



2010

URBAN WATER

MANAGEMENT PLAN

JUNE 2011



Table of Contents

	Page Number
List of Acronyms and Abbreviations	viii
Introduction	ix
UWMP Development Overview	x
Section 1 Plan Preparation	
1.1 Coordination	1-1
1.2 Plan Adoption, Submittal, and Implementation	1-2
Section 2 System Description	
2.1 Service Area Physical Description	2-1
2.1.1 Location	2-1
2.1.2 Climate	2-1
2.2 Service Area Population	2-2
2.3 Land Use	2-2
2.3.1 Disadvantaged Communities	2-3
2.4 Employment Data	2-3
2.5 Water Supply Facilities	2-3
Section 3 System Demands	
3.1 Baseline and Targets	3-1
3.1.1 Baseline Periods	3-1
3.1.2 Interim Urban Water Use Target	3-8
3.2 Report Progress in Meeting Water Use Targets	3-8
3.3 Water Demands	3-8
3.3.1 Past and Current Water Use	3-8
3.3.1.1 Residential Sector	3-9
3.3.1.2 Commercial Sector	3-9
3.3.1.3 Industrial Sector	3-9
3.3.1.4 Institutional/Governmental Sector	3-10

3.3.1.5	Landscape Sector	3-10
3.3.1.6	Sales to Other Agencies	3-10
3.3.1.7	Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof	3-10
3.3.1.8	Agriculture	3-10
3.3.1.9	Other Sector	3-11
3.3.2	Projected Water Use	3-11
3.3.2.1	Maximum Day Demand	3-11
3.3.2.2	Future Water Requirements	3-12
3.3.2.3	Water Use Projections for Lower Income Household	3-12
3.4	Water Demand Projections	3-13
3.5	Water Use Reduction Plan	3-13

Section 4 System Supplies

4.1	Water Sources	4-1
4.2	Groundwater	4-1
4.2.1	Groundwater Management Plan	4-2
4.2.2	Groundwater Basin Description	4-2
4.2.2.1	Groundwater Subbasin Recharge Areas	4-2
4.2.2.2	Groundwater Level Trends	4-2
4.2.2.3	Description of the Depth and Type of Aquifer	4-3
4.2.2.4	Description of Region Groundwater Quality	4-4
4.2.2.5	Description of Local Groundwater Quality	4-4
4.2.3	Adjudicated Groundwater Basin Status	4-5
4.2.4	Non-Adjudicated Groundwater Basin Overdraft Status	4-5
4.2.5	Description and Analysis of the Groundwater Pumped in the Past Five Years	4-6
4.2.6	Description and Analysis of the Groundwater Projected to be Pumped	4-6
4.3	Transfer Opportunities	4-7
4.4	Desalinated Water Opportunities	4-7
4.5	Recycled Water Opportunities	4-8
4.5.1	Wastewater Collection and Treatment	4-8

4.5.2	Recycled Water Discharge	4-9
4.5.3	Current Recycled Water Use	4-9
4.5.4	Future Recycled Water Use	4-10
4.5.5	Projected Use of Recycled Water	4-11
4.5.6	Actions and Incentives to Encourage the Use of Recycled Water	4-11
4.5.7	Plan to Optimize the Use of Recycled Water	4-11
4.6	Future Water Projects	4-12

Section 5 Water Supply Reliability and Water Shortage Contingency Planning

5.1	Water Supply Reliability	5-1
5.2	Water Shortage Contingency Planning	5-2
5.2.1	Actions During a Catastrophic Interruption	5-2
5.2.2	Water Shortage Stages and Reduction Objectives	5-2
5.2.3	Water Reduction Stage Triggering Mechanisms	5-2
5.2.4	Water Shortage Contingency Ordinance	5-3
5.2.5	Mandatory Prohibitions on Water Wasting	5-3
5.2.6	Penalties or Charges for Excessive Use	5-4
5.2.7	Analysis of Revenue Impacts of Reduced Sales During Shortages	5-4
5.3	Water Quality	5-5
5.4	Drought Planning	5-5
5.4.1	Water Supply Reliability and Vulnerability	5-6
5.4.2	Stages of Action to Be Undertaken by the City in Response to Water Shortages	5-6
5.4.3	Three-Year Minimum Water Supply	5-7
5.4.4	Reduction Measuring Mechanism	5-7
5.4.5	Supply and Demand Comparison	5-7

Section 6 Demand Management Measures (DMMs)

6.1	DMMs	6-1
6.1.1	DMMs Currently Being Implemented	6-2
6.1.2	DMMs Implemented or Scheduled for Implementation	6-3

Section 7 Climate Change	7-1
Section 8 Completed UWMP Checklist	8-1

Tables

Table 1-1	Coordination with Appropriate Agencies
Table 2-1	Climate Data
Table 2-2	Population — current and projected
Table 2-3	Land Use Categories
Table 2-4	Kern County Employment by Industry
Table 3-1	Base Period Ranges
Table 3-2	Base Daily Per Capita Water Use — 10-Year Range
Table 3-3	Base Daily Per Capita Water Use — 5-Year Range
Table 3-4	Gross Water Use Calculation
Table 3-5	Water Deliveries — Actual, 2005
Table 3-6	Water Deliveries — Actual, 2010
Table 3-7	Water Deliveries — Projected, 2015
Table 3-8	Water Deliveries — Projected, 2020
Table 3-9	Water deliveries — projected 2025, and 2030
Table 3-10	Low-income projected water demands
Table 3-11	Additional water uses and losses
Table 3-12	Total water use
Table 3-13	Projected Water Use
Table 3-14	Water Use Reduction Implementation Plan

Table 4-1	Water supplies — current and projected
Table 4-2	Groundwater — volume pumped (2005-2010)
Table 4-3	Groundwater — volume projected to be pumped (2015-2030)
Table 4-4	Recycled water — wastewater collection and treatment (2005-2030), projected
Table 4-5	Recycled water — potential future use
Table 4-6	Recycled water — 2005 UWMP use projection compared to 2010 actual
Table 4-7	Future water supply projects
Table 4-7a	Future water supply projects - Arsenic mitigation and drilling of new wells
Table 5-1	Factors resulting in inconsistency of supply
Table 5-2	Preparation Actions for a Catastrophe
Table 5-3	Water shortage contingency – consumption reduction methods
Table 5-4	Guidelines to assist in declaring a water shortage stage
Table 5-5	Water shortage contingency – mandatory prohibitions
Table 5-6	Water shortage contingency – penalties and charges
Table 5-7	Guide for Rate Adjustment
Table 5-8	Water quality – current and projected water supply impacts
Table 5-9	Water shortage contingency – rationing stages to address water supply shortages
Table 5-10	Basis of water year data
Table 5-11	Supply reliability – historic conditions
Table 5-12	Supply reliability – current water sources
Table 5-13	Supply and demand comparison – normal year
Table 5-14	Supply and demand comparison – single dry year
Table 5-15	Supply and demand comparison – multiple dry-year events

Figures

- Figure 2.1 Location Map
- Figure 2.2 Growth Boundaries/System Service Area
- Figure 2.3 General Plan Land Use
- Figure 2.4 Existing Water Supply Facilities
- Figure 3.1 Potable Water System
- Figure 4.1 Tulare Lake Hydrologic Region
- Figure 4.2 Kern Groundwater Basin Lines of Equal Elevation of Water in Wells,
Unconfined Aquifer Spring 2006
- Figure 5.1 30-Year Annual Rainfall Data City of Delano

Appendices

- A. Notification letters sent 60 days prior to the UWMP public hearing
- B. Copy of the public hearing notices including date of publication in a local newspaper of general circulation
- C. A Resolution of the City Council of the City of Delano Adopting the 2010 Urban Water Management Plan (Plan)
- D. Kern Groundwater Basin Lines of Equal Elevation of Water in Wells, Unconfined Aquifer (2002 through 2006)
- D1. 2010 City of Delano Consumer Confidence Report
- E. Lease Agreements to Farm City Owned Properties Around the Wastewater Treatment Facilities
- F. City Resolution No. 2011-27 in April 4, 2011, authorizing the City Manager to enter into an understanding with Ducks Unlimited, Inc. and Tulare Basin Wetlands Association to seek funding and generate conceptual design plans to investigate the potential to discharge the City's treated water to existing nearby wetlands.
- G. City Ordinances Relating to Water
- H. Water Quality Public Notice
- I. CUWCC BMP Retail Coverage Report 2009-2010
- J. Completed 2010 UWMP Checklist

List of Acronyms and Abbreviations

AB	Assembly Bill
Act	Urban Water Management Planning Act
Baseline	base daily per capita water use
BMP(s)	best management practice(s)
CBDA	California Bay-Delta Authority ¹
CEQA	California Environmental Quality Act
CII	commercial, industrial, and institutional
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
CWSRF	Clean Water State Revolving Fund
DIRWM	Division of Integrated Regional Water Management
DMM(s)	demand management measure(s)
DOST	DWR online submittal tool
DWR	California Department of Water Resources
GHG	greenhouse gas
GPCD	gallons per capita per day
IRWM	Integrated Regional Water Management
IRWMP(s)	Integrated Regional Water Management Plan(s)
Method 4	Urban Water Use Target Method 4
MOU	Memorandum of Understanding
Plan (or UWMP)	Urban Water Management Plan
SB	Senate Bill
State Water Board	State Water Resources Control Board
USC	Urban Stakeholders Committee
USBR-MP	United States Bureau of Reclamation – Mid-Pacific Region
UWMP (or Plan)	Urban Water Management Plan
VWS	Verification of Water Supply
WSA	Water Supply Assessment

¹ The California Bay-Delta Authority has been replaced by the Delta Stewardship Council

Introduction

The UWMP Act (California Water Code §10610 et seq.) requires urban water suppliers to report, describe, and evaluate: Water deliveries and uses; Water supply sources, Efficient water uses, DMMs; including implementation strategy and schedule.

In addition, the Water Conservation Bill of 2009 requires urban water suppliers to report in their UWMPs base daily per capita water use (baseline), urban water use target, interim urban water use target, and compliance daily per capita water use.

The UWMP Act directs water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies are available to meet existing and future demands (CWC 10612 (b)). Urban water suppliers are required to assess current demands and supplies over a 20-year planning horizon and consider various drought scenarios. The UWMP Act also requires water shortage contingency planning and drought response actions are included in a UWMP.

UWMPs are to be prepared every five years by urban water suppliers with 3,000 or more service connections or supplying 3,000 or more acre-feet of water per year.

The normal UWMP submittal cycle requires that they be prepared and submitted in December of years ending in five and zero. However, because of recent changes in UWMP requirements, State law has extended the deadline for the 2010 Plans to July 1, 2011. Although submitted in 2011, 2010 UWMPs will be referred to as 2010 UWMPs because they include 2010 water data and to retain consistency with the five-year submittal cycle.

A UWMP, including discussion of the status of a water supplier's implementation of DMMs, is required for an urban water supplier to be eligible for a water management grant or loan administered by DWR, the State Water Resources Control Board (State Water Board), or the Delta Stewardship Council (CWC §10631.5(a)).

A current UWMP must also be maintained by the water supplier throughout the term of any grant or loan administered by DWR.

Changes to California law require that, beginning in 2016, water suppliers comply with water conservation requirements established by the Water Conservation Bill of 2009 in order to be eligible for State water grants or loans.

This Urban Water Management Plan (Plan) addresses the City of Delano (City) water system and includes a description of the water supply sources, magnitudes of historical and projected water use under differing demand conditions, and discusses reclamation and water conservation activities. Other new changes that have occurred since 2005, form part of this Plan.

In writing this Plan, City considered not only what is legally required but also what is needed to make it a complete long-range water supply planning document. This Plan has been prepared in accordance with the Urban Water Management Planning Act (Act). The Act is defined by the California Water Code, Division 6, Part 2.6, and Sections 10610 through 10656.

UWMP Development Overview

The City's 2005 Plan was adopted by City Council in December 2006. Because of legislative changes resulting from the November 2009 passage of SBX7-7 (hereafter referred to as the Water Conservation Bill of 2009), restructuring the existing UWMP will enable the City to:

1. Establish baseline and target determination, to address the requirements of the Water Conservation Bill of 2009.
2. Establish a foundational document for compliance with Water Supply Assessments (SB 610, CWC §10613 et seq. added by Stats. 2001, chapter 643) and Written Verifications of Water Supply (SB 221, CWC §66473.7, added by Stats. 2001, chapter 642). Effective in January 1, 2002 both statutes require urban water suppliers, cities, and counties to coordinate local water supply availability and land use decisions to improve the link between information on water supply availability and certain land use decisions made by cities and counties. See 2010 UWMP Guidebook Part II, Section F: Related Programs for additional discussion on these programs.
3. Update the City's water supply and demand changes

4. Update the City's present and future water supply and demand estimates
5. Update DMM summaries

Section 1: Plan Preparation

This Section includes specific information on how the Plan was prepared, coordinated with other agencies and the public, and adopted. It includes the following subsections: Coordination, Plan Adoption, Submittal, and Implementation.

1.1 Coordination

#4. Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable (10620(d)(2)).

The City supplies water within the City service area and some unincorporated areas in Tulare and Kern counties. As such, the City regularly coordinates with representatives of both counties on projects of mutual interest and communicates City water-related actions.

#6. Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision (10621(b)).

Coordination with appropriate City departments has occurred with preparation of this UWMP. City Departments consulted include the Water Division, Public Works Department, Planning Department and the Engineering Department. The City coordinated preparation of the plan with other agencies in the area that might have an interest in its preparation. The City notified local water retailers and public agencies of the City's intent to prepare this 2010 UWMP, as well as of the public meetings regarding the UWMP (see attached letters in Appendix A). Copies of this plan have been forwarded to Tulare County Water Commission, the Housing Authority of the County of Kern and the Kern County Environmental Health Services Department for their review and comment.

#54. The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan (10635(b)).

The City will provide copies of its UWMP to city or county within which it provides water supply no later than 60 days after the submission of its UWMP to DWR.

#55. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan (10642).

The City has actively encouraged community participation in the development of its urban water management planning efforts. Table 1-1 summarizes the coordination the City has taken to include additional agencies and citizens in its planning and preparation process. Copies of supporting documentation that outreach requirements were met are in Appendix A.

#56. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area (10642).

The City made this Plan available for public review and comment and held a public hearing. Legal public notice was published in the local newspaper and posted at City facilities. Copy of the public hearing notice is included in Appendix B.

The hearing provided an opportunity for the City's customers as well as all residents and employees in the service area to learn about the water supply situation and the plans for providing a reliable, safe, high-quality water supply for the future.

1.2 Plan Adoption, Submittal, and Implementation

#7. The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640) (10621(c)).

If DWR requires significant changes before it can find a submitted UWMP to be "complete," the City will submit an amendment or revised plan adopted by the City Council.

#57. After the hearing, the plan shall be adopted as prepared or as modified after the hearing (10642).

After the hearing, the City will adopt prepared or as modified after the hearing the UWMP. A resolution adopting the UWMP is in Appendix C.

#58. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan (10643).

The City will implement this adopted UWMP in accordance with the schedule set forth in Table 3-14. This schedule was created taking into consideration the schedule set forth in the 2005 UWMP, noting that there was no dedicated Water Conservation Coordinator between 2005 and 2009. In 2010, implementation of the adopted 2005 UWMP hit full stride.

#59. An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption (10644(a)).

The City will submit to DWR, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to DWR, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

#60. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours. (10645).

The City will make the plan available for public review during normal business hours not later than 30 days after filing a copy with DWR. The adopted Plan is available in the local library publications section, as well as on the City's website as a Public Works Department link.

City of Delano 2010 Urban Water Management Plan

Contact Sheet

Date plan submitted to the Department of Water Resources: July 31, 2011

Name of person(s) preparing this plan:
Roman Dowling, City Engineer/Public Works Director
City of Delano
Phone: 661.720.2219
Email: rdowling@cityofdelano.org

Joe Rojas, Water Conservation Coordinator
City of Delano
Phone: 661.720.2281
Fax: 661.721.2135
Email: jrojas@cityofdelano.org

The Water supplier is a: **City**

The Water supplier is a: **Retailer**

Utility services provided by the water supplier include: **Water, Sewer, and Recycled Water**

Is This Agency a Bureau of Reclamation Contractor? **No**

Is This Agency a State Water Project Contractor? **No**

Section 2: System Description

This Section describes the City urban water system. It includes a description of the climate, population, and demographics. Also included are descriptions of the physical system (transmission, treatment, and distribution facilities) to support the Water Conservation Act of 2009 requirements, discussions of changes to the water system, and any issues that affect the water system. It includes the following subsections: Service Area Physical Description, Service Area Population.

2.1 Service Area Physical Description

#8. Describe the service area of the supplier (10631(a)).

The City is surrounded by productive farmland and is known for production of table grapes, almonds, and citrus. The Southern Sierra Nevada Mountain range is situated approximately 25 miles to the east. Recreational areas located nearby include Lake Isabella and the Sequoia National Park and Forest.

2.1.1 Location

The City of Delano is located within the northwestern portion of Kern County, thirty-one miles north of Bakersfield, and 70 miles South of Fresno, California. The City's nearest neighbor, McFarland, is approximately 6 miles south. State Highway 99 runs north and south through the City, see Figure 2.1.

2.1.2 Climate

#9. (Describe the service area) climate (10631(a)).

The climate in the City is characterized by hot, dry summers and cooler, humid winters. Most of the annual precipitation occurs during the period from November through April. The average annual temperature is 63.8 degrees Fahrenheit (°F), although it is not unusual for summer readings to reach well over 100°F.

According to California State Climatologist, the monthly average mean temperature in July is 81.1°F, with an average maximum of 99°F and an average minimum of 63.2°F. During the winter, foggy conditions can occur. Table 2-1 summarizes the monthly average evapotranspiration (ET_o) rates (Zone 15), rainfall, and temperature.

2.2 Service Area Population

#10. (Describe the service area) current and projected population... The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier ... (10631(a)).

#11... (population projections) shall be in five-year increments to 20 years or as far as data are available (10631(a)).

The City was founded in 1873 as a railroad town and was incorporated in 1915. Delano has experienced continuous growth over the past 20 years. As the City grows, the water system service area is anticipated to grow as well. In 2010, the California Department of Finance has reported the City population at approximately 54,447, and represents approximately 10 percent of Kern County population. The Kern Valley State Prison is not served by the City with potable water, therefore, the actual service area population is 48,957 (54,447 minus 5,490, the average number of inmates in the Kern Valley State Prison from 2006 to 2010).

Population projections, shown in Table 2-2 are used to forecast water requirements for the City. For planning purposes, population projections up to 2030 were derived using an annual growth rate of 2.1 percent estimated in the 2005 General Plan.

2.3 Land Use

#12. Describe . . . other demographic factors affecting the supplier's water management planning (10631(a)).

The City has a long history of agricultural land uses. It is surrounded by farmland, growing primarily orchard fruits, grapes, almonds, cotton and corn. In addition, there are several locations within the City, which are being used for agricultural purposes on undeveloped land that has been designated as residential, commercial or industrial.

The General Plan, adopted in December 2005, identifies the current boundaries of the Sphere of Influence (SOI) and the City limits. This UWMP assumes that the City limits describe the water system service area. See Figure 2.2

The 2005 General Plan indicates, the City limits and SOI comprise approximately 8,367 and 33,913 acres respectively and there were approximately 5,564 acres of developed land in the City

limits. In 2010, the City limits and SOI comprise approximately 8,556 and 33,913 acres respectively and there were approximately 5,743 acres of developed land in the City limits. Figure 2.3 shows the land use for the City, and Table 2-3 provides a summary of the General Plan land use categories.

Housing Inventory reported by the California Department of Finance in 2010, reflected 10,894 dwelling units within the City. A total of 77 percent of the dwelling units were single family homes at 8,343 units, 19 percent were multi-family units at 2,101 units, and 4 percent were mobile homes at 450 units. The median household size was reported at 4.19 persons.

2.3.1 Disadvantaged Communities

The Comprehensive Housing Affordability Strategy (CHAS) developed by the U.S. Census for HUD provides detailed information on housing needs by income level for different types of households. For the City of Delano, the CHAS reported that 61 percent of the households were in the low income group for the year 2000 (Source: Housing Needs Element City of Delano Consolidated Plan (2011-2016)).

2.4 Employment Data

As mentioned in paragraph 2.2, City population represents 10 percent of Kern county population. Table 2-4 provides an overview of the County's employment industry. The top two employment sectors are Government representing 21 percent and Agriculture representing 16 percent of the job market industries. The two smallest employment sectors are Information at 1 percent and Other Services at 3 percent.

2.5 Water Supply Facilities

The City's water system extracts its water supply from underground aquifers via eleven groundwater wells scattered throughout the City (Figure 2.4). By 2013, the water supply system will have 17 active wells. The pumping capacities of the City wells are shown in Table 4-7. Water is conveyed from the wells to the consumers via 110 miles of distribution system with pipe sizes ranging between 4- and 16-inches in diameter.

The City currently maintains five storage reservoirs within the service area having a total capacity of 10.6 million gallons, with a total boosting capacity of 8,950 GPM. All facilities are monitored by a Supervisory Control and Data Acquisition (SCADA) system, which activates wells and booster pump facilities based on storage tank water levels or pressure at selected locations in the distribution system.

Section 3: System Demands

This section describes the City urban water system demands, including calculating the baseline (base daily per capita daily) water use and interim and urban water use targets. It quantifies the current water system demand by category and projects them over the planning horizon of the UWMP. These projections include water sales to other agencies, system water losses, and water use target compliance.

In calculating future water demands, the City projected demands based on the reduction in per capita daily use (Interim Urban Water Use Target) determined from planning for and implementing actions associated with the Water Conservation Bill of 2009.

In 2015 and 2020, the City will also determine compliance daily per capita water use to assess progress toward meeting interim and 2020 urban water use targets. Determining and tracking water use levels and targets will support the goal of reducing the state's per capita urban water consumption by 20 percent.

3.1 Baselines and Targets

#1. An urban retail water supplier shall include in its urban water management plan . . . due in 2010 the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data (10608.20(e)).

The City calculated its baseline and targets, following the technical methods and methodologies described in Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use required in the Water Conservation Bill of 2009.

3.1.1 Baseline Periods

Two baseline periods are to be determined during the calculation of the base daily per capita water use. The legislation provides some flexibility in what actual periods of time are used to establish these baselines. This accounts for short-term water demand variations resulting from weather influences, as well as acknowledging the advances of water suppliers that have already begun using recycled water to reduce potable demands.

The two baseline periods are:

- 10 to 15-year base period. This is a 10-year or 15-year continuous period used to calculate baseline per capita water use.
- 5-year base period. This is a continuous 5-year period used to determine whether the 2020 per capita water use target meets the legislation's minimum water use reduction requirements of at least a 5 percent reduction per capita water use.

If the base daily per capita water use calculated using the 5-year base period is 100 gallons per capita per day (GPCD) or less, then the City is exempt from the 5 percent minimum required reduction. The City must document in subsequent UWMPs in 2015 and 2020 that it has maintained the 100 GPCD compliance.

The City has gone through four overall steps to meet the 2010 UWMP requirements identified in the Water Conservation Bill of 2009:

- Step 1: Determine Base Daily Per Capita Water Use
- Step 2: Determine Urban Water Use Target
- Step 3: Compare Urban Water Use Target to the 5-year Baseline
- Step 4: Determine Interim Urban Water Use Target

Step1: Determine Base Daily Per Capita Water Use

The Water Conservation Bill of 2009 requires each urban retail water supplier to include in its UWMP an estimate of base daily per capita water use. Base daily per capita water use (measured in GPCD), is established for an initial period of time, referred to as 10- to 15 - year base period.

Step1A. Determine Supplier 10- to 15-year and 5-year Base Periods

Using Methodology 3 (Base Daily Per Capita Water Use), the percentage of recycled water to total water deliveries for the year 2008 is zero (0). See Section 4.5.1 for information on recycled water from the City Waste Water Treatment Plant.

Step 1B: Decision -- 2008 Recycled Water Percentage

Using Methodology 3 (Base Daily Per Capita Water Use) and the results from Step 1A, the percentage of recycled water to total water deliveries for the year 2008 is less than 10 percent. Proceed to Step 1C1.

Step 1C1: Determine 10- and 15-Year Base Period Ranges

Using Methodology 3 (Base Daily Per Capita Water Use), determine base period ranges for calculating the base daily per capita water use. This is a continuous period of years with the end of the range ending between December 31, 2004, and December 31, 2010. For Step 1C1, the range must be 10 years. Table 3-1 shows the actual start and end years for the selected range.

Step 1D: Estimate Distribution System Area

The City is a Category 1 water supplier. The actual service area overlaps substantially ($\geq 95\%$) with the boundaries during baseline and compliance years. In 2005, the City supplied water to approximately 66 percent of the City of Delano. In 2010, City reported its water system service area occupied approximately 13.4 square miles. It is anticipated by 2015, that the City water system service area will expand to 13.7 square miles. Figure 3.1 defines the City distribution system service area.

Step 1E: Estimate Service Area Population

Using Methodology 2 (Service Area Population), the service area population for each year of the baseline periods was determined using the estimates for the Distribution System Boundary during each of the years in the base period. Column 3 of Table 3-2 shows the population served for each of the years within the 10-year range.

Step 1F: Calculate Gross Water Use

Using Steps 3 through 12 of Methodology 1 (Gross Water Use), calculate gross water use for each of the base period years. Table 3-4 summarizes the results of this procedure.

Step 1G: Determine Annual Daily Per Capita Water Use

Using Table 4 of Methodology 3, calculate the daily per capita water use for each base period year. The annual daily per capita water use for each base period year (10-year range) is shown in Table 3-2.

Step 1H: Determine Base Daily Per Capita Water Use

Using Methodology 3, the base daily per capita water use for the entire base period was calculated by averaging the annual daily per capita water use values identified in Step 1G. Table 3-2 shows the base daily per capita water use for the 10-year base period.

Step 1I: Base Daily Per Capita Water Use

From Step 1H, the base daily per capita water use value for the 10-year base period is 196 GPCD (Table 3-2). This value will be used in subsequent steps for identifying future water targets and estimating progress towards reducing per capita water use identified in the Water Conservation Bill of 2009.

Step 2: Determine Urban Water Use Target

There are four different methods to be considered by an urban water supplier for determining the urban water use target. Methods 1 through 3 were established by the Legislature in the Water Conservation Bill of 2009. Urban Water Use Target Method 4 (Method 4) subsequently was prepared by DWR and an advisory committee according to the requirements provided in the CWC (§10608.20(b)(4)). The four methods are:

- Method 1: 80% of Base Daily Per Capita Water Use (Step 2B1)
- Method 2: Performance Standards (Step 2B2)
- Method 3: 95% of Regional Target (Step 2B3)
- Method 4: Water Savings (provisional)¹¹ (Step 2B4)

Step 2A: Decision — Method Determination

The City has considered using Method 1: 80% of Base Daily Per Capita Water Use (Step 2B1) to determine its urban water use target.

Step 2B: Urban Water Use Target Methods

Step 2B1: Method 1 — 80% of Base Daily Per Capita Water Use.

Calculate 80 percent of the base daily per capita water use obtained in Step 1I. The Urban Water Use Target (10-year base period) = 0.80 X 196 = 157 GPCD

Step 3: Confirm Urban Water Use Target

Step 3 confirms the water supplier's urban water use target determined in Step 2. It compares the urban water use target determined in Step 2 to a 5-year base daily per capita water use value to confirm that the urban water use target has met a minimum reduction established by statute. Adjustments are made, if necessary, so that the threshold is met.

Step 3A: Identify the 5-Year Base Period

CWC Section 10608.22 indicates that calculation of a base daily per capita water use determined by using a 5-year base period will be used to confirm that the urban water use target meets a minimum threshold. The 5-year continuous base period is to end no earlier than December 31, 2007, and no later than December 31, 2010. Table 3-1 shows the actual start and end years for the selected range.

Step 3B: Estimate Distribution System Area

This step is the same as Step 1D. The service area identifies the physical extent for which both the population and gross water use will be determined, and then ultimately the base daily per capita water use. For the purposes of implementing this legislation, the service area is equivalent to the City's distribution system.

Using Step 2 of Methodology 1 (Gross Water Use), delineate the distribution system boundary for each of the base period years. Figure 3.1 defines the City distribution system service area.

Step 3C: Estimate Service Area Population

This step is the same as Step 1E.

Using Methodology 2 (Service Area Population), determine the service area population for each year of the baseline periods by using the estimates for the Distribution System Boundary during each of the years in the base period. Table 3-3 shows the population served for each of the years within the 5-year range.

Step 3D: Calculate Gross Water Use

This step is the same as Step 1F.

Using Steps 3 through 12 of Methodology 1 (Gross Water Use), complete the process for calculating gross water use. Steps 3 through 12 are to be performed for each of the base period years. Table 3-4 summarizes the results of this procedure.

Step 3E: Determine Annual Daily Per Capita Water Use

This step is the same as Step 1G.

Using Table 4 of Technical Methodology 3, calculate the daily per capita water use for each base period year. Units are to be in GPCD. The daily per capita water use for each base period year (5-year range) is shown in column 4 of Table 3-3.

Step 3F: Determine 5-Year Base Daily Per Capita Water Use

This step is the same as Step 1H.

Using Technical Methodology 3, calculate the base daily per capita water use for the entire base period by averaging the annual daily per capita water use values identified in Step 1G. Units are to be in GPCD. Table 3-3 shows the base daily per capita water use for the 5-year base period.

Step 3G: Determine 5-Year Base Daily Per Capita Water Use

The 5-year base daily per capita water use value of 190 GPCD identified in Step 5F will be used in the next series of steps to assess that the urban water use target determined in Step 2 meets minimum thresholds.

Step 3H: Decision — 5-Year Base Daily Per Capita Water Use

Is the 5-year base daily per capita water use value from Step 3G less than or equal to 100 GPCD?
No. Proceed to Step 3I.

Step 3I: Calculate 95% of 5-Year Base Daily Per Capita Water Use

Calculate 95% of 5-Year Base Daily Per Capita Water Use value determined in
Step 3G = $0.95 \times 190 = 181$ GPCD

**Step 3J: Decision — Compare 5-Year Base Daily Per Capita Water Use
and Urban Water Use Target**

The urban water use target of 157 GPCD is less than 95 percent of the 5-year base daily per capita water use value of 181 GPCD determined in Step 3G. Proceed to Step 3Ka.

Step 3Ka: No Adjustments

No adjustments to the urban water use target are needed.

Step 3L: Urban Water Use Target

The value of the urban water use target confirmed in Step 3Ka is established as the water supplier's urban water use target. Use 157 GPCD as City's urban water use target.

Step 4: Determine Interim Urban Water Use Target

To determine the interim urban water use target—the water use goal each water supplier is to achieve and report in the 2015 UWMP—add the base daily per capita water use to the urban water use target. Then divide by 2. The interim urban water use target = $(196 + 157) / 2 = 176$ GPCD

3.1.2 Interim Urban Water Use Target

Based on the foregoing steps, the **City's interim urban water use target is 176 GPCD**. This value will be used to determine the City's 2015 projected water use. The City must document in subsequent UWMPs in 2015 and 2020 that it has maintained the GPCD compliance towards reducing the per capita water use identified in the Water Conservation Bill of 2009.

3.2 Report Progress in Meeting Water Use Targets

#3. Report progress in meeting urban water use targets using the standardized form.

DWR standardized forms to report progress in meeting water use targets are not yet developed at this time. Progress towards meeting water use targets established in this 2010 UWMP will be reported in 2015.

3.3 Water Demands

#25. Quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses: (A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; (I) Agricultural (10631(e)(1) and (2)).

3.3.1 Past and Current Water Use

Metered past and current water use from 2005 to present is shown in Tables 3-5 and 3-6, in 5 year increments. In 2010, the City Water System served a population of approximately 48,957 and a water demand of about 3,021 million gallons.

The City Water System currently derives 100 percent of its water supply from groundwater wells located throughout its service area. Records of water use within the City's service area have been compiled and maintained.

The City Water System provides water for residential (single family, multi-family), commercial, industrial, institutional/governmental, and landscape uses. There are currently a total of approximately 8,846 service connections, of these, 59 percent are metered and 41 percent are unmetered. Following is a breakdown of the City Water System service connections by water use sector.

1. Residential (Single family = 8,390 Multi-family = 196)
2. Commercial = 192
3. Industrial = 8
4. Institutional/governmental = 42
5. Landscape = 18
6. Sales to Other Agencies = 0
7. Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof = 0
8. Agriculture = 0
9. Other

3.3.1.1 Residential Sector

The residential sector is made up of single family and multi-family residential units. Within the residential sector, the City Water System supplies potable water through approximately 8,586 service connections. In 2010, the City Water System supplied about 52 percent of the water demand to the residential sector. The annual water use within this sector in 2010 was 1,054 million gallons. Table 3-6 shows the current water demand for the residential sector.

3.3.1.2 Commercial Sector

Within the commercial sector, the City Water System supplies potable water through approximately 192 metered service connections. In 2010, the City Water System supplied about 11 percent of the water demand to the commercial sector. The commercial sector consists mostly of small businesses, professional services, and restaurants. The annual water use within the commercial sector in 2010 was 228 million gallons. Table 3-6 shows the current water demand for the commercial sector.

3.3.1.3 Industrial Sector

Within the industrial sector, the City Water System supplies potable water through approximately 8 service connections. In 2010, the City Water System supplied about 10 percent of the water demand to the industrial sector. The annual water use within the industrial sector in 2010 was 202 million gallons. Table 3-6 shows the current water demand for the industrial sector.

3.3.1.4 Institutional/Governmental Sector

The institutional/governmental sector is made up of 1 state prison (The City does not supply potable water to the Kern Valley State Prison), 1 community correctional facility, schools, parks, public safety, government buildings, etc. In 2010, the water use within this sector was 559 million gallons, which is about 27 percent of the City's water demand. The City Water System supplies potable water to approximately 42 service connections for this group. Table 3-6 shows the current water demand for this sector.

3.3.1.5 Landscape Sector

This sector is made up of 18 metered service connections owned by individuals and businesses. In 2010, the water use within this sector was approximately 2 million gallons, which is about 0.10 percent of the City's water demand.

3.3.1.6 Sales to Other Agencies

Not applicable.

3.3.1.7 Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof

Not applicable.

3.3.1.8 Agriculture

This sector is supplied with recycled water (effluent) from the Waste Water Treatment Plant but not directly entering the City's water distribution system. In 2010, the recycled water delivered to this sector was approximately 1,571 million gallons (Table 4-6).

3.3.1.9 Other Sector

These are unmetered unaccounted-for water such as for fire protection and training, system and street flushing, sewer cleaning, construction, system leaks, and unauthorized connections. Unaccounted-for water can also result from meter inaccuracies. The City assumes water losses between two to four percent of total water production. In 2010, it was estimated that 3 percent of the City's water production was loss due to leakage cause by internal corrosion in the old pipes, pipe breaks and other similar occurrences. This translates to 91 million gallons total water loss in the same year. The unmetered unaccounted-for water was 885 million gallons. Table 3-11 shows the current demand for this sector.

3.3.2 Projected Water Use

Based on the future trends in population obtained from the 2005 General Plan, and the established interim urban water use target of 176 GPCD, the City's future water requirements were estimated and summarized in the following subsections.

3.3.2.1 Maximum Day Demand

One of the water demand conditions of particular significance in water system design is the maximum day demand (MDD). This is the highest water demand during a 24-hour period of the year. The MDD peaking factor is expressed as a multiplier applied to the average day demand (ADD). Water system sources are typically sized to meet the anticipated MDD of a water system. A 2006 Water Model Update Report used a factor of 1.5 to establish the MDD of the City's water system. Table 3-13 shows comparison between the projected average demands and annual estimates for the MDD, through the planning horizon year of 2035. Based on these projections, it is anticipated that the City's average day and maximum day requirements for 2035 will approach 14.2 MGD and 21.3 MGD, respectively.

3.3.2.2 Future Water Requirements

As mentioned in the 2005 General Plan, the City foresees a continued growth, hence, the service area of the Water System is anticipated to expand as well. Currently, the City Water System service area population is 48,957 (Table 2-2). This number is anticipated to increase by an average of 10.5 percent every five years (or about 2.1 percent per year) to year 2035.

The major future development within the City Water System service area is expected to extend from the southwestern to the northwestern portions of the City. These include single-family residential, commercial, and industrial developments. Additional water will be needed to meet the growth of the service area and population. These demands will be met with additional groundwater wells to be developed as discussed in Section 4.6.

The City's projected metered water use is shown in Tables 3-7 through 3-9. These projections were obtained using the interim urban water use target of 176 GPCD in Section 3.1.2, and the projected population in Table 2-2. Additional water uses and losses are summarized in Table 3-11.

The total average demands (Combining Tables 3-7 through 3-9 and Table 3-11) from past, present and in the projection years up to 2035 are summarized in Table 3-12.

3.3.2.3 Water Use Projections for Lower Income Household

#34. The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier (10631.1(a)).

The 2010 UWMP Guidebook defines a lower income household as 80 percent of median income, adjusted for family size. The Housing Needs Element of the City Consolidated Plan (2011-2016) cites that "Household income is an important consideration when evaluating housing and community development needs because limited income typically constrains the ability to afford adequate housing or other services.

The 2000 Census reported that the median household income in the City of Delano was \$28,143, significantly lower than the median household income in Kern County as a whole (\$35,446).

Although the median household income in the City of Delano is estimated to have increased by 25 percent in the past decade to \$35,105, it still has a lower median household income compared to that of the County.

The Comprehensive Housing Affordability Strategy (CHAS) developed by the U.S. Census for HUD provides detailed information on housing needs by income level for different types of households. For the City of Delano, the CHAS reported that 61 percent of the households were in the low income group for the year 2000. The recent economic downturn could have not improved this situation.

The estimated low income water use projections for single-family and multi-family housing units applicable to the City's service area are summarized in Table 3-10.

3.4 Water Demand Projections

#33. Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c) (10631(k)).

The City does not rely on a wholesale agency for a source of water. For this reason, the City will not provide water use projection data to DWR or any wholesale water agency.

3.5 Water Use Reduction Plan and Public Hearing

#2. .. Urban retail water suppliers are to prepare a plan for implementing the Water Conservation Bill of 2009 requirements and conduct a public meeting which includes consideration of economic impacts (CWC §10608.26).

The City's implementation plan (Table 3-14) for complying with Water Conservation Bill of 2009 was discussed in the public hearing. Discussions allowed community input regarding the UWMP implementation plan, including economic impacts, and adoption of method for determining the City's urban water use target.

To reduce per capita water use and meet its urban water use target, the City will implement programs that will satisfy the requirements of the Water Conservation Bill of 2009. As a minimum, the City will continue implementing the Demand Management Measures (DMM) discussed in Section 6.

In the past 3 years, the City's gross water use (Table 3-4) has been significantly reduced due to effective implementation of water conservation measures such as the DMMs, resulting in less revenue collection using the old rate structure.

As this developed, a Water Rate Study in 2009 (new rate structure) was approved by the City council. In that study, it was found that over \$3 million per year additional revenue is necessary to keep the current water system reliable and operating.

The reason for the additional costs is summarized as follow:

- Mitigation of naturally-occurring arsenic in the underlying groundwater
- Conversion to all metered services (DMM D)
- Required water conservation programs (DMMs L, M, N, K, G, H, C)
- Drought contingency programs
- Depreciation of existing pipelines, wells, tanks, services, and meters
- Inflation and cost escalation

A key feature of the new rate structure is the concept of a larger fixed cost and lower volume cost for large users. This concept is similar to the old rate structure where a large user with an 8" meter pays a much larger meter charge than a customer with a 1" meter but will pay less per thousand gallons of water used. This feature is necessary to achieve fairness to larger users who do not have demand spikes and to help a water intensive business to stay competitive by not having a burdensome volume charge for water.

A new water rate study is forthcoming in 2011.

Section 4: System Supplies

This section describes the sources of water available to the City. It includes a description of each water source, source limitations (physical or political), water quality, and water exchange opportunities. Discussion includes surface water, groundwater, recycled water, desalinated water, storm water, geothermal, and any other source water the City considered part of its water supply "portfolio." Included in this section is information about planned future water supply projects.

For each water source type, include discussions on origin (there may be multiple origins for a particular water source—for example, desalinated water can be obtained from ocean water, brackish surface water, or brackish groundwater), customers, and use limitations. Provide discussion about average year water supplies and projects to increase water supply. Supply reliability issues are discussed in UWMP Section 5.

4.1 Water Sources

#13. Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a) (10631(b)).

There are no existing or planned water sources from wholesale suppliers. The amount of water supplied in 2010 and projected into the future is determined by the City. The City Water System pumps only the amount of groundwater to meet its demand. Table 4-1 summarizes the City's current water supply as well as future water supplies during normal water years through year 2035.

4.2 Groundwater

#14. (Is) groundwater . . . identified as an existing or planned source of water available to the supplier . . . (10631(b))?

The City currently utilizes existing groundwater, as its sole source of water supply. Groundwater is drawn from the Kern County Subbasin aquifer by eleven deep well turbine pumps. As population grows within the planning horizon, additional wells will be drilled to augment the existing water supply. In 2013, the City water supply system will have a total of 17 active wells (Table 4-7) with a combined capacity of 16,100 GPM (23 MGD).

4.2.1 Groundwater Management Plan

#15. (Provide a) copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management (10631(b)(1)).

The City has not adopted a groundwater management plan. Due to budget constraints, the City has no plans to prepare a groundwater management plan at this time.

4.2.2 Groundwater Basin Description

#16. (Provide a) description of any groundwater basin or basins from which the urban water supplier pumps groundwater (10631(b)(2)).

The groundwater body from which the City extracts water has been labeled the Kern County Subbasin (5-22.14) by the California Department of Water Resources Bulletin 118-Update 2003 and is a subbasin of the Tulare Lake Groundwater Basin (Figure 4.1).

The Kern County subbasin is bounded on the north by the Kern County line and the Tule subbasin, on the east and southeast by granitic bedrock of the Sierra Nevada foothills and Tehachapi mountains, and on the southwest and west by the marine sediments of the San Emigdio Mountains and Coast Ranges. Principal rivers and streams include Kern River and Poso Creek. Active faults include the Edison, Pond-Poso, and White Wolf faults. Average precipitation values range from 5 in. at the subbasin interior to 9 to 13 in. at the subbasin margins to the east, south, and west.

4.2.2.1 Groundwater Subbasin Recharge Areas

According to the DWR Bulletin 118-Update 2003, natural recharge is primarily from stream seepage along the eastern subbasin and the Kern River; recharge of applied irrigation water, however, is the largest contributor.

4.2.2.2 Groundwater Level Trends

According to the DWR Bulletin 118-Update 2003, the average subbasin water level is essentially unchanged from 1970 to 2000, after experiencing cumulative changes of approximately -15 feet through 1978, a 15-foot increase through 1988, and an 8-foot decrease through 1997. However, net water level changes in different portions of the subbasin were quite variable through the period

1970-2000. These changes ranged from increases of over 30 feet at the southeast valley margin and in the Lost Hills/Buttongwillow areas to decreases of over 25 and 50 feet in the Bakersfield area and McFarland/Shafter areas, respectively. The above information is a summary of unpublished DWR water level data.

According to the 2005 General Plan, the Kern County subbasin has historically been considered in an overdraft condition. The general plan indicates that annual water level drops range from no change to a decrease of approximately 30 feet. A major determining factor in the groundwater elevation of the Kern County subbasin is the amount of surface water that is available for agricultural use. During drought years, the agricultural entitlements from the State Water Project and the Central Valley Project are sharply curtailed, which requires farmers to use groundwater for irrigation purposes.

Groundwater generally flows southwest through the City. Based on current and historical groundwater elevation maps (Appendix D), horizontal groundwater barriers do not appear to exist in the subbasin. In 2006, groundwater was at approximately 200 ft above mean sea level, which is approximately 115 ft below the ground surface (Figure 4.2).

4.2.2.3 Description of the Depth and Type of Aquifer

The aquifers are generally quite thick in the San Joaquin Valley subbasins with groundwater wells commonly exceeding 1,000 feet in depth. The maximum thickness of freshwater-bearing deposits (4,400 feet) occurs at the southern end of the San Joaquin Valley. Typical well yields in the San Joaquin Valley range from 300 GPM to 2,000 GPM with yields of 4,000 GPM possible. The smaller basins in the mountains surrounding the San Joaquin Valley have thinner aquifers and generally lower well yields averaging less than 500 GPM. Typical well yields within the City's service area range from 500 GPM to 2,100 GPM, with depths ranging from 800 feet to 1,400 feet.

4.2.2.4 Description of Region Groundwater Quality

According to the DWR Bulletin 118-Update 2003, in general, groundwater quality throughout the region is suitable for most urban and agricultural uses with only local impairments. The primary constituents of concern are high TDS, nitrate, arsenic, and organic compounds. High levels of arsenic occur locally and appear to be associated with lakebed areas. Elevated arsenic levels have been reported in the Tulare Lake, Kern Lake and Buena Vista Lake bed areas.

4.2.2.5 Description of Local Groundwater Quality

The United States Environmental Protection Agency (EPA) has implemented several new or revised drinking water standards. The Ground Water Rule (GWR) among others, contains measures to establish multiple barriers to further protect against bacteria and viruses in drinking water from the groundwater sources. The GWR specify when corrective action is required to further protect consumers serviced by groundwater systems from bacteria and viruses. The City currently disinfects its supply water.

In 2001, EPA adopted a new maximum contaminant level (MCL) for all forms of arsenic at ten parts per billion (10 ppb), effective in 2006, with compliance extension through the California Department of Health Services (CDHS) for up to three years, for systems that require significant capital improvements.. Following this adoption, arsenic was measured in the City's wells during triennial Title 22 monitoring events in 2000-2003. Test results indicated that the Maximum Contaminant Level (MCL) of 0.010 mg/L of total arsenic was exceeded in all but two of Delano's 11 wells. For this reason, an Arsenic Mitigation Study was conducted by Carollo for the City. The study recommended mitigation of the arsenic by a combination of wellhead treatment to the nine other wells and drilling of new wells to augment the supply capacity of the City water system. The City will complete the necessary improvements as established in the study by 2013. It is assumed that the chosen improvements will not affect the City's ability to meet the future water demands established elsewhere in this report. The estimated project cost of the arsenic mitigation is approximately \$21 million. The State of California has approved a no-interest loan to the City to fund this project. With a twenty-year term; the approximate impact of the project will be an \$800,000+ payment per year for twenty years. Recent water quality report is summarized in City Consumer Confidence Report in Appendix D1.

4.2.3 Adjudicated Groundwater Basin Status

#17. For those basins for which a court or the board has adjudicated the rights to pump groundwater, (provide) a copy of the order or decree adopted by the court or the board (10631(b)(2)).

Not applicable. The Tulare Lake Groundwater Basin is not an adjudicated groundwater basin.

#18. (Provide) a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree (10631(b)(2)).

Not applicable. The Tulare Lake Groundwater Basin is not an adjudicated groundwater basin.

4.2.4 Non-Adjudicated Groundwater Basin Overdraft Status

#19. For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition (10631(b)(2)).

The California Water Plan Update, Bulletin 160-98 page 3-50, Table 3-15, lists the 1995 Level Overdraft for the Tulare Lake Region at 820 thousand acre-feet (taf). As shown in Table 3-15, groundwater overdraft is expected to decline to 670 taf during the 2020 average and drought years. During drought periods, water levels in these regions may decline. However, during wet periods, most of these basins recover, thus making application of overdraft or perennial yield concepts difficult.

About 70 percent of the region's overdraft occurs in the Kings-Kaweah-Tule Rivers planning subarea. In 1995 under average water year conditions, the region had 820 taf of groundwater overdraft. By 2020, average year groundwater extraction is forecasted to be about 5.1 maf for the region. Since groundwater provides a buffer for fluctuating year-to-year surface supplies, its availability is of great importance to the region. Although urban use is expected to increase about 410 taf by 2020, groundwater overdraft is expected to decrease 150 taf (from 820 taf to 670 taf) within the planning horizon due to declining agricultural use.

The City uses wastewater effluent for agricultural irrigation on City-owned land. The irrigation practice helps to replenish the area groundwater table through deep percolation and reduces groundwater overdraft.

The City currently has an active water conservation program including year-round watering restrictions, and prohibition of water waste. Through, the use of a “No-Waste” Ordinance, voluntary rationing on the part of the community and effective water conservation programs the City helps in the reduction of groundwater overdraft.

4.2.5 Description and Analysis of the Groundwater pumped in the past five years

#20. (Provide a) detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records (10631(b)(3)).

The City provides potable water service to its residential, commercial, industrial, and governmental/institutional customers within the City limits and Sphere of Influence (SOI). In 2010, the City produced approximately 3.02 billion gallons or 9,272 acre-feet (af) which is equivalent to 8.23 million gallons per day (MGD) of water servicing a population of approximately 48,957. Table 4-2 lists the available historical annual water production from 2005 to 2010. During this period, DWR announced that 2007, 2008 and 2009 as one of the most severe drought years in California’s recorded history, thus implementing a number of actions in preparation for a potentially dry 2009 and beyond. The challenge for the City was how to maintain water sufficiency during the drought years. To meet the challenge, in 2008, the City aggressively implemented water conservation programs. The City has made great strides in the water conservation effort and is continuing these programs even with tight budget. The general impact of the water conservation program in terms of water use is the significant drop in City’s water demand as shown in Table 4-2.

4.2.6 Description and Analysis of the Groundwater projected to be pumped

#21. (Provide a) detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records (10631(b)(4)).

The City’s current source of supply is groundwater, which is extracted from underground aquifers via 11 groundwater wells. In 2013, three of these wells will be abandoned and nine new wells will be operational for a total of 17 wells. This undertaking will increase the pumping capacity of the water system from 12,435 GPM to 16,100 GPM (18 MGD to 23 MGD), Table 4-7.

The City's groundwater volume projected to be pumped through the planning horizon of 2035 is shown in Table 4-3.

4.3 Transfer Opportunities

#24. Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis (10631(d)).

Currently the City of Delano does not participate in any water transfer or exchange activities with other entities. It is not anticipated that transfers or exchanges would occur in the near future. The City, however, realizes that during supply shortage years such activities have the potential to reduce the impacts to its customers. In the future, the City could explore transfer and exchange agreements with local farmers and other water districts. For instance, the City could deliver treated water to local agricultural districts' irrigation canal system in exchange for an equal amount of surface water.

4.4 Desalinated Water Opportunities

#31. Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply (10631(i)).

4.4.1 Ocean Water Desalination

The City of Delano is not located in a coastal area. It is neither practical nor economically feasible to implement an ocean water desalination program. However, the City could provide financial assistance to other purveyors in exchange for water supplies. Should the need arise; the City may consider this option.

4.4.2 Brackish Water Desalination

The groundwater that underlies the City is not brackish in nature and does not require desalination. However, the City could provide financial assistance to other purveyors in exchange for water supplies. Should the need arise; the City may consider this option.

4.5 Recycled Water Opportunities

#44. Provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area (10633).

Preparation of this plan has been coordinated with planning agencies, water districts, and local farmers within the service area regarding the existing and potential availability and uses of recycled water.

Potential recycled water applications within the service area include: surface irrigation of orchards and vineyards, non-food crop irrigation, restricted landscape impoundments, wetlands, wildlife habitat, toilet flushing, dust control, and construction activities.

4.5.1 Wastewater Collection and Treatment

#45. (Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal (10633(a)).

The City provides wastewater services to its residential, commercial, and industrial users within the City limits and some unincorporated areas, including the North Kern State Prison. The Wastewater Treatment Facility (WWTF) operates under Waste Discharge Requirements Order No. 5-01-247, issued by the State of California Regional Water Quality Control Board (RWQCB).

Raw wastewater sources within the service area consist of residential, commercial and industrial users. The major contributors to the WWTF are the North Kern State Prison, the hospital, and Paramount Citrus, which is a packinghouse.

The Delano WWTF consists of flow metering, screening, aerated grit chamber, primary clarification, biofiltration, secondary clarification, primary and secondary sludge pumping facilities, shops, effluent pumping facility, sludge digesters, and a sludge thickener. The current treatment plant has a capacity of 4.4 MGD. The City WWTF has exceeded this flow for several months in 1999 through 2005.

A Facility Plan for the WWTF was completed in December 2005. The Facility Plan addresses the City's wastewater treatment and disposal plan for the next 20 years. Based on the conclusions of the Facility Plan, the City's WWTF will be upgraded to a capacity of 8.8 MGD (based on Average Day Max Month flow). The upgrade project is currently in the final stages of construction. Project completion is May 2011.

4.5.2 Recycled Water Discharge

#46. (Describe) the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project (10633(b)).

Treated effluent is currently pumped from the effluent pump station to four unlined storage ponds and two lined storage ponds, prior to irrigation of 922 acres of adjacent farmland. The six effluent storage ponds collectively provide a storage volume of 1,450 acre-ft.

As part of the WWTF upgrade project, the City will expand its reclaimed water effluent disposal facilities. The City has purchased approximately 480 acres of farmland to account for the expected increase in flow provided by the upgrade project.

The upgrade project will require a new pipeline be built to the new 480-acre site with a new 187 acre-ft effluent storage pond, improvements to the City's existing percolation ponds, as well as installation of a new 30-acre percolation pond on the existing 454-acre disposal site. With these improvements, the City will be able to adequately dispose of the design 8.8 MGD flow. The current and projected wastewater collected and treated by the WWTF in 5 year increments is summarized in Table 4-4.

4.5.3 Current Recycled Water Use

#47. (Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use (10633(c)).

The current use of recycled water from the WWTF is for agriculture irrigation. The City currently has agricultural lease agreement with B&D Morris Farms (439 acres) and R&D Farms (483 acres) for contract operation of the City owned property around the WWTF. The lease agreement is in Appendix E.

The City, B&D Farms, and R&D Farms are the distributors of the recycled water on the City properties. The responsible parties are:

Roman Dowling
Public Works Director/City Engineer, P.E.
City of Delano
1015 Eleventh Avenue
Delano, California 93215
661.720.2219

Juan Cerda
Superintendent of Public Utilities
Delano Wastewater Treatment Plant
1107 Lytle Road
Delano, California 93215
661.721.3352

4.5.4 Future Recycled Water Use

#48. (Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses (10633(d)).

Overall, the City uses approximately 900 acres of land to discharge the treated waste water from the plant. The City may require additional discharge area when population growth estimates are realized and potential opportunities for alternative development of the 900 acres property are reached.

In view of the above, the City passed and adopted Resolution No. 2011-27 in April 4, 2011 (Appendix F), authorizing the City Manager to enter into an understanding with Ducks Unlimited, Inc. and Tulare Basin Wetlands Association to seek funding and generate conceptual design plans to investigate the potential to discharge the City's treated water to existing nearby wetlands.

The amount of recycled water that is currently being used and potential future use within the City's service area is summarized in Table 4-5.

4.5.5 Projected Use of Recycled Water

#49. (Describe) the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision (10633(e)).

The projected use of recycled water in the next twenty years depends primarily on population growth and the City's pursuit of exploring potential opportunities for alternative developments that promotes recycled water use. Feasibility studies may be required to analyze the pros and cons of such alternative developments.

In the last five years, wastewater use was more on agricultural irrigation. The 2010 projected estimate of recycled water use from the 2005 UWMP was 1,862 MGD. In 2010, the actual recycled water use was 1,571 MGD. While the population growth in 2010 was fairly closed to the projected growth in the 2005 UWMP, the actual recycled water use in 2010 is 291 MGD less than projected in 2005 UWMP. The main reason behind this is the aggressive water conservation programs adopted by the City and the positive population response in supporting the programs. Table 4-6 shows the 2010 projected estimates of recycled water use in 2005 UWMP and the actual 2010 recycled water use.

4.5.6 Actions and Incentives to Encourage the Use of Recycled Water

#50. (Describe the) actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year (10633(f)).

There are no programs in place to encourage use of recycled water at this time other than agricultural irrigation. As the City explores potential opportunities for alternative developments that promote recycled water use, it is premature to quantify the financial incentives at this time.

4.5.7 Plan to Optimize the Use of Recycled Water

#51. (Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use (10633(g)).

Due to budget constraints, there are no plans for optimizing the use of recycled water or actions to facilitate the installation of dual distribution systems to promote recirculating uses at this time.

4.6 Future Water Projects

#30. (Describe) all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program (10631(h)).

Arsenic has been detected in all the wells the City operates. Concentrations in 9 of the 11 wells in the City's system exceed the 2006 promulgated Arsenic Rule limit of 0.010 mg/L by EPA.

An engineering study by Carollo in 2007, Re: Arsenic Mitigation of Water System for the City of Delano, reported that samples collected on 2000 and 2003, as part of the City's triennial water quality characterization as required by Title 22, indicate arsenic is present in the City's groundwater supply in the range of 0.007 mg/L to 0.035 mg/L. With the promulgation of the Arsenic Rule, the City has to mitigate the elevated occurrence of arsenic levels in the water system. The same study recommended that the water system can be improved by installing replacement wells that tap into a low-arsenic groundwater zone. This will allow the City to avoid costly wellhead treatment facilities.

According to the study, "fifteen new wells will be needed to replace the nine wells that exceeded the arsenic standard. Two wells are in compliance and do not need treatment. They will stay in service. Fifteen wells are needed (rather than nine) to maintain the current production levels. This is because overall, the fifteen replacement wells will have lower production capacity than the current wells. The new wells will be drilled an approximate depth of 900 feet, to tap the unconfined layer between 500 feet and 900 feet. The shallow zone of higher nitrate concentrations and the deeper zone of higher arsenic concentrations can be avoided. Pilot test holes will need to be drilled to confirm the feasibility of producing suitable potable water. If the pilot wells do not identify a low arsenic/low nitrate zone, then the least costly wellhead treatment alternative may be needed. This will need to be determined at each potential well site. Wellhead treatment alternatives were also identified for each of the nine wells that exceeded the arsenic standard. Feasible treatment alternatives are Coagulation/Filtration (6 wells) and Sorptive Media (3 wells).

The pilot test wells will also confirm there are no other water quality issues that would affect the feasibility of the recommended well replacement alternative”.

The City adopted Carollo's recommendations and had a SRF loan approved to fund this arsenic mitigation project. After initial pilot test wells were evaluated, the City decided to proceed with the following actions:

- Six existing wells will undergo treatment,
- Twelve new wells will be drilled/equipped,
- Two existing wells to remain without treatment,
- Three existing wells to be abandoned due to very high arsenic concentrations.

The total well capacity before mitigation is 12,435 GPM. The total well capacity after mitigation is 16,100 GPM. Assuming the Interim Urban Water Use Target is achieved, the projected average day demand in 2015 equals 6,612 GPM (Table 3-13). The actions being undertaken by the City to enhance future water supply is summarized in Table 4-7a.

Section 5: Water Supply Reliability and Water Shortage Contingency Planning

This section compares projected water supplies and demands, assesses the overall reliability of future supplies regardless of drought or emergency conditions, discusses how the City water sources can vary as a result of emergency or other external influences such as system or other limitations, as well as the water City's planned response, and describes the drought contingency plan—the City's response and planning for changes or shortages in water supplies.

5.1 Water Supply Reliability

#5. An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions (10620(f)).

The City's local groundwater, which is its solely source of supply, has reliably allowed the City to meet its historical water demands. The local aquifer yields are good. The City has never experienced a severe shortage of water supply, and it anticipates this condition will remain in the following years. The City currently has an active water conservation program including year-round watering restrictions, and prohibition of water waste. By the use of a "No-Waste" Ordinance, voluntary rationing on the part of the community and effective water conservation programs the City is ensured a reliable water supply that meets federal, state, and local standards.

#23. For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable (10631(c)(2)).

Since the City relies on groundwater alone, it is not directly affected by the reduction of the surface water deliveries in drought years and is buffered from the effects of potential short water shortages. Supplies are not expected to be impacted by long-term shortages due to legal or environmental factors.

However, water quality has become an issue due to arsenic being detected in all the wells the City operates. Concentrations in 9 of the 11 wells in the City's system exceed the 2006 promulgated Arsenic Rule limit of 0.010 mg/L by EPA. The City has initiated an arsenic mitigation project to correct this water quality issue. Corrective actions taken by the City relating to this project are discussed in Section 4.6. Table 5-1 summarizes the factors resulting in inconsistency of supply.

On a short-term basis, shortages could result from system maintenance. The likeliest interruption would be as a result of loss of power for an extended time or facility failure at treatment and pumping facilities. In the event of a power outage, Wells #22, #23, #24, and #25 are equipped with emergency generators as is the Supervisory Control and Data Acquisition (SCADA) system.

5.2 Water Shortage Contingency Planning

5.2.1 Actions During A Catastrophic Interruption

#37. Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster (10632(c)).

In the event of non-drought related events that interrupt the City's ability to provide water, immediate measures need to be planned that will allow the City to provide a minimum amount of water to customers. Possible catastrophes include a regional power outage, terrorism event at selected locations or a natural disaster which affects selected facilities. Table 5-2 summarizes the preparation actions for a catastrophe.

5.2.2 Water Shortage Stages and Reduction Objectives

Water agencies relying solely on groundwater, such as the City, are much less likely to experience water shortages than those agencies relying primarily on surface water. The City has developed a three-stage rationing plan that will be invoked during declared water shortages, Table 5-3. Each stage includes a water reduction objective, in percent of normal water demands. The rationing plan is dependent on the cause, severity and anticipated duration of the water supply shortage.

5.2.3 Water Reduction Stage Triggering Mechanisms

Emergency response stage actions become effective when the City Manager declares that the City is unable to provide sufficient water supply to meet ordinary demands, to the extent that insufficient supplies would be available for human consumption, sanitation and fire protection. The declaration will be based on City Manager's judgment as to the degree of the immediate or future supply deficiency. Table 5-4 provides guidelines to assist in declaring a water shortage stage.

5.2.4 Water Shortage Contingency Ordinance

#42. A draft water shortage contingency resolution or ordinance (10632(h)).

The City adopted its water shortage contingency plan on December 18, 2006. A copy of the adopting resolution is included in Appendix G.

5.2.5 Mandatory Prohibitions on Water Wasting

#38. Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning (10632(d)).

#39. Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply (10632(e)).

The first step in a demand reduction program is to prohibit wasteful practices and provide enforcement methods. The current City ordinance regulates wastage of water and provides penalties for wastage and failure to comply with any water conservation program the City enacts.

Mandatory compliance measures enacted during a water shortage are more severe than voluntary measures, produce greater savings, and are less costly to the utility. The principal drawback to these measures is the customer resentment if the measures are not seen as equitable. Therefore, such measures need to be accompanied by a good public relations campaign. Mandatory measures may include:

- Ordinances making water waste illegal
- Ordinances controlling landscape irrigation
- Ordinances restricting non-irrigation outdoor water uses
- Prohibitions on new connections or the incorporation of new areas
- Rationing

Table 5-5 list the prohibitions on waste of water as defined in City Ordinance No. 2008-1185.

5.2.6 Penalties or Charges for Excessive Use

#40. Penalties or charges for excessive use, where applicable (10632(f)).

Customers that are convicted of a violation of the City's water waste prohibition ordinance (Appendix G) are guilty of an infraction punishable by penalty or charge listed in Table 5-6.

5.2.7 Analysis of Revenue Impacts of Reduced Sales During Shortages

#41. An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments (10632(g)).

The operating costs for the City water system is fixed rather than a function of the amount of water sold. As a result, when significant conservation programs are undertaken, it is frequently necessary to raise water rates because the revenue generated is based on lower total consumption while the revenue required is basically fixed. Typically, water rates need to be increased by the percentages listed in Table 5-7 when the indicated stages are implemented. However, reductions in water demands, especially peak demands, can delay the need to develop costly new water sources in growing communities.

The City does not currently have an Emergency Fund. The City will seriously consider the possibility of establishing an Emergency Fund. If the City establishes an Emergency Fund, it would serve to help stabilize water rates during periods of water shortage or disasters affecting water supplies.

Most California water agencies, which experienced water shortages, have found that customer water use has not or is expected to return to pre-shortage levels. After a shortage, water department expenses are expected to drop below pre-shortage levels but water sales are not expected to rebound.

5.3 Water Quality

#52. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability (10634).

In 2001, EPA adopted a new maximum contaminant level (MCL) for all forms of arsenic at ten parts per billion (10 ppb), effective in 2006, with compliance extension through the California Department of Health Services (CDHS) for up to three years, for systems that require significant capital improvements.. Following this adoption, arsenic was measured in the City's wells during triennial Title 22 monitoring events in 2000-2003. Test results indicated that the Maximum Contaminant Level (MCL) of 0.010 mg/L of total arsenic was exceeded in all but two of Delano's 11 wells. For this reason, an Arsenic Mitigation Study was conducted by Carollo for the City. The study recommended mitigation of the arsenic by a combination of wellhead treatment to the nine other wells and drilling of new wells to augment the supply capacity of the City water system. The City will complete the necessary improvements as established in the study by 2013. It is assumed that the chosen improvements will not affect the City's ability to meet the future water demands established elsewhere in this report. The estimated project cost of the arsenic mitigation is approximately \$21 million. The State of California has approved a no-interest loan to the City to fund this project. With a twenty-year term; the approximate impact of the project will be an \$800,000+ payment per year for twenty years.

The actions taken by the City to address this water quality issue are discussed in Section 4.6. Table 5-8 summarizes the current and projected water supply impact of the actions undertaken to resolve the water quality issue.

As a means of keeping the public informed, the City sent notices (Appendix D1 & Appendix H) to all customers in compliance with the California Domestic Water Quality and Monitoring Regulations.

5.4 Drought Planning

Drought planning is to consider water supplies during single-dry and multiple-dry years. Single-dry and multiple-dry year conditions are usually based on historical records of annual runoff from a particular watershed.

The following guidelines are used for drought conditions:

- *Average Year* — a year or an averaged range of years in the historical sequence that most closely represents median runoff levels and patterns. It is defined as the median runoff over the previous 30 years or more. This median is recalculated every 10 years.
- *Single-dry year* — generally considered to be the lowest annual runoff for a watershed since the water-year beginning in 1903.
- *Multiple-dry year period* — generally considered to be the lowest average runoff for a consecutive multiple year period (three years or more) for a watershed since 1903.

5.4.1 Water Supply Reliability and Vulnerability

#22. Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following: (A) an average water year, (B) a single dry water year, (C) multiple dry water years (10631(c)(1)).

This subsection describes the City's water supply reliability and vulnerability to seasonal or climatic shortage. There are two aspects of supply reliability that can be considered. The first relates to immediate service needs and is primarily a function of the availability and adequacy of the supply facilities. The second aspect is climate-related, and involves the availability of water during mild or severe drought periods. This subsection considers the City's water supply reliability during three water scenarios: normal year, single dry year, and multiple dry years.

5.4.2 Stages of action to be undertaken by the City in response to water supply shortages

#35. Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage (10632(a)).

The stages of action to be undertaken by the City in response to water supply shortages and the water conditions that occur for each stage is summarized in Table 5-9. In the event water supplies are to be reduced by 50 percent for a single year, the City shall take the following actions:

- Upon activation of the water shortage response team, the City Manager shall recommend to the City Council the extent of the water conservation required through the implementation of conservation Stage 3 to prudently plan for and supply water to its customers. Thereafter, the City Council may order Stage 3 water conservation implementation. The declaration of Stage 3 or any stage shall be done by mass mailing, and a public announcement and notice shall be published a minimum of three consecutive times in a newspaper of general circulation. The stage designated shall become effective immediately upon announcement.
- All consumption reduction methods listed in Table 5-3 shall be enforced.

5.4.3 Three-Year Minimum Water Supply

#36. An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply (10632(b)).

The City's three year drought sequence has been identified as calendar years 2007, 2008, and 2009 base on historical data in the last thirty years (1980-2010) from California Data Exchange Center (CDEC), Figure 5.1.

Table 5-10 shows the basis of water year data. During those years, the City's historic annual demand was 3,500 million gallons, 3,370 million gallons, and 3,258 million gallons respectively. The average water year (2004) in the 30-year historical sequence had an annual demand of 3,292 million gallons. Table 5-11 shows what percentage the dry year water supply was, as compared to the "average/normal" year. Table 5-12 summarizes the estimate of the minimum water supply available during each of the next three water years based upon the driest three-year historic sequence (2007–2009) for the City.

5.4.4 Reduction Measuring Mechanism

#43. A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis 10632(i).

The City's water system is supplied by the groundwater wells. Each well includes a flow monitoring devise that records the amount of water entering the City's distribution system. The City will use these devices to monitor the citywide actual reductions in water use.

5.4.5 Supply and Demand Comparison

#53. Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier (10635(a)).

Not all Hydrologic dry years lead to water supply shortages and groundwater overdraft. In an average or wet year, the water supply sources may exceed or equal the water needs.

The annual quantity of groundwater available to the City is not expected to vary significantly in relation to wet or dry years. This assumes that the groundwater yield is not reduced due to water quality issues.

In a normal year, the difference between water supply and water demand as a percent of demand is fifty percent as shown in Table 5-13. In a single dry year, the difference between water supply and water demand as a percent of demand is fifty nine percent as shown in Table 5-14. During multiple dry years: for the first year, second year, and third year, the difference between water supply and water demand as a percent of demand is fifty nine percent; fifty three percent; and forty eight percent respectively as shown in Table 5-15. During extended drought periods, groundwater levels generally decline and will require more aggressive demand management practices and continued implementation of recycled water reuse for agriculture irrigation.

In determining the adequacy of the water supply facilities, the source must be large enough to meet the varying water demand conditions, as well as provide sufficient water during potential emergencies such as power outages and natural disasters.

In accordance with industry standard practices and the California Department of Health Services (DHS) criteria for "Adequate Source Capacity" on water supply, the source should be sized to serve the maximum day demand (MDD). On the day of maximum demand, it is desirable to maintain a water supply rate equal to the MDD rate. Water required for peak hour demands (PHD) or for fire flows would come from storage.

Standby production capacity is required for system reliability. Under normal operating conditions, it is possible that one or two of the City's wells can be placed out of service during MDD conditions due to equipment malfunction, for servicing, or water quality concerns. The DHS criterion recommends counting the capacity of the largest well being out of service.

The City's 2010 MDD total is around 8,622 GPM (Table 3-13) and the 2010 supply availability is at 12,435 GPM (Table 4-7) . The supply capacity in 2013 of 16,100 GPM (Table 4-7) is adequate to meet the projected water demand for the year 2030.

The adequate source of supply for the City will consist of groundwater wells with a combined production capacity that continues to meet the MDD.

Section 6: Demand Management Measures (DMM)

DMMs are mechanisms a water supplier implements to increase water conservation. Suppliers must provide a description for each DMM listed in the legislation unless they document that is not locally cost effective. CUWCC members have the option of submitting their annual reports in lieu of describing the DMMs.

The goal of this DMM section is to provide a comprehensive description of the water conservation programs that are currently implemented and those planned to be implemented by the City. This section will provide general information on the measures the City plans to implement to meet its urban water use target.

6.1 DMMs

#26. (Describe and provide a schedule of implementation for) each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

- (A) water survey programs for single-family residential and multifamily residential customers;*
- (B) residential plumbing retrofit;*
- (C) system water audits, leak detection, and repair;*
- (D) metering with commodity rates for all new connections and retrofit of existing connections;*
- (E) large landscape conservation programs and incentives;*
- (F) high-efficiency washing machine rebate programs;*
- (G) public information programs;*
- (H) school education programs;*
- (I) conservation programs for commercial, industrial, and institutional accounts;*
- (J) wholesale agency programs;*
- (K) conservation pricing;*
- (L) water conservation coordinator;*
- (M) water waste prohibition;*
- (N) residential ultra-low flush toilet replacement programs (10631(f)(1) and (2)).*

#27. A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan (10631(f)(3)).

#28. An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand (10631(f)(4)).

#29. An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

- (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors;*
- (2) Include a cost-benefit analysis, identifying total benefits and total costs;*
- (3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost;*
- (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation (10631(g)).*

The City is a member of the California Urban Water Conservation Council (CUWCC) since 2007, therefore, it is a signatory to the Memorandum of Understanding (MOU) regarding Urban Water Conservation in California. The City's demand management measure implementation progress has been submitted to the BMP Reporting Database.

The City is committed to water conservation. Water conservation practices are implemented within the City's service area with emphasis on DMMs that conserve water and increases the public awareness on water conservation and other water-related issues.

The City recognizes water conservation and DMMs are important to the reliability of water sources. As required by the Act, this section will address each of the 14 DMMs. The 14 DMMs correspond to the 14 Best Management Practices (BMPs) listed and described in the CUWCC MOU that signatory water suppliers commit to implement as part of their water conservation programs.

6.1.1 DMMs Currently Being Implemented

"On-Track"/Full Compliance BMPs/DMMs implemented for the reporting years 2009-2010 as determined by CUWCC are listed in Table 6-1. The CUWCC BMP Activity Reports and Coverage reports for reporting years 2009-2010 are in Appendix I.

6.1.2 DMMs Implemented or Scheduled for Implementation

DMM # N Residential Ultra-Low-Flush (ULF) Toilet Replacement Program.

Name and Description: ULF toilets are toilets that use no more than 1.6 gallons per flush. The City used high-efficiency toilets (HET) to replace toilets with 3.5 gallons or more per flush in this program. HETs are toilets that use no more than 1.28 gallons per flush. The target of this program is to replace toilets of single-family and multi-family residences that use 3.5 gallons of water per flush.

Description of Steps to Implement the Measure: Provide incentives such as, but not limited to, rebates, recognition programs, or reduced connection fees, or ordinances requiring residential construction meeting Water Sense Specification (WSS) for single-family and multi-family housing until a local, state or federal regulation is passed requiring water efficient fixtures.

Implementation Schedule: Program started in 2010. This is a continuing program.

Annual Budget: 2010: \$50,000.00
2011: \$50,000.00
2012: \$25,000.00

Available Rebate: \$100 per toilet

Coverage: A financial incentive shall continue to be offered for toilets meeting the current WSS and updated standard whenever a more efficient toilet is identified by WSS. Compliance will entail demonstrating a number of toilet replacements of 3.5 gpf or greater, toilets at or above the level achieved through a retrofit on resale ordinance until 2014, or a market saturation of 75% is demonstrated, whichever is sooner.

Description of Method to Evaluate Effectiveness of the Program: Cost-Benefit Analysis. To be determined when enough data is available at the end of third year of implementation.

Estimate of Conservation Savings: 1st Year = 9.6 acre-ft

DMM # A. Water Survey Programs for SF Residential and MF Residential Customers

Name and Description: These survey programs target both indoor and outdoor water use. In practice, home surveys usually imply a site visit by trained staff that (1) solicit information on current water use practices and (2) make recommendations for improvements in those practices. Sometimes indoor plumbing retrofit devices are directly installed when appropriate. The outdoor portion of the survey can vary widely, ranging from an intensive outdoor water efficiency study (turf audit, catch can test, and written recommendations for irrigation scheduling or landscape changes) to provision of a brochure on outdoor watering practices.

Description of Steps to Implement the Measure: Indoor. Provide site-specific leak detection assistance that may include, but is not limited to, the following: a water conservation survey, water efficiency suggestions, and/or inspection. Provide showerheads and faucet-aerators that meet the current water efficiency standard as stipulated in the WaterSense Specifications (WSS) as needed. Outdoor. Perform site-specific landscape water surveys that shall include, but are not limited to, the following: check irrigation system and timers for maintenance and repairs needed; estimate or measure landscaped area; develop customer irrigation schedule based on precipitation rate, local climate, irrigation system performance, and landscape conditions; review the scheduling with customer; provide information packet to customer; and provide customer with evaluation results and water savings recommendations.

Implementation Schedule: Survey Programs start in 2012.

Annual Budget: 2012: \$12,500.00

Coverage: Indoor. Provide leak detection assistance to an average of 1.5 percent per year of current single-family accounts and 1.5 percent per year of current multi-family units during the first ten years after signing the MOU. After completing the ten-year 15 percent target, City will maintain a program at the level of high-bill complaints or not less than 0.75 percent per year of current single-family accounts and 0.75 percent per year of current multi-family units. Showerhead distribution will be considered complete when 75 percent market saturation is achieved.

Outdoor. Provide landscape water surveys to an average of 1.5 percent per year of current single-family accounts during the first ten years after signing the MOU. After completing the ten-year 15 percent target, City will maintain a program at the level of high-bill complaints or no less than 0.75 percent per year of current single-family accounts.

Description of Method to Evaluate Effectiveness of the Program: Cost-Benefit Analysis. To be determined when enough data is available at the end of second year of implementation.

Estimate of Conservation Savings: To be determined.

DMM # B Residential Plumbing Retrofit

Name and Description: Low flow showerheads and other devices (excluding ULFT). Low flow showerheads are designed to provide water at lower rates of water flow. Flows are typically measured in gallons per minute and low flow showerheads are rated at 2.5 gallons per minute or less (at pressure levels up to 80 psi). Toilet displacement devices come in a variety of designs that all displace some water volume in the toilet tank. Since less water is needed to fill the tank, less water is used per flush. Toilet leak detection is typically performed with dye tablets. Faucet aerators reduce flow from faucets.

Description of Steps to Implement the Measure: Conduct surveys, provide/install free retrofit devices, distribute brochures for indoor watering practices, and conduct training on toilet leak detection using dye tablets, track water use.

Implementation Schedule: Survey Programs start in 2012.

Annual Budget: 2012: \$5,000.00

Coverage: Provide leak detection assistance to an average of 1.5 percent per year of current single-family accounts and 1.5 percent per year of current multi-family units during the first ten years after signing the MOU. After completing the ten-year 15 percent target, City will maintain a program at the level of high-bill complaints or not less than 0.75 percent per year of current single-family accounts and 0.75 percent per year of current multi-family units. Showerhead distribution will be considered complete when 75 percent market saturation is achieved.

Description of Method to Evaluate Effectiveness of the Program: Cost-Benefit Analysis. To be determined when enough data is available at the end of second year of implementation.

Estimate of Conservation Savings: To be determined.

DMM # E Large Landscape Conservation Programs and Incentives

Name and Description: Large landscape conservation programs target outdoor water use. In practice, "large" is often taken to mean a land parcel greater than 2 acres with significant landscaping. Sometimes the large landscapes are metered separately from non-landscape water consumption. Large landscape programs can take on many forms and involve site visits, training, device adjustment, upgrading, or water budgets. Devices and activities include centralized computer control, moisture sensors, rain shut-off switches, telephone connections to CIMIS information, and numerous other technologies to improve the efficiency of landscape water use. Some large landscape programs include budget-based rates and/or other economic incentives such as equipment rebates.

Description of Steps to Implement the Measure: Conduct surveys and site visits, training, device adjustments, upgrading, conduct water efficiency studies, make recommendations to reduce water consumption, distribute brochures for outdoor watering practices, provide economic incentives such as equipment rebates, and introduce budget-base rates. Source-out partners from other entities to support the program, and track water use.

Implementation Schedule: Survey Programs start in 2012.

Annual Budget: 2012: \$5,000.00

Coverage: Coverage shall consist of:

- 1) ETo-based water use budgets developed for 90% of CII accounts with dedicated irrigation meters at an average rate of 9% per year over 10 years.
- 2) Offer site-specific technical assistance annually to all accounts that are 20% over budget within six years of the date implementation was to commence.
- 3) Complete irrigation water use surveys for not less than 15% of CII accounts with mixed-use meters and un-metered accounts within 10 years of the date implementation is to commence.
- 4) City will implement and maintain a customer incentive program(s) for irrigation equipment retrofits.

Description of Method to Evaluate Effectiveness of the Program: Cost-Benefit Analysis. To be determined when enough data is available at the end of second year of implementation.

Estimate of Conservation Savings: To be determined.

DMM # F High-Efficiency Washing (HEW) Machine Rebate Program

Name and Description: High-efficiency washing machines are those that are designed to save energy and water. HEWs utilize technological advances to deliver excellent wash performance while saving both water and energy. Resource efficient models use 35 - 50% less water. This reduction in water use means less energy needed to heat the water (approximately 50% less energy).

Description of Steps to Implement the Measure: Conduct surveys, conduct water efficiency studies, distribute brochures describing program implementation, conduct prequalification/final inspections, award \$150 rebate per High-Efficiency Washing Machine, and track water use.

Implementation Schedule: Survey Programs start in 2012.

Annual Budget: 2012: \$25,000.00

Coverage: Provide financial incentives for the purchase of HEWs that meet an average water factor value of 5.0. If the WaterSense Specification is less than 5.0, then the water factor value will decrease to that amount. Incentives shall be provided to 0.9 percent of current single-family accounts during the first reporting period following BMP implementation, rising to 1.0 percent per year of current single-family accounts for the remainder of ten year period following signing of the MOU. An alternative method is to demonstrate 1.4 percent per year of the market penetration during the first ten years after signing the MOU.

Description of Method to Evaluate Effectiveness of the Program: Cost-Benefit Analysis. To be determined when enough data is available at the end of second year of implementation.

Estimate of Conservation Savings: To be determined.

DMM # I Conservation Programs for (CII) Accounts

Name and Description: These programs begin with surveys than can range from short "walkthroughs" to sophisticated water efficiency studies. Customers are targeted with a marketing strategy and incentives. Recommendations are made to reduce water consumption at the facility. The recommended actions then may be implemented by the site managers.

Description of Steps to Implement the Measure: Conduct surveys, perform water efficiency study, provide/install free retrofit devices, make recommendations to reduce water consumption, distribute brochures both for indoor and outdoor watering practices, provide economic incentives, and track water use.

Implementation Schedule: Survey Programs start in 2012.

Annual Budget: 2012: \$25,000.00

Coverage: Coverage shall consist of meeting the annual water savings goal established in the MOU. Although it is not one of the criteria in meeting implementation, City will be considered on track if estimated savings as a percent of baseline water use equals or exceeds the following:

0.5% by the end of first reporting period (year two), 2.4% by the end of year four, 4.3% by the end of year six, 6.4% by the end of year eight, and 9% by the end of year ten.

Description of Method to Evaluate Effectiveness of the Program: Cost-Benefit Analysis. To be determined when enough data is available at the end of second year of implementation.

Estimate of Conservation Savings: To be determined.

Section 7: Climate Change

The City has not begun evaluating potential climate change impacts in its service area at this time. Nevertheless, the City will consider climate change issues that influence implementation of water conservation measures in the planning horizon.

Section 8: Completed UWMP Checklist

The City is submitting in Appendix J a Completed 2010 UWMP Checklist to confirm that the required elements have been included in the UWMP.

**Table 1-1 Coordination with Appropriate Agencies
2010 Urban Water Management Plan
City of Delano**

Coordinating Agencies ^{1,2}	Participated in developing the plan	Commented on the plan	Attended public meetings	Was contacted for assistance	Was sent a copy of the plan	Was sent a notice of intention to adopt	Not involved / No information
Housing Authority County Kern				√	√	√	
Delano-Earlimart Irrigation District				√	√	√	
Southern San Joaquin Municipal Utility District				√	√	√	
Kern County Environmental Health Services Department				√	√	√	
Public Works Director and Staff	√	√	√		√	√	
City Water Division	√	√	√		√	√	
City Planning Department				√	√	√	
Department of Water Resources	√				√	√	
Mayor/City Council			√			√	
The Tulare County Water Commission					√	√	
Members of the public, advisory groups, etc.				√			

¹ Indicate the specific name of the agency with which coordination or outreach occurred.

² Check at least one box in each row.

**Table 2-1 Climate Data
2010 Urban Water Management Plan
City of Delano**

	Average ETo ¹ (inches)	Average Rainfall ² (inches)	Average Temperature ² (°F)
January	1.24	1.35	47.6
February	2.24	1.47	52.3
March	3.72	1.55	56.9
April	5.70	0.55	62.6
May	7.44	0.34	69.8
June	8.10	0.05	76.5
July	8.68	0.00	81.1
August	7.75	0.02	79.7
September	5.70	0.22	75.0
October	4.03	0.38	65.7
November	2.10	0.75	53.3
December	1.20	0.87	45.5
Annual	57.90	7.55	63.8

Notes:

¹ Source: <http://www.cimis.water.ca.gov/cimis/images/etomap.jpg>

² Source: http://www.water.ca.gov/floodmgmt/hafoo/csc/climate_data/tulare.cfm

**Table 2-2 Population — current and projected
2010 Urban Water Management Plan
City of Delano**

Projection Years	2010	2015	2020	2025	2030	2035
Service Area Population^{1,2}	48,957	54,097	59,778	66,054	72,990	80,654
Average annual growth rate³		2.1%	2.1%	2.1%	2.1%	2.1%

¹ Service area population is defined as the population served by the distribution system. See Technical Methodology 2: Service Area Population (2010 UWMP Guidebook, Section M).

² Source: State Department of Finance Annual Estimate (1/01/10)

³ Projections based on annual growth rate 2005 City of Delano General Plan

**Table 2-3 Land Use Categories
2010 Urban Water Management Plan
City of Delano**

Land Use		SOI Area, Acres	Percent of Total Area
Residential			
	Low Density ^{1,3}	3,622	10.7
	Medium Density ²	199	0.6
	High Density ³	113	0.3
	Rural	1,769	5.2
Commercial		575	1.7
Service Commercial		521	1.5
Industrial		2,283	6.7
Community Facilities ^{1,2}		4,006	11.8
Agricultural		18,858	55.6
Roads		1,967	5.8
Total		33,913	100
Notes:			
¹ Source: General Plan Amendment No. 08-02			
² Source: General Plan Amendment No. 09-02			
³ Source: General Plan Amendment No. 08-03			

Table 2-4 Kern County Employment by Industry
2010 Urban Water Management Plan
City of Delano

Industry	Percent
Agriculture	16
Construction	7
Education & Health	8
Financial Activities	3
Government	21
Information	1
Leisure & Hospitality	8
Manufacturing	5
Natural Resources & Mining	3
Other Services	3
Professional & Business	9
Trade, Transportation & Utilities	17
Total =	100

Source: State of California Employment Development Department 2006

**Table 3-2 Base Daily Per Capita Water Use — 10-Year Range
2010 Urban Water Management Plan
City of Delano**

Base period year		Distribution System Population ²	Daily system gross water use (mgd) ³	Annual daily per capita water use (gpcd)
Sequence Year	Calendar Year			
Year 1	2001	39,489	8.1	205
Year 2	2002	44,007	8.3	189
Year 3	2003	42,007	8.5	202
Year 4	2004	43,181	9.0	208
Year 5	2005	43,391	8.7	201
Year 6	2006	43,869	9.0	206
Year 7	2007	47,547	9.6	202
Year 8	2008	48,365	9.2	191
Year 9	2009	48,482	8.9	184
Year 10	2010	48,957	8.3	169
Base Daily Per Capita Water Use¹				196

¹ Add the values in the column and divide by the number of rows.

² Source: California Department of Finance Annual Estimates. With corrections to deduct inmate population in Kern Valley State Prison. City does not supply potable water to this government facility.

³ Source: 2005 UWMP and data provided by City Staff

**Table 3-3 Base Daily Per Capita Water Use — 5-Year Range
2010 Urban Water Management Plan
City of Delano**

Base period year		Distribution System Population ²	Daily system gross water use (mgd) ³	Annual daily per capita water use (gpcd)
Sequence Year	Calendar Year			
Year 1	2006	43,869	9.0	206
Year 2	2007	47,547	9.6	202
Year 3	2008	48,365	9.2	191
Year 4	2009	48,482	8.9	184
Year 5	2010	48,957	8.3	168
Base Daily Per Capita Water Use ¹				190

¹ Add the values in the column and divide by the number of rows.

² Source: California Department of Finance Annual Estimates. With corrections to deduct inmate population in Kern Valley State Prison. City does not supply potable water to this government facility.

³ Source: 2005 UWMP and data provided by City Staff

**Table 3-4 Gross Water Use Calculation
2010 Urban Water Management Plan
City of Delano**

Utility Name: Delano Water Department		12-Month Period: 1-Jan to 31-Dec					Volume Units: Million Gallons				
Item	Calculation	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Volume from Own Sources (raw data)	2,951	3,026	3,089	3,292	3,175	3,300	3,500	3,370	3,258	3,021
	Meter error adjustment (+/-)	0	0	0	0	0	0	0	0	0	0
1	<i>Subtotal: Corrected Volume from Own Sources</i>	2,951	3,026	3,089	3,292	3,175	3,300	3,500	3,370	3,258	3,021
	Volume from Imported Sources (raw data)	0	0	0	0	0	0	0	0	0	0
	Meter error adjustment (+/-)	0	0	0	0	0	0	0	0	0	0
2	<i>Subtotal: Corrected Volume from Imported Sources</i>	0	0	0	0	0	0	0	0	0	0
3	Total Volume Into Distribution System = Item 1 + Item 2	2,951	3,026	3,089	3,292	3,175	3,300	3,500	3,370	3,258	3,021
	Volume Exported to Other Utilities (raw data)	0	0	0	0	0	0	0	0	0	0
	Meter error adjustment (+/-)	0	0	0	0	0	0	0	0	0	0
4	<i>Subtotal: Corrected Volume Exported to Other Utilities</i>	0	0	0	0	0	0	0	0	0	0
5	Change in Distribution System Storage (+/-)	0	0	0	0	0	0	0	0	0	0
6	Gross Water Use Before Indirect Recycled Water Use Deductions = Item 3 - Item 4 - Item 5	2,951	3,026	3,089	3,292	3,175	3,300	3,500	3,370	3,258	3,021
7	Indirect Recycled Water Use Deduction	0	0	0	0	0	0	0	0	0	0
8	Gross Water Use After Indirect Recycled Water Use Deductions = Item 6 - Item 7	2,951	3,026	3,089	3,292	3,175	3,300	3,500	3,370	3,258	3,021
9	Water Delivered for Ag. Use (optional deduction)	0	0	0	0	0	0	0	0	0	0
10	Process Water Use (optional deduction)	0	0	0	0	0	0	0	0	0	0
11	Gross Water Use After Optional Deductions = Item 8 - Item 9 - Item 10	2,951	3,026	3,089	3,292	3,175	3,300	3,500	3,370	3,258	3,021
							10-Year Base Period				
							5-Year Base Period				

Table 3-5 Water Deliveries — Actual, 2005
2010 Urban Water Management Plan
City of Delano

	2005				Total Volume
	Metered		Not metered		
Water use sectors ¹	# of accounts	Volume	# of accounts	Volume	Volume
Single family	3,991	791	3,618	0	791
Multi-family	196	161	0	0	161
Commercial	192	453	0	0	453
Industrial	3	93	0	0	93
Institutional/governmental	35	419	0	0	419
Landscape	6	1	0	0	1
Agriculture	0	0	0	0	0
Total	4,423	1,918	3,618	0	1,918
<i>Units (circle one):</i> million gallons per year					
¹ Data Provided by City Staff					

**Table 3-6 Water Deliveries — Actual, 2010
2010 Urban Water Management Plan
City of Delano**

	2010				
	Metered		Not metered		Total
Water use sectors ¹	# of accounts	Volume	# of accounts	Volume	Volume
Single family	4,772	915	3,618	0	915
Multi-family	196	139	0	0	139
Commercial	192	228	0	0	228
Industrial	8	202	0	0	202
Institutional/governmental	42	559	0	0	559
Landscape	18	2	0	0	2
Agriculture	0	0	0	0	0
Total	5,228	2,045	3,618	0	2,045
<i>Units (circle one): million gallons per year</i>					
¹ <i>Data Provided by City Staff</i>					

**Table 3-7 Water Deliveries — Projected, 2015
2010 Urban Water Management Plan
City of Delano**

	2015				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	5,737	1,011	2,653	0	1,011
Multi-family	196	154	0	0	154
Commercial	192	252	0	0	252
Industrial	8	223	0	0	223
Institutional/governmental	42	618	0	0	618
Landscape	18	2	0	0	2
Agriculture	0	0	0	0	0
Total	6,193	2,260	2,653	0	2,260
<i>Units (circle one): million gallons per year</i>					

**Table 3-9 Water deliveries — projected 2025 through 2035
2010 Urban Water Management Plan
City of Delano**

	2025		2030		2035	
	metered		metered		metered	
Water use sectors	# of accounts	Volume	# of accounts	Volume	# of accounts	Volume
Single family	8,390	1,841	8,390	2,035	8,390	2,248
Multi-family	196	280	196	309	196	342
Commercial	192	459	192	507	192	560
Industrial	8	407	8	449	8	496
Institutional/governmental	42	1,125	42	1,243	42	1,374
Landscape	18	4	18	5	18	5
Agriculture	0	0	0	0	0	0
Total	8,846	4,116	8,846	4,548	8,846	5,026
<i>Units (circle one):</i> million gallons per year						

**Table 3-10 Low-income projected water demands
2010 Urban Water Management Plan
City of Delano**

Low Income Water Demands¹	2015	2020	2025	2030	2035
Single-family residential	617	682	1,123	1,241	1,371
Multi-family residential	94	104	171	189	209
Total	711	785	1,294	1,430	1,580

Units (circle one): *million gallons per year*

¹ *Water demands are estimated values using Comprehensive Housing Affordability Strategy 2000 report for the City of Delano that 61% of the households were in the low income group for the year 2000.*

**Table 3-11 Additional water uses and losses
2010 Urban Water Management Plan
City of Delano**

Water use ¹	2005	2010	2015	2020	2025	2030	2035
Saline barriers	0	0	0	0	0	0	0
Groundwater recharge	0	0	0	0	0	0	0
Conjunctive use	0	0	0	0	0	0	0
Raw water	0	0	0	0	0	0	0
Recycled water	0	0	0	0	0	0	0
System losses	95	91	104	115	127	141	155
Other: Unaccounted/unmetered	1,162	885	1,111	1,228	TBD	TBD	TBD
Other: Future developments for construction before 2015			365	TBD	TBD	TBD	TBD
Total	1,257	976	1,580	1,343	127	141	155

Units (circle one): *million gallons per year*

¹ Any water accounted for in Tables 3-5 through 3-9 are not included in this table.

TBD - To Be Determined

**Table 3-13 Projected Water Use
2010 Urban Water Management Plan
City of Delano**

Projection Years	2010	2015	2020	2025	2030	2035
Service Area Population ^{1,2}	48,957	54,097	59,778	66,054	72,990	80,654
Interim Urban Water Use Target, GPCD		176	176	176	176	176
Average Day Demand, Total						
GPM ³	5,748	6,612	7,306	8,073	8,921	9,858
MGD	8.3	9.5	10.5	11.6	12.8	14.2
AFY	9,272	10,666	11,786	13,023	14,391	15,902
Maximum Day Demand, Total						
GPM	8,622	9,918	10,959	12,110	13,382	14,787
MGD	12.4	14.3	15.8	17.4	19.3	21.3
AFY	13,908	15,999	17,679	19,535	21,586	23,852

¹ Service area population is defined as the population served by the distribution system. See Technical Methodology 2: Service Area Population (2010 UWMP Guidebook, Section M).

² Source: State Department of Finance Annual Estimate (1/01/10)

³ Obtained using the interim urban water use target of 176 gpcd and the projected service area population

**Table 3-14 Water Use Reduction Implementation Plan
2010 Urban Water Management Plan
City of Delano**

Requirements/Deadlines	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Submit Urban Water Management Plan and water use targets to DWR		◇	Plans due July 1, 2011								
Implement Demand Management Measures (DMMs)	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Meet interim water use target						◇	Meet interim water use target by December 31, 2015				
Report progress in meeting the water use target in 2015 UWMP						◇	2015 UWMP due December 31, 2015				
Meet water use target. Report water use data in 2020 UWMP								Meet water use target by December 31, 2020		◇	

**Table 4-4 Recycled water — wastewater collection and treatment
2010 Urban Water Management Plan
City of Delano**

Type of Wastewater	2005	2010	2015 ¹	2020 ¹	2025 ¹	2030 ¹	2035 ¹
Wastewater collected & treated in service area	1,599	1,571	1,736	1,918	2,120	2,342	2,588
Volume that meets recycled water standard	1,599	1,571	1,736	1,918	2,120	2,342	2,588

Units (circle one): million gallons per year

¹ Projected wastewater collected. See Table 4-1

Table 4-6
Recycled water — 2005 UWMP use projection compared to 2010 actual
2010 Urban Water Management Plan
City of Delano

Use type	2010 actual use	2005 Projection for 2010 ¹
Agricultural irrigation	1,571	1,862
Landscape irrigation ²	0	0
Commercial irrigation ³	0	0
Golf course irrigation	0	0
Wildlife habitat	0	0
Wetlands	0	0
Industrial reuse	0	0
Groundwater recharge	0	0
Seawater barrier	0	0
Geothermal/Energy	0	0
Indirect potable reuse	0	0
Other (user type)	0	0
Total	1,571	1,862

Units (circle one): *million gallons per year*

¹ *From the 2005 UWMP. There has been some modification of use types. Data from the 2005 UWMP can be left in the existing categories or modified to the new categories, at the discretion of the water supplier.*

² *Includes parks, schools, cemeteries, churches, residential, or other public facilities)*

³ *Includes commercial building use such as landscaping, toilets, HVAC, etc) and commercial uses (car washes,*

**Table 4-7 Future water supply projects
2010 Urban Water Management Plan
City of Delano**

Project ID	Projected start date	Projected completion date	Project Description ³	Well Capacity ¹ , GPM	2010 Well Capacity, GPM	2013 Well Capacity, GPM	Potential project constraints ²
Well 21	2010	2011	AM	1,500	1,500	1,500	None
Well 24	2010	2011	AM	1,150	1,150	1,150	None
Well 19	2011	2012	AM	985	985	0	None
Well 20	2011	2012	AM	850	850	750	None
Well 22	2011	2012	AM	1,600	1,600	1,600	None
Well 26	2011	2012	AM	800	800	800	None
Well 27	2011	2012	NW	800	0	700	None
Well 28	2011	2012	NW	800	0	700	None
Well 29	2010	2011	NW	500	0	500	None
Well 30	2011	2012	NW	600	0	600	None
Well 31	2010	2011	NW	1,000	0	1,000	None
Well 32	2011	2012	NW	1,500	0	1,300	None
Well 33	2011	2012	NW	500	0	1,200	None
Well 34	2011	2012	NW	800	0	700	None
Well 35	2011	2012	NW	800	0	800	Property Acquisition
Well 36	2011	2012	NW	800	0	0	Property Acquisition
Well 37	2011	2012	NW	600	0	0	None
Well 38	2011	2012	NW	600	0	600	None
Well 14			EW	650	650	650	None
Well 25			EW	1,550	1,550	1,550	None
Well 4	2011	2012	AW	700	700	0	None
Well 12	2011	2012	AW	550	550	0	None
Well 23	2011	2012	AW	2,100	2,100	0	None
Total					12,435	16,100	

¹ Data from City Public Works Department Staff

² Indicate whether project is likely to happen and what constraints, if any, exist for project implementation.

³ AM - Arsenic Mitigation NW - New Well AW - Abandon Well EW - Existing Well

**Table 4-7a Future water supply projects - Arsenic Mitigation and Drilling of New Wells
2010 Urban Water Management Plan
City of Delano**

Project name ¹	Projected start date	Projected completion date	Potential project constraints ²	Normal-year supply ³	Single-dry year supply ³	Multiple-dry year first year supply ³	Multiple-dry year second year supply ³	Multiple-dry year third year supply ³
Arsenic Mitigation Existing Wells:								
Well 21	2010	2011		788	788	788	788	788
Well 24	2010	2011		604	604	604	604	604
Arsenic Mitigation Existing Wells:								
Well 20	2011	2012		394	394	394	394	394
Well 22	2011	2012		841	841	841	841	841
Well 26	2011	2012		420	420	420	420	420
Drill and Equip New Wells:								
Well 27	2011	2012		368	368	368	368	368
Well 28	2011	2012		368	368	368	368	368
Well 29	2010	2011		263	263	263	263	263
Well 30	2011	2012		315	315	315	315	315
Well 31	2010	2011		526	526	526	526	526
Well 32	2011	2012		683	683	683	683	683
Well 33	2011	2012		631	631	631	631	631
Well 34	2011	2012		368	368	368	368	368
Well 35	2012	2013	Property acquisition	420	420	420	420	420
Well 36	2012	2013	Property acquisition	0	0	0	0	0
Well 37	2011	2012	Water quality	0	0	0	0	0
Well 38	2011	2012		315	315	315	315	315
No Action Required Existing Wells								
Well 14				342	342	342	342	342
Well 25				815	815	815	815	815
Abandon Existing Wells:								
Well 4	2011	2012		0	0	0	0	0
Well 12	2011	2012		0	0	0	0	0
Well 19	2011	2012		0	0	0	0	0
Well 23	2011	2012		0	0	0	0	0
Total				8,462	8,462	8,462	8,462	8,462

Units (circle one): *million gallons per year*

¹ Water volumes presented here should be accounted for in Table 4-1.

² Indicate whether project is likely to happen and what constraints, if any, exist for project implementation.

³ Provide estimated supply benefits, if available.

**Table 5-1 Factors resulting in inconsistency of supply
2010 UWMP
City of Delano**

Water supply sources ¹	Specific source name, if any	Limitation quantification	Legal	Environmental	Water quality	Climatic	Additional information
Groundwater	Kern County Subbasin (5-22.14)	None	None	None	Yes	None	Concentrations in 9 of the 11 wells in the City's system exceed the 2006 promulgated Arsenic Rule limit of 0.010 mg/L by EPA.

¹ From Table 4-1 (DWR Table 16).

**Table 5-2 Preparation Actions for a Catastrophe
2010 UWMP
City of Delano**

Possible Catastrophe	Summary of Actions
Regional power outage	Activate emergency backup power and provide public notice through broadcasts of emergency and ask customers to reduce consumption to essential uses
Earthquake	Utilize emergency backup power if utility provided power is interrupted. Immediately implement Stage 3 or demand reduction program
Terrorism event	Make use of alternate production facilities as available

**Table 5-3 Water shortage contingency — consumption reduction methods
2010 UWMP
City of Delano**

Consumption Reduction Methods	Stage When Method Takes Effect	Projected Reduction (%)
Voluntary rationing	1	10%
Mandatory Irrigation Conservation Program	2&3	20% - 30%
No new connections	3	None, but no increase
No refilling of pools	3	1%
Customer allotments/rate changes	3	25% - 40%

**Table 5-4 Guidelines to assist in declaring a water shortage stage
2010 UWMP
City of Delano**

Stage	Condition
1	Below average rainfall in the previous <u>12-24</u> months
	10 percent or more of municipal wells out of service
	Warm weather patterns typical of summer months
2	Below average rainfall in the previous <u>24-36</u> months
	Prolonged periods of low water pressure
	10 percent or more of municipal wells out of service
	Warm weather typical of summer months
3	Below average rainfall in the previous <u>36</u> months
	Prolonged periods of low water pressure
	10 percent or more of municipal wells out of service
	Warm weather patterns typical of summer months

**Table 5-5 Water shortage contingency — mandatory prohibitions
2010 UWMP
City of Delano**

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
Using potable water for street washing	1, 2, & 3
Using potable water which allows water to run off the property or area to which it is being applied.	1, 2, & 3
Using potable water to wash vehicles, boats, trailers, airplanes, and building exteriors outside of the designated watering days. Washing must be with a hose with positive stop device and a bucket.	1, 2, & 3
Using potable water to wash driveways, sidewalks, parking lots, patios, tennis courts or other hard surfaces. These areas should be swept in lieu of using any water.	1, 2, & 3
The watering of lawns, ground-cover, trees and shrubbery between the hours of eleven A.M. and six P.M. from May 1, to September 30 th or during periods of high winds exceeding 20 miles per hour.	1, 2, & 3
Failure to abate a leak or malfunctioning plumbing within 24 hours that results in the considerable loss of water.	1, 2, & 3
The operation of an ornamental fountain that does not recycle the water.	1, 2, & 3
Allowing an irrigation system to operate in such a manner that water is applied to more than an incidental amount of hard surface areas or area including bare ground not sustaining plant material that would require water.	1, 2, & 3
The installation of Blue or Perennial Rye Grass turf except athletic fields.	1, 2, & 3
Allowing water to gather into a pool or puddle where it serves no useful purpose but may act as a breeding place for mosquitoes.	1, 2, & 3
<i>Source: City of Delano Ordinance No. 2008-1185</i>	

**Table 5-6 Water shortage contingency — penalties and charges
2010 UWMP
City of Delano**

Penalties or Charges	Stage When Penalty Takes Effect
A fine not to exceed \$50.00 for a first violation	1, 2, & 3
A fine not to exceed \$100.00 for a second violation within a one year time period	1, 2, & 3
A fine not to exceed \$200.00 for a third violation within a one year time period	1, 2, & 3

Source: City of Delano Ordinance No. 2008-1185

**Table 5-7 Guide for Rate Adjustment
2010 UWMP
City of Delano**

Stage	Rate Adjustment
1	25 percent increase over pre-shortage rates
2	50 percent increase over pre-shortage rates
3	100 percent increase over pre-shortage rates
End of Water Shortage Emergency	15 percent increase over pre-shortage rates. This rate increase is implemented based on historical information from communities that experienced water shortage and found that consumption rate (gpcd) does not return to pre-shortage levels. In anticipation of reduced sales, the City rates should be set for one year at 115 percent of the pre-shortage rates. This rate increase should be re-evaluated every two years.

**Table 5-8 Water quality — current and projected water supply impacts
2010 UWMP
City of Delano**

Water source	Description of condition	2010	2015	2020	2025	2030	2035
Groundwater	Elevated concentration of arsenic in 9 of 11 existing wells						
Total groundwater pumped ¹		3,021	3,840	3,840	4,243	4,688	5,181
Water system well capacity ²		6,536	8,462	8,462	8,462	8,462	8,642

Units (circle one): million gallons per year

¹ Projected values based on a demand factor of 176 gpcd (2015 Interim Urban Water Use Target) applied to the projected population. 2010 value is actual from City staff.

² From Table 4-7a, system well capacity before and after 2012.

**Table 5-9 Water shortage contingency —
rationing stages to address water supply shortages
2010 UWMP
City of Delano**

Stage No.	Water Supply Conditions	% Shortage
<p align="center">1 Minor Shortage Potential</p>	Below average rainfall in the previous 12-24 months	<p align="center">10 to 20</p>
	10 percent or more of municipal wells out of service	
	Warm weather patterns typical of summer months	
<p align="center">2 Moderate Shortage Potential</p>	Below average rainfall in the previous 24-36 months	<p align="center">Over 20 to 35</p>
	Prolonged periods of low water pressure	
	10 percent or more of municipal wells out of service	
	Warm weather typical of summer months	
<p align="center">3 Critical Shortage Potential</p>	Below average rainfall in the previous 36 months	<p align="center">Over 35 to 50</p>
	Prolonged periods of low water pressure	
	10 percent or more of municipal wells out of service	
	Warm weather patterns typical of summer months	

¹ One of the stages of action must be designed to address a 50 percent reduction in water supply.

**Table 5-10 Basis of water year data
2010 UWMP
City of Delano**

Water Year Type	Base Year(s)	Historical Sequence
Average Water Year	2004	1980-2010
Single-Dry Water Year	2007	
Multiple-Dry Water Years	2007-2009	
<i>Source: DWR CDEC Historical Data: Wasco (Tulare Lake Basin) is the nearest weather station</i>		

**Table 5-11 Supply reliability — historic conditions
2010 UWMP
City of Delano**

Average / Normal Water Year (2004)	Single Dry Water Year (2007)	Multiple Dry Water Years		
		2007	2008	2009
3,292	3,500	3,500	3,370	3,258
Percent of Average/Normal Year:	106%	106%	102%	99%
<i>Units (circle one): million gallons per year</i>				
<i>Source: Table 3-4</i>				

**Table 5-13 Supply and demand comparison — normal year
2010 UWMP
City of Delano**

	2015	2020	2025	2030	2035
Supply totals (from Table 4-1)	5,212	5,758	6,363	7,030	7,769
Demand totals (From Table 3-12)	3,476	3,840	4,243	4,688	5,181
Difference	1,736	1,918	2,120	2,342	2,588
Difference as % of Supply	33%	33%	33%	33%	33%
Difference as % of Demand	50%	50%	50%	50%	50%
<i>Units are in million gallons per year.</i>					

**Table 5-14 Supply and demand comparison — single dry year
2010 UWMP
City of Delano**

	2015	2020	2025	2030	2035
Supply totals ^{1,2}	5,525	6,104	6,744	7,452	8,235
Demand totals ^{2,3,4}	3,476	3,840	4,243	4,688	5,181
Difference	2,049	2,264	2,501	2,764	3,054
Difference as % of Supply	37%	37%	37%	37%	37%
Difference as % of Demand	59%	59%	59%	59%	59%

Units are in million gallons per year.

¹ *Consider the same sources as in Table 4-1. If new sources of water are planned, add a column to the table and specify the source, timing, and amount of water.*

² *Provide in the text of the UWMP text that discusses how single-dry-year water supply volumes were determined.*

³ *Consider the same demands as in Table 3-12. If new water demands are anticipated, add a column to the table and specify the source, timing, and amount of water.*

⁴ *The urban water target determined in this UWMP will be considered when developing the 2020 water demands included in this table.*

**Table 5-15 Supply and demand comparison-multiple dry-year events
2010 UWMP
City of Delano**

		2015	2020	2025	2030	2035
Multiple-dry year first year supply	Supply totals ^{1,2}	16,956	18,733	20,699	22,871	25,275
	Demand totals ^{2,3,4}	10,668	11,785	13,022	14,388	15,901
	Difference	6,288	6,948	7,677	8,483	9,374
	Difference as % of Supply	37%	37%	37%	37%	37%
	Difference as % of Demand	59%	59%	59%	59%	59%
Multiple-dry year second year supply	Supply totals ^{1,2}	16,316	18,026	19,918	22,008	24,321
	Demand totals ^{2,3,4}	10,668	11,785	13,022	14,388	15,901
	Difference	5,648	6,241	6,896	7,620	8,420
	Difference as % of Supply	35%	35%	35%	35%	35%
	Difference as % of Demand	53%	53%	53%	53%	53%
Multiple-dry year third year supply	Supply totals ^{1,2}	15,836	17,496	19,332	21,361	23,606
	Demand totals ^{2,3,4}	10,668	11,785	13,022	14,388	15,901
	Difference	5,168	5,711	6,310	6,973	7,705
	Difference as % of Supply	33%	33%	33%	33%	33%
	Difference as % of Demand	48%	48%	48%	48%	48%

Units are in acre-feet per year.

¹ Consider the same sources as in Table 4-1. If new sources of water are planned, add a column to the table and specify the source, timing, and amount of water.

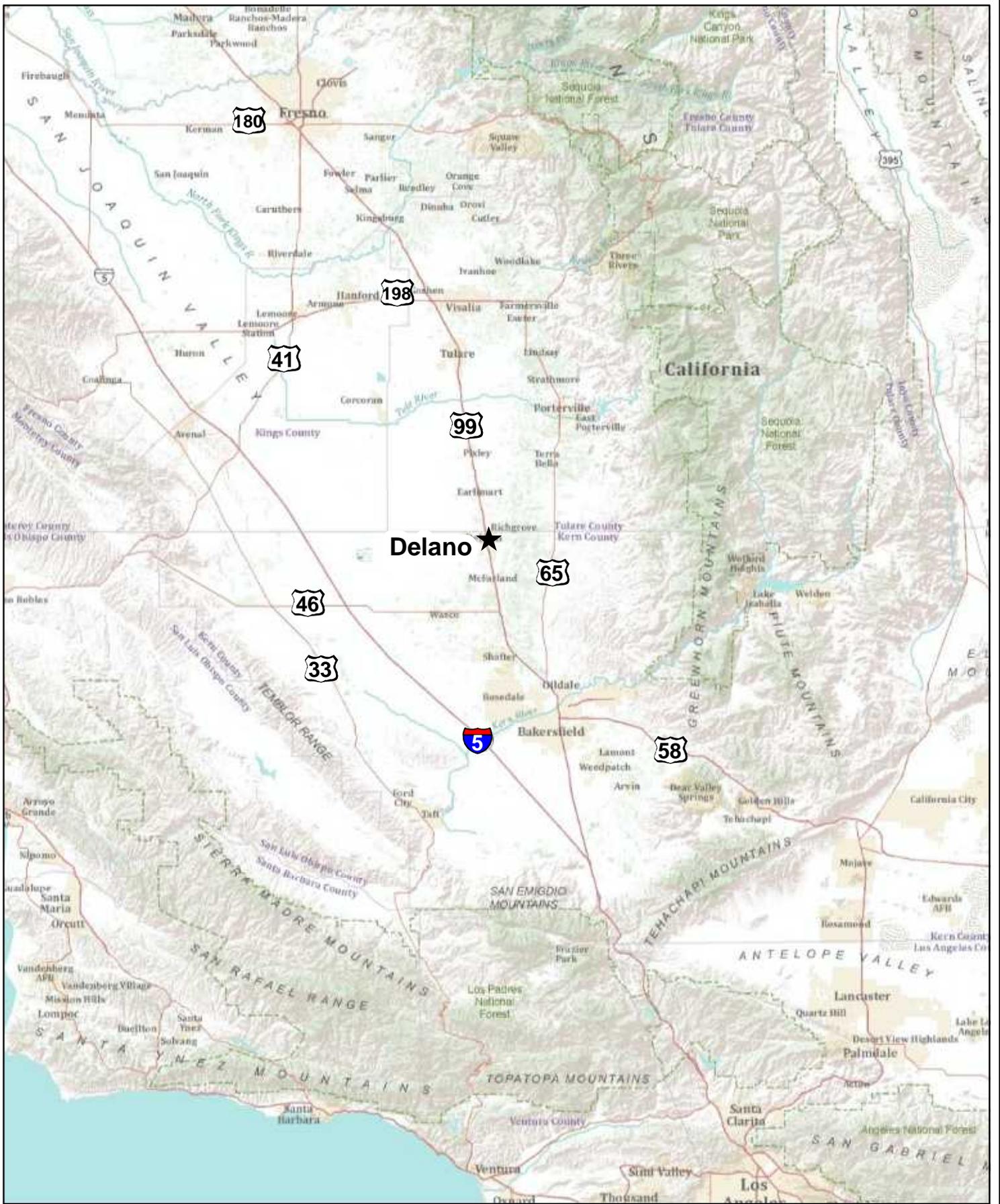
² Provide in the text of the UWMP text that discusses how single-dry-year water supply volumes were determined.

³ Consider the same demands as in Table 3-5. If new water demands are anticipated, add a column to the table and specify the source, timing, and amount of water.

⁴ The urban water target determined in this UWMP will be considered when developing the 2020 water demands included in this table.

Table 6-1 DMMs Implemented
2010 UWMP
City of Delano

CUWCC BMP Organization and Names (2009 MOU)				UWMP DMMs		Year Started	CUCC	DWR
Type	Category	BMP #	BMP Name	DMM #	DMM Name			
Foundational	Operational Practices	1.1.1	Conservation Coordinator	L	Water conservation coordinator	2010	√	√
		1.1.2	Water Waste Prevention	M	Water waste prohibition	2008	√	√
		1.1.3	Wholesale Agency Assistance Programs	J	Wholesale agency programs		NA	NA
		1.2	Water Loss Control	C	System water audit, leak detection and repair	2008	√	√
		1.3	Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	D	Metering with commodity rates for all new connections and retrofit of existing connections	2009	√	√
		1.4	Retail Conservation Pricing	K	Conservation pricing	2009	√	√
	Education Programs	2.1	Public Information Programs	G	Public information programs	2010	√	√
		2.2	School Education Programs	H	School education programs	2010	√	√
Programmatic	Residential	3.4	WaterSense Specification (WSS) Toilets	N	Residential ultra-low-flush toilet replacement programs	2010	√	√



Delano, California
Kern County

City of Delano

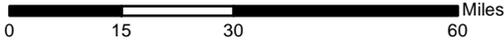
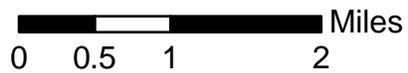
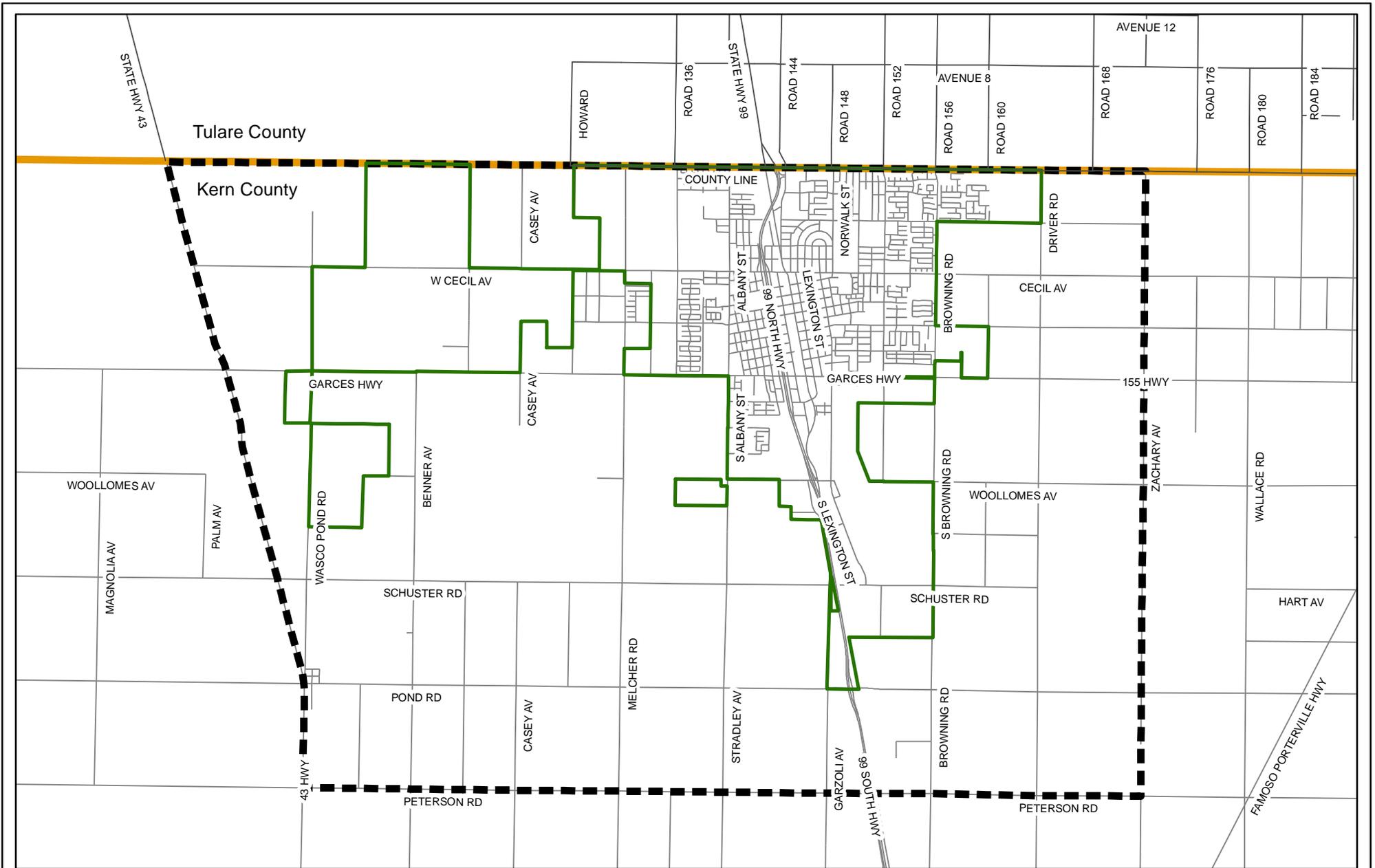


Figure 2.1

Location Map

2010 Urban Water Management Plan

Contact: Public Works - Water Division

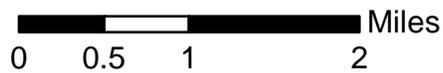
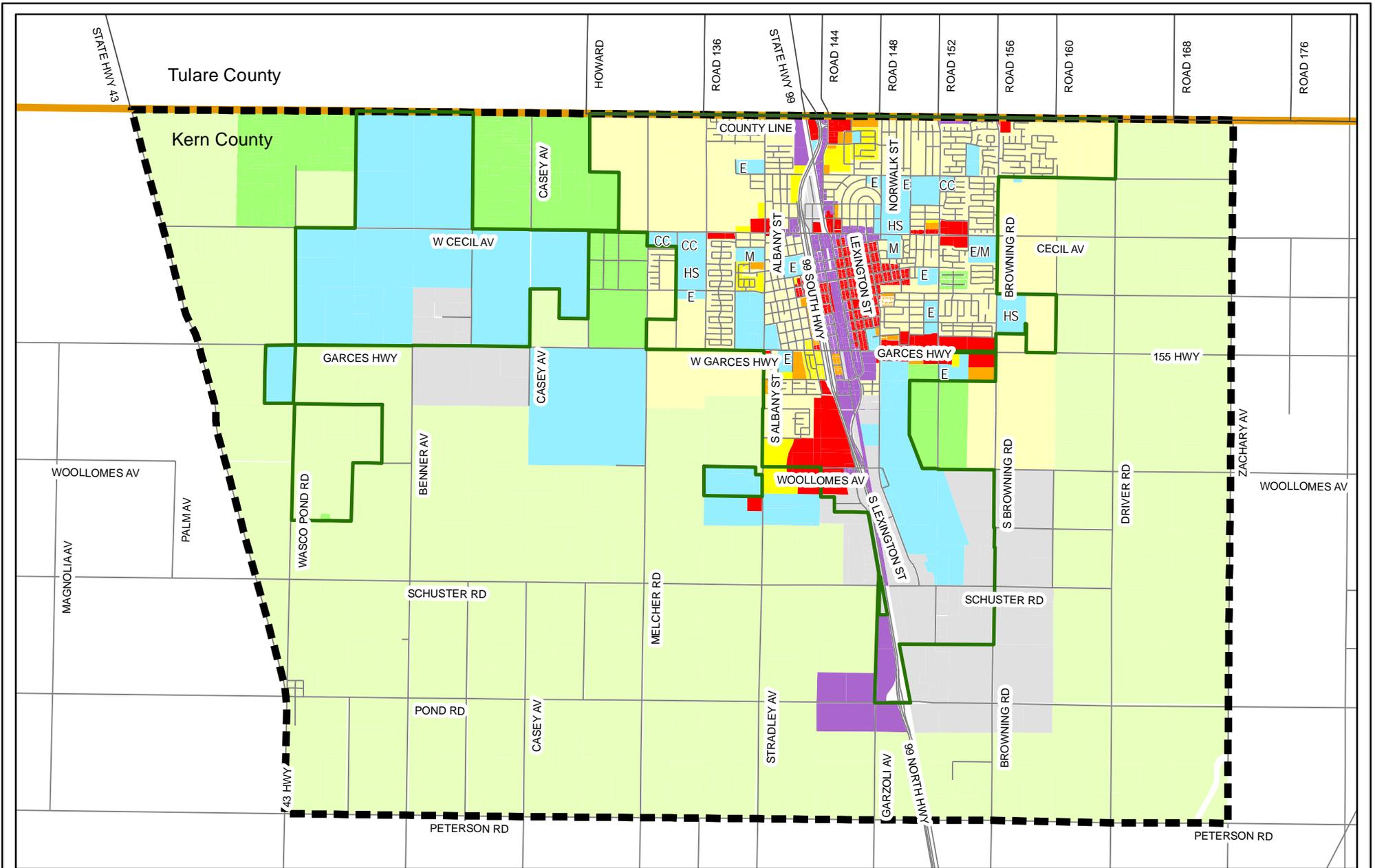


- Legend
-  Delano City Limit
 -  Sphere of influence
 -  Kern County
 -  Roads



Figure 2.2

Growth Boundaries
 2010 Urban Water Management Plan
 Contact: Public Works - Water Division

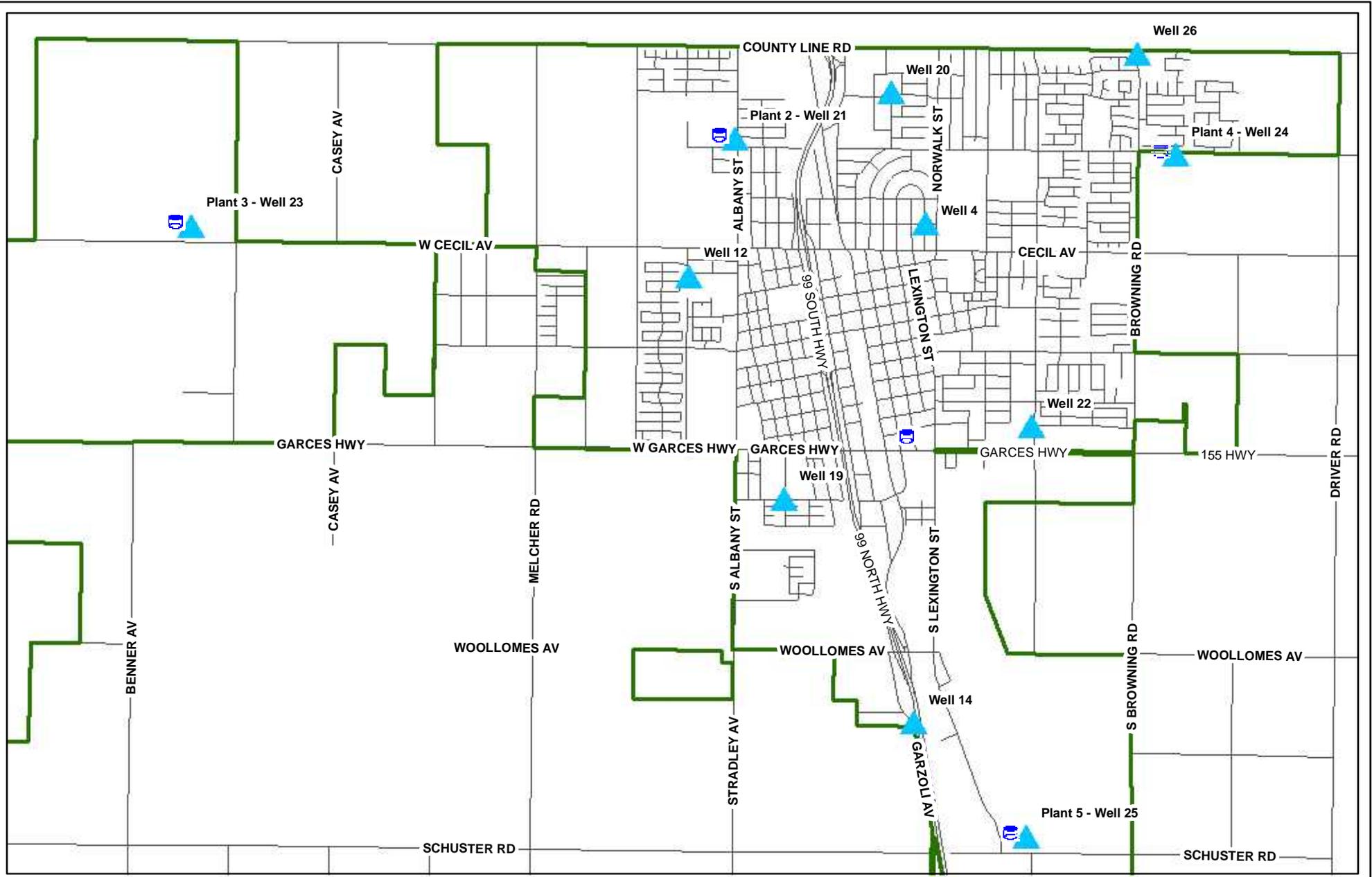


- Legend
- | | | |
|---------------------|--------------------|----------------------|
| Delano City Limit | Agricultural | Medium Residential |
| Sphere of influence | Commercial | High Residential |
| Kern County | Service Commercial | Rural Residential |
| Roads | Industrial | Community Facilities |
| | Low Residential | |



Figure 2.3

General Plan Land Use
2010 Urban Water Management Plan
 Contact: Public Works - Water Division



Legend

-  Water Storage Plant
-  Water Supply Well
-  City Limit
-  Roads

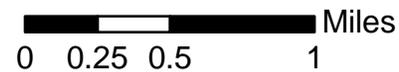
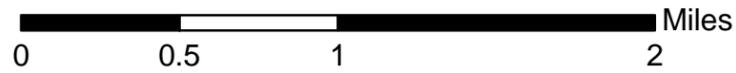
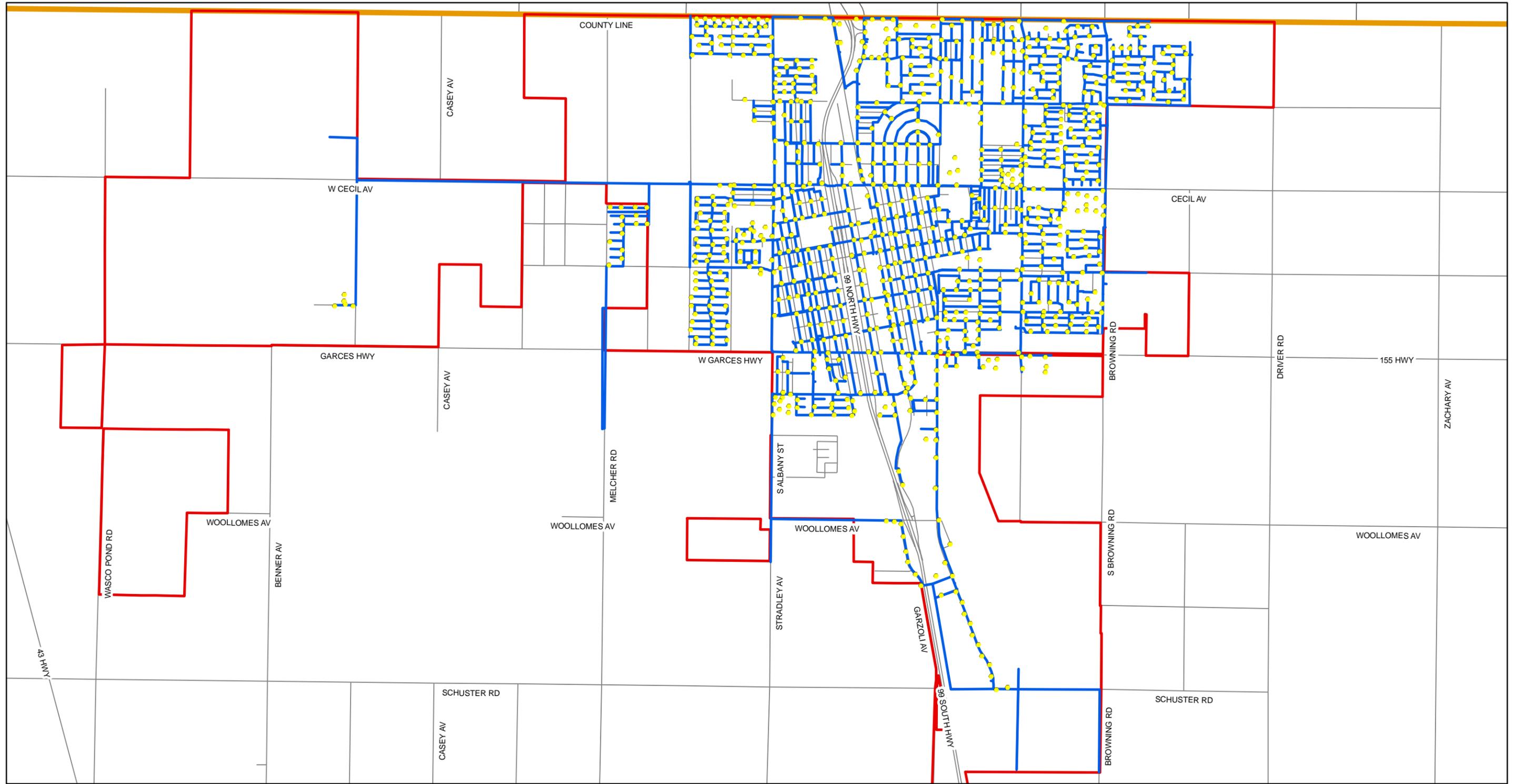


Figure 2.4

Existing Water Supply Facilities

2010 Urban Water Management Plan

Contact: Public Works - Water Division



Legend

- waterline
- Delano City Limit
- Hydrant
- Kern County
- Roads

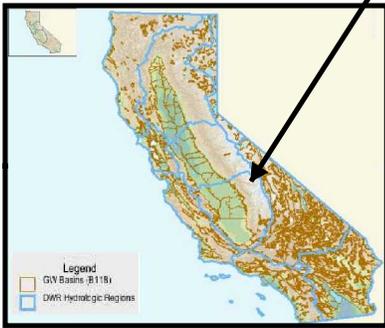


Figure 3.1

Potable Water System

2010 Urban Water Management Plan

Contact: Public Works - Water Division



Source: http://www.water.ca.gov/pubs/groundwater/bulletin_118/



Tulare Lake Hydrologic Region
 Basin and Sub-Basins
 City of Delano



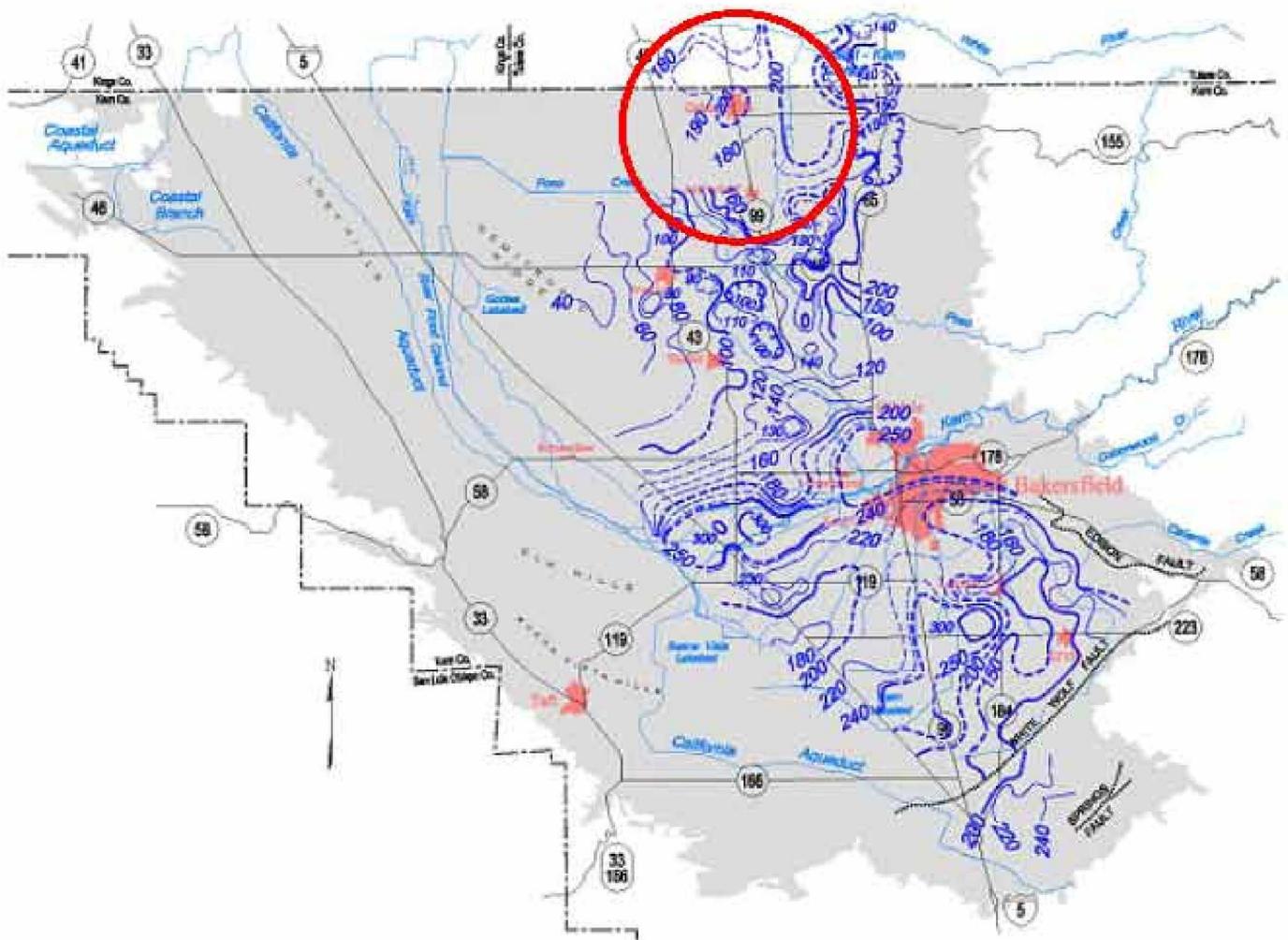
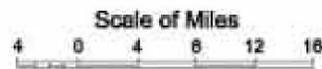
Figure 4.1

Tulare Lake Hydrologic Region
 2010 Urban Water Management Plan
 Contact: Public Works - Water Division

South Central Region
Groundwater Basin Contour Map

Kern Groundwater Basin

Spring 2006, Lines of Equal Elevation of
Water in Wells, Unconfined Aquifer



Contours are dashed where inferred. Contour interval is 10, 20 and 50 feet.



City of Delano

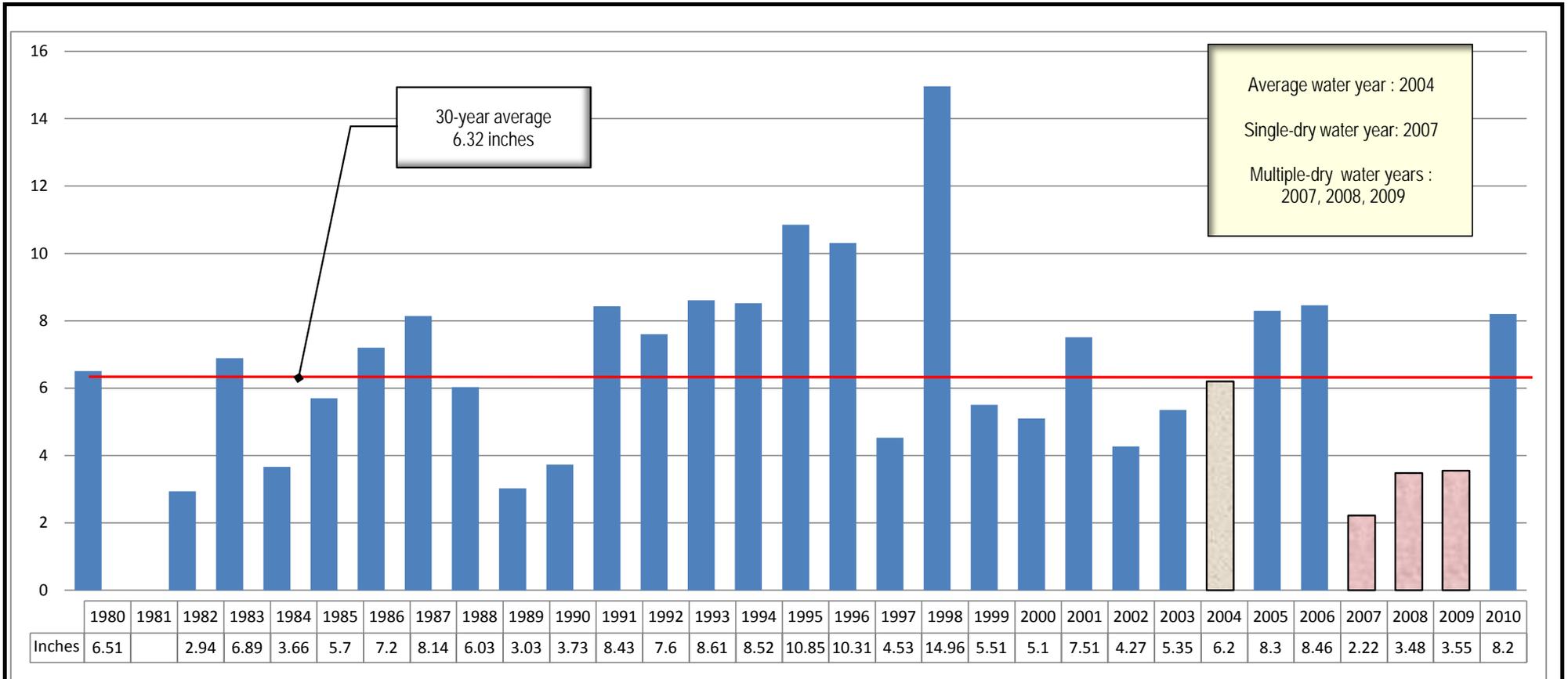


Figure 4.2

Tulare Lake Hydrologic Region

2010 Urban Water Management Plan

Contact: Public Works - Water Division



Source: CDEC Historical Data: Wasco (Tulare Lake) http://cdec.water.ca.gov/cgi-progs/selectQuery?station_id=WSC&dur_code=M&sensor_num=2&start_date=01/01/1980+00:00&end_date=06/07/2011+18:31

Figure 5.1
Annual Rainfall
2010 UWMP
City of Delano

APPENDIX A

Notification Letters Sent 60 Days Prior to the UWMP

Public Hearing



CITY HALL
1015 ELEVENTH AVENUE
POST OFFICE BOX 3010

DELANO, CALIFORNIA 93216-3010

(661) 721-3300 (661) 721-3317 TDD
(661) 721-3312 Fax (City Manager)
(661) 721-2135 Fax (Public Works)

www.cityofdelano.org

COUNCIL MEMBERS
Ricardo Chavez
MAYOR

Grace Vallejo
MAYOR PRO TEM

Joe Aguirre
Liz Morris
Sam Ramirez

CITY MANAGER
Abdel L. Salem

March 10, 2011

The Tulare County Water Commission
2800 W. Burrel Avenue
Visalia, CA 93291
Attn: Jeff Forbes

Subject: Notification of Review to City of Delano Urban Water Management Plan

Dear Mr. Forbes:

Pursuant to California Water Code Section 10642, the City of Delano, a water supplier within Kern County and some unincorporated areas of Tulare County, hereby issue this notification that the current Urban Water Management Plan (UWMP) is being reviewed. The review is required to consider significant changes and to comply with existing state laws.

A public hearing will be held in June 2011 to accommodate consultations and comments.

Sincerely,

Roman Dowling, P.E.
City Engineer/Public Works Director



CITY HALL
1015 ELEVENTH AVENUE
POST OFFICE BOX 3010

COUNCIL MEMBERS
Ricardo Chavez
MAYOR

Grace Vallejo
MAYOR PRO TEM

Joe Aguirre
Liz Morris
Sam Ramirez

DELANO, CALIFORNIA 93216-3010

(661) 721-3300 (661) 721-3317 TDD
(661) 721-3312 Fax (City Manager)
(661) 721-2135 Fax (Public Works)

www.cityofdelano.org

CITY MANAGER
Abdel L. Salem

March 10, 2011

Housing Authority of the County of Kern
601 24th Street
Bakersfield, CA 93301

Subject: Notification of Review to City of Delano Urban Water Management Plan

To Whom It May Concern:

Pursuant to California Water Code Section 10642, the City of Delano, a water supplier within Kern County and some unincorporated areas of Tulare County, hereby issue this notification that the current Urban Water Management Plan (UWMP) is being reviewed. The review is required to consider significant changes and to comply with existing state laws.

A public hearing will be held in June 2011 to accommodate consultations and comments.

Sincerely,

Roman Dowling, P.E.
City Engineer/Public Works Director



CITY HALL
1015 ELEVENTH AVENUE
POST OFFICE BOX 3010

DELANO, CALIFORNIA 93216-3010

(661) 721-3300 (661) 721-3317 TDD
(661) 721-3312 Fax (City Manager)
(661) 721-2135 Fax (Public Works)

www.cityofdelano.org

COUNCIL MEMBERS
Ricardo Chavez
MAYOR

Grace Vallejo
MAYOR PRO TEM

Joe Aguirre
Liz Morris
Sam Ramirez

CITY MANAGER
Abdel L. Salem

March 10, 2011

Chief Environmental Health Specialist
Kern County Environmental Health Services Department
Food, Land and Water Division
Public Services Building
2700 "M" Street, Suite 300
Bakersfield, CA 93301-2370
Attn: Donna Felton

Subject: Notification of Review to City of Delano Urban Water Management Plan

Dear Ms. Felton:

Pursuant to California Water Code Section 10642, the City of Delano, a water supplier within Kern County and some unincorporated areas of Tulare County, hereby issue this notification that the current Urban Water Management Plan (UWMP) is being reviewed. The review is required to consider significant changes and to comply with existing state laws.

A public hearing will be held in June 2011 to accommodate consultations and comments.

Sincerely,

Roman Dowling, P.E.
City Engineer/Public Works Director



CITY HALL
1015 ELEVENTH AVENUE
POST OFFICE BOX 3010

DELANO, CALIFORNIA 93216-3010

(661) 721-3300 (661) 721-3317 TDD
(661) 721-3312 Fax (City Manager)
(661) 721-2135 Fax (Public Works)

www.cityofdelano.org

COUNCIL MEMBERS
Ricardo Chavez
MAYOR

Grace Vallejo
MAYOR PRO TEM

Joe Aguirre
Liz Morris
Sam Ramirez

CITY MANAGER
Abdel L. Salem

April 27, 2011

United Farm Workers
P.O. Box 130
30168 Garces Hwy.
Delano, CA 93216

Subject: Notification of Review of the City of Delano 2010 Urban Water Management Plan

To Whom It May Concern:

The City of Delano wishes to inform you that we are in the process of updating our 2010 Urban Water Management Plan. We are informing you of this revision because we serve water within your city/county boundaries.

The revised Urban Water Management Plan is required to be adopted by July 1, 2011, and to be submitted to the Department of Water Resources by August 1, 2011.

We will be holding a public hearing on the draft revision of the Urban Water Management Plan in advance of the adoption and will send a notice of this hearing to you as the time gets nearer.

We welcome your participation in the revision of the City of Delano 2010 Urban Water Management Plan.

Please contact me at (661) 720-2219 if you would like to participate in the City's Urban Water Management planning process or if there is a specific individual within your organization who should be our primary point of contact.

Sincerely,


Roman Dowling, P.E.
City Engineer/Public Works Director



CITY HALL
1015 ELEVENTH AVENUE
POST OFFICE BOX 3010

DELANO, CALIFORNIA 93216-3010

(661) 721-3300 (661) 721-3317 TDD
(661) 721-3312 Fax (City Manager)
(661) 721-2135 Fax (Public Works)

www.cityofdelano.org

COUNCIL MEMBERS
Ricardo Chavez
MAYOR

Grace Vallejo
MAYOR PRO TEM

Joe Aguirre
Liz Morris
Sam Ramirez

CITY MANAGER
Abdel L. Salem

April 27, 2011

Investors Realty
1626 Main Street
Delano, CA 93215

Subject: Notification of Review of the City of Delano 2010 Urban Water Management Plan

To Whom It May Concern:

The City of Delano wishes to inform you that we are in the process of updating our 2010 Urban Water Management Plan. We are informing you of this revision because we serve water within your city/county boundaries.

The revised Urban Water Management Plan is required to be adopted by July 1, 2011, and to be submitted to the Department of Water Resources by August 1, 2011.

We will be holding a public hearing on the draft revision of the Urban Water Management Plan in advance of the adoption and will send a notice of this hearing to you as the time gets nearer.

We welcome your participation in the revision of the City of Delano 2010 Urban Water Management Plan.

Please contact me at (661) 720-2219 if you would like to participate in the City's Urban Water Management planning process or if there is a specific individual within your organization who should be our primary point of contact.

Sincerely,

Roman Dowling, P.E.
City Engineer/Public Works Director



CITY HALL
1015 ELEVENTH AVENUE
POST OFFICE BOX 3010

DELANO, CALIFORNIA 93216-3010

(661) 721-3300 (661) 721-3317 TDD
(661) 721-3312 Fax (City Manager)
(661) 721-2135 Fax (Public Works)

www.cityofdelano.org

COUNCIL MEMBERS
Ricardo Chavez
MAYOR

Grace Vallejo
MAYOR PRO TEM

Joe Aguirre
Liz Morris
Sam Ramirez

CITY MANAGER
Abdel L. Salem

April 27, 2011

Pepper Tree Apartments
900 Susan Drive
Delano, CA 93215

Subject: Notification of Review of the City of Delano 2010 Urban Water Management Plan

To Whom It May Concern:

The City of Delano wishes to inform you that we are in the process of updating our 2010 Urban Water Management Plan. We are informing you of this revision because we serve water within your city/county boundaries.

The revised Urban Water Management Plan is required to be adopted by July 1, 2011, and to be submitted to the Department of Water Resources by August 1, 2011.

We will be holding a public hearing on the draft revision of the Urban Water Management Plan in advance of the adoption and will send a notice of this hearing to you as the time gets nearer.

We welcome your participation in the revision of the City of Delano 2010 Urban Water Management Plan.

Please contact me at (661) 720-2219 if you would like to participate in the City's Urban Water Management planning process or if there is a specific individual within your organization who should be our primary point of contact.

Sincerely,

Roman Dowling, P.E.
City Engineer/Public Works Director

APPENDIX B

Copy of the Public Hearing Notices Including Date of Publication
in a Local Newspaper of General Circulation

PROOF OF PUBLICATION

(2015.5 C.C.P.)
(GENERAL FORM)

STATE OF CALIFORNIA }
County of Kern } ss.

I, the undersigned, am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a part of or interested in the above entitled matter. I am the chief clerk/publisher of *The Delano Record*, a newspaper of general circulation, printed and published weekly, in the City of Delano, County of Kern, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court order number 21125, of the County of Kern; that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and in any supplement thereof on the following dates, to wit:

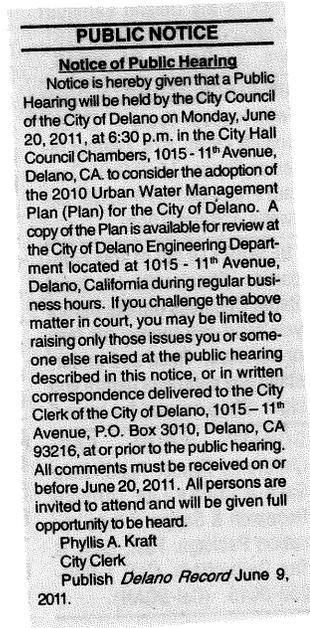
June 9, 2011

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.



(Signature)

Executed on 6-9-11
at Delano, California



The *DELANO RECORD*
PO Box 1600
Shafter, CA 93263

Phone (661) 746-4942

APPENDIX C

A Resolution of the City Council of the City of Delano Adopting
the Draft 2010 Urban Water Management Plan (Plan)

8-18-11
PKraft

RESOLUTION NO. 2011 - 71

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF DELANO
ADOPTING THE DRAFT 2010 URBAN WATER MANAGEMENT PLAN (Plan)**

WHEREAS, the City of Delano City Council conducted a duly-noticed public hearing on August 15, 2011 to receive public testimony regarding a proposed Draft 2010 Urban Water Management Plan; and

WHEREAS, the State of California Water Code requires adoption of Urban Water Management Plan every five years; and

NOW THEREFORE, BE IT RESOLVED, by approval of this Resolution of the City Council of the City of Delano that

1. The draft 2010 Urban Water Management Plan is hereby adopted.

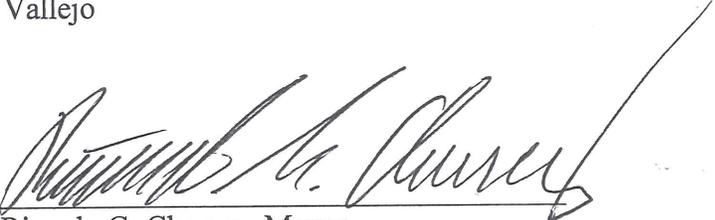
PASSED AND ADOPTED by the City Council of the City of Delano at a regular meeting held on the 15th day of August, 2011, by the following vote:

AYES: Aguirre, Chavez, Morris, Ramirez, Vallejo

NOES: none

ABSENT: none

ABSTAIN: none



Ricardo G. Chavez, Mayor

ATTEST:



Phyllis A. Kraft, City Clerk

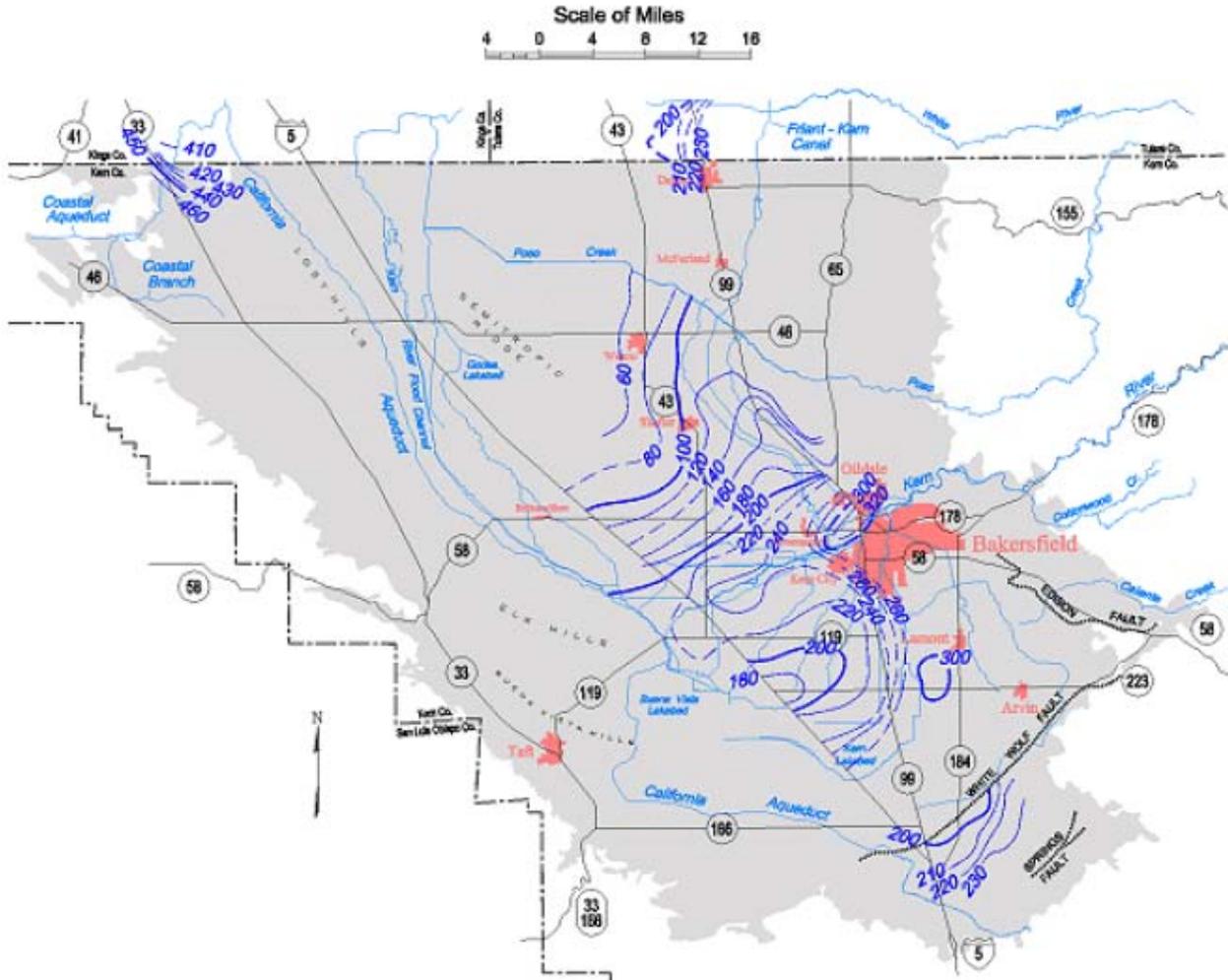
APPENDIX D

Kern Groundwater Basin Lines of Equal Elevation of Water in
Wells, Unconfined Aquifer (2002 through 2006)

South Central Region
Groundwater Basin Contour Map

Kern Groundwater Basin

Spring 2002, Lines of Equal Elevation of Water in Wells, Unconfined Aquifer

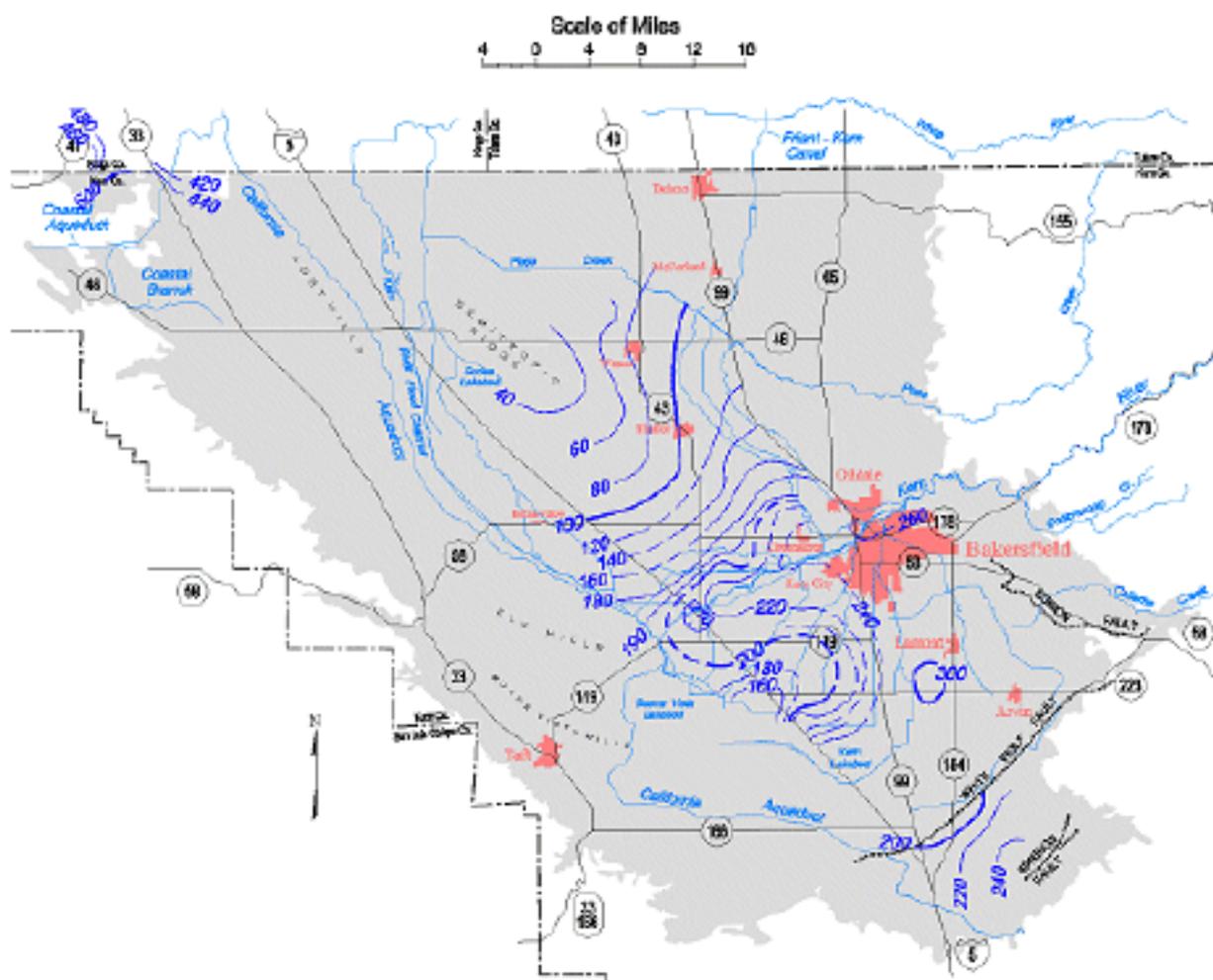


Contours are dashed where inferred. Contour interval is 10 and 20 feet.

South Central Region
Groundwater Basin Contour Map

Kern Groundwater Basin

Spring 2003, Lines of Equal Elevation of
Water in Wells, Unconfined Aquifer

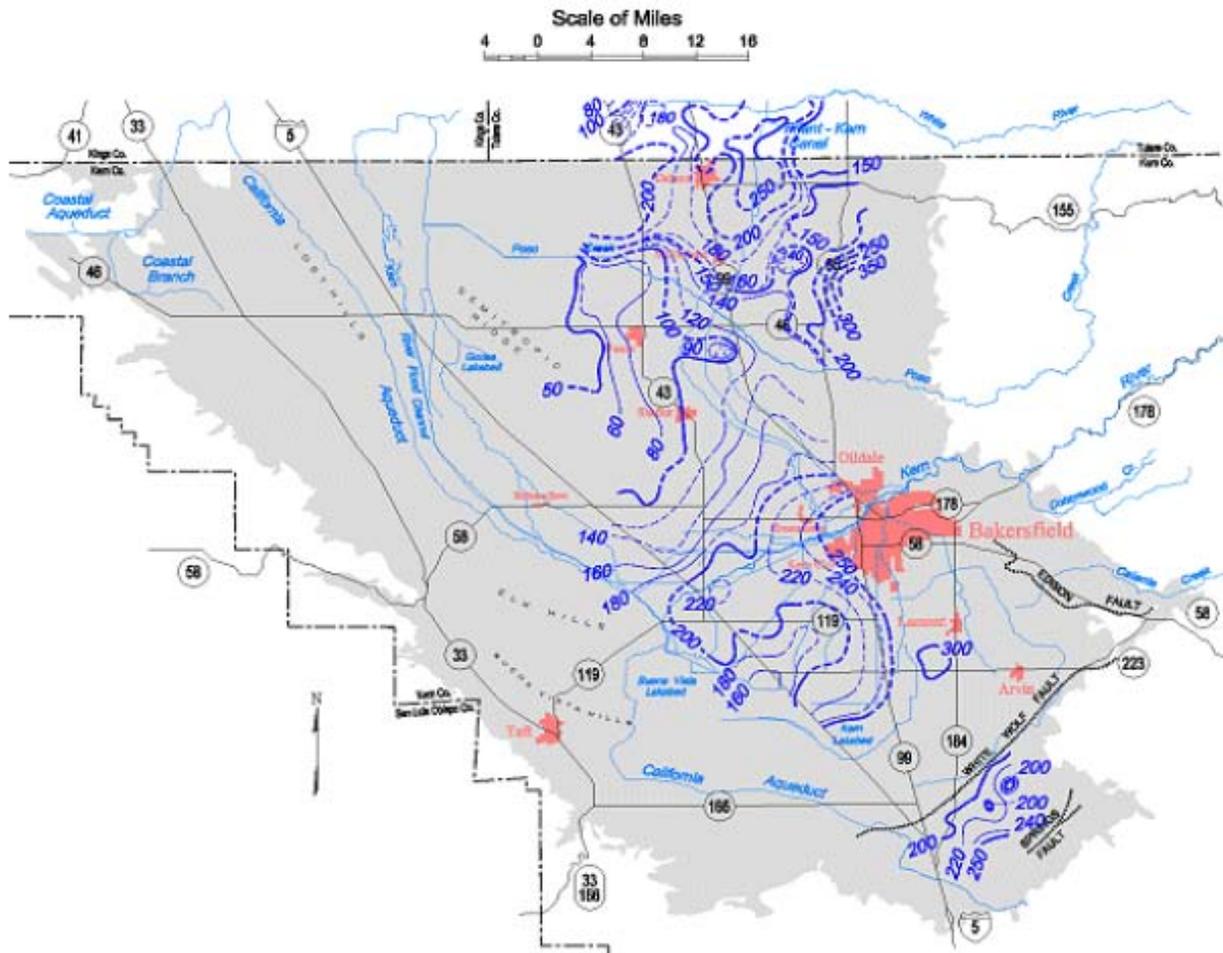


Contours are dashed where inferred. Contour interval is 10 and 20 feet.

South Central Region
Groundwater Basin Contour Map

Kern Groundwater Basin

Spring 2004, Lines of Equal Elevation of
Water in Wells, Unconfined Aquifer



APPENDIX D1

2010 City of Delano Consumer Confidence Report



2010

CONSUMER CONFIDENCE REPORT

City of Delano – Prepared April 2011

This brochure is a report to consumers regarding the drinking water quality provided by the City of Delano. Included is an explanation of where our water comes from, the results of water quality testing and information on how to interpret this data. We are proud to share our results with you, so that you may have confidence in the quality of our drinking water.

We test the water quality for many constituents as required by both State and Federal Regulations. This report gives the results of our monitoring for the period of January 1 – December 31, 2010.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards.

Esta informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

Water Source and Location

The City of Delano water system is supplied entirely with groundwater from aquifers beneath the city. There are eleven wells supplying the water system. Source Locations are:

- | | |
|--|--|
| Well #4 – 18 th & Madison | Well #22 – 5 th & Randolph |
| Well #12 – West 15 th & Clark | Well #23 – West Cecil Avenue |
| Well #14 – Garzoli & Woollomes | Well #24 – 20 th & Browning |
| Well #19 – Garces & Belmont | Well #25 – Schuster & S. Randolph |
| Well #20 – 22 nd & Kalibo | Well #26 – 2300 Block of Browning |
| Well #21 – 21 st & Albany | |

Drinking Water Assessment Information

A source water assessment was conducted for the City of Delano water supply wells in November 2002. The sources are considered most vulnerable to the following activities associated with contaminants detected in the water supply:

- Fertilizer / Pesticide / Herbicide Applications

The water sources are also considered most vulnerable to the following activities not associated with the detected contaminants:

- Automobile Repair Shops and Gas Stations
- Machine Shops
- Photo Processing / Printing

For more information contact:

Department of Public Works, 725 S. Lexington Street, Delano, CA 93215. Telephone (661) 721-3350.

The City Council meets on the first and third Monday of each month at 6:30 pm in the City Hall Council Chambers located at 1015 11th Avenue.

Terms used in this Report

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency (USEPA).

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Primary Drinking Water Standards (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Variations and Exemptions: Department permission to exceed an MCL or not comply with a treatment technique under certain conditions.

ND: not detectable at testing limit

mg/L: milligrams per liter or parts per million (ppm)

µg/L: micrograms per liter or parts per billion (ppb)

ng/L: nanograms per liter or parts per trillion (ppt)

pg/L: picogram per liter or parts per quadrillion (ppq)

pCi/L: picocuries per liter (a measure of radiation)

<: less than

Educational Information:

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guideline on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and herbicides*, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- *Radioactive contaminants*, that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the state Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Tables 1, 2, 3, 4, and 5 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The Department allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old.

CITY OF DELANO WATER QUALITY TABLES
(For Explanation of Violations, See End of Tables)

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA						
Microbiological Contaminants (complete if bacteria detected)	Highest No. of Detections	No. of months in violation	MCL	MCLG	Typical Source of Bacteria	
Total Coliform Bacteria	(In a mo.)	0	More than 1 sample in a month with a detection	0	Naturally present in the environment	
Fecal Coliform or <i>E. coli</i>	(In the year)	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or <i>E. coli</i>	0	Human and animal fecal waste	
TABLE 2 – SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER						
Lead and Copper (complete if lead or copper detected in the last sample set)	No. of samples collected	90th percentile level detected	No. sites exceeding AL	AL	PHG	Typical Source of Contaminant
Lead (µg/L)	11	<1.0	0	15	2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (µg/L)	11	<10	0	1,300	300	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
TABLE 3 – SAMPLING RESULTS FOR SODIUM AND HARDNESS						
Chemical or Constituent (and reporting units)	Sample Date	Average Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (mg/L)	8/26/09	83	61-130	none	none	Salt present in the water and is generally naturally occurring
Hardness (mg/L)	8/26/09	34	9.3-95	none	none	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

CITY OF DELANO WATER QUALITY TABLES
(For explanation of violations, see end of tables)

TABLE 4 – DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD						
Chemical or Constituent (and reporting units)	Sample Date	Average Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Arsenic (µg/L) MCL Level Violation	1/15/10 4/13/10 5/5/10 7/13/10 10/5/10 12/29/10	17.28	3.3-33	10	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (µg/L)	8/26/09	10	<10-55	1000	2000	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Copper (µg/L)	8/26/09	<10	<10	AL=1,300	300	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride (mg/L)	8/26/09	0.43	0.26-0.83	2	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Lead (µg/L)	8/26/09	<1.0	<1.0	AL=15	2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Nitrate (mg/L) (as nitrate, NO ₃)	1/21/10 5/5/10 7/13/10 10/19/10	17.2	ND-44	45	45	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrite (µg/L) (as nitrogen, N)	5/5/10 7/13/10	247.8	ND-650	1,000	1,000	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Dibromochloropropane [DBCP] (µg/L)	1/21/10 5/27/10 7/13/10 10/19/10	0.11	ND-0.21	0.20	1.7	Banned nematocide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit
Gross Alpha Particle Activity (pCi/L)	8/26/09	0.84	ND-9.02	15	(0)	Erosion of natural deposits
Combined Radium (pCi/L)	8/26/09	0.20	-0.119-0.412	5	(0)	Erosion of natural deposits
Chlorine Residual (ppm)	1/3/10-12/29/10	1.69	0.39-2.46	4	4	Drinking water disinfectant added for treatment
TTHMs (µg/L) (Total Trihalomethanes)	2/3/10 7/13/10 9/21/10	47.1	<3.0-71.0	80	N/A	By-product of drinking water disinfection
Haloacetic Acids (µg/L)	2/3/10 7/13/10 9/21/10	11.1	ND-21.0	60	N/A	By-product of drinking water disinfection

CITY OF DELANO WATER QUALITY TABLES
(For explanation of violations, see end of tables)

TABLE 5 – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	Sample Date	Average Level Detected	Range of Detections	Secondary MCL	Typical Source of Contaminant
Color (units)	8/26/09	2	1-5	15	Naturally occurring organic material
Copper (µg/L)	8/26/09	<10	<10	1000	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Corrosivity (no unit)	10/07/03	0.303	0.09-0.51	non-corrosive	Natural or industrial-influenced balance of hydrogen, carbon and oxygen in the water, affected by temperature and other factors
Odor – Threshold (units)	8/26/09	0.20	nd-2	3	Naturally occurring organic material
Turbidity (NTU)	8/26/09	0.20	<0.10-0.80	5	Soil runoff
Total Dissolved Solids (mg/L)	8/26/09	304	220-480	1000	Runoff/leaching from natural deposits
Specific Conductance (µmhos/cm)	8/26/09	472	328-795	1600	Substances that form ions when in water; seawater influence
Chloride (mg/L)	8/26/09	52	19-140	500	Runoff/leaching from natural deposits; seawater influence
Sulfate (mg/L)	8/26/09	60	33-120	500	Runoff/leaching from natural deposits; industrial influence

TABLE 6 – DETECTION OF UNREGULATED CONTAMINANTS

Chemical or Constituent (and reporting units)	Sample Date	Average Level Detected	Range of Detections	Notification Level	Health Effects Language
Boron (µg/L)	2/18/03-8/25/03	0.04	ND-100	1,000	The babies of some pregnant women who drink water containing boron in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.
Chromium VI (µg/L) (Hexavalent chromium)	8/25/03-9/7/06	1.68	ND-6.6	N/A	N/A
Trichloropropane (µg/L) (1,2,3-TCP)	8/26/09	0.0057	<0.0050-0.0097	0.005	Some people who use water containing 1,2,3-trichloropropane in excess of the notification level over many years may have an increased risk of getting cancer, based on studies in laboratory animals.
Vanadium (µg/L)	2/18/03-10/7/03	30.97	ND-52	50	The babies of some pregnant women who drink water containing vanadium in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.

TABLE 7 – SAMPLING RESULTS SHOWING FECAL INDICATOR-POSITIVE GROUND WATER SOURCE SAMPLES

Microbiological Contaminants (complete if fecal-indicator detected)	Total No. of Detections	Sample Dates	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
<i>E. coli</i>	0	Weekly 1/3/10-12/29/10	0	(0)	Human and animal fecal waste
Enterococci	0	Weekly 1/3/10-12/29/10	TT	n/a	Human and animal fecal waste
Coliphage	0	Weekly 1/3/09-12/29/10	TT	n/a	Human and animal fecal waste

EXPLANATION OF VIOLATIONS			
Violation	Explanation of Violation	Potential Health Effects	Actions Taken to Address Violation
Arsenic MCL Level	Water system is in excess of the 10ppb MCL	Some people who drink water containing arsenic in excess of the MCL over many years may experience skin damage or circulatory system problems, and may have an increased risk of getting cancer.	The City is in the process of constructing new water supply wells to decrease the level of arsenic by December 2012.
Copper	We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the calendar year 2010 we did not monitor or test for copper in the distribution system and therefore cannot be sure of the quality of the drinking water during that time.	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.	Samples and monitoring will be conducted prior to September 30, 2011
Lead	We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the calendar year 2010 we did not monitor or test for lead in the distribution system and therefore cannot be sure of the quality of the drinking water during that time.	Infants and children who drink water containing lead in excess of the action level may experience delays in their physical or mental development. Children may show slight deficits in attention span and learning abilities. Adults who drink this water over many years may develop kidney problems or high blood pressure.	Samples and monitoring will be conducted prior to September 30, 2011
Dibromochloropropane [DBCP]	One sample at one well was in excess of the 0.20µg/L MCL. The Water System is not currently in violation of the MCL for DBCP.	Some people who use water containing DBCP in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.	The Water System is not currently in violation of the MCL for DBCP. The MCL for DBCP is based on a four quarter average of the system which is 0.11µg/L for the 2010 calendar year, this is well below the MCL of 0.20µg/L

APPENDIX E

Lease Agreements to Farm City Owned Properties Around the
Wastewater Treatment Facilities

5-27-11
PKraft

RESOLUTION NO. 2010 - 81

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF DELANO
APPROVING A LEASE AGREEMENT WITH B & D MORRIS FARMS AND
AUTHORIZING THE MAYOR TO SIGN THE WASTEWATER MUNICIPAL
FARM LEASE**

WHEREAS, the City of Delano owns 439 acres north of Garces Highway in the vicinity of Lytle Road for purposes of wastewater disposal on agricultural crops such as alfalfa; and

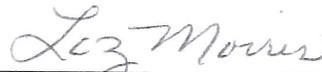
WHEREAS, B & D Morris Farms have submitted the only acceptable proposal to the City to lease said 439 acres; and

WHEREAS, the continued leasing for the property by B & D Morris Farms is judged to be in the best interest of the City of Delano.

NOW, THEREFORE, BE IT RESOLVED, by approval of this Resolution the City Council of the City of Delano does resolve as follows:

1. The City Council approves the proposed lease agreement with B & D Morris Farms entitled "Wastewater Municipal Farm Lease" and authorizes the Mayor to execute the lease agreement.

DATED:



Liz Morris, Mayor

I certify that the foregoing Resolution was duly passed and adopted by the City Council at a regular meeting held on the 18th day of October, 2010, by the following vote:

AYES: Chavez, Hill, Morris, Ramirez, Vallejo

NOES: none

ABSENT: none

ABSTAIN: none

Attest:



Phyllis A. Kraft, City Clerk

5-27-11
PK/epf

AGREEMENT NO. 2010 - 84

WASTEWATER MUNICIPAL FARM LEASE

This Lease is made and entered into this 18th day of October, 2010 between the City of Delano, a municipal corporation, hereinafter called "Lessor" and B & D Morris Farms hereinafter called "Lessee".

WITNESSETH

WHEREAS, Lessor owns improved farmland, among other property, for the purpose of locating and maintaining thereon sewage disposal facilities for its City sewer services and the immediate need for the present use by Lessor of all said real property does not exist (but the Lessor desires to keep said property for future needs); and

WHEREAS, the Lessee desires to rent a portion of said property for agricultural use; and

WHEREAS, it is the understanding of the parties that an important consideration for the rental of this land is to provide for the Reclaimed Wastewater upon said Premises, as it comes from the sewage disposal and treatment plant of the Lessor, as well as the continued development of the land for its improvement for irrigated agricultural purposes;

NOW THEREFORE, and in consideration of the mutual covenants herein contained, it is mutually agreed by and between the parties hereto as follows:

1. DESCRIPTION:

Lessor hereby Leases to Lessee and Lessee hires from Lessor, on the terms and conditions hereinafter set forth, that certain real property hereinafter referred to as the "Premises" situated in the County of Kern, State of California, and more particularly described in Exhibit "A" as if fully set forth herein.

2. TERMS:

The term of this Lease shall be for a period of ten (10) years, commencing on January 1st, 2012 and terminating on December 31st, 2021. This lease may be extended for a period of five (5) years at the written agreement of both parties.

3. RENT:

As the full and agreed consideration for the foregoing, Lessee shall pay to Lessor, a yearly cash rental of forty-four thousand dollars (\$44,000) payable on equal installments on a quarterly basis, on the first day of the following months: March 1, June 1, September 1, December 1, Commencing on March 1, 2012

Said rental shall be increased by two percent per year, adjusted from the previous year's rental, beginning on March 1, 2012. Said increase will be considered the cost-of-living adjustment for the term of this agreement.

Any holding over after the expiration of the term of this Lease, with the consent of Lessor will not be considered a renewal but shall be treated as a tenancy from month to month at a rental of four thousand five hundred dollars (\$4500.00) per month, and shall otherwise be on the terms and conditions specified in this Lease as applicable.

4. ADDITIONAL RENT:

If Lessee fails to make a rental payment in a timely manner as provided in Section 3, then Lessee shall be charged an additional ten percent (10%) of the original amount which is then due and said amount shall be considered as additional rent. In addition, for any rent, which includes additional rent which is more than twenty (20) days past due, the Lessor may at its option place a UCC-1 lien on any crop or crops on the Premises and take any other action it deems necessary.

5. USE.

The Premises shall be continually used for the growing of lawful agricultural crops as permitted by this Lease, and for activities directly related thereto. The Premises shall not be used for any other purpose without the prior written consent of the City Manager of the City of Delano.

6. PERMITTED CROPS.

Only the permitted crops as set forth in Exhibit "B" shall be grown on the Premises, and the following: Permitted crops include alfalfa and similar fiber/fodder crops. All other permitted crops must comply with applicable regulations and require treated wastewater in sufficient quantities for wastewater treatment operations. Lessee shall request written consent of the City Manager of the City of Delano prior to planting crops not in compliance with this section.

7. SIGNS:

Except as expressly set forth herein, Lessee agrees not to allow the construction or placement of any sign, signboard or other form of outdoor advertising on the Premises without the prior written consent of Lessor. In the event of a violation of this provision by Lessee or anyone claiming under Lessee, Lessee hereby authorizes Lessor, as Lessee's agent, to enter the Premises and to remove and dispose of any such sign, signboard or other advertising and to charge the cost and expense of any such removal and disposal to Lessee who agrees to pay the same on demand.

8. INSURANCE:

Lessee shall procure and maintain for the duration of the Lease, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the Lessee's operation and use of the leased premises. The cost of such insurance shall be borne by the Lessee.

Coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage
2. Worker's Compensation insurance as required by the State of California and Employer's Liability insurance.
3. Property insurance against all risks of loss to any tenant improvements or betterments.

Lessee shall maintain limits no less than:

1. General Liability: \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either

the general aggregate limit shall apply separately to this project/location or the general aggregate limits shall be twice the required occurrence limit.

2. Employer's Liability: \$1,000,000 per accident for bodily injury or disease.
3. Full replacement cost with no coinsurance penalty provision.

Any deductibles or self-insured retentions must be declared to and approved by the Lessor. At the option of the Lessor, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Lessor, its officers, officials, employees and volunteers; or the Lessee shall provide a financial guarantee satisfactory to the Lessor guaranteeing payment of losses and related investigations, claim administration and defense expenses.

The general liability policy is to contain, or be endorsed to contain, the following provisions:

1. The Lessor, its officers, officials, employees and volunteers are to be covered as insureds with respect to liability arising out of ownership, maintenance or use of that part of the premises leased to the Lessee.
2. The Lessee's insurance coverage shall be primary insurance as respects the Lessor, its officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the Lessor, its officers, officials, employees or volunteers shall be excess of the Lessee's insurance and shall not contribute with it.
3. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled, except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the Lessor.

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII.

Lessee shall furnish Lessor with the original certificates and amendatory endorsements effecting coverage required by this

clause. The endorsements should be on forms provided by the Lessor or on other than the Lessor's forms, provided those endorsements or policies conform to the requirements. All certificates and endorsements are to be received and approved by the Lessor before work commences. The Lessor reserves the right to require complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications at any time.

Lessee hereby agrees and acknowledges that the Premises have been accepted in an "as is" condition and without representation or warranty by Lessor as to fitness for any purpose or use.

9. CASUALTY INSURANCE:

The parties each specifically acknowledge that Lessor shall not be obligated to keep the Premises insured against fire, or any other insurable risk. Lessee hereby and forever waives all right to claim or recover damages from Lessor in any amount as the result of any damage to the Premises by fire, earthquake, flooding, storm or any other casualty.

10. TAXES, ASSESSMENTS AND LIENS:

Lessee agrees to pay, when due, all taxes and assessments which may be levied against Lessee's possessory interest in the Premises and upon any crops or personal property which Lessee causes to be grown, placed or maintained upon the Premises, and agrees to keep Premises free from all liens and encumbrances by reason of the use of occupancy of the Premises by Lessee or any person claiming under Lessee except for any UCC-1 lien which is placed against the crop or crops growing on the Premises.

11. IMPROVEMENTS:

Lessee shall not make any alterations, addition, or improvements in excess of \$5,000 upon the Premises without the express prior written consent of Lessor. All alterations, additions and improvements shall be done in a good and workman- like manner and diligently prosecuted to completion, and shall be performed and maintained in strict accord with all laws and ordinances relating thereto. Unless otherwise expressly agreed to by Lessor, any and all alterations, additions and improvements shall remain on, and be surrendered with the Premises upon the expiration or termination of this Lease.

Lessee shall timely pay all costs associated with any and all improvements and shall keep the Premises free and clear of all mechanic's liens.

Lessee agrees that all structures and improvements, such as fences, gates, towers, derricks, tanks, pipes or other improvements, whether of like or different nature than the foregoing, and excepting therefrom any personal property of Lessee's, shall be and remain a part of the real property and shall not be removed or damaged by lessee after construction or installation and shall be surrendered to Lessor upon termination of this Lease.

Lessee agrees that any and all irrigation pipelines, well pumping equipment and other structures, buildings and fixtures appurtenant hereto, hereinafter collectively referred to as "irrigation equipment" located on the Premises are and shall remain the property of the Lessor and shall be surrendered with the Premises upon the expiration or termination of this Lease. In consideration of the privilege of using the same, Lessee agrees to maintain, operate, repair and replace if necessary at Lessee's sole cost and expense, said irrigation equipment during the continuance of this Lease. Any irrigation equipment placed on the Premises by Lessee, or installed by lessee to replace such equipment, shall become the property of Lessor and shall remain upon and be surrendered with the Premises upon the expiration or termination of this Lease.

Lessee agrees that any damage to constructions and improvements caused by Lessee or any person visiting or doing business with Lessee on the Premises, shall be repaired in good order at the sole expense of Lessee.

Lessee will maintain the area immediately outside the fence of the treatment plant in a clean, weed, and grass free condition.

12. PESTICIDES AND HERBICIDES:

Lessee agrees that any and all pesticide or herbicide applications on the Premises shall be made in strict accordance with all Federal State, County and local laws. Lessee further agrees to dispose of any pesticides, herbicides or any other hazardous materials which are declared to be either a health or environmental hazard in such a manner as prescribed by law. This shall include, but shall not be limited to, contaminated containers, clothing, equipment or any other contaminated material.

13. UNDERGROUND TANKS:

Notwithstanding anything to the contrary set forth in this Lease, Lessee shall not have the right to install underground or aboveground storage tanks without the express prior written consent of the Lessor.

14. HAZARDOUS MATERIALS INDEMNITY:

Lessee hereby agrees to indemnify and hold harmless Lessor and its officers, employees, servants and agents from and against any and all claims, actions, losses, liabilities, damages, costs, attorney's fees and other expenses (A) including, without limitation, all foreseeable and all unforeseeable consequential damages, directly or indirectly arising out of the use, generation, storage or disposal of Hazardous Materials on the Premises, or arising out of the Premises, and (B) including, without limitation, the cost of any required or necessary plans, to the full extent that such action is attributable, directly or indirectly, to the presence, or disposal of Hazardous Materials on the Premises. As used in this Section, Hazardous materials means any flammable explosives, radioactive materials, asbestos, PBC's hazardous waste, toxic substances of related materials, including, without limitation, substances defined as "hazardous substances", "hazardous materials" or "toxic substances" in the Comprehensive Environmental response, Compensation and Liability action of 1980 as amended, 42 USC, Section 9601, et seq.; the Hazardous Materials Transportation Act, 49 USC, Section 1801, et seq.; the Resource Conservation and Recovery Act, 42 USC, Section 6901, et seq.; the Toxic Substances Control Act 15 USC, Section 2601, et seq.; any other Federal, State County or local law applicable to the Premise, and in the rules and regulations adopted or promulgated under or pursuant to any of said laws. The provisions of this Section shall survive the expiration or termination of this Lease and shall relate back to all periods of Lessee's previous ownership or possession of the Premises.

15. WATER:

Lessee shall not extract or export water from the Premises without written permission of the Lessor. Should water be extracted or exported, Lessee shall provide Lessor with a monthly written statement of water extracted. In addition Lessee shall be solely

responsible for all costs and expenses of extraction and metering, and for all reporting required to the Lessor and any other entities.

16. UTILITIES:

Lessee agrees to pay all charges and assessments for or in connection with electric current and all other utilities which may be furnished to or used on the Premises by Lessee.

17. WORKER'S COMPENSATION:

Lessee is aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and will comply with such provisions before commencing farming under this contract.

18. MAINTENANCE:

Throughout the term of this Lease Lessee shall, at Lessee's sole cost and expense, repair, replace, keep, and maintain the Premises in good order, condition and repair. Lessee shall at Lessee's own expense, take all actions and precautions necessary for the care of the Premises including, but not limited to, irrigation, insect control, disease control, weed control, weed abatement in accordance with the Kern County Fire Department's annual Weed Abatement Program, rodent control, soil erosion control and any other items necessary for the use of the Premises in accordance with approved standards of farming and agricultural practices. Lessee shall, at its sole cost and expense, keep any buildings, fences, irrigation systems or other improvements on or placed on the Premises in good repair and condition. Lessor shall not be obligated to repair, replace or maintain the Premises in any manner throughout the term of this Lease. Neither shall Lessor be obligated to perform any precautionary or prevention measures with respect to the Premises, including, but not limited to, drainage and flood control measures. Should Lessor perform any of the foregoing, such services shall be at the sole discretion of Lessor, and the performance of such services shall not be construed as an obligation or warranty by Lessor of the future of ongoing performance of such services.

19. DISCRIMINATION:

Lessee agrees not to discriminate against any person, or class of person, by reason of race, color, creed, national origin, religion, age or sex in the use of the Premises.

20. ASSIGNMENTS AND SUBLETTING:

Lessee shall not assign the Lease, or any interest therein, and shall not sublet the Premises or any part thereof, or any right or privilege appurtenant thereto, or suffer any other person (the agents and servants of Lessee except) to occupy or use the Premises, or any portion thereof, without the prior written consent of Lessor. Said consent is at the sole discretion of Lessor. A consent to one assignment, subletting, occupation or use by another person shall not be deemed to be a consent to any subsequent assignment, subletting, occupation, or use by another person. This Lease shall not, nor shall any interest herein, be assignable, as to the interest of Lessee by operation of law, without the written consent of Lessor. Any assignment or subletting without such consent shall be void and shall, at the option of Lessor, terminate this Lease.

21. INSOLVENCY OR BANKRUPTCY:

If Lessee shall be adjudged, bankrupt or insolvent this Lease shall thereupon immediately terminate and the same shall not be treated as an asset of the Lessee under such adjudication, nor shall it pass under the control of any trustee or assignee by virtue of any process in bankruptcy or insolvency, or by execution or assignment for the benefit of creditors. If any such event occurs, this Lease shall immediately become null and void and of no effect, and the Lessor may immediately retake possession of the Premises. At its sole discretion, Lessor may allow Lessee to continue operations on a month-to-month basis as provided in Paragraph 3 "Rent".

22. GOVERNMENT PROGRAMS.

Lessee shall retain and preserve any agricultural cotton or other allotment on said land and shall not transfer or combine said allotment or any part of the same, in any manner which will jeopardize its retention or value to the Lessor.

Lessee further agreed to inform the City Manager or his designee of any intention to put Lessee's cotton base in combination with that of Lessor in order that proper certification of such action may be made at the Agricultural Stabilization and Conservation Service

(ASCS) Office in Bakersfield, California. Any perennial crop other than alfalfa, planted by Lessee shall first be approved by Lessor.

Lessee shall retain and preserve the agricultural wheat, corn, milo, and barely and all allotments now or hereafter placed on said land, and shall not transfer or combine said allotments, or any part of the same, in any manner which will jeopardize its retention or value to the Lessor without first obtaining the written consent of the Lessor.

Lessee shall not enter into any soil, conservation or cropping agreement affecting the Premises, irrespective of whether such soil conservation or cropping agreement shall be proposed or submitted under, or in compliance with any Federal, State or local law, or by private agreement, without the prior written consent of the Lessor, and upon such terms and conditions as Lessor may specify. Lessee, and upon the written request of the Lessor, therefore, shall enter into and execute any and all such soil conservation or cropping agreement affecting said Premises. Lessee agrees to abide by and comply with all soil conservation or cropping agreements affecting said Premises which have been theretofore or shall be hereafter executed by or with the written consent of the Lessor.

23. STATUTORY COMPLIANCE:

Lessee will forthwith enter into possession of the Premises and will assume the duty and responsibility of disposal of all Reclaimed Wastewater transferred from the treatment plant of the Lessor to Lessee, and in that regard Lessee will, among other operations, maintain checks and contours and perform such other improvements as are necessary for the adequate disposition of such Reclaimed Wastewater and Lessee will, at Lessee's own expense, abate and keep the Premises free from any nuisance whatsoever in Lessee's operation and handling of the disposal of said Reclaimed Wastewater, Lessee will observe all applicable provisions of Federal, State and local laws now in force, or which may hereafter be in force, including but not limited to, the State of California Department of Health Services Guidelines for Use of Reclaimed Primary Effluent Wastewater, attached hereto as Exhibit "C".

Lessee will take all Reclaimed Primary Effluent Wastewater transferred to Lessee's by Lessor at all times, and if necessary, provide a sump for short term storage whenever a fluctuation in

agriculture operation does not permit continual usage. Lessee further agrees that Lessor may transfer up to an average of 13 acre-feet of wastewater per acre per year.

24. USAGE REQUIREMENTS:

Lessee shall comply with all rules, regulations and requirements of the California Regional Quality Control Board, the Lessor's waste discharge permit, the California Department of Health Services and Title 22 of the California Code of regulations under the Tulare Lake Basin Plan regarding its use of the Reclaimed Wastewater, attached as Exhibit "C" or as otherwise modified by the particular regulatory agency. Lessee acknowledges that there are certain crop restrictions related to the use of Reclaimed Wastewater and in addition, there are also requirements as to storage, non-ponding of Reclaimed Wastewater beyond forty-eight hours, set back to domestic and irrigation wells and public roads. Lessee will comply with all rules, regulations and requirements as hereinabove mentioned and also as set forth in Exhibit "D" which are currently in place or hereinafter modified.

25. FARMING ACTIVITIES:

Lessee will continuously farm the Premises in a good and husband like manner in accordance with the accepted agricultural practices in the area, keep the Premises in a clean and efficient condition for the purpose of irrigated agriculture, not to allow the same to become infested with noxious weeds or rodents and, in addition, Lessee will carry on a crop rotation program so that all acreage will receive cover crops that will tend to prevent soil depletion.

Lessee shall not conduct farming operations in an area closer than twenty-five (25) feet on each side of the existing and proposed future water lines as noted on Exhibit "A":

Lessee is required to report to the Lessor quarterly and on an annual basis cropping patterns, Reclaimed Wastewater application rates per crop and fertilizer application.

Lessee will furnish to the Lessor a written annual report of the crops grown, the number of acres per crop, and the yield per acre for each crop grown upon the Premises, said report to be submitted to

the Lessor no later than February 1st of each year following the expiration of the preceding year's Lease. Lessee will furnish to the California Regional Water Quality Control Board – Central Valley Region any written reports that the Board may require.

26. INDEMNIFICATION AND HOLD HARMLESS:

Lessee hereby agrees to indemnify and hold harmless the Lessor and its officers, employers, servants, and agents from and against all claims, actions, liabilities, losses, damages, costs, attorney's fees and other expenses arising out of any loss or damage to property, or injury to or death of persons, resulting in any manner whatsoever, directly or indirectly, by reason of this Lease with use or occupancy of the Premises or the use of Reclaimed Wastewater by Lessee, or any person claiming under or through Lessee, except such loss, damage injury or death caused by the sole negligence of the Lessor or any of its officers or employees. The provision of this section shall survive the expiration or termination of this Lease.

27. QUALITY OF WASTEWATER:

The Reclaimed Wastewater is not disinfected or chlorinated and is secondary effluent wastewater and is non-potable. The Lessor will treat the Reclaimed Wastewater in accordance with the California Regional Water Quality Control Board, Waste Discharge Permit provided to the Lessor, the California Department of Health Services and Title 22, California Code of Regulations and the Tulare Lake Basin Plan (see Exhibit "C" for said provisions). The Reclaimed Wastewater will be treated to a secondary level that includes preliminary treatment (pumping, screening and metering), primary treatment (primary clarification) and secondary treatment (bi-filtration and secondary clarification). At its sole discretion, Lessor may choose to provide disinfection or other wastewater process improvements to said wastewater as Lessor deems appropriate.

28. QUANTITY OF RECLAIMED WASTEWATER, REQUIRED TO BE PURCHASED:

Lessor and Lessee acknowledge that the Lessor is entering into long-term agreements with numerous individuals to dispose of excess Reclaimed Wastewater and that there may not be enough Reclaimed Wastewater to satisfy all crop demands of all individuals. The Lessor and Lessee further agree that Lessee may terminate or modify this lease in the event that wastewater furnished to the

Lessee by the Lessor is less than one acre-foot per acre for any six-month period.

Notwithstanding the foregoing, Lessee is required to utilize to the maximum extent possible all Reclaimed Wastewater allocated to Lessee by Lessor.

29. INSPECTION BY LESSEE:

By entry under this Lease, lessee accepts the Premises in its present condition and agrees, on the last day of the term, or sooner termination thereof, to surrender the Premises and appurtenances to Lessor in the same condition as when received, reasonable use, wear, damage by fire, act of God, or the elements excepted, and to remove all Lessee's property from the Premises at the end of the term.

30. INSPECTION BY LESSOR:

Lessee shall permit Lessor and Lessor's agents and/or employees at all reasonable times, to enter the Premises and to use the roads established in the Premises now, and in the future, for the purpose of inspection compliant with the terms of this Lease, exercise of all rights under this Lease, posting notices, and all other lawful purposes. Lessee shall make and keep pertinent records of all operations in connection with this Lease and shall make them available to Lessor and Lessor's agents and/or employees at all reasonable time for inspection.

Lessor and its officers or employee's shall also have the right, at all reasonable times, to enter upon the Premises for any purpose in connection with the operation of its sewage treatment facilities.

31. MINERAL RESERVATION:

There is expressly excepted from the Premises and reserved by Lessor, its successor and assigns, all oil, gas, hydrocarbon, and other minerals whatsoever in, on or under the Premises, and there is hereby expressly reserved to Lessor the right any time, and from time to time, to explore for, dig for, drill for, mine, produce, and take any and all such gas, oil, hydrocarbon, and other materials, or to permit others to do so, and for such purposes Lessor reserves the right to enter in and upon and occupy such portions of the Premises as may be reasonably required therefore, provided however, that in

the event Lessor exercises or permits others to exercise such rights, or shall pay to Lessee reasonable damages to the crops caused thereby, but otherwise Lessee shall not be entitled to any payment on account of the exercise of any such rights.

32. LESSOR REDUCTION:

Lessor reserves the right to remove land from this Lease at the sole discretion of Lessor for any purpose. In the event that land is removed from this Lease, Lessee shall receive a pro rata reduction in rent.

33. AUTHORIZED USE AREA:

The Premises is the only authorized real property which the Reclaimed Wastewater may be stored or used by Lessee under this Agreement. The Reclaimed Wastewater shall be confined to Premises and Lessee shall take every action to properly store and utilize the Reclaimed Wastewater on the Premises.

34. RECLAIMED WASTEWATER TRANSPORTATION/HOLDING SYSTEM.

It will be the sole responsibility of Lessee to build, construct and maintain a Reclaimed Wastewater transport and distribution system to pick up available Reclaimed Wastewater from the Lessor's pipeline and deliver it to Lessee's Premises for Lessee's own use. It will further be the sole responsibility of Lessee to obtain all proper permits required for both the construction and maintenance of any such transport system and/or any holding basin. Said reclaimed Wastewater transport distribution and holding system shall comply with the design requirements contained in the California-Nevada Section AWWA publication "Guidelines for Distribution of Non-Potable Water" and the "Guidelines for Use of Reclaimed Water" as are currently in place or hereinafter modified. Lessee is required to have a minimum of two days storage to manage the Reclaimed Wastewater on the Premises.

35. SIGNAGE:

It will be the sole responsibility of Lessee to provide signage to inform the public that Reclaimed Wastewater is being used on the Premises. The warning signs should be posted at least every 500 feet with a minimum of one sign at each corner and one at each access route unless additional signage is required by law.

36. NON-PUBLIC ACCESS:

Lessee shall, at Lessee's own cost and expense, install fencing or other barriers to restrict public access to the Premises. Lessee further agrees to grade the perimeter of the Premises to prevent ponding along any public road or other public area. Setbacks shall also be put into effect to limit and restrict the Reclaimed Wastewater from coming in contact with the public and any other water sources.

37. DEFAULT:

If Lessee breaches this Lease, Lessor shall have, in addition to all other rights given by law, and at Lessor's option, right of reentry after having given thirty (30) days' notice, and the right to take possession of all crops, harvested or unharvested, and the right to any and all proceeds therefrom, and to remove all persons and property from the Premises. Lessor may store the property removed from the Premises in a public warehouse or elsewhere at Lessee's expense and for Lessee's account.

Lessor, at its election, shall become the owner of all crops of which it has so taken possession and, except when it elects to proceed under option (c) below shall not be obligated to compensate Lessee for them.

If Lessor elects to reenter as provided above, or to take possession under legal proceedings or under any notice provided by law:

- (a) Lessor may terminate this Lease; or
- (b) Lessor may, from time to time, without terminating this Lease, relet the entire or any part, of the Premises for such terms (which may extend beyond the term of this Lease) and at such rentals and other conditions as Lessor in its sole discretion, deems advisable. Lessor also has the right to make alterations and repairs to the Premises. On each reletting, Lessee shall be immediately liable to pay to Lessor the expense of reletting and making alterations and repairs incurred by Lessor and all other indebtedness, except rent, due under this Lease; or

- (c) Lessor, or its agents or assigns, or a receiver appointed at his instance, may (1) perform Lessee's duties under this Lease in such things as maintaining the Premises and growing, harvesting and marketing the crops contemplated by the Lease; (2) charge the proceeds of the crops with reasonable costs of maintenance and husbandry; and (3) divide the remainder of the proceeds with Lessee in the same proportions as the crop would have been divided between Lessor and Lessee, if Lessee had faithfully performed under this Lease, if the costs exceed the proceeds received for the crop, the deficiency shall be borne by Lessor and Lessee in the same proportion as the crop would have been divided between Lessor and Lessee if Lessee had faithfully performed under this Lease; or
- (d) Lessor may exercise all other rights that become available to it if Lessee breaches or defaults in its obligations under this Lease.

No reentry or taking possession of the Premises by Lessor shall be construed as an election by it to terminate this Lease unless a written notice of such an intention is given to Lessee or the Lease is declared to be terminated by a court of competent jurisdiction.

Nothing contained in this Lease, and no security or guarantee that Lessor now holds, or in the future may hold, under the Lease, shall in any way constitute a bar or defense to an action by Lessor in unlawful detainer or for recovery of the Premises.

38. WAIVER:

A waiver by either party of any default or breach in the performance of any or the covenants, terms or conditions of this Lease shall not constitute or be deemed to be a waiver of any subsequent or other default or breach. No waiver shall be binding unless executed in writing by the party make the waiver.

39. PARTIES BOUND AND BENEFITTED:

The covenants and conditions herein contained shall apply to and bind all successors and assigns of the parties hereto.

40. TIME:

Time is of the essence of this Lease.

41. CONDEMNATION:

If a public authority under the power of eminent domain shall take the whole of the Premises, then the term of this Lease shall cease on the day of the possession by the public authority. If only a part of the Premises shall be taken under eminent domain, either party shall have the right to terminate this Lease upon written notice given within thirty (30) days of such taking. If this Lease remains in effect, all of the terms hereof shall continue in full force and effect, excepting that the Annual Rent shall be adjusted proportionately for the balance of the Lease term. If a taking under the power of eminent domain occurs, those payments attributable to the Leasehold interest of the Lessee shall belong to the Lessee, and those payments attributable to the reversionary interest of the Lessor shall belong to the Lessor.

42. MERGER AND MODIFICATION:

This Lease sets forth the entire agreement between the parties and supersedes all other oral or written representations. This Lease may be modified only in writing approved by the Delano City Council and signed by all parties.

43. REMEDIES:

In case of the failure or refusal of lessee to comply with or perform the terms and covenants of this Lease after due notice by Lessor, this Lease, and all rights hereby given shall, at the option of Lessor, cease and terminate, and Lessor shall have the right in addition to its other legal remedies, to remove lessee's property from the Premises at the sole costs, expense and risk of Lessee, which cost and expense Lessee agrees to pay the Lessor upon demand, together with interest thereon at the maximum rate allowed by law from the date of expenditure by Lessor.

44. ATTORNEY'S FEES:

Should any party bring suit to compel performance of, or to recover damages for any breach of, any covenant, agreement, or condition of this Lease, the prevailing party shall be entitled to

recover all costs incurred therein, including reasonable attorneys fees.

45. NOTICES AND PAYMENTS:

All notices required under this Lease, including change address, shall be in writing, and all notices and payments shall be made as follows:

- (a) All notices to Lessee shall be given or mailed to:

B & D Morris Farms
P.O. Box 463
McFarland, CA 93250

- (b) All payments and notices to Lessor shall be given or mailed to:

City of Delano – Finance Department
P.O. Box 3010
Delano, CA 93216-3010

Notices shall be deemed given upon receipt by personal delivery or upon the third (3rd) day after deposit in the United States mail, certified or registered, return receipt requested, with postage prepaid or upon any other reasonable means of providing notice.

46. PARTIAL INVALIDITY:

If any term, covenant, condition or provision of this Lease is found by a Court of competent jurisdiction to be invalid, void or unenforceable, the remainder of this Lease shall nonetheless remain in full force and effect to the full extent allowed by law.

47. PARAGRAPH HEADINGS:

Paragraph headings in this Lease are for convenience only and are not intended to be used in interpreting or construing the terms, covenants and conditions of this Lease.

48. COMPLIANCE WITH ALL LAWS:

Lessee shall, at Lessee's sole cost, comply with all requirements of municipal, state and federal authorities now in force or which may

hereafter be in force, pertaining to this Agreement, or to the discharge, application or use of the Reclaimed Wastewater by Lessee or any other person or entity on behalf of Lessee, including, but not limited to, the obtaining of any necessary permits and shall faithfully observe in all activities relating to or arising out of this Agreement or to the discharge, application or use of the Reclaimed Wastewater by lessee or any other person or entity on behalf of Lessee, all municipal ordinances and state and federal statues, rules or regulations now in force or which may hereafter be in force including, but not limited to, the State of California Department of Heath Services Guidelines for Use of Reclaimed Primary Effluent Wastewater and Title 22, Division 4 Section 60001, et seq., of the California Administrative Code.

49. INTERPRETATION:

Should interpretation of this Lease, or any portion thereof, be necessary, it is deemed that this Lease was prepared by the parties jointly and equally, and shall not be interpreted against either party in the ground that the party prepared the Lease or caused it to be prepared.

50. RIGHT TO TERMINATE LEASE IN WHOLE OR IN PART:

Lessee hereby grants to Lessor and Lessor hereby accepts and reserves the right to terminate this Lease and retake possession of the entire Premises or any portion thereof, at anytime. Lessor shall exercise these rights by providing Lessee with written notice of such termination at least six months prior to the date of any such retaking. In the event Lessor shall retake only a portion of the Premises, rentals, shall be abated on a per acre basis, any fractional component rounded upward to the next acre.

51. CORPORATE AUTHORITY:

Each individual executing this Agreement represents and warrants that they are duly authorized to execute and deliver this Agreement on behalf of the corporation, partnership or entity, if any named herein and this Agreement is binding upon said corporation, partnership or entity in accordance with its terms and as to Lessee, if no corporation, partnership or entity is named herein.

IN WITNESS WHEREOF, the parties have caused this Lease Agreement to be executed by their duly authorized representatives and of the date first written above.

B & D MORRIS FARMS



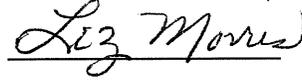
Billy Morris (Lessee)



Donnie Morris (Lessee)

DATE 9-24-10

CITY OF DELANO



Liz Morris, Mayor

Liz Morris, Mayor

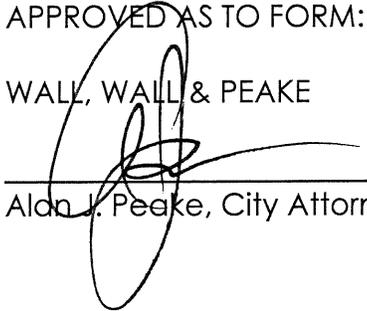


Phyllis Kraft, City Clerk

DATE: October 18, 2010

APPROVED AS TO FORM:

WALL, WALL & PEAKE



Alan J. Peake, City Attorney

S:\Engineering\General Topics\Sewer\bdmorris agr - 2010.doc

List of Attachments:

Exhibit A – Legal Description

Exhibit B – Section 6034, CCR Allowable Crops and 60307, other purposes

Exhibit C – Reclaimed Water Regulations, Tulare Lake Basin Plan ✓

Exhibit D – Excerpts, Waste Discharge Requirements Order 5-01-247 ✓

EXHIBIT A: LEGAL DESCRIPTION

MUNICIPAL FARM LEASE- WASTEWATER PLANT PROPERTY

BEING A PART OF SECTION 8, TOWNSHIP 25 SOUTH, RANGE 25 EAST,
MOUNT DIABLO BASE AND MERIDIAN, IN THE CITY OF DELANO,
DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING at the northwest corner of said Section 8;

Thence easterly along the north line of said Section 8, to the northeast corner of said Section 8;

Thence southerly along the east line of said Section 8 to the southeast corner of said Section 8;

Thence westerly along the south line of said Section 8 to the south $\frac{1}{4}$ section line of said Section 8,

Thence northerly along said $\frac{1}{4}$ section line, to the center $\frac{1}{4}$ corner of said Section 8:

Then continuing northerly along said $\frac{1}{4}$ section line a distance of 800 feet;

Thence westerly along a line parallel to the south line of the northwest $\frac{1}{4}$ of said Section 8 1620 feet;

Thence southerly along a line parallel to the said $\frac{1}{4}$ section line 800 feet to the south line of said northwest $\frac{1}{4}$;

Thence westerly along said south line of northwest $\frac{1}{4}$ to the west $\frac{1}{4}$ corner of said Section 8;

Thence northerly along the west line of said Section 8 to the Point of Beginning.
EXCEPTING THEREFROM, the north 50 feet, the south 80 feet of said Section 8, and the west 9.5 feet of the southeast $\frac{1}{4}$ of said Section 8,

Containing 439.1 acres, more or less.

LEGAL DESCRIPTION

WASTEWATER MUNICIPAL FARM

BEING A PART OF SECTION 8, OF T.25 S., R.25 E., M.D.B. & M. IN THE CITY OF DELANO, COUNTY OF KERN, STATE OF CALIFORNIA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

Beginning at the northwest corner of said Section 8, said point being the TRUE POINT OF BEGINNING;

Thence, easterly along the north line of said Section 8, to the northeast corner of said Section 8;

Thence, southerly along the east line of said Section 8, to the southeast corner of said Section 8;

Thence, westerly along the south line of said Section 8, to the south 1/4 section line of said Section 8;

Thence, northerly along said 1/4 section line, to the center 1/4 corner of said Section 8;

Thence, continuing northerly along said 1/4 section line, a distance of 800.00 feet;

Thence, westerly along a line, parallel with and measured at right angles to the south line of the northwest 1/4 of said Section 8, a distance of 1,000.00 feet;

Thence, southerly along a line, parallel with and measured at right angles to said 1/4 section line, a distance of 800.00 feet to the south line of said northwest 1/4;

Thence, westerly along said south line to the west 1/4 corner of said Section 8;

Thence, northerly along the west section line of said Section 8 to THE TRUE POINT OF BEGINNING.

EXCEPTING THEREFROM the north 50.00 feet, the south 80.00 feet of said Section 8, and the west 9.50 feet of the southeast 1/4 of said Section 8.

Containing 450.15 acres more or less.

Exhibit A

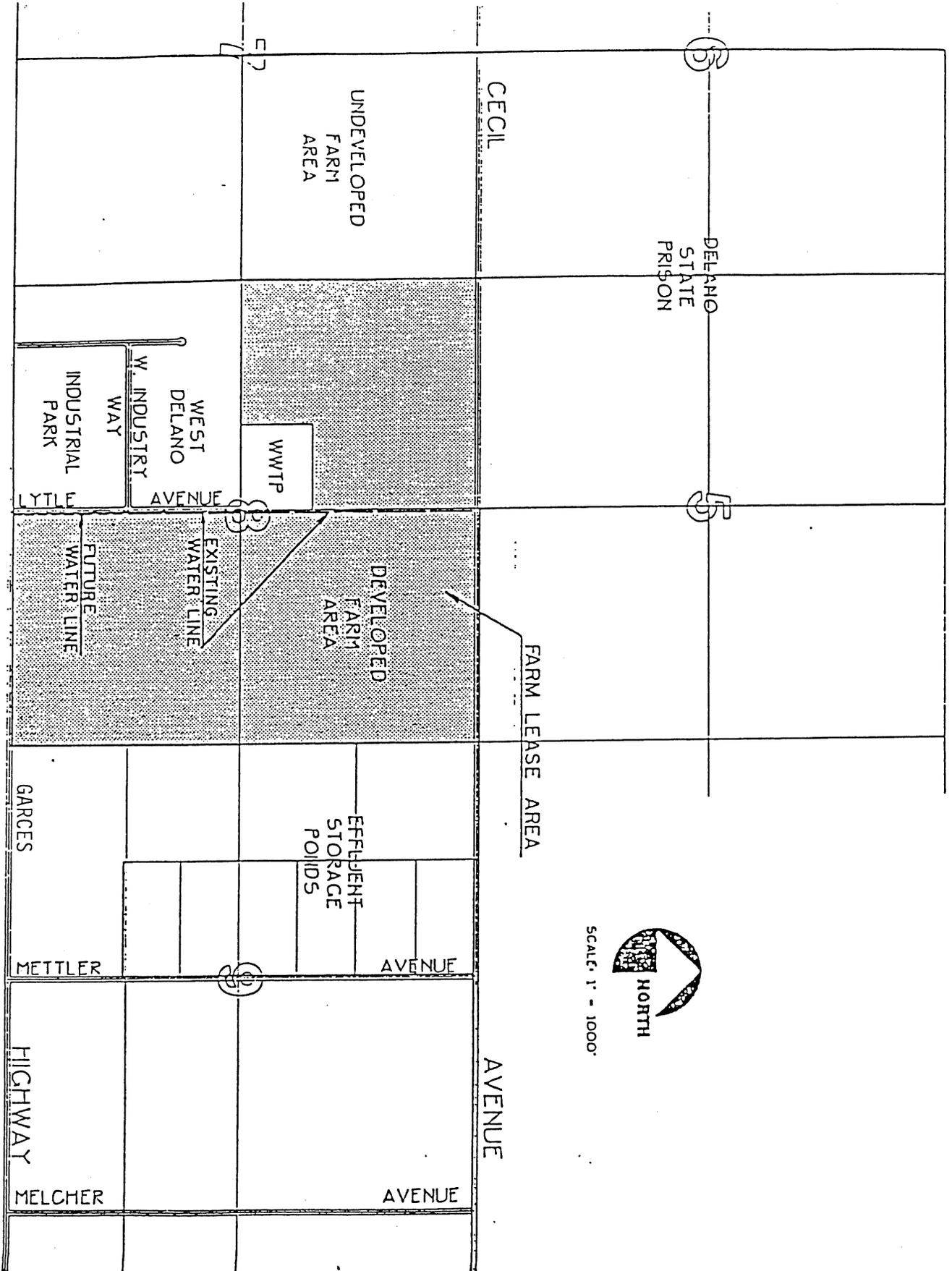


Exhibit A

TREATMENT GUIDELINES FOR
AGRICULTURAL USE OF RECLAIMED WATER

MINIMUM DEGREE OF TREATMENT FOR TYPE OF CROP AND METHOD OF APPLICATION

TYPE OF CROP	PRIMARY EFFLUENT	OXIDIZED, DISINFECTED TO 23 mdn/100 ml	OXIDIZED, DISINFECTED TO 2.2 mdn/100 ml	OXIDIZED, COAGULATED, CLARIFIED, FILTERED, DISINFECTED TO 2.2 mdn/100 ml
GENERAL				
Crops	*	*	Surface(1)	Surface or Spray
Processed Food (2)	*	Surface or Spray	Surface or Spray	Surface or Spray
Orchards and Vineyards	Surface(3)	Surface(3)	Surface(3)	Surface or Spray
Wool, Fiber and (4) Crops	Surface or Spray	Surface or Spray	Surface or Spray	Surface or Spray
Use for Irrigating Animals	*	Surface or Spray	Surface or Spray	Surface or Spray
SPECIFIC				
Use for General (Lettuce, carrots, etc.)	*	*	*	Surface or Spray
Watermelons (unprocessed)	*	*	Surface (3)	Surface or Spray
Watermelons (2) Processed - No cleaning)	*	Surface or Spray	Surface or Spray	Surface or Spray
Strawberries	*	*	*	Surface or Spray
Watermelons	*	*	Surface (3)	Surface or Spray
Watermelons	*	*	*	Surface or Spray
Watermelons (for human consumption)	*	Surface or Spray	Surface or Spray	Surface or Spray
Watermelons (for human consumption)	*	*	Surface (3)	Surface or Spray

No effluent allowed in irrigation water because of mosquito propagation problems.

TYPE OF CROP	PRIMARY EFFLUENT	OXIDIZED, DISINFECTED TO 23 mpn/100 ml	OXIDIZED, DISINFECTED TO 2.2 mpn/100 ml	OXIDIZED, COAGULATED, CLARIFIED, FILTERED, DISINFECTED TO 2.2 mpn/100 ml
and Vines st Protection	Surface	Surface or Spray (5)	Surface or Spray (5)	Surface or Spray
achio or Walnut	*	*	*	Surface or Spray
ond	*	*	*	Surface or Spray
rus	Surface (3)	Surface (3)	Surface (3)	Surface or Spray
acado	Surface (3)	Surface (3)	Surface (3)	Surface or Spray
ve	Surface (3)	Surface (3)	Surface or Spray	Surface or Spray
<u>Root Crops</u>				
	*	*	Surface or Spray	Surface or Spray
ental Nursery ack	*	*	Surface or Spray	Surface or Spray
mas Trees	*	Surface or Spray	Surface or Spray	Surface or Spray
ood tomer Cut	*	Surface or Spray	Surface or Spray	Surface or Spray
ood t Customer Cut	Surface or Spray	Surface or Spray	Surface or Spray	Surface or Spray

* - Not allowed

1. Not acceptable for root crops or crops where edible parts touch the ground.
2. Processed food crops must undergo extensive commercial, physical, or chemical processing sufficient to destroy pathogenic agents. Processing does not include washing, pickling, fermenting, or milling.
3. Edible portion of plant does not contact the ground.
4. Not for human ingestion.
5. - No spraying within 30 days of fruit formation.

State of California
Department of Health Services
Environmental Management Branch
GUIDELINES FOR USE OF RECLAIMED WATER

I. General

- A. Reclaimed water shall meet the Regional Water Quality Control Board (RWQCB) requirements and the requirements specified in the "Wastewater Reclamation Criteria." (Title 22, Div. 4, Section 60301 through 60355). These guidelines apply to those reclaimed water use areas supplied water from sewage treatment plants having reliability features and operational histories meeting the Regional Water Quality Control Board and "Wastewater Reclamation Criteria" requirements. Additional precautions may be required where these conditions are not met.
- B. Reclaimed water should be confined to the authorized use area.
 1. Direct or windblown spray should be confined to the area designated and approved for reclamation.
 2. Precautions should be taken to assure that reclaimed water will not be sprayed on any facility or area not designated for reclamation such as passing vehicles, buildings, domestic water facilities or food handling facilities.
- C. Notification should be provided to inform the public that reclaimed wastewater is being used. The notification should include the posting of conspicuous warning signs with proper wording of sufficient size to be clearly read.
- D. Public contact with reclaimed water should be minimized except where specifically approved by the health agencies and the Regional Water Quality Control Board.
- E. The reclaimed water distribution and transmission system piping should comply with the design requirements contained in the California-Nevada Section AWWA publication "Guidelines for Distribution of Nonpotable Water."
 1. All piping, valves and outlets should be marked to differentiate reclaimed water from domestic or other water.
 2. All reclaimed water controllers, valves, etc., should be affixed with reclaimed water warning signs.
- F. All reclaimed water valves, outlets, quick couplers, and sprinkler heads should be of a type, or secured in a manner that only permits operation by personnel authorized by the user.

- G. Use or installation of hose bibbs on any irrigation system presently operating or designated to operate with reclaimed water, regardless of the hose bibb construction or identification, should not be permitted.
- H. There should be at least a 10-foot horizontal and 1-foot vertical separation (with the domestic water above the reclaimed water pipeline) between all pipelines transporting reclaimed water and those transporting domestic water.
- I. Plans and specifications for the reclaimed and domestic water systems should be submitted to the Sanitary Engineering Branch of the State Department of Health Services and the local health department for review and approval before construction of new reclamation facilities or system conversion.
- J. An air-gap separation or reduced pressure principle device shall be provided at all domestic water service connections to reclaimed water use areas. (Title 17, Chapter 5, Section 7604).
- K. There shall be no connection between the potable water supply and piping containing reclaimed water. Supplementing reclaimed water with water used for domestic supply shall not be allowed except through an air-gap separation. (Title 17, Chapter 5, Section 7604).
- L. Supplementing reclaimed water with water from irrigation or industrial wells should not be allowed except through an air gap or reduced pressure principle device.
- M. Drinking water facilities should be protected from direct or windblown reclaimed water spray.
- N. Tank trucks and other equipment which are used to distribute reclaimed water should be clearly identified with warning signs.
- O. There should be no irrigation or impoundment of reclaimed water within 500 feet of any well used for domestic supply or 100 feet of any irrigation well unless it can be demonstrated that special circumstances justify lesser distances to be acceptable.
- P. Adequate measures should be taken to prevent the breeding of insects and other vectors of health significance, and the creation of odors, slimes or unsightly deposits.
- Q. A user supervisor should be appointed by the user. The user supervisor should be responsible for installation, operation and maintenance of the reclamation system, prevention of potential hazards, implementing these Guidelines, and coordination with the cross-connection control program of the water purveyor or the local health department.

- R. The user should maintain as-built plans of the use area showing all buildings, domestic and reclaimed water facilities, the sewage collection system, etc. Plans should be updated as modifications are made.
- S. A contingency plan including notification of the RWQCB and health agencies should be developed outlining the action to be taken in the event effluent quality fails to meet required standards.
- T. Inspection, supervision and employee training should be provided by the user to assure proper operation of the reclaimed water system. Records of inspection and training should be maintained by the user.
- U. The producer and/or user should submit a monthly report to the State Department of Health Services and the local health agencies containing:
 - 1. The quality and quantity of water reclaimed.
 - 2. The use (the method of irrigation and the crop(s) and area(s) irrigated).
 - 3. The reason for noncompliance with standards, if appropriate and the corrective action taken.

II. Landscape Irrigation

- A. At parks, playgrounds, schoolyards, other areas (e.g. golf courses with contiguous residential development) where the public has similar access or exposure, and other areas irrigated with oxidized, coagulated, clarified, filtered, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 2.2/100 ml, and a maximum concentration of coliform organism not exceeding 23/100 ml in any sample:

(The reclaimed water treatment and quality stated above also applies at use areas having adjacent property where the public may be subject to direct or indirect contact with reclaimed water spray for example; golf courses with contiguous residential development).

- 1. Adequate signs should be posted indicating that reclaimed wastewater is used for irrigation and is not safe for drinking (e.g. ATTENTION: RECLAIMED WASTEWATER - DO NOT DRINK).
- B. At golf courses not included in A. above irrigated with oxidized, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 23/100 ml or any two consecutive coliform samples not exceeding 240/100 ml:
 - 1. Irrigation should only be practiced when golfers are not present.

2. Adequate signs should be posted indicating that reclaimed wastewater is used for irrigation and it is not safe for drinking or contact (e.g. ATTENTION: RECLAIMED WASTEWATER AVOID CONTACT - DO NOT DRINK).
3. Score cards should indicate that reclaimed wastewater is used.
4. Irrigation with reclaimed water should not occur in areas where food is handled or consumed.
5. Irrigation should be controlled to prevent ponding and runoff of reclaimed water unless acceptable to the Regulatory Agency.

C. At cemeteries irrigated with oxidized, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 23/100 ml or any two consecutive coliform samples not exceeding 240/100 ml:

1. Irrigation should be scheduled for times the public is not present.
2. Adequate signs should be posted indicating that reclaimed wastewater is used for irrigation and it is not safe for drinking or contact (e.g. ATTENTION: RECLAIMED WASTEWATER AVOID CONTACT - DO NOT DRINK).
3. Potable water should be supplied for flower containers.
4. Irrigation should be controlled to prevent ponding and runoff of reclaimed water unless acceptable to the Regulatory Agency.

D. Highway landscape and other landscaped areas irrigated with oxidized, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 23/100 ml or any two consecutive coliform samples not exceeding 240/100 ml:

1. Signs should be posted along the perimeter at points of access to the use area indicating that reclaimed wastewater is used for irrigation and it is not safe for drinking or contact (e.g. ATTENTION: RECLAIMED WASTEWATER AVOID CONTACT - DO NOT DRINK).
2. Irrigation should be controlled to prevent ponding and runoff of reclaimed water unless acceptable to the Regulatory Agency.

III. Impoundments

- A. Nonrestricted recreational impoundments containing oxidized, coagulated, clarified, filtered, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 2.2/100 ml and a maximum concentration of coliform organisms not exceeding 23/100 ml in more than one sample in a 30-day period:

1. Impoundments should have perimeter signs indicating that the wastewater stored is not safe for drinking (e.g. ATTENTION: RECLAIMED WASTEWATER - DO NOT DRINK).
2. Runoff should be prevented from entering the pond unless the impoundment is sized to accept the runoff without discharge or an NPDES permit has been issued for the discharge.
3. There should be no discharge of reclaimed water to any pond with less than one foot of freeboard unless discharge from the pond is allowed by NPDES permit.

B. Restricted recreational impoundments containing oxidized, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 2.2/100 ml:

1. Impoundments should have perimeter signs indicating that the wastewater stored is not safe for drinking or body contact (e.g. ATTENTION: RECLAIMED WASTEWATER AVOID CONTACT - DO NOT DRINK).
2. Runoff should be prevented from entering the pond unless the impoundment is sized to accept the runoff without discharge or an NPDES permit has been issued for the discharge.
3. There should be no discharge of reclaimed water to any pond with less than one foot of freeboard unless discharge from the pond is allowed by NPDES permit.

C. Landscape impoundments containing oxidized, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 23/100 ml:

1. Impoundments should have perimeter signs indicating that the wastewater stored is not safe for drinking or body contact (e.g. ATTENTION: RECLAIMED WASTEWATER AVOID CONTACT - DO NOT DRINK).
2. Runoff should be prevented from entering the pond unless the impoundment is sized to accept the runoff without discharge or an NPDES permit has been issued for the discharge.
3. There should be no discharge of reclaimed water to any pond with less than one foot of freeboard unless discharge from the pond is allowed by NPDES permit.

IV. Agricultural Reuse Area Guidelines

- A. At areas irrigated with undisinfected primary or undisinfected secondary effluent:
1. Warning signs reading "SEWAGE DISPOSAL AREA - KEEP OUT" should be posted at least every 500 feet with a minimum of one sign at each corner and one at each access road.
 2. Fencing or other barriers should be installed where needed to restrict public access.
 3. The perimeter of the disposal area should be graded to prevent ponding along public roads or other public areas.
 4. Setbacks
 - a. Surface Irrigation - setbacks should be established where needed to restrict public contact.
 - b. Spray Irrigation - there should be no irrigation within 500 feet of the authorized spray boundary. A setback of less than 500 feet may be approved if warranted by the use area design. Some of the use area characteristics to be taken into account are: wind velocity and direction, topography, sprinkler characteristics and controls.
- B. At areas irrigated with oxidized, disinfected, wastewater having a 7-day median number of coliform organisms not exceeding 23/100 ml:
1. Perimeter warning signs indicating that the reclaimed wastewater is not safe for drinking or contact (e.g. WARNING: RECLAIMED WASTEWATER AVOID CONTACT - DO NOT DRINK) should be posted at least every 500 feet with a minimum of one sign at each corner and one at each access road.
 2. Fencing should be installed where needed to restrict public access.
 3. The perimeter of the disposal area should be graded to prevent ponding along public roads or other public areas.
 4. Setbacks
 - a. Surface Irrigation - Setbacks should be established where needed to restrict public contact.
 - b. Spray Irrigation - The amount of setback is to be determined by the use of the adjoining property.

C. At areas irrigated with oxidized, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 2.2/100 ml:

1. Warning signs indicating that the reclaimed wastewater is not safe for drinking or contact (e.g. WARNING: RECLAIMED WASTEWATER AVOID CONTACT - DO NOT DRINK) should be posted with a minimum of one sign at each corner and one at each access road.
2. Fencing or other barriers should be installed where needed to restrict public access.
3. The perimeter of the disposal area should be graded to prevent ponding along public roads or other public areas.
4. Setbacks
 - a. Surface Irrigation - Setbacks should be established where needed to restrict public contact.
 - b. Spray Irrigation - The amount of setback is to be determined by the use of the adjoining property.

D. At areas irrigated with oxidized, disinfected, coagulated, clarified, filtered, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 2.2/100 ml:

- a. Warning signs indicating that the reclaimed wastewater is unsafe to drink (e.g. WARNING: RECLAIMED WASTEWATER - DO NOT DRINK) should be posted every 500 feet with a minimum of one sign at each corner and one at each access road.

E. The following table indicates the minimum degree of treatment for the specific types of crops and methods of application:

TREATMENT GUIDELINES FOR
AGRICULTURAL USE OF RECLAIMED WATER

MINIMUM DEGREE OF TREATMENT FOR TYPE OF CROP AND METHOD OF APPLICATION

TYPE OF CROP	PRIMARY EFFLUENT	OXIDIZED, DISINFECTED TO 23 mdn/100 ml	OXIDIZED, DISINFECTED TO 2.2 mdn/100 ml	OXIDIZED, COAGULATED, CLARIFIED, FILTERED, DISINFECTED TO 2.2 mdn/100 ml
GENERAL				
Crops	*	*	Surface(1)	Surface or Spray
Processed Food (2)	*	Surface or Spray	Surface or Spray	Surface or Spray
Orchards and Vineyards	Surface(3)	Surface(3)	Surface(3)	Surface or Spray
Wool, Fiber and (4) Crops	Surface or Spray	Surface or Spray	Surface or Spray	Surface or Spray
Use for Raising Animals	*	Surface or Spray	Surface or Spray	Surface or Spray
SPECIFIC				
Salad (Lettuce, carrots, etc.)	*	*	*	Surface or Spray
Tomatoes (unprocessed)	*	*	Surface (3)	Surface or Spray
Tomatoes (2) Processed - No peeling	*	Surface or Spray	Surface or Spray	Surface or Spray
Strawberries	*	*	*	Surface or Spray
Cucumbers	*	*	Surface (3)	Surface or Spray
Peppers	*	*	*	Surface or Spray
Leafy Greens	*	Surface or Spray	Surface or Spray	Surface or Spray
Spinach - for human consumption	*	*	Surface (3)	Surface or Spray

No effluent allowed in irrigation water because of mosquito propagation problems.

TYPE OF CROP	PRIMARY EFFLUENT	OXIDIZED, DISINFECTED TO 23 mpn/100 ml	OXIDIZED, DISINFECTED TO 2.2 mpn/100 ml	OXIDIZED, COAGULATED, CLARIFIED, FILTERED, DISINFECTED TO 2.2 mpn/100 ml
and Vines st Protection	Surface	Surface or Spray (5)	Surface or Spray (5)	Surface or Spray
achio or Walnut	*	*	*	Surface or Spray
ond	*	*	*	Surface or Spray
rus	Surface (3)	Surface (3)	Surface (3)	Surface or Spray
acado	Surface (3)	Surface (3)	Surface (3)	Surface or Spray
ve	Surface (3)	Surface (3)	Surface or Spray	Surface or Spray
<u>Food Crops</u>				
	*	*	Surface or Spray	Surface or Spray
ental Nursery ck	*	*	Surface or Spray	Surface or Spray
mas Trees	*	Surface or Spray	Surface or Spray	Surface or Spray
ood tomer Cut	*	Surface or Spray	Surface or Spray	Surface or Spray
ood t Customer Cut	Surface or Spray	Surface or Spray	Surface or Spray	Surface or Spray

* - Not allowed

1. Not acceptable for root crops or crops where edible parts touch the ground.
2. Processed food crops must undergo extensive commercial, physical, or chemical processing sufficient to destroy pathogenic agents. Processing does not include washing, pickling, fermenting, or milling.
3. Edible portion of plant does not contact the ground.
4. Not for human ingestion.
5. - No spraying within 30 days of fruit formation.

V. Guidelines for Worker Protection

A. Workers should be informed of the potential health hazards involved with contact or ingestion of reclaimed water, and should be educated regarding proper hygienic procedures to protect themselves and their families.

B. Precautionary measures should be taken to minimize worker contact with reclaimed water.

1. Workers should not be subjected to reclaimed water sprays.

2. Workers should be provided with protective clothing when there will be more than casual contact with the reclaimed water.

3. Where oxidized, coagulated, clarified, filtered, disinfected wastewater is used, less stringent precautions may be allowed.

C. Safe drinking water should be supplied for workers. Where bottled water is provided, the water should be in contamination-proof containers and protected from reclaimed water and dust.

D. Handwashing facilities should be provided.

E. Precautions should be taken to avoid contamination of food taken into reclaimed water use areas. Food should not be taken into areas still wet with reclaimed water.

F. Workers should be notified that reclaimed water is in use. Notification should include the posting of conspicuous warning signs with proper wording of sufficient size to be clearly read.

In those locations where English is not the primary language of the workers, the signs should be in the appropriate language as well as English.

G. An adequate first aid kit should be available on location.

ADDENDUM TO WASTEWATER MUNICIPAL FARM LEASE
AGREEMENT NO. 2002-12

This is an addendum to the Wastewater Municipal Farm Lease Agreement by and between the City of Delano, a municipal corporation, hereinafter called "Lessor" and Ronald Mettler, Donald Mettler, dba R & D Farms, hereinafter called "Lessee".

WHEREAS, Lessor owns improved farmland, among other property, for the purpose of locating and maintaining thereon sewage disposal facilities for its City sewer services and the immediate need for the present use by Lessor of all said real property does not exist (but the Lessor desires to keep said property for future needs); and

WHEREAS, the Lessee desires to rent a portion of said property for agricultural use; and

WHEREAS, it is the understanding of the parties that an important consideration for the rental of this land is to provide for the Reclaimed Wastewater upon said Premises, as it comes from the sewage disposal and treatment plant of the lessor, as well as the continued development of the land for its improvement for irrigated agricultural purposes; and

WHEREAS, Lessor and Lessee desire to extend the terms of the Agreement for a period of five years.

NOW THEREFORE, based upon the foregoing, the parties agree that Section 2 shall be modified to read as follows:

The term of this Lease shall be extended for a period of five (5) years, commencing on April 1, 2007 and terminating on April 1, 2012.

All other terms and conditions of said Wastewater Municipal Farm Lease Agreement not modified herein shall remain in full force and effect.

DATED: Feb 8, 2007 LESSEE

By: Donald Mettler

By: Ronald Mettler

DATED: Feb 20, 2007 LESSOR

By: [Signature]
Pedro Rios, Mayor

DATED: Feb 20, 2007

Approved as to form:

[Signature]
Alan J. Peake, City Attorney

CITY OF DELANO

AGREEMENT NO. 2002 - 12

WASTEWATER MUNICIPAL FARM LEASE

This Lease is made and entered into this 4th day of March, 2002 between the City of Delano, a municipal corporation, hereinafter called "Lessor" and Ronald Mettler, Donald Metter, dba R & D Farms, hereinafter collectively called "Lessee".

WITNESSETH

WHEREAS, Lessor owns improved farmland, among other property, for the purpose of locating and maintaining thereon sewage disposal facilities for its City sewer services and the immediate need for the present use by Lessor of all said real property does not exist (but the Lessor desires to keep said property for future needs); and

WHEREAS, the Lessee desires to rent a portion of said property for agricultural use; and

WHEREAS, it is the understanding of the parties that an important consideration for the rental of this land is to provide for the Reclaimed Wastewater upon said Premises, as it comes from the sewage disposal and treatment plant of the Lessor, as well as the continued development of the land for its improvement for irrigated agricultural purposes;

NOW THEREFORE, and in consideration of the mutual covenants herein contained, it is mutually agreed by and between the parties hereto as follows:

1. DESCRIPTION:

Lessor hereby Leases to Lessee and Lessee hires from Lessor, on the terms and conditions hereinafter set forth, that certain real property hereinafter referred to as the "Premises" situated in the County of Kern, State of California, and more particularly described in Exhibit "A" as if fully set forth herein, consisting of approximately 483.23 ± acres.

2. TERMS:

The term of this Lease shall be for a period of five (5) years, commencing on April 1st, 2002 and terminating on April 1st, 2006.

3. RENT:

A portion of the Premises consists of approximately forty two (42) ± acres of almond trees ("Almond Acres"). The annual rent for the Almond Acres shall be sixty-seven dollars (\$67.00) per acre per year for 2002 and 2003 and twenty-five percent (25%) of the gross revenues of the Lessee's for the

years 2004, 2005 and 2006. As for the remaining acreage that makes up the Premises, Lessee shall pay to Lessor, a yearly cash rental of sixty-seven dollars (\$67.00) per acre payable on equal installments on a quarterly basis, on the first day of the following months: February 1, May 1, August 1 and September 1, of each year of this Lease.

4. ADDITIONAL RENT:

If Lessee fails to make a rental payment in a timely manner as provided in Section 3, then Lessee shall be charged an additional ten percent (10%) of the original amount which is then due and said amount shall be considered as additional rent. In addition, for any rent, which includes additional rent which is more than twenty (20) days past due, the Lessor may at its option place a UCC-1 lien on any crop or crops on the Premises and take any other action it deems necessary.

5. USE.

The Premises shall be continually used for the growing of lawful agricultural crops as permitted by this Lease, and for activities directly related thereto. The Premises shall not be used for any other purpose without the prior written consent of the City Manager of the City of Delano.

6. PERMITTED CROPS.

Only the permitted crops as set forth in Exhibit "B" shall be grown on the Premises.

7. SIGNS:

Except as expressly set forth herein, Lessee agrees not to allow the construction or placement of any sign, signboard or other form of outdoor advertising on the Premises without the prior written consent of Lessor. In the event of a violation of this provision by Lessee or anyone claiming under Lessee, Lessee hereby authorizes Lessor, as Lessee's agent, to enter the Premises and to remove and dispose of any such sign, signboard or other advertising and to charge the cost and expense of any such removal and dispose to Lessee who agrees to pay the same on demand.

8. INSURANCE:

Lessee shall procure and maintain for the duration of the Lease, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the Lessee's operation and use of the leased premises. The cost of such insurance shall be borne by the Lessee.

Coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage
2. Worker's Compensation insurance as required by the State of California and Employer's Liability insurance.
3. Property insurance against all risks of loss to any tenant improvements or betterments.

Lessee shall maintain limits no less than:

1. General Liability: \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limits shall be twice the required occurrence limit.
2. Employer's Liability: \$1,000,000 per accident for bodily injury or disease.
3. Full replacement cost with no coinsurance penalty provision.

Any deductibles or self-insured retentions must be declared to and approved by the Lessor. At the option of the Lessor, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Lessor, its officers, officials, employees and volunteers; or the Lessee shall provide a financial guarantee satisfactory to the Lessor guaranteeing payment of losses and related investigations, claim administration and defense expenses.

The general liability policy is to contain, or be endorsed to contain, the following provisions:

1. The Lessor, its officers, officials, employees and volunteers are to be covered as insureds with respect to liability arising out of ownership, maintenance or use of that part of the premises leased to the Lessee.
2. The Lessee's insurance coverage shall be primary insurance as respects the Lessor, its officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the Lessor, its officers, officials, employees or volunteers shall be excess of the Lessee's insurance and shall not contribute with it.
3. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled,

except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the Lessor.

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:V.

Lessee shall furnish Lessor with the original certificates and amendatory endorsements effecting coverage required by this clause. The endorsements should be on forms provided by the Lessor or on other than the Lessor's forms, provided those endorsements or policies conform to the requirements. All certificates and endorsements are to be received and approved by the Lessor before work commences. The Lessor reserves the right to require complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications at any time.

Lessee hereby agrees and acknowledges that the Premises have been accepted in an "as is" condition and without representation or warranty by Lessor as to fitness for any purpose or use.

9. CASUALTY INSURANCE:

The parties each specifically acknowledge that Lessor shall not be obligated to keep the Premises insured against fire, or any other insurable risk. Lessee hereby and forever waives all right to claim or recover damages from Lessor in any amount as the result of any damage to the Premises by fire, earthquake, flooding, storm or any other casualty.

10. TAXES, ASSESSMENTS AND LIENS:

Lessee agrees to pay, when due, all taxes and assessments which may be levied against Lessee's possessory interest in the Premises and upon any crops or personal property which Lessee causes to be grown, placed or maintained upon the Premises, and agrees to keep Premises free from all liens and encumbrances by reason of the use of occupancy of the Premises by Lessee or any person claiming under Lessee except for any UCC-1 lien which is placed against the crop or crops growing on the Premises.

11. IMPROVEMENTS:

Lessee shall not make any alterations, addition, or improvements in excess of \$5,000 upon the Premises without the express prior written consent of Lessor. All alterations, additions and improvements shall be done in a good and workman like manner and diligently prosecuted to completion, and shall be performed and maintained in strict accord with all laws and ordinances relating thereto. Unless otherwise expressly agreed to by Lessor, any and all alterations, additions and improvements

shall remain on, and be surrendered with the Premises upon the expiration or termination of this Lease. Lessee shall timely pay all costs associated with any and all improvements and shall keep the Premises free and clear of all mechanic's liens.

Lessee agrees that all structures and improvements, such as fences, gates, towers, derricks, tanks, pipes or other improvements, whether of like or different nature than the foregoing, and excepting therefrom any personal property of Lessee's, shall be and remain a part of the real property and shall not be removed or damaged by lessee after construction or installation and shall be surrendered to Lessor upon termination of this Lease.

Lessee agrees that any and all irrigation pipelines, well pumping equipment and other structures, buildings and fixtures appurtenant hereto, hereinafter collectively referred to as "irrigation equipment" located on the Premises are and shall remain the property of the Lessor and shall be surrendered with the Premises upon the expiration or termination of this Lease. In consideration of the privilege of using the same, Lessee agrees to maintain, operate, repair and replace if necessary at Lessee's sole cost and expense, said irrigation equipment during the continuance of this Lease. Any irrigation equipment placed on the Premises by Lessee, or installed by lessee to replace such equipment, shall become the property of Lessor and shall remain upon and be surrendered with the Premises upon the expiration or termination of this Lease.

Lessee agrees that any damage to constructions and improvements caused by Lessee or any person visiting or doing business with Lessee on the Premises, shall be repaired in good order at the sole expense of Lessee.

Lessee will maintain the area immediately outside the fence of the treatment plant in a clean, weed, and grass free condition.

12. PESTICIDES AND HERBICIDES:

Lessee agrees that any and all pesticide or herbicide applications on the Premises shall be made in strict accordance with all Federal State, County and local laws. Lessee further agrees to dispose of any pesticides, herbicides or any other hazardous materials which are declared to be either a health or environmental hazard in such a manner as prescribed by law. This shall include, but shall not be limited to, contaminated containers, clothing, equipment or any other contaminated material.

13. UNDERGROUND TANKS:

Notwithstanding anything to the contrary set forth in this Lease, Lessee shall not have the right to install underground or aboveground storage tanks without the express prior written consent of the Lessor.

14. HAZARDOUS MATERIALS INDEMNITY:

Lessee hereby agrees to indemnify and hold harmless Lessor and its officers, employees, servants and agents from and against any and all claims, actions, losses, liabilities, damages, costs, attorney's fees and other expenses (A) including, without limitation, all foreseeable and all unforeseeable consequential damages, directly or indirectly arising out of the use, generation, storage or disposal of Hazardous Materials on the Premises, or arising out of the Premises, and (B) including, without limitation, the cost of any required or necessary plans, to the full extent that such action is attributable, directly or indirectly, to the presence, or disposal of Hazardous Materials on the Premises. As used in this Section, Hazardous materials means any flammable explosives, radioactive materials, asbestos, PBC's hazardous waste, toxic substances of related materials, including, without limitation, substances defined as "hazardous substances", "hazardous materials" or "toxic substances" in the Comprehensive Environmental response, Compensation and Liability action of 1980 as amended, 42 USC, Section 9601, et seq.; the Hazardous Materials Transportation Act, 49 USC, Section 1801, et seq.; the Resource Conservation and Recovery Act, 42 USC, Section 6901, et seq.; the Toxic Substances Control Act 15 USC, Section 2601, et seq.; any other Federal, State County or local law applicable to the Premise, and in the rules and regulations adopted or promulgated under or pursuant to any of said laws. The provisions of this Section shall survive the expiration or termination of this Lease and shall relate back to all periods of Lessee's previous ownership or possession of the Premises.

15. WATER:

Lessee shall not extract water from the Premises without written permission of the Lessor. Should water be extracted, Lessee shall provide Lessor with a monthly written statement of water extracted. In addition Lessee shall be solely responsible for all costs and expenses of extraction and metering, and for all reporting required to the Lessor and any other entities.

16. UTILITIES:

Lessee agrees to pay all charges and assessments for or in connection with electric current and all other utilities which may be furnished to or used on the Premises by Lessee.

17. WORKER'S COMPENSATION:

Lessee is aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the

provisions of that code, and will comply with such provisions before commencing farming under this contract.

18. MAINTENANCE:

Throughout the term of this Lease Lessee shall, at Lessee's sole cost and expense, repair, replace keep and maintain the Premises in good order, condition and repair. Lessee shall at Lessee's own expense, take all actions and precautions necessary for the care of the Premises including, but not limited to, irrigation, insect control, disease control, weed control, weed abatement in accordance with the Kern County Fire Department's annual Weed Abatement Program, rodent control, soil erosion control and any other items necessary for the use of the Premises in accordance with approved standards of farming and agricultural practices. Lessee shall, at its sole cost and expense, keep any buildings, fences, irrigation systems, pumps, motors, wellheads, gearing and other appurtenances, or other improvements on or placed on the Premises in good repair and condition. Lessor shall not be obligated to repair, replace or maintain the Premises in any manner throughout the term of this Lease. Neither shall Lessor be obligated to perform any precautionary or prevention measures with respect to the Premises, including, but not limited to, drainage and flood control measures. Should Lessor perform any of the foregoing, such services shall be at the sole discretion of Lessor, and the performance of such services shall not be construed as an obligation or warranty by Lessor of the future of ongoing performance of such services.

Notwithstanding the foregoing, Lessee is not required to repair or replace any underground well, pumps, columns or casings.

19. DISCRIMINATION:

Lessee agrees not to discriminate against any person, or class of person, by reason of race, color, creed, national origin, religion, age or sex in the use of the Premises.

20. ASSIGNMENTS AND SUBLETTING:

Lessee shall not assign the Lease, or any interest therein, and shall not sublet the Premises or any part thereof, or any right or privilege appurtenant thereto, or suffer any other person (the agents and servants of Lessee except) to occupy or use the Premises, or any portion thereof, without the prior written consent of Lessor. Said consent is at the sole discretion of Lessor. A consent to one assignment, subletting, occupation or use by another person shall not be deemed to be a consent to any subsequent assignment, subletting, occupation, or use by another person. In addition, any consideration that Lessor receives for any sublease which is greater than that paid by Lessee to Lessor shall be divided fifty/fifty (50/50) between Lessor and Lessee. This Lease shall not, nor shall any

interest herein, be assignable, as to the interest of Lessee by operation of law, without the written consent of Lessor. Any assignment or subletting without such consent shall be void and shall, at the option of Lessor, terminate this Lease.

21. INSOLVENCY OR BANKRUPTCY:

If Lessee shall be adjudged, bankrupt or insolvent this Lease shall thereupon immediately terminate and the same shall not be treated as an asset of the Lessee under such adjudication, nor shall it pass under the control of any trustee or assignee by virtue of any process in bankruptcy or insolvency, or by execution or assignment for the benefit of creditors. If any such event occurs, this Lease shall immediately become null and void and of no effect, and the Lessor may immediately retake possession of the Premises.

22. GOVERNMENT PROGRAMS.

Lessee shall retain and preserve any agricultural cotton or other allotment on said land and shall not transfer or combine said allotment or any part of the same, in any manner which will jeopardize its retention or value to the Lessor.

Lessee further agreed to inform Utilities Director of any intention to put Lessee's cotton base in combination with that of Lessor in order that proper certification of such action may be made at the Agricultural Stabilization and Conservation Service (ASCS) Office in Bakersfield, California. Any perennial crop other than alfalfa, planted by Lessee shall first be approved by Lessor.

Lessee shall retain and preserve the agricultural wheat, corn, milo, and barely and all allotments now or hereafter placed on said land, and shall not transfer or combine said allotments, or any part of the same, in any manner which will jeopardize its retention or value to the Lessor without first obtaining the written consent of the Lessor.

Lessee shall not enter into any soil, conservation or cropping agreement affecting the Premises, irrespective of whether such soil conservation or cropping agreement shall be proposed or submitted under, or in compliance with any Federal, State or local law, or by private agreement, without the prior written consent of the Lessor, and upon such terms and conditions as Lessor may specify. Lessee and upon the written request of the Lessor, therefore, shall enter into and execute any and all such soil conservation or cropping agreement affecting said Premises. Lessee agrees to abide by and comply with all soil conservation or cropping agreements affecting said Premises which have been theretofore or shall be hereafter executed by or with the written consent of the Lessor.

23. STATUTORY COMPLIANCE:

Lessee will forthwith enter into possession of the Premises and will assume the duty and responsibility of disposal of all Reclaimed Wastewater transferred from the treatment plant of the Lessor to Lessee, and in that regard Lessee will, among other operations, maintain checks and contours and perform such other improvements as are necessary for the adequate disposition of such Reclaimed Wastewater and Lessee will, at Lessee's own expense, abate and keep the Premises free from any nuisance whatsoever in Lessee's operation and handling of the disposal of said Reclaimed Wastewater, Lessee will observe all applicable provisions of Federal, State and local laws now in force, or which may hereafter be in force, including but not limited to, the State of California Department of Health Services Guidelines for Use of Reclaimed Primary Effluent Wastewater, attached hereto as Exhibit "C".

Lessee will take all Reclaimed Primary Effluent Wastewater transferred to Lessee's by Lessor at all times, and if necessary, provide a sump for short term storage whenever a fluctuation in agriculture operation does not permit continual usage.

24. USAGE REQUIREMENTS:

Lessee shall comply with all rules, regulations and requirements of the California Regional Quality Control Board, the Lessor's waste discharge permit, the California Department of Health Services and Title 22 of the California Code of regulations under the Tulare Lake Basin Plan regarding its use of the Reclaimed Wastewater, attached as Exhibit "C" or as otherwise modified by the particular regulatory agency. Lessee acknowledges that there are certain crop restrictions related to the use of Reclaimed Wastewater and in addition, there are also requirements as to storage, non-ponding of Reclaimed Wastewater beyond forty-eight hours, set back to domestic and irrigation wells and public roads. Lessee will comply with all rules, regulations and requirements as hereinabove mentioned and also as set forth in Exhibit "D" which are currently in place or hereinafter modified.

25. FARMING ACTIVITIES:

Lessee will continuously farm the Premises in a good and husband like manner in accordance with the accepted agricultural practices in the area, keep the Premises in a clean and efficient condition for the purpose of irrigated agriculture, not to allow the same to become infested with noxious weeds or rodents and, in addition, Lessee will carry on a crop rotation program so that all acreage will receive cover crops that will tend to prevent soil depletion.

Lessee shall not conduct farming operations in an area closer than twenty-five (25) feet on each side of the existing and proposed future water lines as noted on Exhibit "A".

Lessee is required to report to the Lessor quarterly and on an annual basis cropping patterns, Reclaimed Wastewater application rates per crop and fertilizer application.

Lessee will furnish to the Lessor a written annual report of the crops grown, the number of acres per crop, and the yield per acre for each crop grown upon the Premises, said report to be submitted to the Lessor no later than February 1st of each year following the expiration of the preceding year's Lease. Lessee will furnish to the California Regional Water Quality Control Board – Central Valley Region any written reports that the Board may require.

26. INDEMNIFICATION AND HOLD HARMLESS:

Lessee hereby agrees to indemnify and hold harmless the Lessor and its officers, employers, servants, and agents from and against all claims, actions, liabilities, losses, damages, costs, attorney's fees and other expenses arising out of any loss or damage to property, or injury to or death of persons, resulting in any manner whatsoever, directly or indirectly, by reason of this Lease with use or occupancy of the Premises or the use of Reclaimed Wastewater by Lessee, or any person claiming under or through Lessee, except such loss, damage injury or death caused by the sole negligence of the Lessor or any of its officers or employees. The provision of this section shall survive the expiration or termination of this Lease.

27. QUALITY OF WASTEWATER:

The Reclaimed Wastewater is not disinfected or chlorinated and is secondary effluent wastewater and is non-potable. The Lessor will treat the Reclaimed Wastewater in accordance with the California Regional Water Quality Control Board, Waste Discharge Permit provided to the Lessor, the California Department of Health Services and Title 22, California Code of Regulations and the Tulare Lake Basin Plan (see Exhibit "C" for said provisions). The Reclaimed Wastewater will be treated to a secondary level that includes preliminary treatment (pumping, screening and metering), primary treatment (primary clarification) and secondary treatment (bi-filtration and secondary clarification).

///

///

28. QUANTITY OF RECLAIMED WASTEWATER, REQUIRED TO BE PURCHASED:

Lessor and Lessee acknowledge that the Lessor is entering into long-term agreements with numerous individuals or entities to dispose of excess Reclaimed Wastewater and that there may not be any Reclaimed Wastewater to satisfy the crop demands of Lessee or any other individuals.

Notwithstanding the foregoing, Lessee is required to utilize to the maximum extent possible all Reclaimed Wastewater allocated to Lessee by Lessor.

29. INSPECTION BY LESSEE:

By entry under this Lease, lessee accepts the Premises in its present condition and agrees, on the last day of the term, or sooner termination thereof, to surrender the Premises and appurtenances to Lessor in the same condition as when received, reasonable use, wear, damage by fire, act of God, or the elements excepted, and to remove all Lessee's property from the Premises at the end of the term.

30. INSPECTION BY LESSOR:

Lessee shall permit Lessor and Lessor's agents and/or employees at all reasonable times, to enter the Premises and to use the roads established in the Premises now, and in the future, for the purpose of inspection compliant with the terms of this Lease, exercise of all rights under this Lease, posting notices, and all other lawful purposes. Lessee shall make and keep pertinent records of all operations in connection with this Lease and shall make them available to Lessor and Lessor's agents and/or employees at all reasonable time for inspection.

Lessor and its officers or employee's shall also have the right, at all reasonable times, to enter upon the Premises for any purpose in connection with the operation of its sewage treatment facilities.

31. MINERAL RESERVATION:

There is expressly excepted from the Premises and reserved by Lessor, its successor and assigns, all oil, gas, hydrocarbon, and other minerals whatsoever in, on or under the Premises, and there is hereby expressly reserved to Lessor the right any time, and from time to time, to explore for, dig for, drill for, mine, produce, and take any and all such gas, oil, hydrocarbon, and other materials, or to permit others to do so, and for such purposes Lessor reserves the right to enter in and upon and occupy such portions of the Premises as may be reasonably required therefore, provided however, that in the event Lessor exercises or permits others to

exercise such rights, or shall pay to Lessee reasonable damages to the crops caused thereby, but otherwise Lessee shall not be entitled to any payment on account of the exercise of any such rights.

32. LESSOR REDUCTION:

Lessor reserves the right to remove land from this Lease at the sole discretion of Lessor for any purpose. In the event that land is removed from this Lease, Lessee shall receive a pro rata reduction in rent.

33. AUTHORIZED USE AREA:

The Premises is the only authorized real property which the Reclaimed Wastewater may be stored or used by Lessee under this Agreement. The Reclaimed Wastewater shall be confined to Premises and Lessee shall take every action to properly store and utilize the Reclaimed Wastewater on the Premises.

34. RECLAIMED WASTEWATER TRANSPORTATION/HOLDING SYSTEM.

It will be the sole responsibility of Lessee to build, construct and maintain a Reclaimed Wastewater transport and distribution system to pick up available Reclaimed Wastewater from the Lessor's pipeline and deliver it to Lessee's Premises for Lessee's own use. It will further be the sole responsibility of Lessee to obtain all proper permits required for both the construction and maintenance of any such transport system and/or any holding basin. Said reclaimed Wastewater transport distribution and holding system shall comply with the design requirements contained in the California-Nevada Section AWWA publication "Guidelines for Distribution of Non-Potable Water" and the "Guidelines for Use of Reclaimed Water" as are currently in place or hereinafter modified. Lessee is required to have a minimum of two days storage to manage the Reclaimed Wastewater on the Premises.

35. SIGNAGE:

It will be the sole responsibility of Lessee to provide signage to inform the public that Reclaimed Wastewater is being used on the Premises. The warning signs should be posted at least every 500 feet with a minimum of one sign at each corner and one at each access route unless additional signage is required by law.

36. NON-PUBLIC ACCESS:

Lessee shall, at Lessee's own cost and expense, install fencing or other barriers to restrict public access to the Premises. Lessee further agrees to grade the perimeter of the Premises to prevent ponding along any public

road or other public area. Setbacks shall also be put into effect to limit and restrict the Reclaimed Wastewater from coming in contact with the public and any other water sources.

37. DEFAULT:

If Lessee breaches this Lease, Lessor shall have, in addition to all other rights given by law, and at Lessor's option, right of reentry after having given thirty (30) days' notice, and the right to take possession of all crops, harvested or unharvested, and the right to any and all proceeds therefrom, and to remove all persons and property from the Premises. Lessor may store the property removed from the Premises in a public warehouse or elsewhere at Lessee's expense and for Lessee's account.

Lessor, at its election, shall become the owner of all crops of which it has so taken possession and, except when it elects to proceed under option (c) below shall not be obligated to compensate Lessee for them.

If Lessor elects to reenter as provided above, or to take possession under legal proceedings or under any notice provided by law:

- (a) Lessor may terminate this Lease; or
- (b) Lessor may, from time to time, without terminating this Lease, relet the entire or any part, of the Premises for such terms (which may extend beyond the term of this Lease) and at such rentals and other conditions as Lessor in its sole discretion, deems advisable. Lessor also has the right to make alterations and repairs to the Premises. On each reletting, Lessee shall be immediately liable to pay to Lessor the expense of reletting and making alterations and repairs incurred by Lessor and all other indebtedness, except rent, due under this Lease; or
- (c) Lessor, or its agents or assigns, or a receiver appointed at his instance, may (1) perform Lessee's duties under this Lease in such things as maintaining the Premises and growing, harvesting and marketing the crops contemplated by the Lease; (2) charge the proceeds of the crops with reasonable costs of maintenance and husbandry; and (3) divide the remainder of the proceeds with Lessee in the same proportions as the crop would have been divided between Lessor and Lessee, if Lessee had faithfully performed under this Lease, if the costs exceed the proceeds received for the crop, the deficiency shall be borne by Lessor and Lessee in the same proportion as the crop would have been divided between Lessor and Lessee if Lessee had faithfully performed under this Lease; or

- (d) Lessor may exercise all other rights that become available to it if Lessee breaches or defaults in its obligations under this Lease.

No reentry or taking possession of the Premises by Lessor shall be construed as an election by it to terminate this Lease unless a written notice of such an intention is given to Lessee or the Lease is declared to be terminated by a court of competent jurisdiction.

Nothing contained in this Lease, and no security or guarantee that Lessor now holds, or in the future may hold, under the Lease, shall in any way constitute a bar or defense to an action by Lessor in unlawful detainer or for recovery of the Premises.

38. WAIVER:

A waiver by either party of any default or breach in the performance of any or the covenants, terms or conditions of this Lease shall not constitute or be deemed to be a waiver of any subsequent or other default or breach. No waiver shall be binding unless executed in writing by the party make the waiver.

39. PARTIES BOUND AND BENEFITTED:

The covenants and conditions herein contained shall apply to and bind all successors and assigns of the parties hereto.

40. TIME:

Time is of the essence of this Lease.

41. CONDEMNATION:

If a public authority under the power of eminent domain shall take the whole of the Premises, then the term of this Lease shall cease on the day of the possession by the public authority. If only a part of the Premises shall be taken under eminent domain, either party shall have the right to terminate this Lease upon written notice given within thirty (30) days of such taking. I this Lease remains in effect, all of the terms hereof shall continue in full force and effect, excepting that the Annual Rent shall be adjusted proportionately for the balance of the Lease term. If a taking under the power of eminent domain occurs, those payments attributable to the Leasehold interest of the Lessee shall belong to the Lessee, and those payments attributable to the reversionary interest of the Lessor shall belong to the Lessor.

42. MERGER AND MODIFICATION:

This Lease sets forth the entire agreement between the parties and supersedes all other oral or written representations. This Lease may be modified only in writing approved by the Delano City Council and signed by all parties.

43. REMEDIES:

In case of the failure or refusal of lessee to comply with or perform the terms and covenants of this Lease after due notice by Lessor, this Lease, and all rights hereby given shall, at the option of Lessor, cease and terminate, and Lessor shall have the right in addition to its other legal remedies, to remove lessee's property from the Premises at the sole costs, expense and risk of Lessee, which cost and expense Lessee agrees to pay the Lessor upon demand, together with interest thereon at the maximum rate allowed by law from the date of expenditure by Lessor.

44. ATTORNEY'S FEES:

Should any party bring suit to compel performance of, or to recover damages for any breach of, any covenant, agreement, or condition of this Lease, the prevailing party shall be entitled to recover all costs incurred therein, including reasonable attorneys fees.

45. NOTICES AND PAYMENTS:

All notices required under this Lease, including change address, shall be in writing, and all notices and payments shall be made as follows:

- (a) All notices to Lessee shall be given or mailed to:

Ron Mettler, Don Mettler
Dba R & D Farms

- (b) All payments and notices to Lessor shall be given or mailed to:

City of Delano – Finance Department
P.O. Box 939
Delano, CA 93216-0939

Notices shall be deemed given upon receipt by personal delivery or upon the third (3rd) day after deposit in the United States mail, certified or registered, return receipt requested, with postage prepaid or upon any other reasonable means of providing notice.

46. PARTIAL INVALIDITY:

If any term, covenant, condition or provision of this Lease is found by a Court of competent jurisdiction to be invalid, void or unenforceable, the remainder of this Lease shall nonetheless remain in full force and effect to the full extent allowed by law.

47. PARAGRAPH HEADINGS:

Paragraph headings in this Lease are for convenience only and are not intended to be used in interpreting or construing the terms, covenants and conditions of this Lease.

48. COMPLIANCE WITH ALL LAWS:

Lessee shall, at Lessee's sole cost, comply with all requirements of municipal, state and federal authorities now in force or which may hereafter be in force, pertaining to this Agreement, or to the discharge, application or use of the Reclaimed Wastewater by Lessee or any other person or entity on behalf of Lessee, including, but not limited to, the obtaining of any necessary permits and shall faithfully observe in all activities relating to or arising out of this Agreement or to the discharge, application or use of the Reclaimed Wastewater by lessee or any other person or entity on behalf of Lessee, all municipal ordinances and state and federal statutes, rules or regulations now in force or which may hereafter be in force including, but not limited to, the State of California Department of Health Services Guidelines for Use of Reclaimed Primary Effluent Wastewater and Title 22, Division 4 Section 60001, et seq., of the California Administrative Code.

49. INTERPRETATION:

Should interpretation of this Lease, or any portion thereof, be necessary, it is deemed that this Lease was prepared by the parties jointly and equally, and shall not be interpreted against either party in the ground that the party prepared the Lease or caused it to be prepared.

50. RIGHT TO TERMINATE LEASE IN WHOLE OR IN PART:

Lessee hereby grants to Lessor and Lessor hereby accepts and reserves the right to terminate this Lease and retake possession of the entire Premises or any portion thereof, at anytime. Lessor shall exercise these rights by providing Lessee with written notice of such termination at least six months prior to the date of any such retaking. In the event Lessor shall retake only a portion of the Premises, rentals, shall be abated on a per acre basis, any fractional component rounded upward to the next acre.

Lessee may terminate this Lease in its entirety by providing Lessor with written notice of such termination at least three (3) months prior to the date of any such termination.

51. CORPORATE AUTHORITY:

Each individual executing this Agreement represents and warrants that they are duly authorized to execute and deliver this Agreement on behalf of the corporation, partnership or entity, if any named herein and this Agreement is binding upon said corporation, partnership or entity in accordance with its terms and as to Lessee, if no corporation, partnership or entity is named herein.

IN WITNESS WHEREOF, the parties have caused this Lease Agreement to be executed by their duly authorized representatives and of the date first written above.

R & D FARMS

Ronald Mettler
Ronald Mettler (Lessee)
Donald Mettler
Donald Mettler (Lessee)

DATE: 3-27-02

CITY OF DELANO
Arthur B. Armendariz
Arthur B. Armendariz, Mayor

Phyllis A Kraft
Phyllis Kraft, City Clerk

DATE: March 20, 2002

APPROVED AS TO FORM:

WALL, WALL & PEAKE

Alan J. Peake
Alan J. Peake, City Attorney

c:\files\Delano\agreements\mettlerfarmlease.agr

City of Delano
Engineering Department

Memorandum

TO: Phyllis Kraft, City Clerk
FROM: Pattie Castellanos, Administrative Secretary
DATE: June 30, 2008
RE: Exhibits for Subdivision Agreements

Pattie Castellanos

Subdivision agreements referencing Exhibits A, B, C, D, and E (large plans) and are available for review in the Engineering Department files.

If you have any questions please call me at ext. 223.

APPENDIX F

City Resolution No. 2011-27, authorizing the City Manager to enter into an understanding with Ducks Unlimited, Inc. and Tulare Basin Wetlands Association to seek funding and generate conceptual design plans to investigate the potential to discharge the City's treated water to existing nearby wetlands.

RESOLUTION NO. 2011 - 27

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF DELANO AUTHORIZING THE CITY MANAGER, OR HIS DESIGNEE, ON BEHALF OF THE CITY, TO ENTER INTO AN UNDERSTANDING WITH DUCKS UNLIMITED TO SUPPORT THEIR EFFORT TO PURSUE FEASIBILITY AND FUNDING FOR DELIVERING WASTEWATER FROM THE CITY'S WASTEWATER TREATMENT FACILITY TO NEARBY WETLANDS

WHEREAS, the City of Delano desires to be an environmentally friendly community; and

WHEREAS, the City currently uses approximately 900 acres of land to discharge the treated wastewater from the plant; and

WHEREAS, the City may require additional discharge area when growth population estimates are realized; and

WHEREAS, the City seeks a mutually beneficial alternative for this land by providing potential opportunities for alternative development of the 900 acres by partnering with Ducks Unlimited to develop an alternative use for the treated wastewater; and

WHEREAS, discharging treated wastewater to wetlands has been shown to be an economical and environmentally friendly alternative; and

WHEREAS, currently there exists State and Federal grant programs to help fund these types of projects; and

WHEREAS, Ducks Unlimited, Inc. and Tulare Basin Wetlands Association wish to seek funding and generate conceptual design plans to investigate the potential to discharge the City's treated wastewater to existing nearby wetlands; and

WHEREAS, there is no financial obligation at this time to the City for Ducks Unlimited, Inc. and its Partners to pursue this project;

NOW THEREFORE BE IT RESOLVED, that the City Council of the City of Delano authorizes the City Manager or his designee on behalf of the city, to enter into an understanding with Ducks Unlimited and Tulare Basin Wetlands Association to provide the foundation for a partnership and formally support their efforts to seek funding and develop a conceptual engineering plan to pursue the viability of this project.

The foregoing Resolution was duly passed and adopted by the City Council at a regular meeting held on the 4th of April, 2011, by the following vote:

AYES: Aguirre, Chavez, Morris, Ramirez, Vallejo

NOES: none

ABSENT: none

ABSTAIN: none

Attest:



Phyllis A. Kraft, City Clerk


Ricardo G. Chavez, Mayor

APPENDIX G

City Ordinances Relating to Water

RESOLUTION NO. 2006 - 92

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF DELANO
ADOPTING THE 2005 URBAN WATER MANAGEMENT PLAN AND
EMERGENCY WATER CONSERVATION POLICY**

WHEREAS, the City of Delano City Council conducted a duly-noticed public hearing on December 18, 2006 to receive public testimony regarding a proposed 2005 Urban Water Management Plan, and

WHEREAS, the plan was available for review by the public at the City of Delano City Hall, and

WHEREAS, the State of California Water Code requires adoption of Urban Water Management Plan every five years.

NOW, THEREFORE, BE IT RESOLVED, by approval of this Resolution the City Council of the City of Delano that:

1. The draft 2005 Urban Water Management Plan dated December, 2006 is hereby adopted, and

2. The attached "Emergency Water Conservation Policy for the City of Delano" is hereby adopted.

The foregoing Resolution was duly passed and adopted by the City Council at a regular meeting held on the 18th day of December, 2006, by the following vote:

AYES: Hill, Morris, Ramirez, Vallejo

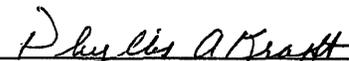
NOES: none

ABSENT: Rios

ABSTAIN: none

Attest:


Pedro Rios, Mayor


Phyllis A. Kraft, City Clerk

EMERGENCY WATER CONSERVATION POLICY FOR THE CITY OF DELANO

Section 1. Declaration of Policy.

California Water Code Section 375 et. Seq. permit public entities that supply water at retail to adopt and enforce a water conservation program to reduce the quantity of water used by the people therein for the purpose of conserving the water supplies of such public entity. The City Council of Delano (Council) hereby establishes a water conservation program pursuant to California Water Code Sections 375 et. seq. based upon the need to conserve water supplies and to avoid or minimize the effects of future storage.

Section 2. Findings.

The council finds and determines that certain conditions could occur in the City to require that the water sources available be placed to maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such water be encouraged with a view to the maximum reasonable and beneficial use thereof in the interest of the people and for the public welfare.

Section 3. Application.

The provisions of this policy shall apply to all water served to persons, customers and property by the City.

Section 4. Authorization.

The City Manager or a designated representative is hereby authorized to implement the provisions of this policy as directed by the Council. Additionally, the City Manager or a designated representative is hereby authorized to make minor and limited exceptions to prevent undue hardship or unreasonable restrictions, provided that water shall not be wasted or used unreasonably and the purpose of this policy can be accomplished.

Section 5. Water Conservation Stages

No persons shall knowingly use water or permit the use of water supplied by the City for commercial, industrial, agricultural, governmental or any other purpose in a manner contrary to the provisions of this policy. At no time shall water be wasted or used unreasonably.

The following stages shall take effect upon declaration as herein provided:

a) Stage 1 - Enforcement Required - Minor Shortage potential

Stage 1 applies during periods that the City determines that water usage should be reduced approximately 10% - 20% in order to meet all of the water demands of its customers, either now or in the foreseeable future. Implementation of Stage 1 should result in a minimum of 10% reduction in water use from a base period to be determined

at the time of declaration. Paragraph 13.04.110 of the Delano Municipal Code shall be implemented with this stage.

b) Stage 2 - Enforcement Required - Moderate Shortage potential

Stage 2 applies during periods when the City determines that water usage should be reduced by approximately 20% - 35% in order to meet all of the water demands of its customers now or in the foreseeable future. Implementation of Stage 2 should result in a minimum of 20% reduction in water used from a base period to be determined at the time of declaration.

c) Stage 3 - Enforcement Required - Critical Shortage Potential

Stage 3 applies during periods when the City determines that water usage should be reduced approximately 35% - 50% in order to meet all of the water demands of its customers now or in the foreseeable future. Implementation of Stage 3 should result in a minimum of 35% reduction in water use from a base period to be determined at the time of declaration.

Specific mandated restrictions in water use for Stages 1, 2 and 3 shall be determined by the Council and include:

- 1) Landscape (except residential) - Eliminate watering of ornamental turf areas. Water only actively used turf areas no more than twice per week. Trees and shrubs may be watered only twice per week using a hand-held hose with a positive shutoff nozzle or drip irrigation. Use of reclaimed water, however, is exempt.
- 2) Household and Household Members (residential landscapes) - Water no more than twice per week using only a hand-held hose with a positive shutoff nozzle or drip irrigation systems. Eliminate sprinkler use.
- 3) Construction Usage - All construction water must be reclaimed or nonpotable. Issuance of construction meters will be only for testing and disinfection of potable water lines.

Section 6. Implementation of Conservation Stages.

The City shall monitor the projected supply and demand for water by its customers on a daily basis. The City Manager shall recommend to the Council the extent of the conservation required through the implementation and/or termination of particular conservation stages in order for the City to prudently plan for and supply water to its customers. Thereafter, the Council may order that the appropriate stage of water conservation be implemented or terminated in accordance with the applicable provision of this policy. The declaration of any stage shall be done by mass mailing, and a public announcement and notice shall be published a minimum of three (3) consecutive times in a newspaper of general circulation. The stage designated shall become effective immediately upon announcement.

Section 7. Violations, Notices, Penalties.

The violation of any provisions in this policy are subject to the penalties specified in the Delano Municipal Code.

G:\Engineering\Cap Projects\urban water mgmt plan\Water Shortage Contingency Plan.doc

ORDINANCE NO. 2008-1185

**AN ORDINANCE OF THE CITY OF DELANO AMENDING SECTIONS
13.04.120 AND 13.04.180 OF THE DELANO MUNICIPAL CODE RELATED TO
THE USE OF WATER**

The City Council of the City of Delano, California, does ordain as follows:

Section 1. The City of Delano hereby amends Section 13.04.120 of the Delano Municipal Code as follows:

“13.04.120 Prohibition on Waste of Water. The following are defined as the “waste of water” and are prohibited and a violation of this Chapter:

1. The use of water which allows water to run off the property or area to which it is being applied. This is specifically in reference to but not limited to the irrigation of turf, ground cover, trees or other forms of landscape that results in water flowing into gutters, drains, ditches or other non-target areas of the irrigation system.
2. The washing of vehicles, boats, trailers, airplanes and building exteriors is allowed only on designated watering days with a hose with a positive stop device and a bucket.
3. Washing down driveways, sidewalks, parking lots, patios, tennis courts or other hard surfaces. These areas should be swept in lieu of using any water.
4. The watering of lawns, ground-cover, trees and shrubbery between the hours of eleven a.m. and six p.m. from May 1, to September 30th or during periods of high wind which exceeds 20 miles per hour. Drip, bubbler and soaker hose irrigation systems will be excepted from these requirements.
5. Failure to abate a leak or malfunctioning plumbing within 24 hours that results in the considerable loss of water.
6. The operation of an ornamental fountain that does not recycle the water.
7. Allowing an irrigation system to operate in such a manner that water is applied to more than an incidental amount of driveway, sidewalk, patio, parking lot or other hard surface or area including bare ground not sustaining plant material that would require water.
8. The installation of Blue or Perennial Rye Grass turf except on athletic fields is prohibited. Blue and Perennial Rye Grass uses approximately 50 percent more water than Bermuda.
9. Allowing water to gather into a pool or puddle where it serves no useful purpose but may act as a harbor or breeding place for mosquitoes.

Section 2. The City of Delano hereby amends Section 13.04.180 of the Delano Municipal Code as follows:

“13.04.180 Violation. Anyone who violates any provision of this Chapter including but not limited to the wasting of water shall be guilty of an infraction punishable by:

1. A fine not to exceed Fifty Dollars (\$50) for a first violation; and
2. A fine not to exceed One Hundred Dollars (\$100) for a second violation within a one year time period; and
3. A fine not to exceed Two Hundred Dollars (\$200) for a third violation within a one year time period.”

Section 3: The City Council of the City of Delano hereby finds as follows:

- A. The City faces a shortage in its water supply.
- B. The entire state is experiencing drought with significant cutbacks expected for surface waters, such as the Friant-Kern Canal customers and groundwater users, such as the City of Delano. Groundwater levels were significantly lowered last summer and more overdraft is expected this summer.
- C. Recent attempts to enlarge the City’s water system have been delayed in reaction to the recent lowering of the allowable arsenic levels, which has caused the City to study and practically re-design the City’s water production system.
- D. By implementing new prohibitions on the use of water, it will help manage the City’s available water supply.

Section 4. Severability. If any section, subsection, sentence, clause, or phrase of this Ordinance is, for any reason, held to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council declares that it would have adopted this Ordinance and each section, subsection, sentence, clause or phrase of this Ordinance in spite of the fact that any one or more or the same be declared unconstitutional or invalid.

Section 5. The City Clerk is hereby ordered and directed to certify the passage of this Ordinance and to cause this Ordinance to be prepared according to law to be published in accordance with law in a newspaper of general circulation in the City.

PASSED AND ADOPTED this 21st day of July, 2008, by the following vote:

AYES: Morris, Ramirez, Vallejo

NOES: none

ABSENT: Hill, Rios

ABSTAIN: none



Grace Vallejo, Mayor
City of Delano, California

ATTEST:



Phyllis A. Kraft, City Clerk
City of Delano, California

ORDINANCE NO. 2008 - 1189

AN ORDINANCE OF THE CITY OF DELANO REPEALING SECTION 13.04.110 AND ADDING A NEW SECTION 13.04.110 OF THE DELANO MUNICIPAL CODE, ORDERING WATER CONSERVATION BY AN EVEN-ODD WATERING SCHEDULE AND ALLOWING THE EVEN-ODD OUT DOOR WATER USE SCHEDULE TO STAY IN EFFECT INDEFINATELY

The City Council of the City of Delano, California, does ordain as follows:

Section 1. The City of Delano hereby repeals Section 13.04.110 of the Delano Municipal Code and adds the new Section 13.04.110 as follows:

“13.04.110 Mandatory Conservation Schedule: All consumers shall conserve water in accordance with the following schedule:

1. Customers with even-numbered addresses shall only water/irrigate outside of any building on Sundays, Wednesdays, and Fridays.

2. Customers with odd-numbered addresses shall only water/irrigate outside of any building on Saturdays, Tuesdays, and Thursdays.

3. No water for any purposes outside any buildings shall be used by customers on Mondays.

The City Manager may make exceptions for non-residential customer uses upon written request and a finding that an economic hardship would result. Irrigation drip systems approved by the City Engineer that effectively minimize irrigation use are exempt from this Section.

Section 2: The City Council of the City of Delano hereby finds as follows:

- A. The entire state is experiencing drought with significant cutbacks expected for surface waters, such as the Friant-Kern Canal customers and groundwater users, such as the City of Delano. Groundwater levels were significantly lowered last summer and more overdraft is expected this summer.
- B. Recent attempts to enlarge the City’s water system have been delayed in reaction to the recent lowering of the allowable arsenic levels, which has caused the City to study and practically re-design the City’s water production system.
- C. By implementing mandatory even-odd irrigation days, it will help manage the City’s available water supply.

Section 4. Severability. If any section, subsection, sentence, clause, or phrase of this Ordinance is, for any reason, held to be unconstitutional or invalid, such decision shall not

affect the validity of the remaining portions of this Ordinance. The City Council declares that it would have adopted this Ordinance and each section, subsection, sentence, clause or phrase of this Ordinance in spite of the fact that any one or more or the same be declared unconstitutional or invalid.

Section 4. The City Clerk is hereby ordered and directed to certify the passage of this Ordinance and to cause this Ordinance or a summary thereof to be prepared according to law to be published in accordance with law in a newspaper of general circulation in the City.

Section 5. This ordinance shall remain in effect indefinitely unless repealed or modified by action of the City of Delano City Council.

PASSED AND ADOPTED this 2nd day of September 2, 2008, by the following vote:

AYES: Hill, Morris, Ramirez, Vallejo

NOES: none

ABSENT: Rios

ABSTAIN: none



Grace Vallejo, Mayor
City of Delano, California

ATTEST:




Phyllis A. Kraft, City Clerk
City of Delano, California

APPENDIX H

Water Quality Public Notice

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

City of Delano Has Levels of Arsenic Above Drinking Water Standards

Water produced by nine of the City's eleven water wells (Well No. 4, 12, 19, 20, 21, 22, 23, 24 and 26) of our water system failed a drinking water standard. Although this is not an emergency, as our customers, you have a right to know what happened, what you should do, and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Testing results from the City's water wells collected during the month of April 2011 show that our system exceeds the standard or maximum contaminant level (MCL), for arsenic. The Federal standard for arsenic is 10ug/L. The level of arsenic since the beginning has ranged from 10 to 33 ug/L in nine of the city's eleven wells. The average combined level for the City is 17 ug/L. Compliance with the arsenic maximum contaminant level (MCL) is based on the average concentration of four consecutive quarterly samples (or an annual average) for each well, unless fewer samples would cause the running annual average to be exceeded.

What should I do?

- **You do not need to use an alternative (e.g., bottled) water supply.** However, if you have specific health concerns, consult your doctor.

What does this mean?

This is not an immediate risk. If it had been, you would have been notified immediately. However, *per the EPA some people who drink water containing arsenic in excess of the MCL over many years may experience skin damage or circulatory system problems, and may have an increased risk of getting cancer.*

What happened? What was done?

The City is currently working with the EPA and State with the implementation of an arsenic mitigation project to reduce the arsenic levels to the federal standard. This includes drilling new wells to replace the older existing wells and installing treatment systems on two wells. We anticipate resolving this issue and being in compliance by December 2013.

For more information, please contact Craig Wilson, Water Superintendent at (661) 721-3350 Ext. 5406 or at the following mailing address: 725 So. Lexington Street, Delano, CA 93215.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Delano in compliance with the California Domestic Water Quality and Monitoring Regulations as a means of keeping the public informed.

Publish Date: May 31, 2011

APPENDIX I

CUWCC BMP Retail Coverage Report 2009-2010



CUWCC BMP RETAIL COVERAGE REPORT 2009-2010
Foundation Best Management Practices for Urban Water Efficiency

Agency: **CITY OF DELANO** District Name: **City of Delano** CUWCC Unit #: **6998**
 Retail

Primary Contact: **Joe Rojas** Telephone: **661-720-2281** Email: **jrojas@cityofdelano.org**

Compliance Option Chosen By Reporting Agency:
 (Traditional, Flex Track or GPCD)

GPCD if used:

GPCD in 2010	169
GPCD Target for 2018	169

Year	Report	Target		Highest Acceptable Bound	
		% Base	GPCD	% Base	GPCD
2010	1	96.4%	199	100%	206
2012	2	92.8%	191	96%	199
2014	3	89.2%	184	93%	191
2016	4	85.6%	176	89%	184
2018	5	82.0%	169	82%	169

Not on Track if 2010 GPCD is \geq than target

GPCD in 2010 Highest: **169**
 Acceptable GPCD for 2010: **206**

On Track

Agency: CITY OF DELANO
Retail

District Name: City of Delano

CUWCC Unit #: 6998



CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Foundational BMPs

BMP 1.1 Operational Practices

	2009	2010	
1. Conservation Coordinator provided with necessary resources to implement BMPs?	Name: JOHN WANKUM Title: PROGRAM MANAGER Email: jwankum@cityofdelano.org On Track	Name: JOE ROJAS Title: Water Conservation Coordinator Email: vrojas@cityofdelano.org On Track	Conservation Coordinator provided with necessary resources to implement BMPs?
2. Water waste prevention documentation			On Track if any one of the 6 ordinance actions done, plus documentation or links provided
Descriptive File	City of Delano Water		
Descriptive File 2010			
URL	http://www.cityofdelano.org/index.aspx?nid=375		
URL 2010		http://www.cityofdelano.org/index.aspx?nid=375	
Describe Ordinance Terms	Water Conservation Ordinance, June 2, 2008		
Describe Ordinance Terms 2010		Water Conservation Ordinance, June 2, 2008.	
	On Track	On Track	



CUWCC BMP RETAIL COVERAGE REPORT 2009-2010
Foundation Best Management Practices for Urban Water Efficiency

BMP 1.2 Water Loss Control

	2009	
Complete a prescreening Audit	yes	On Track
Metered Sales	6,155	
Verifiable Other Uses	3,544	
Total Supply	9,999	
(Metered Sales + System uses)/ Total Supply >0.89	0.97	On Track
If ratio is less than 0.9, complete a full scale Audit in 2009?	Yes	On Track
Verify Data with Records on File?	Yes	On Track
Operate a system Leak Detection Program?	Yes	On Track

On Track if Yes

On Track if =>.89, Not on Track if No

On Track if Yes

On Track if Yes

On Track if Yes

	2010	
Compile Standard Water Audit using AWWA Software?	Yes	On Track
AWWA file provided to CUWCC?	Copy of WaterAudit D	On Track
AWWA Water Audit Validity Score?	79	
Completed Training in AWWA Audit Method?	yes	
Completed Training in Component Analysis Process?	No	
Complete Component Analysis?	Yes	
Repaired all leaks and breaks to the extent cost effective?	Yes	On Track
Locate and repair unreported leaks to the extent cost effective.	Yes	On Track
Maintain a record-keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.		

On Track if Yes, Not on Track if No

On Track if Yes, Not on Track if No

Info only until 2012

Info only until 2012

Info only until 2012

On Track if Yes, Not on Track if No

On Track if Yes, Not on Track if No

Info only until 2012

Provided 7 types of Water Loss Control Info

Leaks Repaired	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost of Interventions	Water Saved
180	\$ 185,000	\$ 185,000	15	Yes	\$ 6,000	12

Info only until 2012



CUWCC BMP RETAIL COVERAGE REPORT 2009-2010
Foundation Best Management Practices for Urban Water Efficiency

1.3 METERING WITH COMMODITY RATES FOR ALL NEW CONNECTIONS AND RETROFIT OF EXISTING CONNECTIONS

Exemption or 'At least as Effective As' accepted by CUWCC

Numbered Unmetered Accounts

Metered Accounts billed by volume of use

Number of CII accounts with Mixed Use meters

Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?

Feasibility Study provided to CUWCC?

Completed a written plan, policy or program to test, repair and replace meters

2009	2010
Yes	Yes
Yes	Yes
0	0
No	No
No	No
Yes	Yes

On Track until 2012

On Track

On Track

On Track until 2012

On Track

On Track

If signed MOU prior to 31 Dec 1997, On Track if all connections metered; If signed after 31 Dec 1997, complete meter installations by 1 July 2012 or within 6 yrs of signing and 20% biannual reduction of unmetered connections.

On Track if no unmetered accounts

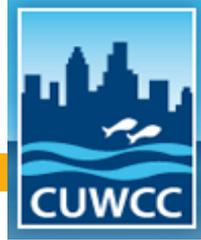
Volumetric billing required for all connections on same schedule as metering

Info only

Info only due 2011

Info only due 2011

On Track if Yes, Not on Track if No



CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Agency: **CITY OF DELANO**
 Retail
 Primary Contact: **JOE ROJAS**

District Name: **CITY OF DELANO**
 Email: **jrojas@cityofdelano.org**

CUWCC Unit #: **6998**
 Coverage Report Date: **June 26, 2011**

1.4 Retail Conservation Pricing

Metered Water Rate Structure

Date 2009 data received: **May 20, 2011**
 Date 2010 data received: **May 20, 2011**

On Track if: Increasing Block, Uniform, Allocation, Standby Service; Not on Track if otherwise

Customer Class	2009 Rate Type	Conserving Rate?	Customer Class	2010 Rate Type	Conserving Rate?
Single-Family	Uniform	Yes	Single-Family	Uniform	Yes
Single-Family	Other	0	Single-Family	Other	0
Multi-Family	Uniform	Yes	Multi-Family	Uniform	Yes
Commercial	Uniform	Yes	Commercial	Uniform	Yes
Industrial	Uniform	Yes	Industrial	Uniform	Yes
On Track			On Track		

Year Volumetric Rates began for Agencies with some Unmetered Accounts

Info only

Agencies with Partially Metered Service Areas: If signed MOU prior to 31 Dec. 1997, implementation starts no later than 1 July 2010. If signed MOU after 31 Dec. 1997, implementation starts no later than 1 July 2013, or within seven years of signing the MOU,



CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Adequacy of Volumetric Rates) for Agencies with No Unmetered Accounts

Customer Class	2009 Rate Type	2009 Volumetric Revenues \$1000s	2010 Rate Type	2010 Volumetric Revenues \$1000s
Single-Family	Uniform	\$ 1,554	Single-Family	\$ 1,605
Single-Family	Other	\$ -	Single-Family	\$ -
Multi-Family	Uniform	\$ 177	Multi-Family	\$ 163
Commercial	Uniform	\$ 131	Commercial	\$ 225
Industrial	Uniform	\$ 90	Industrial	\$ 265
Institutional		\$ 490		\$ 548
Dedicated Irrigation		\$ 4		\$ 4
Total Revenue Commodity Charges (V):		\$ 2,446	\$ 2,811	
Total Revenue Fixed Charges (M):		\$ 161	\$ 137	
Calculate: V / (V + M):		94%	95%	
		On Track	On Track	

Agency Choices for rates:

A) Agencies signing MOU prior to 13 June2007, implementation starts 1 July2007: On Track if $(V / (V + M)) \geq 70\% \times .8 = 56\%$ for 2009 and $70\% \times 0.90 = 63\%$ for 2010; Not on track if $(V / (V + M)) < 70\%$;

B) Use Canadian model. Agencies signing MOU after 13June2007, implementation starts July 1 of year following signing.

Canadian Water & Wastewater Rate Design Model Used and Provided to CUWCC **No**
If Canadian Model is used, was 1 year or 3 year period applied?

No

Wastewater Rates

Does Agency Provide Sewer Service? **2009 Yes**

If 'No', then wastewater rate info not required. **2010 Yes**

Customer Class	2009 Rate Type	Conserving Rate?	Customer Class	2010 Rate Type	Conserving Rate?
Single-Family	Other	No	Single-Family	Other	No
Multi-Family	Other	No	Multi-Family	Other	No
Commercial	Other	No	Commercial	Other	No
Industrial	Uniform	Yes	Industrial	Uniform	Yes
	Uniform	Yes		Uniform	Yes
On Track			On Track		

On Track if: 'Increasing Block', 'Uniform', 'based on long term marginal cost' or 'next unit of capacity'



CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

BMP 2. EDUCATION PROGRAMS

BMP 2.1 Public Outreach Actions Implemented and Reported to CUWCC

	2009	2010	
1) Contacts with the public (minimum = 4 times per year)	4	7	
2) Water supplier contacts with media (minimum = 4 times per year, i.e., at least quarterly).	4	4	
3) An actively maintained website that is updated regularly (minimum = 4 times per year, i.e., at least quarterly).	Yes	yes	
4) Description of materials used to meet minimum requirement.	General water conservation information Flyers and/or brochures (total copies), bill stuffer News releases	General water conservation information Flyers and/or brochures (total copies), bill Landscape water conservation media Newspaper contacts	All 6 action types implemented and reported to CUWCC to be 'On Track'
5) Annual budget for public outreach program.	\$ 2,500	\$ 3,000	
6) Description of all other outreach programs	Newsletters to 9000 customers	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	
	On Track	On Track	



CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

2.2 School Education Programs Implemented and Reported to CUWCC

	2009	2010	
Does a wholesale agency implement School Education Programs for this unility's benefit? Name of Wholesale Supplier?	No	No	
1) Curriculum materials developed and/or provided by agency	Youth Education	Project WET	Yes/ No
2) Materials meet state education framework requirements and are grade-level appropriate?	Yes	Yes	All 5 actions types implemented and reported to CUWCC to be 'On Track'
3) Materials Distributed to K-6? Describe K-6 Materials	Yes Let's Learn About Water Cycle	Yes The Story of Drinking Water/Teacher's Guide	
Materials distributed to 7-12 students?	Yes	Yes	Info Only
4) Annual budget for school education program.	\$ 3,500	\$ 4,000	
5) Description of all other water supplier education programs	Consumer Edcation	Consumer Education	



APPENDIX J

Completed 2010 UWMP Checklist

Table I-2 Urban Water Management Plan checklist, organized by subject

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
PLAN PREPARATION				
4	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	10620(d)(2)		Pg 1-1 Table 1-1
6	Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Any city or county receiving the notice may be consulted and provide comments.	10621(b)		Pg 1-1 Appendix A
7	Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq.	10621(c)		Pg 1-2
54	Provide supporting documentation that the urban water management plan has been or will be provided to any city or county within which it provides water, no later than 60 days after the submission of this urban water management plan.	10635(b)		Pg 1-1
55	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642		Pg 1-2 Table 1-1 Appendix A
56	Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area.	10642		Pg 1-2 Appendix B
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642		Pg 1-2 Appendix C
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Pg 1-3 Table 3-14

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
59	Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to the California State Library and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. This also includes amendments or changes.	10644(a)		Pg 1-3
60	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours	10645		Pg 1-3
SYSTEM DESCRIPTION				
8	Describe the water supplier service area.	10631(a)		Pg 2-1
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Pg 2-1
10	Indicate the current population of the service area	10631(a)	Provide the most recent population data possible. Use the method described in "Baseline Daily Per Capita Water Use." See Section M.	Pg 2-2
11	Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional or local service area population projections.	10631(a)	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Pg 2-2 Table 2-2
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Pg 2-2 to Pg 2-4
SYSTEM DEMANDS				
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)		Pg 3-1 to Pg 3-8 Table 3-1 to Table 3-4
2	<i>Wholesalers:</i> Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. <i>Retailers:</i> Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	Retailers and wholesalers have slightly different requirements	Pg 3-13 Table 3-14

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
3	Report progress in meeting urban water use targets using the standardized form.	10608.40		Pg 3-8
25	Quantify past, current, and projected water use, identifying the uses among water use sectors, for the following: (A) single-family residential, (B) multifamily, (C) commercial, (D) industrial, (E) institutional and governmental, (F) landscape, (G) sales to other agencies, (H) saline water intrusion barriers, groundwater recharge, conjunctive use, and (I) agriculture.	10631(e)(1)	Consider 'past' to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Pg 3-8 to Pg 3-12
33	Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types	10631(k)	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	Pg 3-13
34	Include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)		Pg 3-12 Table 3-10
SYSTEM SUPPLIES				
13	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030.	10631(b)	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided.	Pg 4-1 Table 4-1
14	Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column.	10631(b)	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Pg 4-1
15	Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)		Pg 4-2
16	Describe the groundwater basin.	10631(b)(2)		Pg 4-2
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		Pg 4-5

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
18	Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)		Pg 4-5
19	For groundwater basins that are not adjudicated, provide information as to whether DWR has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition. If the basin is adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)		Pg 4-5
20	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	10631(b)(3)		Pg 4-6 Table 4-2
21	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Provide projections for 2015, 2020, 2025, and 2030.	Pg 4-6 Table 4-3
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Pg 4-7
30	Include a detailed description of all water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project.	10631(h)		Pg 4-12 to Pg 4-13 Table 4-7a
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		Pg 4-7
44	Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633		Pg 4-8
45	Describe the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)		Pg 4-8

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
46	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)		Pg 4-9 Table 4-4
47	Describe the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)		Pg 4-9 Appendix E
48	Describe and quantify the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)		Pg 4-10 Table 4-5 Appendix F
49	The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	10633(e)		Pg 4-11 Table 4-6
50	Describe the actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)		Pg 4-11
51	Provide a plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)		Pg 4-11
WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING ^b				
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		Pg 5-1
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.	10631(c)(1)		Pg 5-6
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)		Pg 5-1
35	Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage	10632(a)		Pg 5-6

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)		Pg 5-7
37	Identify actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)		Pg 5-2
38	Identify additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)		Pg 5-3
39	Specify consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)		Pg 5-3
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Pg 5-4
41	Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)		Pg 5-4
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Pg 5-3
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Pg 5-7
52	Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability	10634	For years 2010, 2015, 2020, 2025, and 2030	Pg 5-5

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
53	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)		Pg 5-7 to Pg 5-9 Table 5-13 Table 5-14 Table 5-15
DEMAND MANAGEMENT MEASURES				
26	Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided.	10631(f)(1)	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Pg 6-1 to Pg 6-2
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		Pg 6-1 to Pg 6-2
28	Provide an estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the ability to further reduce demand.	10631(f)(4)		Pg 6-1 to Pg 6-2
29	Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work.	10631(g)	See 10631(g) for additional wording.	Pg 6-3
32	Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	Pg 6-2 Appendix I

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.