies.

- **Addresses Critical Water Supply/Water Quality Needs of DACs:** This project provides critical water supply benefits to a DAC by providing surface water to the Highlands area. It would also address water quality needs of areas upstream of the project that has both water supply and quality issues.

- **Statewide Priorities:** This project addresses several statewide priorities. It is a *drought preparedness project* because it would contribute to sustainable water supply and reliability during water shortages. It addresses *climate change* by reducing greenhouse gas emissions and energy consumption. In addition, the project would *protect surface water and groundwater quality* because it would increase groundwater levels to address adjacent, elevated TDS and nitrate concentrations. The project would ensure *equitable distribution of* benefits because the project would have multiple benefits for DACs, and it would address and consider the Human Right to Water needs within the region. Specifically, the project would increase groundwater levels such that groundwater water quality could be improved and groundwater supply would be preserved for beneficial uses of drinking water supply, which will directly benefit drinking water needs of the entire Merced Region.

Based on the discussion above, the project provides **LOCAL**, **REGIONAL** and **STATEWIDE** benefits. The project addresses these preferences with a **High** degree of certainty. This project is not dependent upon the completion of any other project and there are no known institutional obstacles to be addressed that would prevent the project from delivering on these benefits.

Program Preferences by Project - Cressey Recharge Basin Enlargement Project

The Cressey Recharge Basin Enlargement Project is the second phase of an existing recharge basin project, which would expand the existing 8-acre basin by 5 acres. The project achieves the following program preferences.

- **Regional Project:** This project meets the regional criteria as defined by CWC §10537, because it will increase benefits to drinking and agriculture supplies through groundwater storage. In addition, it would improve water quality of the Merced Subbasin through increased groundwater levels and improve management of a groundwater basin that is currently in a state of decline. This project is considered regional pursuant to CWC §10544, and it is fully certain that this project will address this Program Preference on a regional level.
- **Integrate Water Management Programs and Projects:** The project would address the Program Preference of effectively integrating water management programs and projects within a hydrologic region specifically identified by DWR (the Merced Region). This Project has multiple benefits that meet various objectives, including meeting demands for all uses (by stabilizing groundwater levels), correcting groundwater overdraft conditions, protecting and improving water quality for all beneficial uses, and addressing water-related needs of DACs.
- **Resolve Significant Water-Related Conflicts.** During droughts, drinking water supply can be diminished substantially if pumping in the groundwater basin increases dramatically. The project would resolve this water supply conflict by recharging the groundwater basin. Therefore, potable and agricultural water supplies would equally benefit. The project also addresses the conflict between ecosystem and human demands by increasing the available water supply in the basin and consequently wildlife areas such as the National Wildlife Refuge.
- **Addresses Critical Water Supply/Water Quality Needs of DACs:** This project is directly up gradient of DACs in the region, and any increase in groundwater levels at the project site will directly benefit downgradient users, which are designated DACs.
- **Statewide Priorities:** This project addresses several statewide priorities. It is a *drought preparedness project* because it would contribute to sustainable water supply and reliability during water shortages. The project would *protect surface water and groundwater quality*. Recharge through the basin would help stem saline water intrusions and address elevated nitrate concentrations in the vicinity. The project would ensure *equitable distribution of* benefits because the project would have multiple benefits for DACs downgradient of the site, and address and consider the Human Right to Water needs within the region. Specifically, the project would increase groundwater levels such that groundwater water quality could be improved and groundwater supply would be preserved for beneficial uses of drinking water supply for surrounding communities.

Based on the discussion above, the project provides **LOCAL**, **REGIONAL** and **STATEWIDE** benefits. The project addresses these preferences with a **High** degree of certainty because this project is not dependent upon the completion of any other project and there are no known institutional obstacles to be addressed that would prevent the project from delivering on these benefits.

Program Preferences by Project - Water Meter Conservation Project

The LGCSD proposes to install 525 new water meters (500 connections to homes and 25 connections to businesses, schools and County park) and transmitter equipment in the community of Le Grand. The project is an emergency drought-preparedness project that will immediately alleviate the dire drought impacts identified in Attachment 2.

- **Regional Project:** This project meets the regional criteria as defined by CWC §10537 by reducing water demand through urban water use efficiency (water meters), increasing water supplies for beneficial use (drinking water) through water use efficiency, improving operational efficiency and water supply reliability, and improving water quality at the regional level. Thus, the project is considered regional pursuant to CWC §10544, and it is fully certain that this project will adhere to this Program Preference on a regional level.
- **Integrate Water Management Programs and Projects:** The project would address the Program Preference of effectively integrating water management programs and projects within a hydrologic region specifically identified by DWR (the Merced Region). The project is part of an integrated program for managing groundwater on a regional basis, and it will help to achieve the regional objectives of correcting groundwater overdraft conditions (increasing groundwater levels, improvement in groundwater quality), maximizing water use efficiency, protecting and improving water quality for all beneficial uses (drinking water supply), addressing water-related needs of a DAC, and addressing climate change adaptation.
- **Resolve Significant Water-Related Conflicts:** The sole source of drinking water supply in the region is groundwater. The groundwater basin is currently overdrafted, and competition over the use of the groundwater for agricultural and potable uses is considered a water-related conflict. This project would address groundwater overdraft and groundwater quality and quantity, thus reducing water-related conflicts for groundwater.
- **Addresses Critical Water Supply/Water Quality Needs of DACs:** This project provides critical water supply benefits to a DAC by installing water meters within the entire community to reduce demands and helping manage through a critical water shortage. The project will assist in addressing groundwater overdraft conditions and water quality issues. The project will assist in maintaining a minimum quality and quantity of water, as overdraft conditions in the groundwater basin and the associated reduction in potable water supply pose a critical threat to the health and safety of this DAC.
- **Statewide Priorities:** This project addresses several statewide priorities. It is a *drought preparedness project* because it would contribute to sustainable water supply and reliability during water shortages (by promoting water conservation, achieving long term reduction of water use, and supporting efficient and groundwater basin management). The project would also *use and reuse water more efficiently* by increasing urban water use efficiency through conservation. In addition, the project addresses *Climate Change Response Actions*, because it would reduce greenhouse gas emissions and energy consumption. The Project *protects surface water and groundwater quality* to safeguard public and environmental health and secure water supplies, and ensure access of safe water to small DACs. The project would also ensure *equitable distribution of benefits* because it addresses and considers the Human Right to Water needs within the region by providing access to safe clean, and affordable water, adequate for human consumption, cooking and sanitary purposes.

Based on the discussion above, the project provides **LOCAL**, **REGIONAL** and **STATEWIDE** benefits. The project addresses these preferences with a **High** degree of certainty because this project is not dependent upon the completion of any other project and there are no known institutional obstacles to be addressed that would prevent the project from delivering on these benefits.