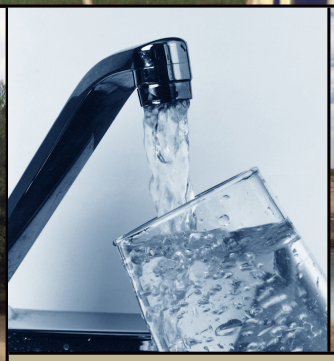
POSO CREEK

IRWMP Group | August 2015

2015 IRWMP Implementation Proposal

Attachment 7 - Disadvantaged Community Assistance



NORTH KERN WATER STORAGE DISTRICT

North Kern Water Storage District
33380 Cawelo Avenue
Bakersfield, CA 93308

POSO CREEK IRWMP
Management Group

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Attachment 7 – Disadvantaged Community Assistance

7.1. DOCUMENTATION OF THE PRESENCE OF A DAC

The Poso Creek IRWM Group receives regional Disadvantaged Community (DAC) input through regular and public meetings, via an appointed DAC Representative[1]. DAC-related projects and programs are vetted through a DAC Work Group and are submitted to the governing RWMG for review and approval. This process is outlined in the 2014 IRWM Plan Update[2]. The IRWM Group also works with Self-Help Enterprises (SHE), a non-profit entity that provides technical services and support for communities to compete for resources in lower socioeconomic areas. In short, the IRWM Group makes a concerted effort, in coordination with SHE, to assist communities in qualifying for projects and programs based on involvement in the IRWM Group.

Application Question: Demonstrate the proposed project addresses the needs of a DAC.

Poso Creek DAC Involvement

There are several incorporated cities and unincorporated communities located within the Poso Creek region. The largest urban area in the southern San Joaquin Valley – the City of Bakersfield – is located to the south of the region, outside of the Poso Creek IRWM boundary. Based on figures from 2010 ACS Census data, approximately 120,000 people presently reside in the region, roughly double the figure from 1990. Many of these communities, and large sections of the cities, are considered "economically disadvantaged" following the criteria defined in CWC §79505.5(a). Financial constraints of these DACs tend to inhibit their ability to actively manage their water supplies with large-scale agricultural and industrial water consumption in the region, leading to potential conflicts for utilizing and protecting regional water resources. In that sense, identifying the water supply and water quality needs of DACs and low-income areas is necessary to the success of the "regional approach" by the IRWM Group. The composition of the group, including agricultural water management district, municipal entities, corporate participation, and DACs carries the potential to resolve potential water-related conflicts. The IRWM Group has taken proactive steps to include DAC-specific interests in development of planning and management documentation, in consideration of the financial hardships of these participants. Following identification of economically-disadvantaged areas during formation of the group in 2007 representatives were extended an invitation to participate in group meetings and functions. Several communities, meeting the criteria of DACs, joined the Poso Creek IRWM Group and have actively participated since its formation. These communities are identified in a list on the following page, extracted from Table 3.7 of the 2014 IRWM Plan Update (Part 3: Regional Description).

The 2014 IRWM Plan Update lists DACs in the region, and a map of the locations of these DACs is shown in Figure 7-1. As indicated above, DACs physically located within the IRWM region are represented by a DAC Representative - a voting member within the governing RWMG - as well as a DAC Work Group. For DACs that remain unrepresented, or are located outside the region boundary, the IRWM Group has worked with SHE and the Community Water Center to identify and provide needs assessment of unincorporated disadvantaged communities.

[1] The "DAC Representative" is an elected member of the governing RWMG, who addresses the issues and needs of regional DACs. The current representative is Frank Ohnesorgen, Superintendent/Principal of the local Pond School District. Phone Number: (661) 792-2545, E-mail: fohnesorgen@pond.12.ca.us.
[2] Poso Creek 2014 IRWM Plan Update, Part 5: Project Review Process.

City/Community (% of State MHI)[3]	Corresponding Entity
Allensworth (39%)[1]	Allensworth Community Services District
Alpaugh (34%)[1]	Alpaugh Joint Powers Authority
Bishop Acres (56%)[2]	Bishop Acres Mutual Water Company
Blackwells Corner (48%)[2]	
Buttonwillow (62%)	Buttonwillow County Water District
Delano (58%)	City of Delano
Unincorporated Areas West of Delano (51%)[2]	County of Kern, City of Delano
Ducor (55%)[1]	Ducor Community Services District
Earlimart (43%)	Earlimart Public Utility District
Lost Hills (48%)	Lost Hills Utility District
Madonna (21%)[2]	City of Delano County of Tulare
Maple School District (45%)[2]	City of Shafter

City/Community (% of State MHI)[3]	Corresponding Entity
McFarland (59%)	City of McFarland
Pond (51%)[2]	Pond Mutual Water Company
Pond School District (51%)[2]	Pond School District
Richgrove (49%)	Richgrove Community Services District
Rodriguez Labor Camp (47%)	Richgrove Community Services District
Semitropic School District (48%)[2]	Semitropic School District
Shafter (67%)	City of Shafter
Shafter Farm Labor Center[2]	Housing Authority of County of Kern
Shafter North - North Park & North Shafter (45%)	City of Shafter
Shafter South - Smith's Corner, Thomas Lane, Cherokee Strip, Burbank, Mexican Colony, Southwest Shafter (45%)	County of Kern, City of Shafter
Wasco (69%)	City of Wasco

[1] Located outside of Poso Creek IRWM Region.
[2] Not explicitly defined as a DAC service area in the DWR DAC Mapping Tool. Verified as DAC in Poso Creek Region under criteria of Median Household Income in Section 3.9 of the 2014 IRWM Plan Update. Percentages of State MHI criteria are shown.
[3] Percent of State MHI from 2009-2013 ACS Census Data, threshold of $61,094 with 80 percent value of $48,875, as stated above (from 2015 IRWM Guidelines)

Application Question: A description of the water-related needs of a DAC.

In general, DACs in the Poso Creek region have several significant obstacles to overcome in order to ensure reliable water supplies and adequate water quality for their residents. Many of these issues have been identified in both the 2007 IRWM Plan[3] and 2014 IRWM Plan Update[4], including, but not limited to, the following:

1. Lack of financial resources due to lower-income residents, many of whom are not able to adequately fund community projects and programs (i.e., lower tax income for these communities and limited involvement from residents). In addition, many of these communities struggle to provide basic services such as maintenance, permitting, and staff to address the needs and issues of their residents.
2. Lack of technical and managerial ability of community leadership and personnel to plan and afford the necessary steps for assuring water quantity and quality. This also relates to being unable to hire skilled staff and provide competitive income levels, thereby perpetuating the lack of leadership capacity, specifically regarding water-related concerns.
3. The water and wastewater infrastructure of many of the DACs in the Region are substandard or aging, relying on old or severely leaking wells and distribution systems leading to many water challenges. For instance, some of these wells are shallow, inadequately constructed, or improperly sealed, which leads to poor water pressure and/or poor water quality.

[3] Poso Creek 2007 IRWM Plan, Part 10: Stakeholders and Public Involvement, Section 10.4: Economically Disadvantaged Communities Representation.
[4] Poso Creek 2014 IRWM Plan Update, Part 3: Regional Description, Section 3.9: Urban and Industrial Lands and Disadvantaged Communities.

4. Many of the DACs are geographically isolated, located long distances from larger cities or more economically prosperous areas.

Project 2 of this Proposal for Lost Hills DAC will increase local water supply reliability through construction of a new well to ensure adequate and reliable delivery of safe drinking water. Recent drought conditions have caused groundwater levels to decrease severely in the vicinity of the LHUD's wells. As such, two primary urgent issues face LHUD 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 (NPSH) and 2) reduced flows from each existing well causing LHUD to be at risk of not meeting maximum daily demand (MDD) with the highest capacity well offline. To address these issues LHUD will construct a new well that is at adequate depth and with adequate flow capacity to address existing drought and future needs. In addition, the well would be developed using zone testing to minimize the arsenic concentration being pumped.

The Lost Hills community is located approximately 20 miles west of the City of Wasco, towards the western edge of the San Joaquin Valley in a remote and isolated area as. A lack of financial resources has left the community unable to fund many of the water and wastewater infrastructure projects needed to ensure safe and reliable water supplies for its residents. Fortunately, Lost Hills is able to rely on the Lost Hills Utility District (LHUD) for technical and managerial expertise. Lost Hills utilizes groundwater as their only source of supply, not being connected to any supplemental surface water supply systems. Thus the importance of projects such as the one included in this Proposal, provides a means of increasing the reliability of their water supplies and avoiding water quality issues with drinking water for community residents.

Regarding groundwater use by DACs, the IRWM Group has specifically identified and implemented projects/programs that benefit the underlying groundwater basin. An example is the proposed North Kern Drought Relief Project, for incorporating oil-field produced water into their irrigation supply system, contained in this Proposal. As identified and discussed in the Poso Creek IRWM Plan, agricultural water management districts and DACs, as well as other municipal and industrial users, share a groundwater basin that is hydraulically connected and utilized by all users in the region. Accordingly, any significant decline in water levels is felt by all users, including those regional DACs that rely on the groundwater for their primary supplies. The IRWM Group recognizes that declines in static groundwater levels carry associated increases in the use of power and energy resources, as well as infrastructure (well) upgrades which become necessary to pump groundwater from deeper in the aquifer. In this regard, projects and programs being implemented in the region which work to mitigate declines in water levels provide benefits to all groundwater users in the Region. Beyond projects and programs aimed specifically at improving water supply or water quality issues at the DAC-level (e.g., construction or rehabilitation of a groundwater well), the types of activities described in this Proposal provide benefit to the DACs in the Region through the conservation and protection of common groundwater resources.

Application Question: Proof that at least 25% of the area served by the project meets the definition of a DAC.

Lost Hills DAC Project – Well No. 3

Lost Hills is considered "economically disadvantaged" based on a comparison of its Median Household Income (MHI) - $29,348 according to 2010 U.S. Census Data - to the statewide MHI - $61,094 as stated in the 2015 IRWM Guidelines (ACS Census Data 2009-2013). This value is well below the (80% of statewide median household income threshold) value of $48,875 for designation as a DAC. When compared to the Poso Creek Region as a whole, the population-weighted average MHI is approximately $30,294, approximately 49.5 percent of statewide MHI. The following table is directly extracted from Table 3.7 of the Poso Creek 2014 IRWM Plan Update (Part 3: Regional Description), identifying the MHI for Lost Hills and providing a synopsis of the data presented above. As seen in the table, the community of Lost Hills is relatively small with a population around 2,400 people, with a MHI at approximately 48 percent of the State MHI indicated above.

City/Community	County	Population[1]	Estimated Households in City/Community	Median Household Income (MHI)[1]	% of State MHI[2]	Corresponding Entity
Lost Hills	Kern	2,412	440	$29,348	48%	Lost Hills Utility District

[1] Data obtained from the latest US Census Bureau statistics, generally 2010 Census Data (available via American Fact Finder online database).
[2] Percent of State MHI from 2009-2013 ACS Census Data, threshold of $61,094 with 80 percent value of $48,875, as stated above (from 2015 IRWM Guidelines)

Moreover, the following information supports the determination of the LHUD Project as a DAC-related Project in the Poso Creek Region. Both figures are included on the following pages.

1) Map view of Poso Creek Region, from 2014 IRWM Plan Update, showing locations of identified and participant DACs. The map includes the community of Lost Hills. *Labeled Figure 7-1.*
2) Map view of DAC service areas specific to the Poso Creek Region from the DWR DAC Mapping Tool. The DAC Mapping Tool is an interactive map application allowing users to overlay US Census geographies as separate data layers. *Labeled Figure 7-2.*

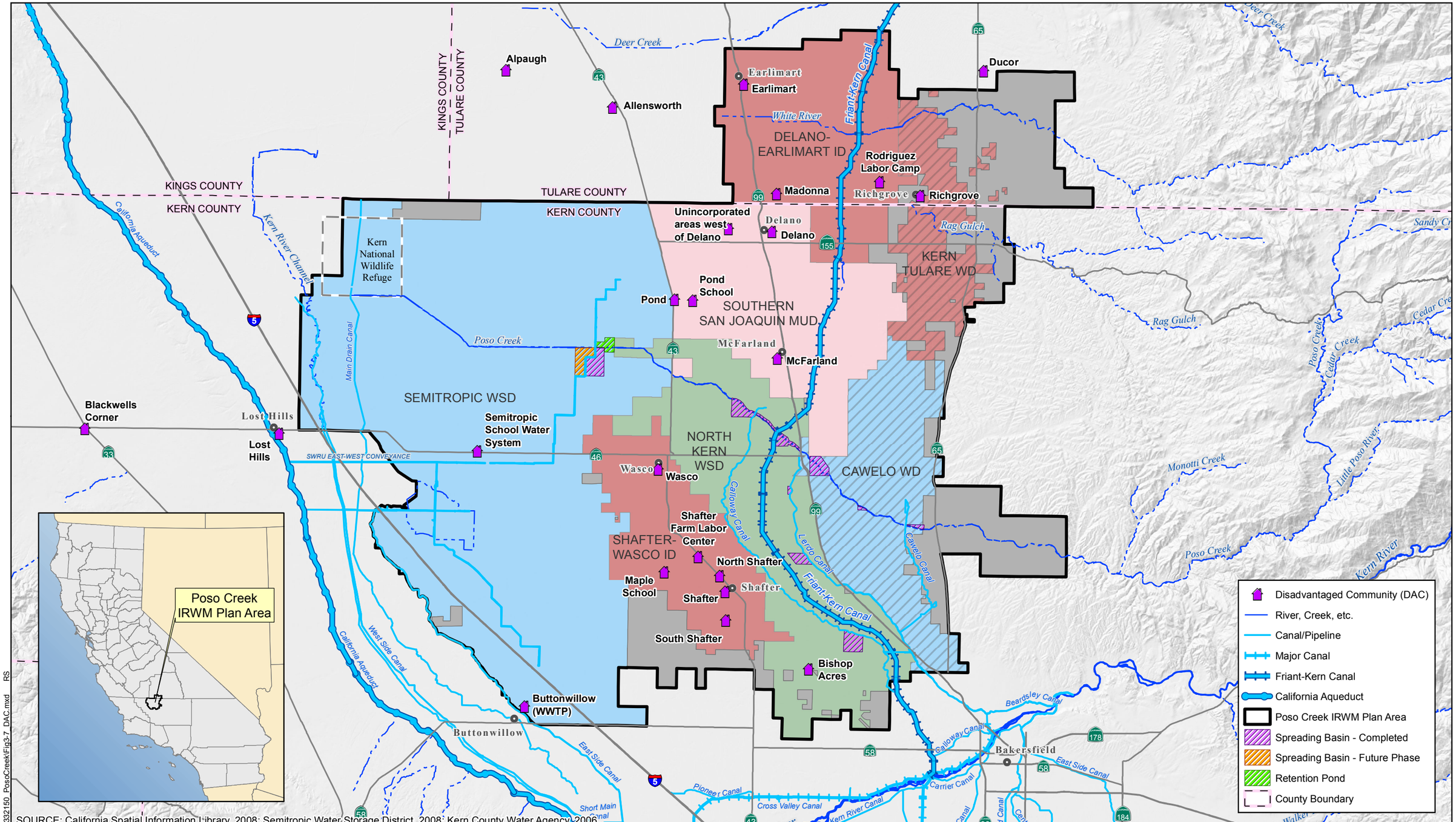
The DAC Representative and SHE were involved in the IRWM Group process for analyzing and discussing the proposed LHUD Project. Through the DAC Work Group, people and representatives from LHUD were involved and engaged in the development and preparation of the Project for inclusion in this application. Since this proposal includes the Lost Hills DAC Project, specifically addressing direct water-related needs of a DAC, the application was compiled to allow DWR to evaluate the application with regard to DAC program preferences and waiver of funding match.

North Kern Project – Drought Relief Project

The proposed North Kern Project integrates a "new" water source – oil-field produced water supplies originating from deep aquifer zones, averaging 2,290 feet below the ground surface (California Department of Conservation – Division of Oil, Gas, and Geothermal Resources, 1998) - into the region but is not a facility directly connected to a DAC water distribution system. Project 1 will incorporate approximately 21,200 acre-feet per year of oil-field produced water into North Kern's service area, which is expected to cause a directly proportional offset of the quantity of water pumped from shallower aquifer zones typically used for agricultural and municipal supplies. That is, oil bearing deposits are much deeper than the aquifers drawn on by water supply wells.[5]

In essence, this Project provides an "in-lieu" water supply system (i.e., oil-field produced water used in-lieu of shallower groundwater) to effectively recharge the common aquifer and thereby conserve hydrologically connected groundwater resources, to the benefit of the water demand needs of any particular DAC. The advantage of an in-lieu system is that the conservation of groundwater supplies is essentially immediate, as the delivery of one acre-foot of oil-field produced water immediately displaces one acre-foot of (shallower) groundwater pumping and does not depend upon percolation and the movement of water in the aquifer. Benefits of the Proposal are explained in detail in Attachment 2. Quantitatively, approximately 21,200 acre-feet per year of water supplies are expected to be available in the aquifer for DACs and other regional users. Reducing North Kern's reliance on groundwater resources can mitigate declines in static groundwater levels, avoiding associated increases in the use of power and energy resources (environmental burden), as well as infrastructure upgrades with wells, pumps, and motors (financial burden), which would become necessary to pump groundwater from deeper in the aquifer. That is, Project implementation reduces North Kern dependence on supplies from shallower zones of hydrologically-connected groundwater resources, the use of oil-field produced water supplies - from deeper aquifer zones - offsetting competition from other regional groundwater users, including DACs. Most of the benefits listed in Attachment 2 are a result of decreased competition for groundwater resources.

[5] Conversation with Ram Venkatesan, North Kern WSD District Engineer.



SOURCE: California Spatial Information Library, 2008; Semitropic Water Storage District, 2008; Kern County Water Agency, 2006.

2015 Integrated Regional Water Management Plan Implementation Proposal

Kern and Tulare Counties, California

Poso Creek IRWMP Group

GEI Consultants
Bookman-Edmonston Division

LOCATION OF DACS IN THE POSO CREEK REGION

AUGUST 2015

FIGURE 7-1

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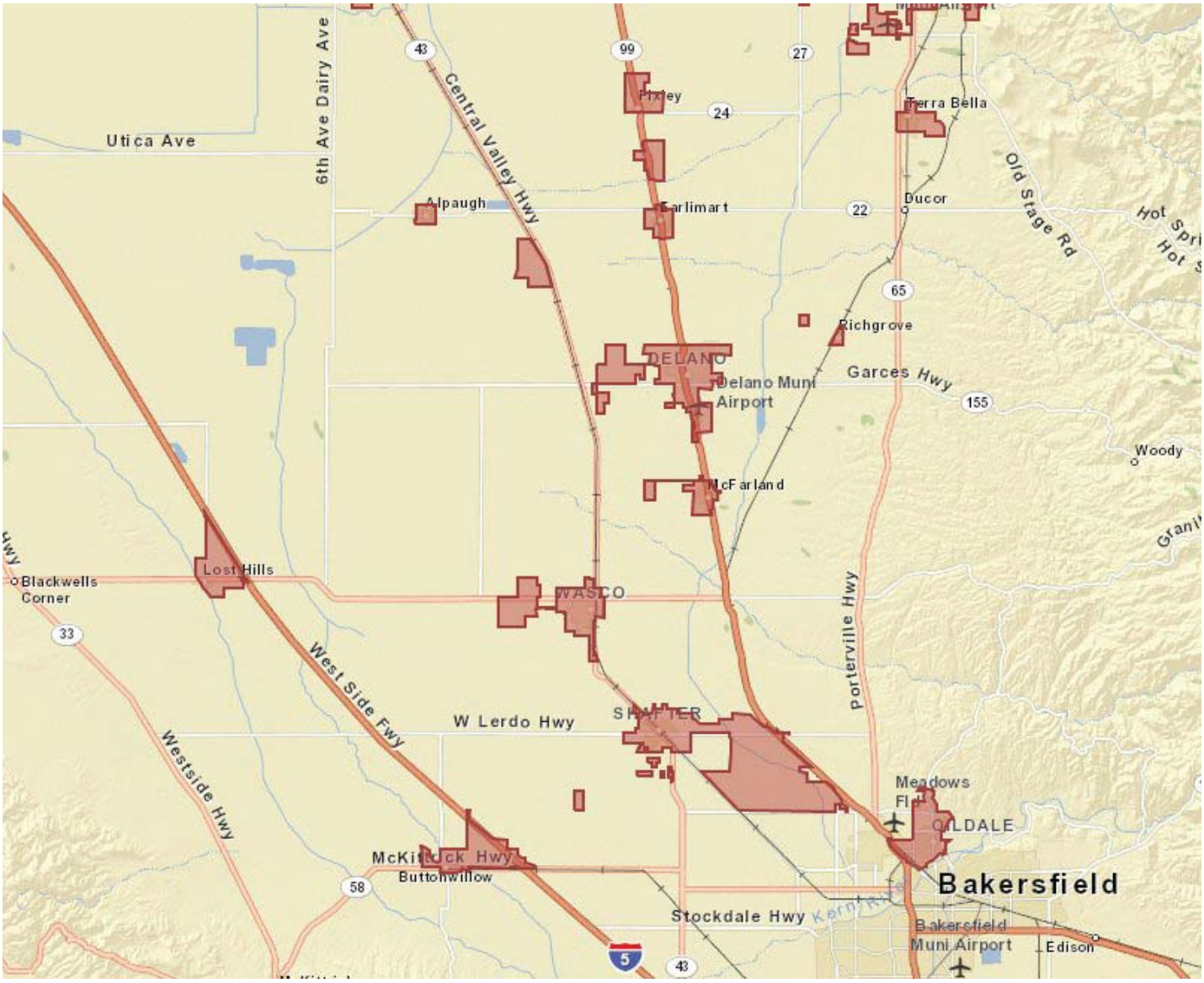

2015 Integrated Regional Water Management Plan Implementation Proposal	GEI Consultants	DACs Based on DWR's DAC Mapping Tool
Poso Creek IRWMP Group		August 2015 Figure 7-2