CABY Integrated Regional Water Management Plan
Proposition 84, Round 2 Implementation Grant

Attachment 8: Disadvantage Community Assistance

Attached, please find information and map to show that Grizzly Flats is a designated DAC. The project included in this proposal that addresses a critical water supply for Grizzly Flat is:

Grizzly Flats Drought Measures Infrastructure Project

2014-2015 Drought Relief Measures in the CABY Region

Proposition 84, Drought Grant Solicitation

Attachment 8. Disadvantaged Community (DAC) Assistance

Documentation of the Presence and Needs of a DAC

This Proposition 84 Drought Grant Solicitation and associated project development process represent a rare opportunity for DACs to implement system improvements. Water management decision-making sometimes ignores the historic, economic, environmental, and social burdens of disadvantaged communities. These communities reside amid the economically viable water infrastructure, but rarely directly benefit from the economics of water resource supply and demand.

The Grizzly Flats Community Services District (GFCSD), Drought Measures Infrastructure Project addresses critical water supply and water quality needs of a DACs within the CABY region. The Disadvantaged Community related to this project is Grizzly Flats.

- **Provide information that supports the determination of each DAC including a map showing the project service area is congruent with a DAC.**

Grizzly Flats is a disadvantaged community (less that 80 percent of the California median household income) and one of the projects directly address the needs of this DAC.

- **Include census data that adequately represents the community and MHI.**

Table 8-1

County	Census Places	MHI*	Projects that Address the Needs of a DAC
El Dorado County	Grizzly Flats	30,744	Project 5. Grizzly Flats Community Services District, Drought Measures infrastructure Project

*MHI = Median Household Income, based on 2010 Census Data.

DISADVANTAGED COMMUNITY ASSISTANCE– Grizzly Flats Community Services District, Drought Measures Infrastructure Project

Summary: Drought Measures Infrastructure Project is eligible for Disadvantaged Community Assistance. The community of Grizzly Flats is a DAC recognized by DWR. The project boundaries and the area to be served by the project lay within the DWR DAC boundary. The project proposes to solve critical water supply needs of the community. For this project, we are requesting a waiver of the matching funds requirement.

DAC status: The community of Grizzly Flats is recognized by DWR as a DAC, with the following GIS attributes:

FID	563
PLACEFP10	31302
PLACENS10	02628736
GEOID10	0631302
NAME10	Grizzly Flats
NAMELSAD10	Grizzly Flats CDP
INTPTLAT10	+38.6356964
INTPTLON10	-120.5354350
Pop	793
MHI	32,173
HH	241
DAC	Y

Alignment of the Project and the DAC: A map of the project is attached. This map shows the project boundaries, the service area of the water system, key road and geographic features of the area. A map of the project is attached. This map shows the project boundaries and the DAC boundary.

These features are drawn on an image of the DAC map taken from http://www.water.ca.gov/irwm/grants/resourceslinks.cfm, Map 6, available at this address: http://www.arcgis.com/apps/OnePane/basicviewer/index.html?&extent={%22xmin%22:-15522106.757711068,%22ymin%22:3383875.113067463,%22xmax%22:-11562057.196313709,%22ymax%22:5663533.044643953,%22spatialReference%22:{%22wkid%22:102100}}&appid=c034d1f8f9f34afeb98f20be2a2fb790

The project area and the area served by the project lies entirely within the DAC boundaries as shown on the attached maps. The MHI for the water system service area is $32,173.00.

Description of Grizzly Flats

Grizzly Flats is a disadvantaged community located in the Sierra Nevada Foothills. Its population is 1,066. Its median household income is $30,744 per year (see attached Census documentation). The MHI of Grizzly Flats is $16,533 below what is required for a community to be considered a DAC. The GFCSD has the responsibility of providing treated water for domestic use and fire protection to the residents within its service area.

Description of the Grizzly Flats Community Services District Water System

The GFCSD is located in the foothills of the Sierra Nevada, south-east of Placerville, CA. The GFCSD has the responsibility of providing treated water for domestic use and fire protection to the residents within its service area. The community of Grizzly Flats was founded in the 1850's. In 1966, the Grizzly Park Water Company was formed and provided water to the community. In 1987, the El Dorado County

Board of Supervisors formed the GFCSD. The GFCSD acquired the water rights and facilities from the privately owned Grizzly Park Water Company.

The GFCSD obtains its water supply by direct diversion of stream flows from North Canyon and Big Canyon Creeks which are tributaries to the North Fork Cosumnes River. Flows are diverted through the Eagle Ditch pipeline and are pursuant to water rights dating back to the 1850's. The system is sensitive to low rainfall years and is susceptible to failure in late fall (August – November) in years of low stream flows.

The service area abuts the Eldorado National Forest. Approximately 1,228 parcels exist in the service area. Elevations of the service area vary from 3600 feet at the southwesterly end of the area to 4200 feet at the northeasterly end. The District has about 600 residential customers. There are 150 fire hydrants distributed throughout the service area.

Diversions through Eagle Ditch pipeline terminate in a 31-acre foot High Density Polyethylene (HDPE) lined raw water reservoir, which serves as the headworks to the water treatment plant where water is fully treated to meet drinking water standards. The GFCSD has two filter units to treat water and four water storage tanks. Water is distributed to customers through the piped distribution system mainly by gravity. Due to the varying terrain, pumping is required in limited areas to maintain adequate service pressures.

The GFCSD has five employees: Jodi Lauther (General Manager), Leo Rainwater (Water System Manager), Nick Chapman (Water System Operator II), Ken Hooley (Maintenance Technician), and Kim Gustafson (Office Facilitator). We have a five member Board of Directors who oversees our District. All of our past and present Board members have volunteered thousands of hours managing the GFCSD's business.

Since the GFCSD was formed, community support has been the key to its success. The "this is my water service District" spirit has gone a long way, because of volunteers devoting their time and skills to help keep costs down. Volunteers constructed the treatment plant and office building, installed approximately 3 miles of pipe from the reservoir to the North and Big Canyon diversions, and helped with maintenance such as tree cutting, brush clearing, painting, and office work. Each month your meters are read and your bills are stuffed into envelopes by volunteers.

- **Description of Critical Water Supply Needs**

GFCSD current water supply comes from two drainage areas. Big Canyon (1,715 acres) and North Canyon (1,120 acres) are surface water tributaries in the North Fork Cosumnes River Basin. The two streams are fed by seasonal rainfall and snowmelt and also from a spring-fed system. GFCSD holds a pre-1914 water right for the direct diversion of available flows from Big Canyon and North Canyon at two points of diversion. Diversions flow into the Eagle Ditch up to the 800 gallon per minute (gpm) capacity of the pipe installed in the original earthen ditch so long as 15 percent of the flow is left in the stream. Typical flow in October, for example, is estimated at 620 gpm. In wet years, the capacity of the pipe often limits the amount of water that can be diverted. The watershed yield is 145 ac-ft based on the driest year on record.

Eagle ditch feeds the GFCSD reservoir. The full capacity of the reservoir is 25.99 ac-ft. However, it is reduced to 22.8 ac-ft when the overflow pipe is lowered 1.5 feet to reduce leakage losses from the

unlined reservoir. In a normal year, GFCSD operates to maintain 6.1 ac-ft for fire-fighting and contingency reserve. Reservoir leakage and evaporation are consistent losses. Water is conveyed to the water treatment plant and then delivered into the distribution system for the Grizzly Park subdivision.
The past, current, and projected water demands for GFCSD are described in the Phase 1 report ,GFCSD's 1998 Reconnaissance Investigation of Off-Stream Storage, and EDCWA's April 2007 Water Resources Development and Management Plan. Legally, every parcel in GFCSD is allotted 300 gallons per day (gpd); this is a result of GFCSD having been built with bond money, so that each parcel picked up part of the water rights. GFCSD's year 2004 demands were approximately 164 ac-ft; year 2005 demands, 130 ac-ft. Projected demands for years 2010 and 2020 are approximately 278 ac-ft and 359 ac-ft, respectively. The annual rate of increase between years 2004 through 2010 is estimated to be approximately nine percent. GFCSD estimates that its demand will increase at an overall four percent annual rate through 2030, corresponding to a demand projection of approximately 440 ac-ft by the year 2030. Demand estimates include current conservation savings; reductions as a result of additional future water conservation efforts are not included in the demand projections.

Modification of the GFCSD Water System is necessary for the system to address drought conditions: Based on technical studies and reports, the water system fails to meet overall water system needs for system reliability, water loss and system wide drought impacts. Issues contributing to overall water system deficiencies include the following infrastructure problems:

1) Air getting trapped in the Eagle Ditch pipeline.
2) A substantial thinning of the metal walls of the two 40+ year old backwash tanks.
3) System corrosion issues.
4) Old, inaccurate and unreliable water meters.
5) The absence of an up-to-date control system such as a Supervisory Control and Data Acquisition System (SCADA) that would allow for quick warning and easy access to system status, which will help reduce water waste, soil erosion, unauthorized discharge of chlorinated water into the environment, and public safety issues from water damage to roadways.

Infrastructure renovations to the GFCSD Water System are necessary to assure continued reliability of the minimum quality and quantity of water: As part of the development of the 2007 Drought Plan for Grizzly Flats Community Services District, the reliability of GFCSD's water system was evaluated. For the analysis, reliability is defined as the volume of water supplied divided by volume demanded during the simulation period (historical or design drought) and expressed as a percentage. The demand volume is reduced from normal levels during dry periods within the simulation period when demand cutbacks of up to 30 percent are made.

The analysis results show that GFCSD's system reliability is 93.0 percent in 2004, decreasing to 73.3 percent with 2030 demands; values are based on no drought curtailment and the historical hydrology period of approximately 80 years. The reliability percentage would be less for the specific dry years embedded within the historical record. This analysis is based on the current amount of water supplies. The analysis included a simulated 3-year drought that mimics the historical 1976-77 drought followed by a third year of 1977 hydrological conditions. The results show that the current system and plan would be 72.2 percent reliable for the three year period with 2004 demands, and 25 percent reliable with 2030 demands. In order to relieve the anticipated shortfalls and water system efficiencies, the GFCSD proposes the following infrastructure improvements:

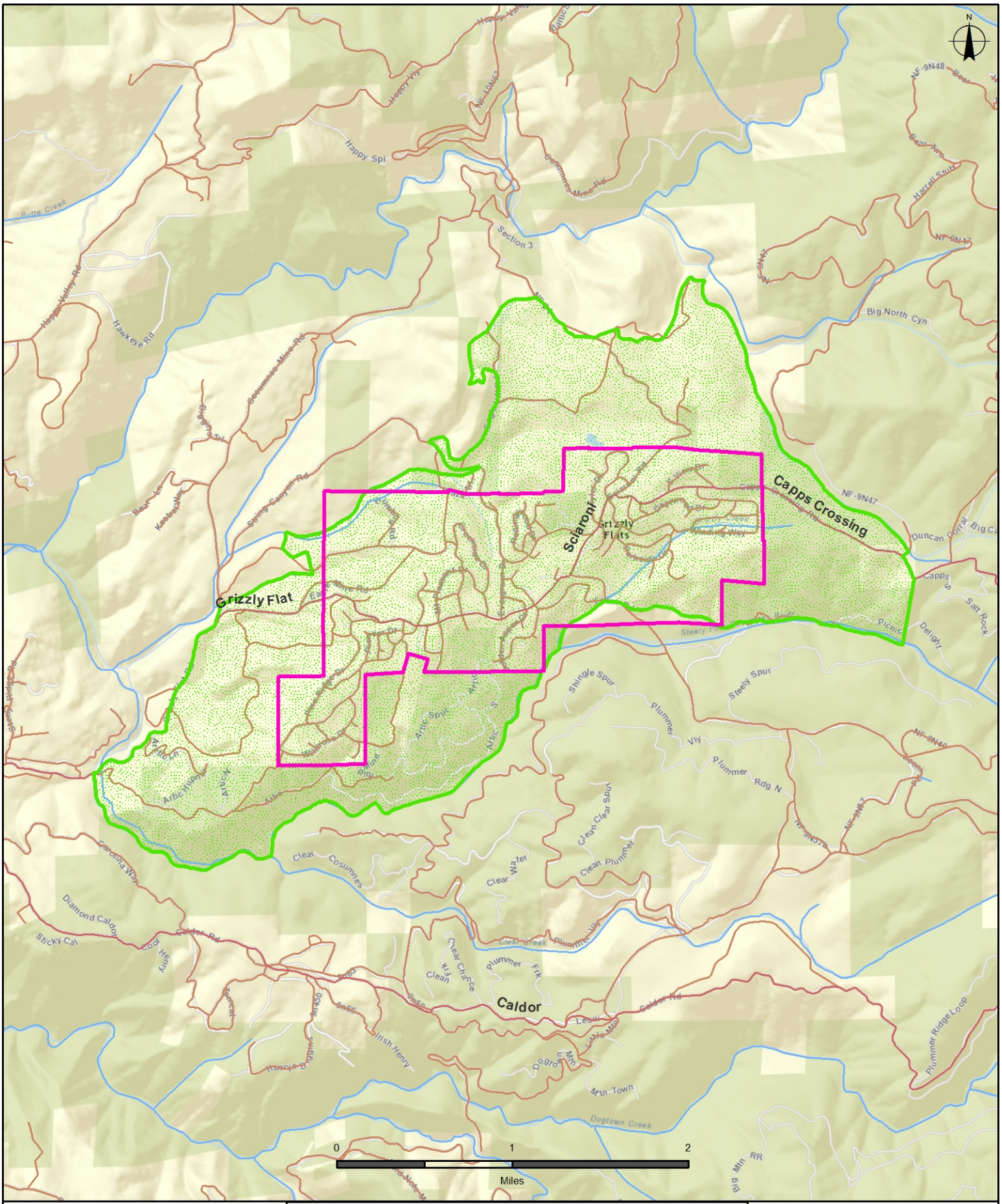
1) Install air release valves.

2) Replace the two backwash tanks with one tank of equal or larger capacity that would allow the GFCSD to reclaim water used for backwash and recycle it back into the reservoir for treatment.
3) New cathodic protection systems.
4) New meters that have leak indicators and could provide necessary accuracy.
5) A Supervisory Control and Data Acquisition System (SCADA) to gather readings and alarm conditions from the various components of the water system. This will allow operators and maintenance personnel to respond more quickly and appropriately to problems in the system.

Existing Studies: The Water System Improvement Project (WSIP) PER (Carlton Engineering), which comprehensively assessed the GFCSD's water system needs, identified the need for A Supervisory Control and Data Acquisition System (SCADA). A CSI Inspection Report documented the thinning backwash tanks and need for replacement.

Matching Fund Waiver Request: As allowed by DWR, a waiver of matching funds is requested for this project. The project proponent, GFCSD, has secured nearly 12% of the total project in matching funds but is unable to meet the entire 25% matching funds requirement.

How the Project Will Address the DAC's Needs? This Project will help GFCSD preserve essential public services and minimize the effects of a water shortage on public health and safety, economic activity, environmental resources, and individual lifestyle. The project will contribute to drought preparedness, which is an essential element of water supply planning.



Grizzly Flats Drought Measures Infrastructure Project

Grizzly Flats Community Services District

CSD Service Area and DAC Area Boundaries

Grizzly Flats CSD Service Area (Project Boundary)

Disadvantaged Community (Grizzly Flats)

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Date: 7/14/2014