



POSO CREEK

IRWMP Group | August 2015

2015 IRWMP Implementation Proposal *Attachment 6 - Program Preferences*



**NORTH KERN WATER
STORAGE DISTRICT**

North Kern Water Storage District
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POSO CREEK IRWMP

Management Group

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Attachment 6 – Program Preferences

The Poso Creek 2015 IRWM Implementation Proposal (Proposal) includes two proposed projects that are discussed in Attachment 2, including a description of their benefits following implementation. These include; 1) North Kern WSD Drought Relief Project – incorporation of oil-field produced water in supplies, and 2) Lost Hills Well No. 3 Project – equipping of a new groundwater well for more reliable municipal supplies. The following identifies project conformance to the Human Right to Water and specific Program Preferences, identified in the 2015 IRWM Program Guidelines, and discusses the level of certainty that each project will conform to those preferences.

6.1. HUMAN RIGHT TO WATER POLICY MET BY THIS PROPOSAL

Both projects assist the Poso Creek region in conforming to the goals of the Human Right to Water Policy (UNDESA, 2005-2015) to the extents that planning and management of water resources use in the region and the reliability of water supplies for human uses are improved.

The North Kern project supports the mitigation of groundwater levels in the region – by use of oil-field produced water supplies in-lieu of groundwater supplies accessible by agricultural and municipal users – which will help maintain economically viable pumping lifts (financial and energy resource conservation). Moreover the project will conserve approximately 21,200 acre-feet per year of groundwater supplies making them available to other regional users, increasing the reliability of a hydrological connected regional groundwater basin. The basin is actively used by people for agricultural and municipal (potable water) purposes (2014 IRWM Plan Update, Part 3: Regional Description).

The Lost Hills community Project – equipping of a new groundwater well supply system- addresses critical drinking water needs of an economically disadvantaged community (DAC) of residents in the Poso Creek region (see Attachment 7 for more detail). Water quality concerns, specifically arsenic levels, and declining groundwater levels have caused issues with Lost Hills’ current groundwater supply system. Recent drought conditions have exacerbated groundwater level declines, from overdraft by regional agricultural and municipal users, causing severe decreases in the vicinity of the Lost Hills’ wells. As such, two primary urgent issues face Lost Hills as it risks losing reliability of their drinking water supply; 1) the existing well pumps will be at risk of failure if groundwater levels drop below minimum net positive suction head (i.e., well physically unable to extract groundwater supplies) and 2) reduced flows from existing wells causing Lost Hills to be at risk of not meeting maximum daily demand with the highest capacity well offline. To address these issues Lost Hills will construct a new well that is at adequate depth and with adequate flow capacity to address existing drought and future needs. Implementation of this project works to ensure Lost Hills’ residents access to clean, affordable drinking water. In addition, the well would be developed using zone testing to minimize the arsenic concentration being pumped thereby ensuring potable water quality standards.

6.2. PROGRAM PREFERENCES MET BY THIS PROPOSAL

1. Include Regional Projects or Programs. Both proposed Projects are compliant with the IRWM Program Guidelines and objectives as a “water management activity,” while conforming to the regional emphasis of projects and programs emphasized in CWC §10544. North Kern’s project incorporates a new water supply source – oil-field produced water - into the regional groundwater basin and array of water supply types available to regional users. That project also complements other oil-field produced water projects and users in the Poso region (e.g., Kern-Tulare WD investigation of oil-field produced supplies, Cawelo WD utilization of 30,000 AF/year of produced supplies). Lost Hills project addresses critical drinking water needs of Lost Hills’ municipal water supplies. This project was identified in the 2014 IRWM Plan Update for a DAC needing assistance with reliable water supplies. The IRWM Group reviewed both for appropriateness as grant-funded projects, following procedures identified in the 2014 IRWM Plan Update (Part 4: Project Review Process).

2. Effectively Integrate Water management Programs and Projects within a Hydrologic Region identified in the Water Plan; the RWQCB or DWR-identified region. The Poso Creek IRWM region is located completely within the Tulare Lake hydrologic region, as identified in the California Water Plan Update 2013. Both project locations are located within and immediately surrounding the Poso Creek region, and thus are also within the same hydrologic region.

3. Effectively Resolve Significant Water-related Conflicts within or between Regions. The Proposal package assists urban and agricultural water suppliers within the Poso Creek region to reduce water conflicts among neighboring water users. North Kern’s Project contributes water supplies to recharge the shared groundwater basin – through an “in-lieu” system where oil-field produced supplies are used in-lieu of normally pumped groundwater to meet demands. The in-lieu

system decreases competition for regionally shared and limited groundwater resources thereby mitigating current and future water-related conflicts based on groundwater overdraft. Groundwater supply and quality issues impact many DACs in the Poso Creek IRWM Region, as identified in the 2014 IRWM Plan Update (Part 3: Regional Description, Section 3.9: Urban and Industrial Lands and Disadvantaged Communities). Groundwater use from agricultural districts surrounding municipal and environmental areas accounts for approximately 96 percent of the demand (2007 IRWM Plan, Chapter 5), which leads to potential conflicts, especially with decreased surface water availability to the region or limited access to other supplemental supplies. Lost Hills' Project allows the DAC to more effectively utilize the available groundwater resources avoiding potential conflicts with other regional users.

4. Contribute to attainment of one or more of the objectives of the CALFED Bay-Delta Program. The North Kern Project will contribute to attainment of one or more of the objectives of the CALFED Bay-Delta Program, specifically; 1) Reducing Existing Irrecoverable Losses, 2) Preserving Local Flexibility, 3) Achieving Multiple Benefits, and 4) Building on Existing Water Use Efficiency and Conjunctive Use Programs (Bay-Delta Program, Water Supply Objectives). The Project will reduce the amount of oil-field produced water currently reinjected into irrecoverable deep aquifer groundwater which could instead be put to beneficial uses. In this sense, the water can be used to conserve local shallow zone groundwater allowing also for conjunctive use of groundwater supplies by North Kern and other regional users. To the extent that neighboring agencies are CVP-Delta and SWP contractors, the available oil-field produced water allows for transfers and exchanges between North Kern and these districts. The result is decreased reliance on the timing of water supplies delivered (i.e., increased flexibility) from the Bay-Delta to these contractor agencies. The Lost Hills Project is unrelated to the Bay-Delta Program objectives as the community does not receive supplemental surface water supplies.

5. Address critical water supply or water quality needs of DACs within the region. Both projects help address critical water supply and quality needs of regional users, as described in Section 6.1, by providing access to safe, clean, and affordable potable water, adequate for human consumption in the region. The Lost Hills project directly addresses a critical water supply reliability need for a remote and economically disadvantaged community and improves water quality. The North Kern Project reducing district reliance on groundwater, by substituting oil-field produced water for pumped groundwater; results in decreased groundwater consumption within the region. The result is an increase, by way in-lieu offset, of water supplies for municipal users and DACs that rely on the regional groundwater resources.

6. Effectively integrate water management with land use planning. Implementation of the North Kern project allows the district to actively receive and manage oil-field produced water from CRC operations in the Kern Front Oil-field lands in conjunction with water from other sources. Water generated as a byproduct of production in nearby oil fields is thus integrated into the regional water supply and used for both irrigation demands and groundwater recharge. The Lost Hills project provides increased water supply reliability to a DAC by equipping a new, deeper reaching groundwater well. Urbanization in the Poso Creek IRWM region has been fairly constant and accounts for approximately 2 percent of the water use in the Region as described in the 2014 IRWM Plan Update (Part 3: Regional Description, Section 3.10: Social, Cultural, and Economic Trends of the Region). The projects allow for more water supply reliability for changing demands due to land use planning and changes in regional areas.

7. Are part of an IRWM Plan that helps the region reduce reliance on the Sacramento-San Joaquin Delta for water supply (for IRWM regions that receive water from the Sacramento-San Joaquin Delta). The North Kern project will introduce a local, consistent quantity of oil-field produced water into the region, year-round, regardless of the availability of other surface water sources. Several surrounding agricultural districts in the IRWM region are SWP and CVP contractors, thus North Kern's location allows for exchanges with neighboring CVP and SWP contractors that can result in decreased reliance on the timing of water supplied from the Bay-Delta to neighboring districts. DACs such as Lost Hills rely on the groundwater for their drinking water supply and rely on the recharge from imported SWP water to agricultural districts for groundwater replenishment. Regional projects implemented by the Poso Creek IRWM agricultural districts; help recharge the groundwater basin increasing reliability for groundwater-reliant DACs.

8. Address statewide priorities (Table 1, Section II.F of 2015 IRWM Guidelines). Both projects will address and help meet many of the statewide priorities listed in Table 1 of the 2015 IRWM Guidelines, by addressing long-term drought preparedness through water supply and conjunctive use management. The North Kern project facilitates District use of oil-field produced water supplies, allowing it to use other water supplies (e.g., groundwater) more effectively during times of agricultural demand. The District can also utilize produced water for groundwater recharge to better prepare the region for reoccurring drought conditions. The Lost Hills project facilitates more reliable groundwater use by Lost Hills in terms of water supply and quality and better prepares this DAC for reoccurring drought conditions. It also helps a DAC develop water supplies which are critical to the community which relies exclusively on groundwater. Many of the corresponding identified Statewide Priorities are shown in Table 1 of the 2015 IRWM Guidelines and are described in Attachment 2.