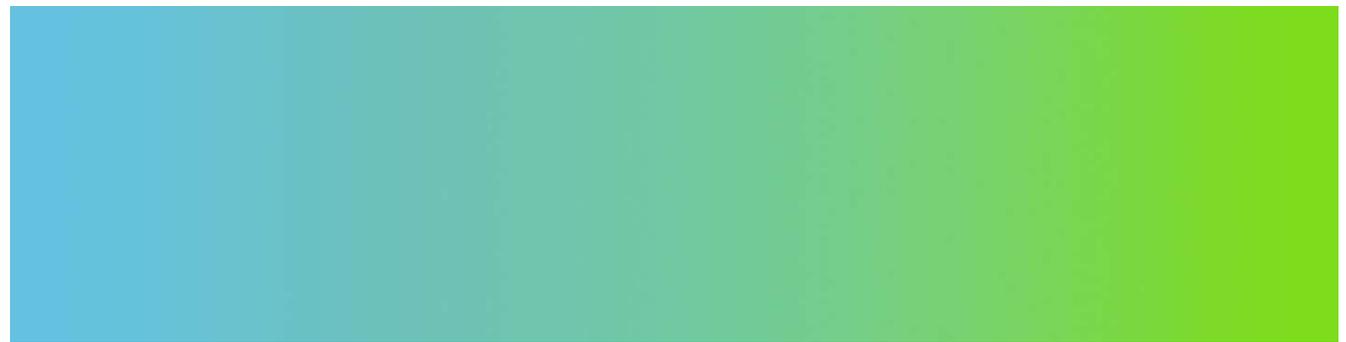


East Niles Community Services District 2010 Urban Water Management Plan



60182838.401

June 2011

East Niles Community Services District

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AECOM

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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
CEQA	California Environmental Quality Act
CII	Commercial, industrial, and institutional
City	City of Bakersfield
COB	City of Bakersfield
County	County of Kern
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
CWS	California Water Service Company
CWSRF	Clean Water State Revolving Fund
Department	California Department of Water Resources
DIRWM	Division of Integrated Regional Water Management
District	East Niles Community Services District
DMM(s)	Demand management measure(s)
DOST	DWR online submittal tool
DWR	California Department of Water Resources
ENCSD	East Niles Community Services District
GHG	Greenhouse gas
GPCD	Gallons per capita per day
IRWM	Integrated Regional Water Management
IRWMP(s)	Integrated Regional Water Management Plan(s)
KCWA	Kern County Water Agency
KDWD	Kern Delta Water District
Method 4	Urban Water Use Target Method 4
MOU	Memorandum of Understanding
NORMWD	North of the River Municipal Water District
OMWC	Oildale Mutual Water Company
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

Section I: Plan Preparation

The California Urban Water Planning Act (Act) requires urban water suppliers that have 3,000 or more service connections or supply 3,000 or more acre-feet (AF) of water per year to develop an Urban Water Management Plan (UWMP or Plan), which is submitted to the California Department of Water Resources (DWR) every five years. The Plan is required to describe and evaluate water deliveries and uses, sources of supply, reasonable and practical efficient water uses, demand management activities and water shortage contingency planning. Since 2005, legislation has been implemented that interrelates with the Act. SBX7-7 (Water Conservation Bill of 2009) requires urban water suppliers to develop baseline daily per capita water use and urban water use targets with the goal of reducing per capita water use by 20 percent by 2020. Also, urban water suppliers must include projected water demands for lower income households in their future water use projections.

In accordance with Water Code §10631.5, implementation of the demand management measures defined in §10631 is required in order for an urban water supplier to be eligible for a water management grant or loan made by the Department, State Board, or California Bay-Delta Authority (or its successor agency).

ENCSD has prepared its 2010 UWMP in accordance with the DWR “Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan” (Guidebook). The format of the Plan follows the suggested organization in Part 1, Section 1 of the Guidebook and incorporates all suggested tables as numbered and shown in the Guidebook to facilitate review of the Plan by DWR. Some of the tables are not applicable to the District’s Plan and are noted as such. In addition, the placement of the tables in this Plan is in accordance with the suggested format in the Guidebook and therefore there are sections in this Plan where the tables are not presented in numeric order.

1.01 Coordination

Law

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)).

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)).

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)).

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).

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).

ENCSD is located on the east side of metropolitan Bakersfield in the County of Kern. The District encompasses portions of both City and unincorporated County land and depends on some of the same water sources as the Agencies listed below in **Table 1**. ENCSD has actively encouraged community participation in its urban water management planning efforts since the first plan was developed in 1990. **Table 1** summarizes the efforts ENCSD has taken to involve appropriate agencies and the general public in the District’s planning process. Copies of notices are included in **Appendix A**.

For the 2010 Plan update, the public hearing was held on June 20, 2011. Accordingly, notice was provided as follows:

- Letter to City and County on April 21, 2011 (60 days prior to hearing),
- Letter to Interested Parties (see **Table 1**) on April 21, 2011,
- Notice in local newspaper on June 3rd and June 9th, 2011 (per Gov. Code 6066 – 2 weeks in advance of hearing),
- Posted Draft 2010 UWMP at District Office on June 6, 2011 (2 weeks prior to hearing), and
- Drafts of the plan were submitted to the entities that requested such drafts (see **Table 1**).

The Plan will be submitted to the City of Bakersfield and the County of Kern no later than 60 days after submission of the Plan to DWR.

Table 1. Coordination with Appropriate Agencies							
Coordinating Agencies	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not involved / No information
Kern County Water Agency				✓	✓	✓	
North of the River Municipal Water District				✓		✓	
Oildale Mutual Water Company				✓		✓	
California Water Service Company				✓		✓	
City of Bakersfield				✓		✓	
County of Kern				✓		✓	
Kern Delta Water District				✓	✓	✓	
Arvin-Edison Water Storage District				✓		✓	
General Public			✓				

1.02 Plan Adoption, Submittal, and Implementation

Law

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)).

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

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

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)).

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).

ENCSD prepared this update of its Urban Water Management Plan during the fall of 2010 and spring of 2011. The updated plan was adopted by the District at the Public Hearing / Regular Meeting of the Board of Directors on June 20, 2011. The intent of the Public Hearing was to gather input from the diverse population that is served by ENCSD as well as other interested entities. At the meeting, both written comments and verbal comments were considered by the Board of Directors. After careful review of all comments, the Plan was adopted as prepared as no modifications were required in response to the comments received at the public hearing. A copy of the resolution adopting the 2010 UWMP update is included in **Appendix B**.

It is the intent of ENCSD to implement the 2010 Plan as detailed in Section 6. Any changes to the proposed implementation of the DMM's are discussed in Section 6.

The Plan will be submitted to the California Department of Water Resources, the California State Library, the City of Bakersfield, and the County of Kern no later than July 18, 2011 which is within 30 days of adoption by the District on June 20, 2011.

Commencing no later than August 15, 2011, the District will have a copy of the 2010 UWMP available for public review at the District Offices (see address below) during normal business hours. The UWMP will also be posted to the District website (www.eastnilescsd.org).

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Section 2: System Description

2.01 Service Area Physical Description

Law

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

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

ENCSD was formed by an election held December 21, 1954, in accordance with Community Services District Law of the State of California. On November 8, 1955, the voters approved a resolution providing for the issuance of \$1,500,000 of revenue bonds. The proceeds of these bonds were used to acquire the properties and rights of the East Bakersfield Water Company and the Pacific Water Company. During the month of April 1956, the District commenced operations for the purpose of furnishing water distribution services to the residents within its boundaries.

In 1960, the voters of the District petitioned to have the powers of the District expanded to include sanitary sewer. Some years later, the voters approved a combination general obligation and revenue bond issue to cover the sewer collection system. The District entered into a joint exercise of powers agreement with the City of Bakersfield for sewage treatment and agreements with both the City of Bakersfield and County of Kern for joint use of sewer trunk lines.

According to a 1959 report, at its creation the District covered 2,440 acres, had approximately 3,100 water connections, and served a population of approximately 10,500 people. Currently, the District covers approximately 5,700 acres, has approximately 7,500 connections, and serves a population of approximately 24,062 people (see **Figure 1**).

ENCSD's Sphere of Influence includes approximately 14,400 acres. Most of the District's Sphere of Influence is also included in the City of Bakersfield's Sphere Influence (see **Figure 1**). In fact, some lands within the District are also within the City limits as mentioned in Section 1.

Bakersfield is situated near the southern "horseshoe" end of the San Joaquin Valley, with the Sierra Nevada Mountains to the east, the Tehachapi Mountains to the south, and the Temblor Range to the west. Elevations in the District range from almost 900 feet to less than 400 feet above sea level. The highest elevations are on the north, with somewhat lower elevations on the east, and the lowest elevations to the south and southwest. In general, the land slopes downhill to the southwest.

The District is located on the eastern side of Bakersfield. The local climate is characterized with hot, dry summers and cooler, more humid winters. The Bakersfield area enjoys clear, sunny days for more than half of the year. Minimum temperatures often drop below 40 degrees Fahrenheit during the winter. Summers are hot with an average of 109 days per year exceeding 90 degrees Fahrenheit. Annual precipitation in the area averages approximately 6 inches and rain (≥ 0.01 inches per day) occurs about 40 days per year. Fog is common in the winter and may last for several weeks at a time.

2.02 Service Area Population

Law

(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)).

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

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

The population with ENCSD's boundary is currently estimated to be 24,062. By the year 2035 the population within ENCSD is expected to reach approximately 30,244. **Table 2** summarizes the projected population within ENCSD's service area over the next 25 years. The data used to generate the projections was provided by the Kern Council of Governments and is based on data from the California Department of Finance. ENCSD's population projections were developed using Methodology 2 for a Category 3 Water Supplier. In developing the estimates, the District took into account changes in their service area due to annexation of properties not previously served by ENCSD.

Table 2. Population – Current and Projected							
	2010	2015	2020	2025	2030	2035	Data source
Service area population	24,062	24,860	25,754	27,035	28,499	30,244	KernCOG (based on DOF)

Water service is primarily domestic serving residential areas with some commercial operations. There remain some agricultural lands within the District. Many such agricultural lands use District water for irrigation.

The District is fully metered and has been since its inception. It is the opinion of the District Board of Directors that water meters encourage water conservation.

Section 3: System Demands

3.01 Baselines and Targets

Law

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)).

As part of the 20x2020 Water Conservation Plan, a directive was issued to reduce statewide per capita urban water use by 20 percent by the year 2020. The Water Conservation Bill of 2009 (SBX7-7) is one of the policy bills that provides the regulatory framework to support the statewide reduction. With the incorporation of the Water Conservation Bill into the California Water Code it has become necessary for urban retail suppliers to develop baseline water use and water use targets and track their progress toward achieving those targets.

DWR developed the Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use in late 2010 to provide the methodologies to consistently develop baseline and compliance numbers. The Methodologies guidebook provides four methods by which a supplier can calculate their baseline and targets. ENCSD used Method 1 (Eighty percent of the supplier's baseline per capita use) in developing values for the baseline and target per capita numbers.

ENCSD followed the DWR Methodologies Figure D-2 development process in preparing the baseline and target numbers.

Process 1: Determine the Base Daily Per Capita Water Use

- ENCSD identified their distribution system area for each year in the base period range of 1995 to 2004 (see **Table 13**). See **Figure 2** for a representation of the ENCSD service area boundary and how it has changed throughout the baseline period.
- ENCSD determined the population within their distribution area for each year in the baseline period. As described in Section 2.02, the calculations were based on information provided by the Kern Council of Governments which is based on California Department of Finance numbers. Each traffic analysis zone (TAZ) that overlaps ENCSD was identified and the percentage of TAZ within ENCSD was calculated.
- Gross water use was summarized for each baseline year based on the Public Water System Statistics forms provided to DWR by ENCSD annually (see **Table 14**). The records include a breakdown of supply by source (i.e., wells, surface, and purchased). **Figure 2** shows the key points of measurement for the gross water use numbers.
- Annual daily per capita water use numbers were developed for each year in the baseline period. The average of the annual daily uses was developed and determined to be the **Base Daily Per Capita Water Use (404 gpcd)**.

Process 2: Determine the Urban Water Use Target

- The Urban Water Use Target is the annual average daily per capita water use value that the District is required to be in compliance with by 2020 to be eligible for funding administered by the State. ENCSD followed Method 1.

- Method 1 required simply multiplying the Base Daily Per Capita Water Use (404 gpcd) by 80% to determine the 2020 **Urban Water Use Target (323 gpcd)**.

Process 3: Confirm the Urban Water Use Target

- ENCSD selected a 5-year baseline period ending between 2007 and 2010. The period selected was 2003 to 2007 (see **Table 13**).
- ENCSD applied the already determined service area, population, and gross water use numbers to this 5-year period and determined an average 5-Year Base Daily Per Capita Water Use (409 gpcd) and 95% of the 5-Year Base Daily Per Capita Water Use (388 gpcd) (see **Table 15**).
- The Urban Water Use Target (323 gpcd) was determined to be lower than the 95% 5-Year Base Daily Per Capita Water Use (388 gpcd) and therefore the Urban Water Use Target remained (323 gpcd).

Process 4: Determine the Interim Urban Water Use Target

- The final step was to determine the Interim Urban Water Use Target. The Interim Urban Water Use Target is the average daily per capita water use value that the District is required to be in compliance with by 2015 to be eligible for funding administered by the State.
- The Interim Urban Water Use Target was determined by adding the Base Daily Per Capita Water Use value (404 gpcd) and the Urban Water Use Target (323 gpcd) and dividing by two. The calculated 2015 **Interim Urban Water Use Target is 363 gpcd**.

Base	Parameter	Value	Units
10- to 15-year base period	2008 total water deliveries	10,263	AFY
	2008 total volume of delivered recycled water	0	AFY
	2008 recycled water as a percent of total deliveries	0	percent
	Number of years in base period	10	years
	Year beginning base period range	1995	
	Year ending base period range	2004	
5-year base period	Number of years in base period	5	years
	Year beginning base period range	2003	
	Year ending base period range	2007	

Table 14. Base Daily Per-Capita Water Use — 10- to 15-Year Range				
Base period year		Distribution System Population	Daily system gross water use (mgd)	Annual daily per capita water use (gpcd)
Sequence Year	Calendar Year			
Year 1	1995	22,549	9.0	399
Year 2	1996	22,608	9.3	412
Year 3	1997	22,667	10.9	480
Year 4	1998	22,860	10.0	435
Year 5	1999	23,022	9.8	425
Year 6	2000	23,080	8.5	367
Year 7	2001	23,038	8.0	348
Year 8	2002	22,995	8.3	363
Year 9	2003	22,999	9.3	403
Year 10	2004	23,020	9.3	403
Year 11				
Year 12				
Year 13				
Year 14				
Year 15				
Base Daily Per Capita Water Use				404

Table 15. Base Daily Per-Capita Water Use — 5-Year Range				
Base period year		Distribution System Population	Daily system gross water use (mgd)	Annual daily per capita water use (gpcd)
Sequence Year	Calendar Year			
Year 1	2003	22,999	9.3	403
Year 2	2004	23,020	9.3	403
Year 3	2005	22,963	8.8	385
Year 4	2006	22,906	9.3	405
Year 5	2007	23,006	10.3	448
Base Daily Per Capita Water Use				409

A summary of the District’s baselines and targets determined in this section are presented below. A discussion of the District’s plan to reduce water use with the goal of achieving compliance with its 2020 Urban Water Use Target is presented in Section 3.04. As noted in the Guidebook, a water supplier may select a different Target Method in its 2015 Plan. Therefore the method selected and the determination of targets will be reevaluated during the preparation of the District’s 2015 Plan.

Summary of Baselines and Targets	
Base Daily Per-Capita Water Use	404 gpcd
Interim Urban Water Use Target (2015)	363 gpcd
Urban Water Use Target (2020)	323 gpcd

3.02 Water Demands

Law

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)).

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)).

Tables 3 and 4 summarize the available District records for water deliveries by account type. ENCSD records contain a breakdown of deliveries by category as follows: 1) single-family residential, 2) multi-family residential, 3) Commercial/Institutional, 4) Industrial, 5) Landscape Irrigation, and 6) Other. **Tables 5 through 7** contain projections of use by user category for the years 2015 through 2030. The number of users in each category was projected based on the KernCOG projected growth rates per 5-year period. KernCOG projected growth rates range between 0.6% and 1.1% through the year 2030.

The residential sector is anticipated to grow at the KernCOG projected rates.

ENCSD has a complex mix of commercial customers, ranging from markets, restaurants, insurance offices, beauty shops, and gas stations to multi-story office buildings, outlet and regional shopping centers, and high-volume restaurants and other facilities serving the visitor population. This sector is anticipated to grow at the KernCOG projected rates.

ENCSD has a small industrial sector, primarily centered on food processing (winery, carrot processing) and light manufacturing. The industrial sector increased between 2005 and 2010 and the growth is anticipated to continue at the KernCOG projected rates.

Landscape use is anticipated to grow at the KernCOG projected rates. While not anticipated, it is possible that increased efficiency and landscape conversions at existing parks, golf courses, and cemeteries could help offset new demand resulting from projected increases in this sector.

Agricultural water demand is projected to remain constant through 2030. Agricultural land use within ENCSD is limited. Crops grown within ENCSD include oranges and grapes. There have been no recent indications that the agricultural lands will convert to other uses.

Water use sectors	2005				
	Metered		Not metered		Total
	# of accounts	Volume	# of accounts	Volume	Volume
Single family	6,610	230,659,100	0	0	230,659,100
Multi-family	241	34,878,300	0	0	34,878,300
Commercial	212	46,146,400	0	0	46,146,400
Industrial	41	13,417,000	0	0	13,417,000
Institutional/governmental	0	0	0	0	0
Landscape	36	33,009,600	0	0	33,009,600
Agriculture	3	1,310,200	0	0	1,310,200
Other	19	5,453,500	0	0	5,453,500
Total	7,162	364,874,100	0	0	364,874,100

Water use sectors	2010				
	Metered		Not metered		Total
	# of accounts	Volume	# of accounts	Volume	Volume
Single family	6,901	207,641,400	0	0	207,641,400
Multi-family	261	42,883,300	0	0	42,883,300
Commercial	225	40,112,400	0	0	40,112,400
Industrial	10	18,323,200	0	0	18,323,200
Institutional/governmental	0	0	0	0	0
Landscape	45	26,401,400	0	0	26,401,400
Agriculture	2	858,700	0	0	858,700
Other	0	0	0	0	0
Total	7,444	336,220,400	0	0	336,220,400

Water use sectors	2015				
	Metered		Not metered		Total
	# of accounts	Volume	# of accounts	Volume	Volume
Single family	7,129	214,504,950	0	0	214,504,950
Multi-family	270	44,300,800	0	0	44,300,800
Commercial	232	41,438,309	0	0	41,438,309
Industrial	10	18,929,870	0	0	18,929,870
Institutional/governmental	0	0	0	0	0
Landscape	46	27,274,094	0	0	27,274,094
Agriculture	2	858,700	0	0	858,700
Other	0	0	0	0	0
Total	7,690	347,305,724	0	0	347,305,724

Water use sectors	2020				
	Metered		Not metered		Total
	# of accounts	Volume	# of accounts	Volume	Volume
Single family	7,385	222,191,240	0	0	222,191,240
Multi-family	279	45,888,217	0	0	45,888,217
Commercial	241	42,923,155	0	0	42,923,155
Industrial	11	19,607,143	0	0	19,607,143
Institutional/governmental	0	0	0	0	0
Landscape	48	28,251,398	0	0	28,251,398
Agriculture	2	858,700	0	0	858,700
Other	0	0	0	0	0
Total	7,965	359,719,852	0	0	359,719,852

Water use sectors	2025		2030		2035-optional	
	Metered		metered		metered	
	# of accounts	Volume	# of accounts	Volume	# of accounts	Volume
Single family	7,750	233,188,398	8,167	245,748,143		
Multi-family	293	48,159,413	309	50,753,324		
Commercial	253	45,047,598	266	47,473,904		
Industrial	11	20,577,581	12	21,685,908		
Institutional/governmental	0	0	0	0		
Landscape	51	29,649,676	53	31,246,635		
Agriculture	2	858,700	2	858,700		
Other	0	0	0	0		
Total	8,360	377,481,365	8,810	397,766,614		

The projections for the residential category of user have been developed to account for the use by single-family and multi-family low-income residential housing needs. ENCSD consulted the KernCOG Regional Housing Needs Assessment to determine the percentage of low-income housing within the ENCSD service area. Based on the projected needs contained therein, it was determined that 41% of the housing need would be low income. The ratio of single-family to multi-family housing in ENCSD was maintained. **Table 8** contains projections of demand for single-family and multi-family low-income housing through 2030.

Low Income Water Demands	2015	2020	2025	2030	2035
Single-family residential	84,195,835	87,212,798	91,529,317	96,459,172	
Multi-family residential	21,914,523	22,699,780	23,823,285	25,106,429	
Total	106,110,358	109,912,578	115,352,602	121,565,601	

At the present time, ENCSD does not nor does it have plans to sell water to any outside agencies. Furthermore, ENCSD does not plan to engage in any direct groundwater recharge or water recycling. However, the volume of water produced from groundwater and surface sources is greater than the delivered volume due to unaccounted for water (i.e., system losses). **Tables 9 and 10** show the planned uses through 2030 and the system losses respectively. **Table 11** shows the total projected use within ENCSD based on

Tables 3 through 10. The total water use numbers include the delivered volume (as measured at the customer meter) and estimated system losses (differential between water produced and water delivered).

Water distributed	2005	2010	2015	2020	2025	2030	2035
None	0	0	0	0	0	0	0
Total	0						

¹ ENCSD does not sell water to any outside entity.

Water Use²	2005	2010	2015	2020	2025	2030	2035
Saline barriers							
Groundwater recharge							
Conjunctive use							
Raw water							
Recycled water							
System losses	66,539,348	54,164,320	55,954,712	57,959,720	60,828,385	64,104,658	
Other (define)							
Total							

¹ ENCSD does not use water for other purposes but does have system losses. Unaccounted for water assumed to be 13.9% of water pumped into the system (See Section 6.03).
²Water accounted for in Tables 3 through 7 is not included in this table.

Water Use	2005	2010	2015	2020	2025	2030	2035
Total water deliveries (Tables 3 to 7)	364,874,100	336,220,400	347,305,724	359,719,852	377,481,365	397,766,614	
Sales to other water agencies (Table 9)	0	0	0	0	0	0	
Additional water uses and losses (Table 10)	66,539,348	54,164,320	55,954,712	57,959,720	60,828,385	64,104,658	
Total	431,413,448	390,384,720	403,260,436	417,679,573	438,309,750	461,871,272	

3.03 Water Demand Projections

Law

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)).

ENCSD relies upon in part upon a wholesale water supply from the Kern County Water Agency Improvement District No. 4. The contract between KCWA and ENCSD provides for an annual supply as detailed in **Table 12** below.

Table 12. Retail Agency Demand Projections Provided To Wholesale Suppliers (AFY)							
Wholesaler	Contracted Volume	2010	2015	2020	2025	2030	2035
Kern County Water Agency	Yes	9,300	11,000	11,000	11,000	11,000	

3.04 Water Use Reduction Plan

Law

Urban wholesale water suppliers shall include in the urban water management plans . . . an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part (10608.36). 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).

ENCSD has been evaluating options for reducing the water demands within the District to comply with both the Interim Urban Water Use Target (363 gpcd) and the Urban Water Use Target (323 gpcd) by 2015 and 2020 respectively. As ENCSD has been fully metered from the formation of the District, the option of encouraging conservation through conversion from flat rate to metered rates is not available. Therefore, ENCSD is focusing their evaluation and planning on other available options such as:

- **System Loss Reduction** – ENCSD plans to investigate options for identifying areas of loss. Losses may be due to physical losses (leaks, theft, etc.) or apparent losses due to inaccurate metering at points of production and delivery. ENCSD is evaluating the process of performing a water loss audit in accordance with AWWA M36. The audit should serve to identify areas where losses can be reduced. Any additional water losses that can be eliminated will bring the District closer to reaching the Interim Urban Water Use Target.
- **Rate Structure Adjustments** – ENCSD will evaluate the impact and effectiveness of adjusting their rate structure to encourage conservation. At present, the District’s rates are based on a Readiness-to-Serve Charge and a Quantity Charge. The option of changing to a tiered rate structure will be evaluated in terms of cost and effectiveness.

ENCSD considered the economic impacts of implementing the Water Conservation Bill of 2009 requirements on June 20, 2011.

Section 4: System Supplies

4.01 Water Sources

Law

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)).

ENCSD is fortunate to have a variety of existing water sources, including groundwater and imported treated surface water. The District has identified and will continue to consider potential additional supplies that could be made available through importing, and short- and long-term water transfers, including but not limited to the following, City of Bakersfield, Kern Delta Water District, Groundwater, Recycled Water, etc.

A. Surface Water (KCWA)

With the development of the treatment facilities in connection with the Kern County Water Agency Improvement District No. 4 (ID4), ENCSD was able to execute a contract for 5,000 acre feet of treated surface water annually. Treated water from KCWA's Henry C Garnett Water Purification Plant is also delivered to NORMWD and CWS.

The Henry C Garnett Water Purification Plant (HCGWPP) currently treats 25,000 acre-feet (AF) annually and is rated at 45 million gallons per day (MGD). The HCGWPP recently completed a treatment facilities expansion that increased the peaking capacity of the plant and associated distribution facilities. As part of the planning process for the expansion project, ENCSD and the KCWA signed a new water supply contract that will provide ENCSD with an additional 6,000 AF of water per year on top of the existing 5,000 AF. The agreement was signed in 2005 and provides for a ramping up of supply over several years. The combined total surface water supply from ID4 will be 11,000 AF. Per the September 2005 *Agreement Between Kern County Water Agency and East Niles Community Services District for a Water Supply*, the water supply is to be for the benefit of the lands and inhabitants served by ENCSD within the confines of KCWA's ID4. If and when the District acquires a water supply that could be treated at the HCGWPP, then water (with agreement by the Agency) could be moved to serve other areas within the District which may be outside of KCWA's ID4.

B. Surface Water (Kern Delta Water District)

ENCSD and Kern Delta Water District (KDWD) are currently working to negotiate the purchase by ENCSD of an annual surface water supply of between 2,000 and 6,000 AF. The water from KDWD would be Kern River water delivered either to KCWA's treatment plant, CWS treatment plant, or a future ENCSD treatment plant for treatment and delivery into the ENCSD distribution system. ENCSD has completed a conceptual level feasibility study to evaluate constructing a new District treatment plant as well as the raw water lines and treated water lines necessary to integrate a new plant into the existing system. As negotiations are ongoing this supply has not been included as one of the District's supplies.

C. Recycled Water

ENCSD provides sewer collection. Collected sewage is sent to the City of Bakersfield's Wastewater Treatment Plant No. 2 where it is treated to a secondary level and then used as an irrigation supply for

restricted farming uses. It is expected that this practice will continue in the future and aid the groundwater basin through in lieu recharge.

The District has completed a study evaluating how to best provide sewer service to areas that are within the District's Sphere of Influence but not currently in the District. The study includes both an evaluation of the feasibility of the District constructing their own wastewater treatment plant and a schematic level layout of recycled water distribution facilities. All identified recycled water lines would be installed by developers along with their water and sewer lines in anticipation of recycled water being available within the near future. As use of recycled water is still under evaluation it has not been included as one of the District's supplies.

D. Groundwater

ENCSD's groundwater supply is discussed in detail in Section 4.02 below.

Table 16 shows the actual supply for 2010 and the projected water supply capacities by source for the years 2015 to 2030. **Table 17** summarizes the projected source capacity of the Kern County Water Agency surface supply.

Table 16. Water Supplies — Current And Projected (AFY)							
Water Supply Sources		2010	2015	2020	2025	2030	2035
Water purchased from:	Wholesaler supplied volume						
Kern County Water Agency	Yes	5,171	11,000	11,000	11,000	11,000	
Wholesaler 2							
Wholesaler 3							
Supplier-produced groundwater		3,791	9,300	9,300	9,300	9,300	
Supplier-produced surface water							
Transfers in							
Exchanges In							
Recycled Water							
Desalinated Water							
Total		8,962	20,300	20,300	20,300	20,300	

Table 17. Wholesale Supplies — Existing and Planned Sources of Water (AFY)						
Wholesale Sources	Contracted Volume	2015	2020	2025	2030	2035
Kern County Water Agency	Yes	9,300	11,000	11,000	11,000	

4.02 Groundwater

Law

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

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

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)).

(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)).

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)).

(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)).

(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)). At the time the District was formed, groundwater was the only source of water available to the service area. Over the years, surface water sources became available to the District and currently surface water sources provide approximately half of the supply available to the District. The District operates their system such that surface water is the predominant source for the District and is augmented with the groundwater supply. It is expected that this trend toward surface water will continue in the future, but that groundwater will continue to be used within the District's service area.

ENCSD presently has seven active groundwater wells spaced throughout the lower elevation, southern portion, of the District. The pumping capacities for the seven wells are as follows (the annual capacities listed assume wells operate 75% of day):

- Well 13 – 550 gpm (665 AFY)
- Well 14 – 850 gpm (1,028 AFY)
- Well 18 – 850 gpm (1,028 AFY)
- Well 19 – 2,000 gpm (2,420 AFY)
- Well 20 – 1,600 gpm (1,936 AFY)
- Well 21 – 1,400 gpm (1,694 AFY)
- Well 22 – 450 gpm (544 AFY)

All of the wells, except Well 21 – which can do both, are configured such that they do not pump directly into the distribution system but rather all pump to a common distribution location, which is called the Kern Citrus Tank Facility. The District relies on the booster pump station at the Kern Citrus Tank Facility to pump the well water into the higher elevation storage reservoirs in the northern portion of the District. Although the combined capacity of all wells is slightly more than 9,300 AF per year (assuming wells run 18 hours per day), the amount of water that is available to the District, except that area served by Well 21, is limited by the capacity of the booster pump facility, which is currently approximately 5,300 gpm (8,550 AF/YR). In order to realize the full benefit of the District's existing and planned wells the booster pump facility will need to be upgraded to exceed the well capacity (currently 7,700 gpm). It should be noted that the District has

constructed the new Kern Citrus Pump Station to be expandable to a capacity of 7,840 gpm if a fourth pump is installed and the main transmission line to the ENCSD Pump Station is replaced.

ENCSD pumps groundwater from the Kern County Subbasin (No. 5-22.14) of the San Joaquin Valley Basin. The basin is currently non-adjudicated. DWR Bulletin 118 indicates that the groundwater level in the basin has remained essentially unchanged over the last 30 years. ENCSD keeps records of District pumping within the ENCSD boundary. As shown in **Table 18**, the District's present well capacity (9,300 AFY) far exceeds their existing well demand.

Table 18. Groundwater – Volume Pumped (AFY)						
Basin Name(s)	Metered or Unmetered	2006	2007	2008	2009	2010
Kern County Subbasin No. 5-22.14	Metered	4,822	5,649	4,955	3,862	3,791
Total groundwater pumped		4,822	5,649	4,955	3,862	3,791
Groundwater as a percent of total water supply		46.4	48.9	48.3	42.0	42.3

In order to project pumped water volumes for the years 2015 to 2030 it was necessary to assume a volume of surface supply that would be used within ID4 boundaries. It has been assumed that with limited infill areas remaining within the District boundary that the areas within ID4 will increase from 5,500 AFY to 6,000 AFY over the next 20 years. Therefore, **Table 19** shows the required pumping to supplement the surface supply.

Table 19. Groundwater – Volume Projected to be Pumped (AFY)					
Basin Name(s)	2015	2020	2025	2030	2035
Kern County Subbasin No. 5-22.14	3,780	3,970	4,315	4,730	
Total groundwater pumped	3,780	3,970	4,315	4,730	
Groundwater as a percent of total water supply	40.7	41.2	42.5	44.1	

4.03 Transfer Opportunities

Law

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

ENCSD is not currently directly engaged in any water transfers or exchanges. However, the District does benefit from KCWA's involvement in multiple transfer and exchange opportunities that contribute to the reliability of the District's KCWA surface water supply.

Table 20. Transfer and Exchange Opportunities (AFY)			
Transfer Agency	Transfer or Exchange	Short Term or Long Term	Proposed Volume
None			
Total			

4.04 Desalinated Water Opportunities

Law

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)).

ENCSD is not located near the ocean or any significant brackish groundwater supplies. However, ENCSD has in the past preliminarily evaluated the feasibility of treating impaired groundwater supplies on the west side of the San Joaquin Valley for potential treatment and delivery to a water storage district on the west side of the valley. If said delivery occurred, an equivalent amount of SWP water from the west side district could then be delivered to ENCSD. At present the implementation of such a program is thought to be financially out of consideration for the District's customers.

4.05 Recycled Water Opportunities

Law

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).

(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)).

(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)).

(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)).

(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)).

(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)).

(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)).

(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)).

East Niles Community Services District manages wastewater collection for its customers. Treatment is provided by the City of Bakersfield at Wastewater Treatment Plant No. 2. ENCSD understands that wastewater recycling is an important tool to use in reducing demands upon the groundwater basin as well as surface water supplies. For that reason, the District prepared a feasibility study regarding the construction of a wastewater treatment plant either solely by the District or in conjunction with a local wastewater agency to treat effluent to tertiary levels. The District would require developers to pay the costs of constructing both the plant (or expanding an existing plant) and the reclaimed water line infrastructure that would be used in the future to irrigate large landscaped areas and reduce the demand on the District's potable water supply.

Exact wastewater production records for ENCSD are not possible to calculate due to the fact that the City of Bakersfield, Kern Sanitation Authority, and the District all share common trunk lines. However, the District estimates that approximately 2.91 million gallons per day (MGD) of wastewater is generated within the District. **Table 21** contains estimated collection volumes for 2005 through 2030 assuming growth rates consistent with those calculated in Section 2.02.

Type of Wastewater	2005	2010	2015	2020	2025	2030	2035
Wastewater collected and treated in service area	3,047	3,260	3,376	3,506	3,692	3,905	
Volume that meets recycled water standard							

As previously mentioned the City of Bakersfield currently treats the wastewater at Plant No. 2 to a secondary level and the water is used to irrigate crops for restricted farming uses outside the District boundary. At present, no recycled water is used within the District. **Table 22** summarizes the estimated disposal non-recycled disposal volumes through 2030.

Method of disposal	Treatment Level	2010	2015	2020	2025	2030	2035
Restricted Farming	secondary	3,260	3,376	3,506	3,692	3,905	
Groundwater recharge ¹	secondary	NA	NA	NA	NA	NA	
Total							

¹ Incidental recharge occurs in the WWTP ponds but the quantity is unknown.

Wide-scale systematic direct use of recycled water in ENCSD is technically feasible (as noted in the aforementioned study) yet economically unsupportable. The current WWTP is located near the south limit of the District and no recycled water distribution infrastructure exists between the WWTP and the District. To develop distribution piping from the WWTP to areas throughout ENCSD is presently cost prohibitive. Additionally, there are few large-scale users that would benefit in proportion to the cost of installing separate distribution systems.

While the current method of reuse reduces the demand on the groundwater and provides basin recharge, there are more direct ways to obtain water supply benefit through recycling of wastewater. These options include treatment and exchange of recycled water whereby the District would receive good quality surface water and the recycled water would be used more regionally for a broad range of agricultural uses. The potential for exchange of recycled water for a surface water supply will be investigated as part of the District's effort to acquire an additional surface water supply as previously discussed.

Potential future uses for recycled water and a comparison of past and present uses and their associated volumes are presented in **Tables 23 and 24**.

User type	Description	Feasibility	2015	2020	2025	2030	2035
Agricultural irrigation	Restricted Farming	Currently implemented	3,376	3,506	3,692	3,905	
Landscape irrigation							
Commercial irrigation							
Golf course irrigation							
Wildlife habitat							
Wetlands							
Industrial reuse							
Groundwater recharge ¹			NA	NA	NA	NA	
Seawater barrier							
Geothermal/Energy							
Indirect potable reuse							
Other (user type)							
Other (user type)							
Total			3,376	3,506	3,692	3,905	

¹ Incidental recharge occurs in the WWTP ponds but the quantity is unknown.

Use Type	2010 Actual Use	2005 Projection for 2010
Agricultural irrigation	3,260	3,484
Landscape irrigation		
Commercial irrigation		
Golf course irrigation		
Wildlife habitat		
Wetlands		
Industrial reuse		
Groundwater recharge ¹	NA	NA
Seawater barrier		
Geothermal/energy		
Indirect potable reuse		
Other (user type)		
Other (user type)		
Total	3,260	3,484

¹ Incidental recharge occurs in the WWTP ponds but the quantity is unknown.

The District is relying upon its continued participation in the City of Bakersfield Regional Wastewater Treatment facility (WWTP No. 2) for disposal of treated effluent. However, the District is also participating in ongoing discussions with the City of Bakersfield regarding expansion of the WWTP. Recycled water facilities will be a topic of discussion with the City in any proposed expansion. Until discussions with the City progress, it is not possible to project which types of incentives may be employed (see **Table 25**).

Actions	Projected Results					
	2010	2015	2020	2025	2030	2035
Financial Incentives	NA	NA	NA	NA	NA	NA
Total						

4.06 Future Water Projects

Law

(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)).

The District currently relies on both surface water and groundwater for its water supply. The District's 2008 Water Master Plan identified the need for multiple new wells to meet projected demands through 2030 as well as distribution pipelines, booster pumping facilities, and storage to meet operational and fire storage requirements. However, with the KCWA Treatment Plant Expansion completed, the amount of surface water available to ENCSD has increased for areas within ID4. Two things that are not accounted for in the Water Master Plan are the reduction in water use that has occurred the last two years and the reductions that are required by the Water Conservation Bill of 2009. In light of the slowing in population growth and development activity that has occurred the build out of facilities identified in the Water Master Plan will likely be stretched over a longer period of time. Therefore, as of the date of adoption of this Plan, the District has not identified or scheduled any water supply projects as shown in **Table 26**. However, the District will continue to pursue options for exchange of water in order to provide more options and further redundancy for the existing supplies.

Table 26. Future Water Supply Projects								
Project Name	Projected Start Date	Projected Completion Date	Potential Project Constraints	Normal-Year Supply	Single-Dry Year Supply	Multiple-Dry Year First Year Supply	Multiple-Dry Year Second Year Supply	Multiple-Dry Year Third Year Supply
Third-party Surface Water	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Total								

Section 5: Water Supply Reliability and Water Shortage Contingency Planning

5.01 Water Supply Reliability

Law

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)).

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)).

ENCSD depends upon two main sources of water, which are surface water from KCWA ID4 and groundwater. KCWA has prepared a reliability analysis for the water that they wholesale to ENCSD. ENCSD has used the numbers prepared by KCWA in determining the frequency and magnitude of surface water supply deficiencies that the District may face.

ENCSD benefits from having multiple water sources from which to draw from during shortages. The District works to build capacity in their system such that they can maximize their existing resources without importing new sources. Although many portions of the California experienced shortages during the most recent drought, the ENCSD was able to meet customer demands without forced rationing or voluntary reduction of usage.

A. Surface Water Reliability

The reliability analysis prepared by KCWA states that “through its participation in groundwater banking projects, the ID4 well program, and the water supply exchanges, ID4 is able to access and deliver 100% of its total annual water supply under all single and multiple dry-year scenarios considered in this plan.” Therefore, for the purposes of this UWMP, ENCSD has determined that their surface water supply is 100% in all single and multiple dry-year scenarios. In the event that an unanticipated surface water supply deficiency does occur the District could rely on groundwater pumping to make up the difference.

Based upon the reliability statement of KCWA, the District has determined that their surface water supply is 100% in all normal, single-dry, and multiple-dry year scenarios. It should be reiterated that the ENCSD surface water supply is increasing to 11,000 AF by 2015 based on the revised contract between ENCSD and KCWA. This will further increase the ability of the District to meet in-district demands during various water year scenarios.

B. Groundwater Reliability

Groundwater within the District is pumped as required to supplement the surface water supply. As the basin is non-adjudicated, the District has been able to pump as needed during single and multiple dry-year periods. Subbasin water levels have shown the ability to recover from drought conditions. It is anticipated that this capability will remain through 2030.

Furthermore, groundwater pumping within the last five years has been significantly less than the combined well capacity (9,300 AFY) and also less than the capacity of the well booster pump facility (8,550 AFY).

Therefore, the District considers that their groundwater supply to be 100% in all single-dry and multiple-dry year scenarios.

At present, there are no projected factors that will result in inconsistency of the District's water supplies (see **Table 29**). If necessary, the District will provide wellhead treatment.

Water supply sources	Specific source name, if any	Limitation quantification	Legal	Environmental	Water quality	Climatic	Additional information
Groundwater	Kern County Subbasin No. 5-22.14	None					
Surface Water	KCWA ID-4	None					

It is not anticipated that a single or multiple dry year period will reduce the availability of water supply to the District, as shown in **Table 31**. The reliability of water service is subject to proper operation and maintenance of the District's water distribution system and its ability to deliver the water. ENCSD's water distribution system historically has provided a very reliable level of service. A looped distribution system with isolation valves limits and minimizes service disruption. The frequency of system outages is very small due to an ambitious maintenance and replacement program. As the system is expanded the Water Master Plan is consulted. As a result, system reliability does not diminish as it is expanded into new service areas. Funds to maintain and expand the system to meet the continued growth in water demand are collected through water rates and development fees.

Water supply sources	Average / Normal Water Year Supply	Multiple Dry Water Year Supply		
		Year 2011	Year 2012	Year 2013
Groundwater	8550	8550	8550	8550
Surface Water	9750	9300	9750	10200
Percent of normal year:	100%			

5.02 Water Shortage Contingency Planning

Law

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)).

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)).

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)).

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

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)).

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

In 1992, in accordance with the requirements of Assembly Bill 11X, ENCSD developed a comprehensive water shortage contingency plan. ENCSD's plan contains procedures for the distribution of potable water in a disaster; these procedures are consistent with guidelines prepared by the California State Office of Emergency Services.

ENCSD recognizes the importance of Demand Management Measures (discussed in Section 6 below) in reducing water demand and would continue to implement DMM programs during a shortage. Also, ENCSD would increase media attention to the water supply situation during a shortage and would step up public water education programs, encourage property owners to apply for a landscape and interior water use survey.

ENCSD has developed a three-stage rationing plan to invoke during declared water shortages. The rationing plan includes voluntary and mandatory rationing, depending on the causes, severity, and anticipated duration of the water supply shortage.

As the water purveyor, ENCSD must provide the minimum health and safety water needs of the community at all times. The water shortage response is designed to provide a minimum of 50% of normal supply during a severe or extended water shortage. The rationing program triggering levels shown below were established to ensure that this goal is met.

Rationing stages may be triggered by a shortage in one water source or a combination of sources. ENCSD potable water sources are groundwater and surface water. Rationing stages may be triggered by a supply shortage or by contamination in one source or a combination of sources. Because shortages overlap Stages, triggers automatically implement the more restrictive Stage. Specific criteria for triggering ENCSD's rationing Stages are shown in **Table 35**.

Stage No.	Water Supply Conditions	% Shortage
I (Voluntary)	Supply is 85% of normal or greater.	Up to 15%
II (Voluntary)	Supply is 70-84% of normal.	16 – 30%
III (Mandatory)	Supply is 50-69% of normal.	31 – 50%

Water allocations could be established for all customers according to the following ranking system:

- Minimum health and safety allocations for interior residential needs (includes single family, multi-family, hospitals and convalescent facilities, retirement and mobile home communities, student housing, fire fighting, and public safety)
- Commercial, industrial, institutional/governmental operations (where water is used for manufacturing and for minimum health and safety allocations for employees and visitors), to maintain jobs and economic base of the community (not for landscape uses)
- Permanent agriculture (orchards, vineyards, and other commercial agriculture which would require at least five years to return to production)
- Annual agriculture (floriculture and others)
- Existing landscaping

- New customers, proposed projects without permits when shortage declared

ENCSD prepared the below sample per capita health and safety estimates of interior residential water use based on commonly accepted values for the United States. In Stage I and II shortages, customers may adjust either interior or outdoor water use (or both), in order to meet the voluntary water reduction goal.

However, under the Stage III mandatory rationing programs, the health and safety allotment of 68 gpcd is applied because that amount of water has been calculated by the District to be sufficient for essential interior water with no habit or plumbing fixture changes. If customers wish to change water use habits or plumbing fixtures, 68 gpcd is sufficient to provide for limited non-essential (i.e. outdoor) uses. Stage III mandatory rationing, which is likely to be declared only as the result of a prolonged water shortage or as a result of a disaster, could result in customers making changes in their interior water use habits (for instance, not flushing toilets unless “necessary” or taking less frequent showers).

Per Capita Health and Safety Water Quantity Calculations						
	Non-Conserving Fixtures		Habit Changes ¹		Conserving Fixtures ²	
Toilets	5 flushes x 5.5 gpf	27.5	3 flushes x 5.5 gpf	16.5	5 flushes x 1.6 gpf	8.0
Shower	5 min x 4.0 gpm	20.0	4 min x 3.0 gpm	12.0	5 min x 2.0	10.0
Washer	12.5 gpcd	12.5	11.5 gpcd	11.5	11.5 gpcd	11.5
Kitchen	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
other	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Total (gpcd)		68.0		48.0		37.5
HCF per capita per year		33.0		23.0		18.0
¹ Reduced shower use results from shorter and reduced flow. Reduced washer use results from fuller loads. ² Fixtures include ULF 1.6 gpf toilets, 2.0 gpm showerheads and efficient clothes washers.						

ENCSD adopted a "No Waste" Resolution (see **Appendix C**) in 1992 that includes prohibitions on various wasteful water uses such as washing sidewalks and driveways with potable water, maintaining or cleaning decorative water features, and allowing plumbing leaks to go uncorrected more than 24 hours after customer notification. **Table 36** contains a list of mandatory prohibitions. Consumption reduction methods are listed in **Table 37**.

Table 36. Water Shortage Contingency – Mandatory Prohibitions	
Examples Of Prohibitions	Stage When Prohibition Becomes Mandatory
Using Potable Water For Street Washing	III
Prohibition of Leaks w/in Customer Plumbing for more than 24 hours	III
Washing cars, boats, aircraft without a shutoff nozzle and bucket	III
Restaurants to serve water by request	III
Use of Potable Water for Decorative Fountains	III

Consumption Reduction Method	Stage When Method Takes Effect	Projected Reduction (%)
Demand Reduction Program	All Stages	15
Flow Restriction	III	0.5
Restrict Only for Priority Uses	III	3
Use Prohibitions	All Stages	1
Voluntary Rationing	I and II	5
Mandatory Rationing	III	10
Education Programs	All Stages	2

Any customer violating the regulations and restrictions on water use set forth in the “No Waste” Resolution shall receive a written warning for the first such violation. Upon a second violation, the customer shall receive a written warning and the district may cause a flow-restrictor to be installed in the service. If a flow-restrictor is placed, the violator shall pay the cost of the installation and removal. If water service is disconnected, it shall be restored only upon payment of the turn-on charge fixed by the Board of Directors.

Penalty For Excessive Use	Stage When Penalty Takes Effect
Charge For Excessive Use (at Board Discretion)	III

All surplus revenues that ENCSD collects are currently used to fund the General Fund, conservation, and other capital improvements. It is not expected that rates would need to be increased as a result of a water shortage.

ENCSD’s rate structure has been set up such that all customers pay a readiness-to-serve charge and a volume of use charge. The rates are set such that fixed water expenses are covered by the ready-to-serve charge and variable charges (i.e., pumping, treatment, etc.) are covered by the volume of use charge. Therefore, reductions in revenue due to conservation should also be accompanied by reductions in variable expenses incurred by the District. Any minor shortfalls if they did occur could be covered by the District’s general fund or reserves.

Under normal water supply conditions, potable water production figures are recorded daily. Totals are reported weekly to the Senior Water Operator. Totals are reported monthly to ENCSD General Manager and incorporated into the water supply report.

During a Stage I or Stage II water shortage, daily production figures are reported to the Senior Water Operator. The Senior Water Operator compares the weekly production to the target weekly production to verify that the reduction goal is being met. Weekly reports are forwarded to the ENCSD General Manager. Monthly reports are provided to the ENCSD Board of Directors. If reduction goals are not met, the General Manager will notify the ENCSD Board of Directors so that corrective action can be taken.

During a Stage III water shortage, the procedure listed above will be followed, with the addition of a daily production report to the General Manager. During emergency shortages, production figures are reported to both the Senior Water Operator and the General Manager hourly. Daily reports will also be provided to the ENCSD Board of Directors. See **Appendix C** for a copy of the Draft Water Shortage Resolution.

5.03 Water Quality

Law

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).

ENCSD relies upon both KCWA surface water and pumped groundwater to meet the demands of the District. Based upon the Water Quality Impacts section of the Urban Water Management Plan prepared by KCWA for 2010, the District has determined that the KCWA surface water supply is not subject to reliability impacts due to water quality issues. This is because KCWA employs a source shifting strategy to mitigate water quality impacts associated with any one of their potential water sources in order to provide a reliable water supply to their purveyors.

ENCSD believes that their groundwater supply is not likely to be impacted by any short-term events either natural or manmade. However, the District does recognize that ongoing surface activities could have the potential to impact the groundwater quality. For that reason, the District regularly samples the water quality in all District wells. At present the District wells meet all required water quality standards. It is anticipated that one constituent that may impact water quality in the future is arsenic. After the reduced Maximum Contaminant Level (MCL) for Arsenic went into effect in January 2006, the District completed an Arsenic Treatment Feasibility Study, Pilot Report, and Preliminary Engineering Report which evaluated the feasibility of treating the District's wells for Arsenic. The Feasibility Study indicated that at present blending of the water from the District's wells at the Kern Citrus Site is sufficient to bring the arsenic concentration below 10 parts per billion except for Well 21. As a result, the District installed arsenic treatment facilities at Well 21.

Water Source	Description of Condition	2010	2015	2020	2025	2030	2035
Groundwater	Good Quality Available	0	0	0	0	0	
Surface water	Good Quality Available	0	0	0	0	0	

5.04 Drought Planning

Law

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)).

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)).

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)).

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

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)).

The reliability of the District’s water supplies and lack of vulnerability to seasonal or climatic shortage is discussed in Section 5.01. As previously stated, it is not anticipated that a single or multiple dry year period will reduce the availability of any of the District’s water supplies. In order to be conservative, the District has calculated the available supply as the sum of the contracted KCWA supply and the well water boosting capacity at the Kern Citrus Pump Station. Furthermore, it should be noted that the drilling of additional groundwater wells has not been included. **Tables 27, 28, 32, 33, and 34** indicate that the available supply is sufficient to meet projected demands through 2030.

Table 27. Basis of Water Year Data	
Water Year Type	Base Year(s)
Average Water Year	NA
Single-Dry Water Year	NA
Multiple-Dry Water Years	NA

Table 28. Supply Reliability — Historic Conditions					
Average / Normal Water Year	Single Dry Water Year	Multiple Dry Water Years			
		Year 1	Year 2	Year 3	Year 4
NA	NA	NA	NA	NA	NA
Percent of Average/Normal Year:	100	100	100	100	100

Table 32. Supply and Demand Comparison — Normal Year (AFY)					
	2015	2020	2025	2030	2035
Supply totals (from Table 16)	20,300	20,300	20,300	20,300	
Demand totals (From Table 11)	9,257	9,589	10,062	10,603	
Difference	11,043	10,711	10,238	9,697	
Difference as % of Supply	54.4%	52.8%	50.4%	47.8%	
Difference as % of Demand	119.3%	111.7%	101.7%	91.4%	

Table 33. Supply and Demand Comparison — Single Dry Year (AFY)					
	2015	2020	2025	2030	2035
Supply totals	20,300	20,300	20,300	20,300	
Demand totals	9,257	9,589	10,062	10,603	
Difference	11,043	10,711	10,238	9,697	
Difference as % of Supply	54.4%	52.8%	50.4%	47.8%	
Difference as % of Demand	119.3%	111.7%	101.7%	91.4%	

Table 34. Supply and Demand Comparison — Multiple Dry-Year Events (AFY)						
		2015	2020	2025	2030	2035
Multiple-dry year first year supply	Supply totals	20,300	20,300	20,300	20,300	
	Demand totals	9,257	9,589	10,062	10,603	
	Difference	11,043	10,711	10,238	9,697	
	Difference as % of Supply	54.4%	52.8%	50.4%	47.8%	
	Difference as % of Demand	119.3%	111.7%	101.7%	91.4%	
Multiple-dry year second year supply	Supply totals	20,300	20,300	20,300	20,300	
	Demand totals	9,257	9,589	10,062	10,603	
	Difference	11,043	10,711	10,238	9,697	
	Difference as % of Supply	54.4%	52.8%	50.4%	47.8%	
	Difference as % of Demand	119.3%	111.7%	101.7%	91.4%	
Multiple-dry year third year supply	Supply totals	20,300	20,300	20,300	20,300	
	Demand totals	9,257	9,589	10,062	10,603	
	Difference	11,043	10,711	10,238	9,697	
	Difference as % of Supply	54.4%	52.8%	50.4%	47.8%	
	Difference as % of Demand	119.3%	111.7%	101.7%	91.4%	

Section 6: Demand Management Measures

Law

(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-lowflush toilet replacement programs (10631(f)(1) and (2)).

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)).

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)).

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)).

ENCSD is committed to implementing water conservation programs that are economic and reasonable. This Section discusses water conservation.

ENCSD is not a signatory to the Memorandum of Understanding regarding Urban Water Conservation in California (MOU) and is therefore not a member of the California Urban Water Conservation Council (CUWCC)).

For the purpose of responding to the Urban Water Management Planning Act, ENCSD will address all fourteen Demand Management Measures (DMM).

6.01 DMM A – Water Survey Programs for Single-Family and Multi-Family Residential Customers

IMPLEMENTATION DESCRIPTION: ENCSD has offered free residential water use surveys to single-family and multi-family customers when requested by the customer. ENCSD has specifically focused on any customer who has experienced elevated water usage. It is ENCSD’s goal to complete surveys for all customers who make such requests. Single-family surveys take about one hour to complete and are conducted by ENCSD staff.

During the landscape portion of the survey ENCSD personnel show the customer the location of the water meter and how to read it, measure the landscaped areas, test the sprinkler system for irrigation efficiency and distribution uniformity, teach the customer how to set the irrigation controller, develop a three-season irrigation schedule (based on soil type, evapotranspiration, and irrigation system), recommend sprinkler system repairs or improvements, and provide brochures on water efficient landscaping, design, and plants.

IMPLEMENTATION SCHEDULE: This DMM was first implemented in 2000 and is expected to continue indefinitely.

CONSERVATION SAVINGS: Records of savings are not kept by the District as it is extremely difficult to determine if the results of the survey are being implemented by the customer.

METHODS TO EVALUATE EFFECTIVENESS: Staff reviews records of the customers that request a survey.

Table 39. Water Survey Programs for Single-Family and Multi-Family Residential Customers					
DMM A - Actual	2006	2007	2008	2009	2010
# of Single Family Surveys*	10-20	10-20	10-20	10-20	10-20
# of Multi-family Surveys*	1	1	1	1	1
Expenditures (dollars)	Unknown	Unknown	Unknown	Unknown	Unknown
Water Savings (AF)	Unknown	Unknown	Unknown	Unknown	Unknown

*Records of actual surveys performed are not available.

6.02 DMM B – Residential Plumbing Retrofit

IMPLEMENTATION DESCRIPTION: Subject to available funding, ENCSD participates in the distribution of toilet tank leak detection tablets.

IMPLEMENTATION SCHEDULE: ENCSD will continue to implement this DMM.

CONSERVATION SAVINGS: Conservation savings have not been calculated by ENCSD as it is extremely difficult for the District to identify if the use of the tablets has resulted in plumbing retrofits.

METHODS TO EVALUATE EFFECTIVENESS: The District will attempt to take down addresses of persons taking the leak detection tablets and has the ability to audit the usage at those residences.

6.03 DMM C -- System Water Audits, Leak Detection, and Repair

IMPLEMENTATION DESCRIPTION: ENCSD has conducted water audits and leak detection and repair for many years. Since ENCSD is located in an earthquake zone, it has permanently incorporated the system water audit, leak detection, and meter calibration (production and customer meters) programs into its utility operations. Some of ENCSD meters are old and as a result may be under-registering. A meter replacement program has been implemented. On average the District replaces approximately 400 meters each year.

IMPLEMENTATION SCHEDULE: ENCSD has permanently incorporated this DMM into its operations and maintenance procedures. ENCSD personnel will continue to survey mains and service lines on an on-going basis. The meter replacement program will also continue at a rate of approximately 400 meters per year.

METHODS TO EVALUATE EFFECTIVENESS: Staff uses production and consumption data records to monitor unaccounted for water losses.

6.04 DMM D -- Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections

IMPLEMENTATION DESCRIPTION: ENCSD is fully metered for all customer sectors, including separate meters for single-family residential, commercial, large landscapes, and all institutional/governmental facilities.

Until the summer of 2003, ENCSD had a block rate structure, with a lifeline allotment of 12 billing units per connection per month for ¾" metered customers (larger baseline allotments were associated with larger meters). A billing unit is one hundred cubic feet (748 gallons), commonly abbreviated HCF or CCF. However, after the District revised their water rate structure there is no longer a baseline allotment. Instead, each customer pays a ready-to-serve charge and then pays for use by volume.

Commercial/industrial/institutional customers are required to have fire sprinkler systems. Separate meters are required on some fire sprinkler systems, with associated monthly service charges.

IMPLEMENTATION SCHEDULE: ENCSD will continue to install and read meters on all new services, and will continue to conduct its meter calibration and replacement program. The District will continue to bill by volume of use.

CONSERVATION SAVINGS: The District believes that having all customers metered is an effective conservation method.

METHODS TO EVALUATE EFFECTIVENESS: Periodic review of customer water use, comparing current water use per capita with historic data.

6.05 DMM E – Large Landscape Conservation Programs and Incentives

IMPLEMENTATION DESCRIPTION: Large landscape water users are subject to higher readiness-to-serve charges based on their meter size. In addition, the District offers water audits to all customers which includes large landscaped areas. One of the key items discussed during the audits is a review the landscaped areas which includes conservation tips (see Section 6.01).

METHODS TO EVALUATE EFFECTIVENESS: The District plans to periodically perform follow-up surveys for surveys previously completed in order to determine if the customers are implementing the recommendations.

6.06 DMM F – High-Efficiency Washing Machine Rebate Program

IMPLEMENTATION DESCRIPTION: Subject to available resources and funding, the District monitors available rebate programs for high-efficiency washing machines and informs their customers of the availability of rebates through public outreach (i.e., mailing, public speaking, etc.).

IMPLEMENTATION SCHEDULE: ENCSD will continue to monitor available rebate programs with both local and national vendors. The District plans to include information throughout the year in the form of "Smart

Tips” on customer billing statements reminding customers to look for high-efficiency products when shopping for appliances such as washing machines. The District will also continue to incorporate available information into the water conservation section of the website.

METHODS TO EVALUATE EFFECTIVENESS: It is very difficult for the District to determine which customers have purchased high-efficiency appliances. However, if made aware of the purchase, the District will attempt to gather the address of the purchaser in order to have the option of monitoring their water usage for reductions.

6.07 DMM G -- Public Information Programs

IMPLEMENTATION SCHEDULE: ENCSD promotes water conservation and other resource efficiencies in coordination with the Kern County Water Agency and the Water Association of Kern County. ENCSD distributes public information through public service announcements (radio and television), bill inserts, brochures, and special events in conjunction with KCWA and WAKC. ENCSD water bills were redesigned in 2000 to show monthly use for the last billing period compared to the last eleven prior months. ENCSD will continue to provide public information services and materials to remind the public about water and other resource issues on an ongoing basis. It should be noted, that the District looks for opportunities to replace existing landscape with drought tolerant plants during routine maintenance and planting at the District headquarters. Information on drought tolerant plants is available at the District office.

METHODS TO EVALUATE EFFECTIVENESS: ENCSD will solicit and track feedback regarding the information provided.

CONSERVATION SAVINGS: ENCSD has no method to quantify the savings of this DMM but believes that this program is in the public’s interest.

DMM G	2006	2007	2008	2009	2010
Public Service Announcement	20	20	20	20	20
Bill Inserts/Newsletters/Brochures/Water Usage Comparison to Previous Year	88,056	88,872	88,008	89,652	89,328
Special Events, Media Events	2	2	2	2	2
Program To Coordinate With Other Governmental Agencies, Industry, and Public Interest Groups and Media	2	2	2	2	2
Expenditures (dollars)	\$750	\$750	\$750	\$750	\$950

6.08 DMM H -- School Education Programs

IMPLEMENTATION DESCRIPTION: ENCSD works with the Kern County Water Agency, the Water Association of Kern County, and school districts to promote water conservation and other resource efficiencies at school facilities and to educate students about these issues.

Various grade levels are provided with educational materials, which include the following: state and county water system maps, posters, workbooks, interactive computer software, and videos. The District through KCWA has hosted tours of water facilities (e.g., the Henry C Garnett Water Purification Plant), sponsored teachers’ Project Water Education for Teachers (WET) training, sponsor science fairs, and sponsor water conservation contests.

IMPLEMENTATION SCHEDULE: ENCSD will continue to implement this DMM indefinitely.

METHODS TO EVALUATE EFFECTIVENESS: ENCSD will survey the institutions and educators to determine the number of programs attended.

CONSERVATION SAVINGS: ENCSD has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

DMM H	# of Classes	2006	2007	2008	2009	2010
Grades School (K-6)	1	1	1	1	1	1
Junior High (7-8)	1	1	1	1	1	1
High School	1	1	1	1	1	1
Expenditures (dollars)		\$0	\$0	\$0	\$0	\$0

6.09 DMM I – Conservation Programs for Commercial, Industrial, and Institutional Accounts

IMPLEMENTATION DESCRIPTION: The District intends to make available to commercial, industrial, and institutional users a survey similar to the survey they currently make available to single-family and multi-family residential customers. ENCSD intends to focus on any customer who has experienced elevated water usage. It is ENCSD's goal to complete surveys for all customers who make such requests. Surveys are estimated to take about one hour to complete and will be conducted by ENCSD staff.

During the landscape portion of the survey ENCSD personnel intend to do the following: 1) show the customer the location of the water meter and how to read it, 2) measure the landscaped areas, 3) test the sprinkler system for irrigation efficiency and distribution uniformity, 4) teach the customer how to set the irrigation controller, 5) develop a three-season irrigation schedule (based on soil type, evapotranspiration, and irrigation system), 6) recommend sprinkler system repairs or improvements, and 7) provide brochures on water efficient landscaping, design, and plants.

It should be noted that the District's largest industrial user has already completed their own conservation program in-house and has drastically reduced their demand for ENCSD water as a result.

IMPLEMENTATION SCHEDULE: This District intends to implement this DMM indefinitely.

CONSERVATION SAVINGS: Records of savings are not kept by the District as it is extremely difficult to determine if the results of the survey are being implemented by the customer.

METHODS TO EVALUATE EFFECTIVENESS: Staff reviews records of the customers that request a survey.

DMM I	2006	2007	2008	2009	2010
# of Onsite Surveys*	5-15	5-15	5-15	5-15	5-15
Will Incentives Be Provided?	No	No	No	No	No
# of Follow Up Visits	0	0	0	0	0
Expenditures (dollars)	0	0	0	0	0
Water Savings (acre-feet)	0	0	0	0	5

*Records of actual surveys performed are not available.

6.10 DMM J – Wholesale Agency Programs

ENCSD is not a wholesale agency and therefore does not implement any DMM's on a wholesale level.

6.11 DMM K – Conservation Pricing

IMPLEMENTATION DESCRIPTION: As previously described, until the summer of 2003, ENCSD had a block rate structure. However, after the District revised their water rate structure, there is no longer a baseline allotment. Instead, each customer pays a readiness-to-serve charge and a volume of use charge.

IMPLEMENTATION SCHEDULE: ENCSD will continue to install and read meters on all new services, and will continue to conduct its meter calibration and replacement program. The District will continue to bill by volume of use.

CONSERVATION SAVINGS: The District believes that having all customers metered is an effective conservation method because if customers must pay for all of the water they use on a volume basis they tend to watch their usage carefully. Furthermore, with volume based billing, the customers have information available to them regarding their monthly use and can more effectively plan to conserve.

METHODS TO EVALUATE EFFECTIVENESS: Periodic review of customer water use, comparing current water use per capita with historic data.

6.12 DMM L – Water Conservation Coordinator

IMPLEMENTATION DESCRIPTION: The General Manager, in conjunction with the Board of Directors and committees of the Board dealing with conservation and education, acts in the role of Water Conservation Coordinator for the District. The General Manager's job description includes scheduling of the District's surface water supplies and determination of appropriate groundwater pumping and therefore the General Manager is best suited to help lead conservation efforts.

IMPLEMENTATION SCHEDULE: The District intends to implement this DMM indefinitely.

METHODS TO EVALUATE EFFECTIVENESS: The Water Conservation Coordinator monitors wasted water within the District and notifies customers of apparent wasteful activities.

6.13 DMM M – Water Waste Prohibition

IMPLEMENTATION DESCRIPTION: ENCSD established a "No-Waste" Resolution in 1992, which is actively enforced. See **Appendix C** for a copy of the "No-Waste" Resolution and information on regulations, restrictions, and enforcement.

IMPLEMENTATION SCHEDULE: ENCSD began enforcing this DMM in 1992 and will continue to do so indefinitely.

METHODS TO EVALUATE EFFECTIVENESS: Since the passage of the Resolution in 1992, no violations have been reported to the Board.

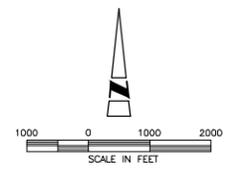
CONSERVATION SAVINGS: ENCSD has no method to quantify the savings associated with this DMM but believes that this program is in the public's interest.

6.14 DMM N – Residential Ultra-low-flush Toilet Replacement Program

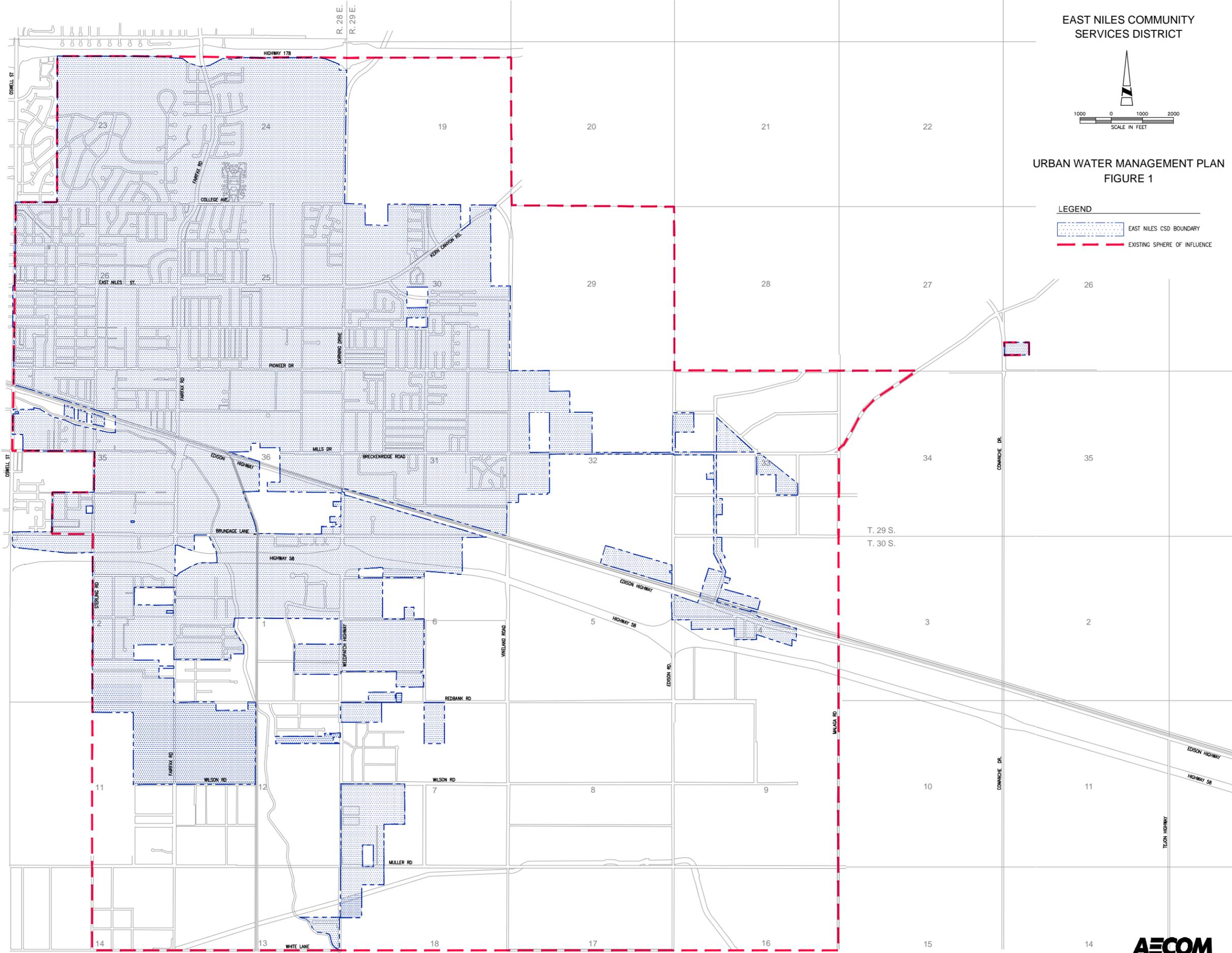
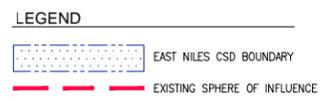
IMPLEMENTATION DESCRIPTION: ENCSD will continue to monitor available rebate programs associated with Ultra-low-flush toilets. The District plans to include information throughout the year in the form of “Smart Tips” on customer billing statements reminding customers to look for high-efficiency products when shopping for appliances such as toilets. The District will also continue to incorporate available information into the water conservation section of the website.

METHODS TO EVALUATE EFFECTIVENESS: ENCSD will attempt to monitor the water usage of customers that have received a rebate as part of any future replacement program to determine if their usage declines. However, the District will have no way to force the customer to install any purchased devices.

EAST NILES COMMUNITY SERVICES DISTRICT



URBAN WATER MANAGEMENT PLAN
FIGURE 1



DWG: East Niles Community Services District Urban Water Management Plan/figure-1.dwg
 DATE: Jul 17, 2011 8:17am
 PROJECT: 0000561 ENCS2 2008 General Services/CA/ENCS2 Urban Water Management Plan/figure-1.dwg
 USER: ghorwood



Appendix A

**NOTICE OF PUBLIC HEARING
EAST NILES COMMUNITY SERVICES DISTRICT**

NOTICE is hereby given that a Public Hearing will be held by the Board of Directors of the East Niles Community Services District on Monday, June 20, 2011, at 5:30 p.m., in the Board Room of the East Niles Community Services District, 1417 Vale Street, Bakersfield, California, 93306 to consider the following:

The East Niles Community Services District is proposing to adopt a 2010 Urban Water Management Plan, which has been prepared in compliance with the Urban Water Management Planning Act. A draft copy of the 2010 Urban Water Management Plan is available for public review at the District Office.

Approved: May 16, 2011
O/S by Timothy P. Ruiz
Secretary/Board of Directors
East Niles Community Services District
June 3, 9, 2011 (12393452)



AECOM 661 325 7253 tel
5001 E. Commercenter Drive 661 395 0359 fax
Suite 100
Bakersfield, CA 93309
www.aecom.com

Ann K. Barnett
County Clerk
1115 Truxtun Avenue
Bakersfield, CA 93301-4639

April 21, 2011
60182838.400

**East Niles Community Services District
Urban Water Management Plan 2010 – Notification of UWMP Review**

Ms. Barnett,

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the East Niles Community Services District is reviewing and considering amendments or changes to the existing Urban Water Management Plan. If you would like to consult with or provide comments to the District during this process, please let us know. Thank you.



Joshua T. Nord, P.E.
District Engineer



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City of Bakersfield
City Hall North
City Clerk's Office
1600 Truxtun Avenue
Bakersfield, CA 93301

April 21, 2011
60182838.400

**East Niles Community Services District
Urban Water Management Plan 2010 – Notification of UWMP Review**

To Whom It May Concern,

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the East Niles Community Services District is reviewing and considering amendments or changes to the existing Urban Water Management Plan. If you would like to consult with or provide comments to the District during this process, please let us know. Thank you.

A handwritten signature in blue ink, appearing to read 'J. Nord'.

Joshua T. Nord, P.E.
District Engineer



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Bakersfield, CA 93309
www.aecom.com

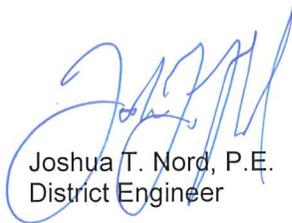
L. Mark Mulkay – General Manager
Kern Delta Water District
501 Taft Highway
Bakersfield, CA 93307-6247

April 21, 2011
60182838.400

**East Niles Community Services District
Urban Water Management Plan 2010 – Notification of UWMP Review**

Mr. Mulkay,

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the East Niles Community Services District is reviewing and considering amendments or changes to the existing Urban Water Management Plan. If you would like to consult with or provide comments to the District during this process, please let us know. Thank you.



Joshua T. Nord, P.E.
District Engineer



AECOM 661 325 7253 tel
5001 E. Commercenter Drive 661 395 0359 fax
Suite 100
Bakersfield, CA 93309
www.aecom.com

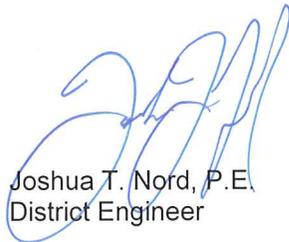
Dave Beard – Improvement District 4 Manager
Kern County Water Agency
PO Box 58
Bakersfield, CA 93302-0058

April 21, 2011
60182838.400

**East Niles Community Services District
Urban Water Management Plan 2010 – Notification of UWMP Review**

Mr. Beard,

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the East Niles Community Services District is reviewing and considering amendments or changes to the existing Urban Water Management Plan. If you would like to consult with or provide comments to the District during this process, please let us know. Thank you.



Joshua T. Nord, P.E.
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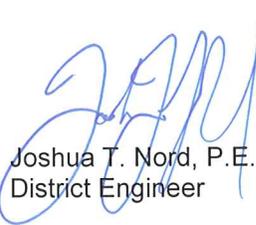
Dave Aranda – General Manager
North of the River Municipal Water District
4000 Rio Del Norte Street
Bakersfield, CA 93308

April 21, 2011
60182838.400

**East Niles Community Services District
Urban Water Management Plan 2010 – Notification of UWMP Review**

Mr. Aranda,

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the East Niles Community Services District is reviewing and considering amendments or changes to the existing Urban Water Management Plan. If you would like to consult with or provide comments to the District during this process, please let us know. Thank you.



Joshua T. Nord, P.E.
District Engineer



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Suite 100
Bakersfield, CA 93309
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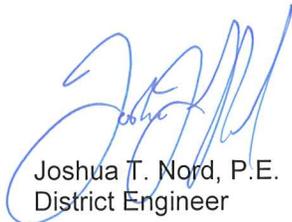
Douglas Nunneley – General Manager
Oildale Mutual Water Company
PO Box 5638
Bakersfield, CA 93388

April 21, 2011
60182838.400

**East Niles Community Services District
Urban Water Management Plan 2010 – Notification of UWMP Review**

Mr. Nunneley,

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the East Niles Community Services District is reviewing and considering amendments or changes to the existing Urban Water Management Plan. If you would like to consult with or provide comments to the District during this process, please let us know. Thank you.



Joshua T. Nord, P.E.
District Engineer



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5001 E. Commercenter Drive 661 395 0359 fax
Suite 100
Bakersfield, CA 93309
www.aecom.com

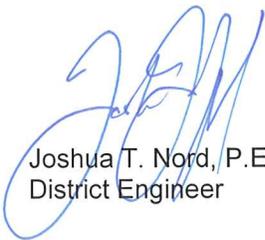
Tim Treloar – District Manager
California Water Service Company
3725 South “H” Street
Bakersfield, CA 93304-6538

April 21, 2011
60182838.400

**East Niles Community Services District
Urban Water Management Plan 2010 – Notification of UWMP Review**

Mr. Treloar,

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the East Niles Community Services District is reviewing and considering amendments or changes to the existing Urban Water Management Plan. If you would like to consult with or provide comments to the District during this process, please let us know. Thank you.



Joshua T. Nord, P.E.
District Engineer



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Bakersfield, CA 93309
www.aecom.com

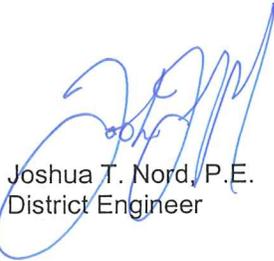
Steven C. Collup – Engineer-Manager
Arvin – Edison Water Storage District
PO Box 175
Arvin, CA 93203-00175

April 21, 2011
60182838.400

**East Niles Community Services District
Urban Water Management Plan 2010 – Notification of UWMP Review**

Mr. Collup,

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the East Niles Community Services District is reviewing and considering amendments or changes to the existing Urban Water Management Plan. If you would like to consult with or provide comments to the District during this process, please let us know. Thank you.



Joshua T. Nord, P.E.
District Engineer

Appendix B

RESOLUTION NO. 2011-06
EAST NILES COMMUNITY SERVICES DISTRICT
RESOLUTION TO ADOPT THE 2010 URBAN WATER MANAGEMENT PLAN

The Board of Directors of East Niles Community Services District does hereby resolve as follows:

WHEREAS the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 acre feet of water annually, prepare an Urban Water Management plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS the East Niles Community Services District is an urban supplier of water providing water to a population over 24,000, and

WHEREAS the Plan shall be periodically reviewed at least once every five years, and the East Niles Community Services District shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS the Plan must be adopted by June 30, 2011, after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS the East Niles Community Services District has therefore, prepared and circulated for public review a draft Urban Water Management Plan, and a properly noticed public hearing regarding said Plan was held by the East Niles Community Services District on June 20th, 2011.

WHEREAS the East Niles Community Services District did prepare and shall file said Plan with California Department of Water Resources by July 18, 2011.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the East Niles Community Services District as follows:

1. The 2011 Urban Water Management Plan is hereby adopted and ordered filed with the East Niles Community Services District Secretary; the General Manager is hereby authorized and directed to file the 2010 Urban Water Management Plan with the California Department of Water Resources within 30 days after this date;

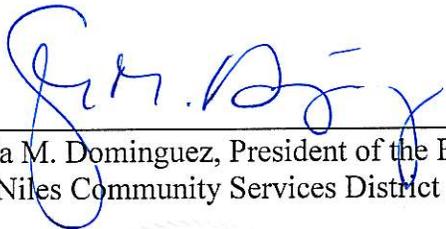
The General Manager is hereby authorized and directed to implement the Water Conservation Programs as set forth in the 2011 Urban Water Management Plan, which includes water shortage contingency analysis and recommendations to the Board of Directors regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation and water recycling programs;

ADOPTED this 20th day of June 2011, by the following vote:

AYES: Directors Dominguez, Mayberry, Pipkin, Ruiz and White

NOES: None

ABSENT: None



Gloria M. Dominguez, President of the Board of Directors
East Niles Community Services District

ATTEST:



Timothy P. Ruiz, Secretary

Appendix C

**EAST NILES COMMUNITY SERVICES DISTRICT - BAKERSFIELD, CALIFORNIA
WATER SHORTAGE CONTINGENCY PLAN**

**APPENDIX I RESOLUTION ADOPTING THE WATER SHORTAGE
CONTINGENCY PLAN.**

Resolution No. 92-1

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE EAST NILES
COMMUNITY SERVICES DISTRICT ADOPTING THE WATER SHORTAGE
CONTINGENCY PLAN**

WHEREAS, the California Legislature enacted Assembly Bill 11X during the 1991 Extraordinary Session of the California Legislature (an act to amend the California Water Code Sections 10620, 10621, 10631, and 10652, and to add Section 10656 to the California Water Code, relating to water); and

WHEREAS, AB11X mandates that every urban water supplier providing municipal water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre feet of water annually to develop a Water Shortage Contingency Plan; and

WHEREAS, AB11X mandates that said Plan be filed with the California Department of Water Resources by January 31, 1992; and

WHEREAS, the East Niles Community Services District is an urban supplier of water to more than 3,000 customers, and has therefore, prepared and circulated for public review a Draft Water Shortage Contingency Plan, in compliance with the requirements of AB11X, and a properly noticed public hearing regarding said draft was held on January 13, 1992, and a Final Water Shortage Contingency Plan prepared:

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the East Niles Community Services District as follows:

1. The Water Shortage Contingency Plan is hereby adopted and ordered filed with the Secretary of the Board of Directors;
2. The District Manager is hereby authorized and directed to file this Plan with the California Department of Water Resources;
3. The District Manager shall recommend to the Board of Directors of the District regarding additional procedures, rules and regulations to carry out effective and equitable allocation of water resources during a water shortage;
4. The District Manager shall also review with the Board of Directors of the District annually the need for declaration of a water emergency and the degree of such emergency.

EAST NILES COMMUNITY SERVICES DISTRICT - BAKERSFIELD, CALIFORNIA
WATER SHORTAGE CONTINGENCY PLAN

APPENDIX II "NO WASTE" RESOLUTION

Resolution No. 92-2

A RESOLUTION OF THE EAST NILES COMMUNITY SERVICES DISTRICT
PROHIBITING THE WASTE OF WATER DURING PERIODS OF EXTREME
WATER SHORTAGE

WHEREAS, Section 10631 (e)(4), of the California Water Code, as modified by AB11, requires that domestic water purveyors provide mandatory provisions to reduce water use during periods of extreme water shortage, and

WHEREAS, it is prudent to take these steps to insure that all of the consumers on the District Water System have a equitable share of the water available,

NOW, THEREFORE BE IT RESOLVED THAT, the following restrictions are effective during a Water Shortage Emergency as declared by the Board of Directors of the District.

- a. Use of potable water to wash sidewalks, walkways, driveways, parking lots, open ground or other hard surfaced areas except where necessary for public health or safety;
- b. Allowing potable water to escape from breaks within the customer's plumbing system for more than twenty-four (24) hours after the customer is notified or discovers the break;
- c. Washing cars, boats, trailers, aircraft, or other vehicles by hose without a shut-off nozzle and bucket except to wash such vehicles at commercial or fleet vehicle washing facilities using water recycling equipment;
- d. No restaurant, hotel, cafe, cafeteria or other public place where food is sold, served or offered for sale, shall serve drinking water to any customer unless expressly requested;
- e. Use of potable water to clean, fill or maintain decorative fountains, lakes or ponds unless such water is reclaimed;
- f. Use of potable water for construction, compaction, dust control, street or parking lot sweeping, building washdown where non-potable water or recycled water is sufficient;
- g. Use of potable water for sewer system maintenance or fire protection training without the prior approval of the District Manager.