Parker Water and Sanitation District
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Water Conservation Plan
May 2009

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INTRODUCTION

Efficient water use is an important component of water supply planning for Parker Water and Sanitation District (PWSD). Reduced water demands will decrease future water supply needs, leaving more of a finite and valuable resource to be shared among other water users. Water demand reduction will also save significant financial capital required to build water and wastewater treatment, distribution, and collection facilities.

Colorado water providers may submit a Water Conservation Plan to the Colorado Water Conservation Board (CWCB) in accordance with Colorado House Bill 04-1365. PWSD submits this Water Conservation Plan to satisfy the requirements of House Bill 04-1365 and Colorado Revised Statutes §37-60-126.

This Water Conservation Plan was developed under the direction of PWSD's water conservation staff, with input from the PWSD Board of Directors and PWSD residents integrated into the plan. The District has invested significant time and resources into the evaluation of its water conservation efforts and the development of this Water Conservation Plan. The District's previous Water Conservation Plan received a major update for this version.

This document was formatted according to the latest version of the CWCB Water Conservation Plan Guidelines, which CWCB adopted on May 25, 2005.

SECTION 1
PROFILE THE EXISTING WATER SYSTEM

1.1 PROFILE PHYSICAL CHARACTERISTICS OF THE EXISTING WATER SUPPLY SYSTEM

The Parker Water & Sanitation District (PWSD) is located approximately five miles east of I-25 on Cherry Creek and approximately 20 miles south of Denver. PWSD was formed in 1962, and over the years, the District has expanded its objectives to include water conservation and protection of nonrenewable resources. PWSD's service area now covers approximately 27,600 acres of northern Douglas County, and is shown in **Figure 1-1**.

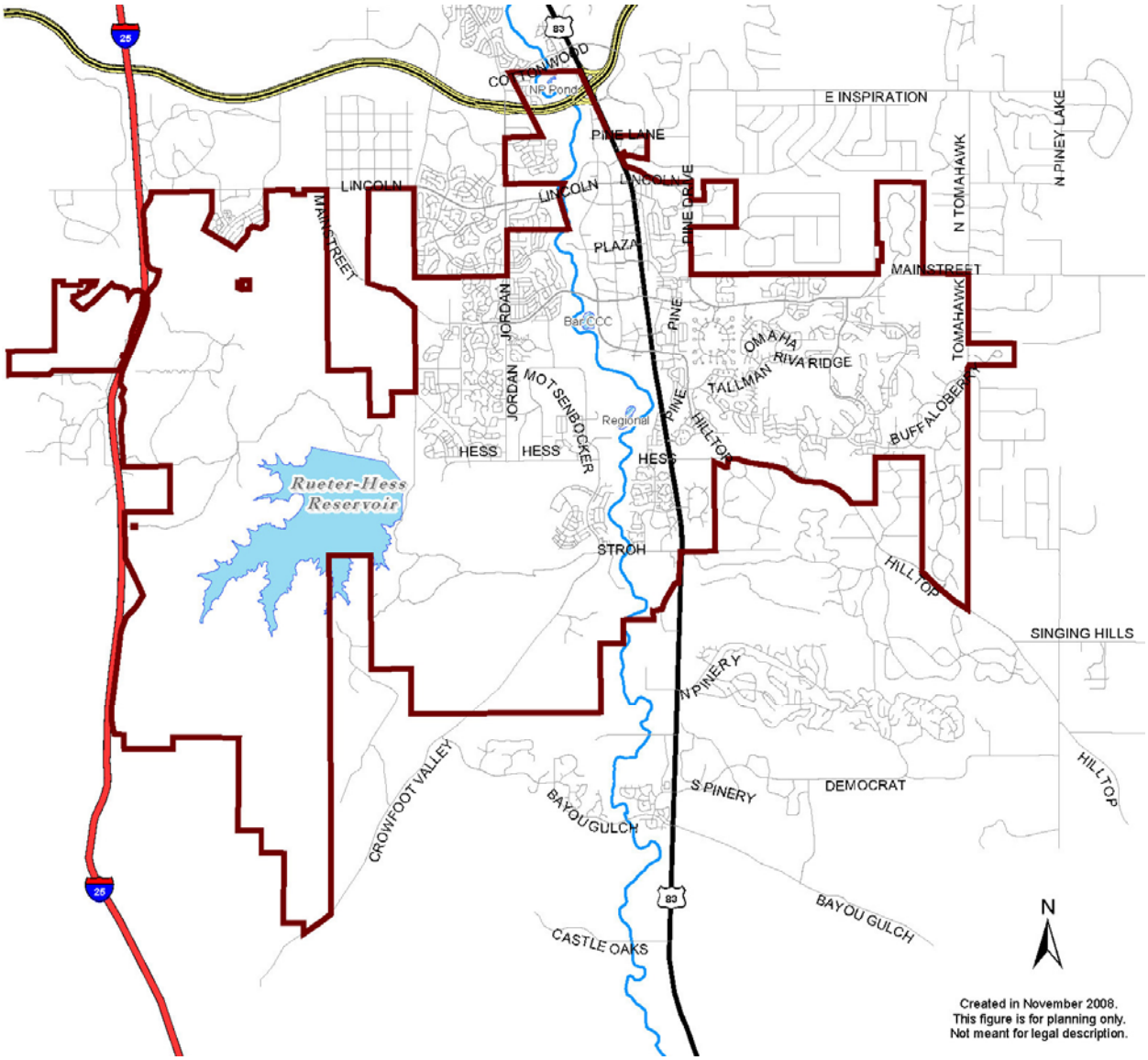

Figure 1-1 Parker Water and Sanitation District Service Area

PWSD currently provides water and wastewater services to approximately 15,600 taps – or single family equivalents (SFE's) – which equates to a population of approximately 41,000 people. PWSD's ultimate number of taps is projected to be 43,500 SFE's.

PWSD's water system consists of 46 wells in Denver Basin groundwater aquifers and the Cherry Creek alluvium. PWSD disinfects the groundwater and delivers it to the potable water system for use by its customers; no additional treatment is required by Colorado Department of Public Health and Environment regulations.

Additional information about the PWSD water system is provided in **CWCB Worksheet 1-1**.

CWCB Worksheet 1-1 Water System Profile

A	SERVICE CHARACTERISTICS		Number	
1	Estimated service population		41,000	
2	Estimated service area (square miles)		43.1	
3	Miles of mains		116	
4	Number of treatment plants		0	
5	Number of separate water systems		1	
6	Interconnection with other systems		0	
B	**ANNUAL WATER SUPPLY**	**Annual volume (1,000 gallons)**	**Number of intakes or source points**	**Percent metered**
7	Groundwater	2,407,549	14	100%
8	Surface water	0	0	0%
9	Purchases: raw	0	0	0%
10	Purchases: treated	0	0	0%
11	Total annual water supply	2,407,549	14	100%
C	**SERVICE CONNECTIONS**	**Connections**	**Water sales, $**	**Percent metered**
12	Residential, single-family	11,614	475,356.20	100%
13	Residential, multi-family	1,205	49,804.79	100%
14	Commercial	1,009	71,311.91	100%
15	Industrial	0	0	0%
16	Public or governmental	0	0	0%
17	Wholesale	0	0	0%
18	Other (Irrigation only)	1,815	300,745.46	100%
19	Total connections	15,643	897,218.36	100%
D	**WATER DEMAND**	**Annual volume (1,000 gallons)**	**Percent of total**	**Per connection (1,000 gallons)**
20	Residential sales	1,496,008	62%	117
21	Nonresidential sales	176,586	7%	175
22	Wholesale sales	0	0%	0
23	Other sales (Irrigation only)	381,805	16%	210
24	Nonaccount water: authorized uses	353,151	15%	n/a
25	Nonaccount water: unauthorized uses	0	0%	0
26	Total system demand (total use)	2,407,549	100%	154
E	**AVERAGE & PEAK DEMAND**	**Volume (gallons per minute)**	**Total supply capacity (gallons per minute)**	**Percent of total capacity**
27	Average-day demand	4,581	20,739	22%
28	Maximum-day demand	11,451	20,739	55%
29	Maximum-hour demand	22,903	--	--

F	PLANNING	Prepared a plan	Estimated completion date	Filed with state
30	Capital, facility, or supply plan	In progress	2009	
31	Drought or emergency plan			
32	Water conservation plan	In progress	2009	

Notes: 1. Annual Water Supply data, Water Demand data, and Average-day demand data from 2007.
2. Service Connections data from June 2008.

1.2 IDENTIFY ALL SOURCES OF WATER

PWSD's water demands are currently met primarily by wells in Denver Basin aquifers, which only require disinfection for treatment. While the District has adequate groundwater rights to last many years, groundwater is not replenishable, so the District has begun a conjunctive use program to augment its groundwater supply with renewable surface water transmission, storage, and treatment projects, as well as with extensive wastewater reuse. PWSD's water rights are summarized in **Table 1-1**.

Table 1-1 PWSD Water Rights

Aquifer(s)	Annual Appropriation (acre-feet per year)
Lower Dawson	5,282.8
Denver	7,161.6
Arapahoe	7,982.1
Laramie-Fox Hills	4,710.3
Cherry Creek Alluvial	15,494.0
Total	**40,630.8**

1.3 IDENTIFY SYSTEM LIMITATIONS

The water levels in the Denver Basin groundwater aquifers have been steadily declining in recent years. As these aquifers are the primary source of water for PWSD, alternative water supply sources have been identified and projects are underway to make the sources productive. The primary PWSD water supply projects include the construction of the 72,000-acre-foot Rueter-Hess Reservoir to store surface water rights, the construction of the Rueter-Hess Water Treatment Plant to treat the reservoir water, and the associated conveyance infrastructure required to move the water. The conveyance infrastructure includes a 78 cubic feet per second raw water pumping facility with 4,750 horsepower of pumps and approximately 4 miles of 48-inch pipe.

The PWSD has partnered with neighboring entities to make the reservoir a regional project, sharing storage with the intent to reduce the peak groundwater pumping rates. The participating entities are the Town of Castle Rock, Stonegate Metropolitan District, and Castle Pines North Metropolitan District.

Additional information on the PWSD system is provided in **CWCB Worksheet 1-2**.

CWCB Worksheet 1-2 Summary of System Conditions

PLANNING QUESTIONS	Yes	No	Comment
Is the system in a designated critical water supply area?		X	
Does the system experience frequency shortages or supply emergencies?		X	
Does the system have substantial unaccounted-for and lost water?		X	
Is the system experiencing a high rate of population and/or demand growth?		X	From ~1995-2007 yes, but currently no since current growth is slow.
Is the system planning substantial improvements or additions?	X		Rueter-Hess Reservoir and Water Treatment Plant
Are increases to wastewater system capacity anticipated within the planning horizon?	X		Improvements to wastewater conveyance and treatment facilities are planned in the next 7 years.

Notes: 1. The planning horizon for the Water Conservation Plan is 7 years; the WCP is to be reviewed and updated in 7 years.

1.4 CHARACTERIZE WATER COSTS AND PRICING

The District's rates are an inclining block rate structure designed to discourage excessive water use. One rate system applies to residential and non-residential customers.

The District's tap and development fees, current as of December 2008, are as follows:

Table 1-2 Tap and Development Fees

Tap Size	Water Tap	Sewer Tap	Water Development Fee	Sewer Development Fee	Outfall Development Fee	Water Resource
3/4"	$2,500	$3,785	$12,000	$5,175	$800	$5,000
1"	$5,000	$7,570	$24,000	$10,350	$1,600	$10,000
1 1/2"	$10,000	$15,140	$48,000	$20,700	$3,200	$20,000
2"	$20,000	$30,280	$96,000	$41,400	$6,400	$40,000
3"	$40,000	$60,560	$192,000	$82,800	$12,800	$80,000

The water use rates per single family equivalent, current as of December 2008, are as follows:

Water Service Fee: $22.03 per month
Use Fees: $1.96 per 1,000 gallons for the first 20,000 gallons per month
$3.99 per each additional 1,000 gallons up to and including 30,000 gallons per month
$6.27 per each 1,000 gallons in excess of 30,000 gallons per month

All taps are metered. Meters are read on a monthly basis using an electronic radio receiver. The meter reading is evaluated by a handheld or laptop computer that accepts or rejects the reading if it is outside the normal use pattern. Rejected readings

are re-read. The meter reading system ensures metering accuracy and assists with leak detection.

1.5 Review Current Policies and Planning Initiatives

The primary policy intended to impact water use during normal and drought conditions is the inclining block rate structure. PWSD has found the significantly more expensive rates for high water use make consumers more attentive to their water consumption.

The District is not a regulatory agency and therefore has no police powers, but it does prohibit wasteful use of water through its Resolution 1996-8 to amend District Ordinance Section 4.16, which allows it to shut off water services that are wasting water. The resolution states:

> "Water is a valuable and precious commodity in the State of Colorado and within the boundaries of the District. Waste of water is hereby prohibited. Runoff of water from landscaped and irrigated properties, and overspray from irrigation systems to impervious surfaces is prohibited. Customers are required to maintain any sprinkler system, irrigation system or hoses in such a manner as to avoid runoff, overspray, leaks and/or wastage. Any employee of the District who observes waste, as herein described occurring, shall notify the owner or resident of the property upon which the waste, whether from runoff, overspray or leaking, is occurring of the existence of such waste. In the event the owner or resident (including tenants of either residential or commercial or industrial properties) fails to cease the activity resulting in waste, or in the event any employee of the District shall observe such waste at the same location for a second or subsequent time, the District may terminate the provision of water at such address or structure until such waste ceases."

The District is in the process of updating its 2005 Water and Sewer Master Plan. The Master Plan is used to provide general information on the status of the District's infrastructure, to estimate infrastructure improvements that may be necessary to accommodate future growth, and to provide general budgeting information. This Water Conservation Plan will be used in conjunction with the Master Plan to prepare and budget for future improvements.

1.6 Summarize Current Water Conservation Activities

PWSD has programs in place to encourage its domestic, commercial, industrial and public facilities customers to use water more efficiently, and will not only continue these programs, but will strive to enhance them in the future. PWSD develops its water conservation activities in conjunction with the Town of Parker's efforts. Existing PWSD water conservation activities include:

Low water use requirements for new fixtures. The Town of Parker's existing plumbing codes require low water use fixtures.

Low water use landscapes. The District landscape worksheet encourages low-water use landscapes by charging higher tap fees for the use of bluegrass and other high water use turf. More than half the water the District produces is used for landscape irrigation during the summer months. Use increases up to 350 percent during the irrigation season, and of that use, 40 to 50 percent is wasted through inefficient irrigation design, poor maintenance practices and improper irrigation controller scheduling.

Drought-resistant vegetation. The District encourages the installation of low water use landscapes (xeriscape) in all landscaping projects. The District makes available to its customers free of charge a variety of xeric landscape designs that can be used in front parking strips and yards, as well as information on proper landscape construction, irrigation system design and maintenance. Xeriscape information – including extensive educational programs – is available on the District's website. The District also encourages the use of water efficient turf alternatives, such as blue grama and buffalo grass.

Efficient irrigation. The District encourages all of its users, through its newsletter and website, to use clock operated, properly zoned irrigation systems, water efficient sprinklers and drip irrigation wherever irrigation is required.

Water-efficient processes. The District has developed an indirect approach to managing commercial water use through its size-based tap fees and its landscaping tap fees. Irrigation tap size is dictated by the type and quantity of landscaping proposed for each site. For each SFE (equivalent to a ¾-inch tap), a commercial site is allowed 6,000 square feet of high water-use turf (e.g. bluegrass), 10,000 square feet of native grass, or 20,000 square feet of drip irrigated shrubs and perennials. Taps sizes are also based on fixture counts. These requirements, along with progressive costs for tap sizes, successfully encourage the use of more water efficient plant materials in the landscape, thus reducing the tap size for the developer and subsequent water use for the life of the project.

Public education. The District's full-time Water Conservation Specialist frequently provides free of charge and open to the public presentations on water conservation in the landscape, xeriscape and irrigation system design, and proper landscape maintenance, with an emphasis on efficient water use. In 2008, the District's Conservation Specialist presented at over 50 classes and 8 HOA meetings, contacting over 3,000 people. The District is expecting over 50 classes again for 2009. These classes are offered at the Parker Library, The Wildlife Experience Museum, local garden centers and garden clubs and the Douglas County Fairgrounds. Special presentations are given at homeowner's association meetings on request.

PWSD's Water Conservation Specialist has been working closely with his counterparts in Castle Rock and Highlands Ranch, putting on workshops for HOA's and management companies with the goal of educating them on proper irrigation system operation and xeric retrofits. They have filmed presentations for use on the Douglas County Water Resource Authority (DCWRA) website and on local cable television channel DC8, and are currently working on several additional productions that will highlight xeriscape and irrigation retrofits to residential yards.

Frank Jaeger, the District Manager, frequently provides lectures to civic groups on water issues affecting Douglas County.

The District maintains a Conservation page on its website (www.pwsd.org/conservation.php), with comprehensive information on water conservation, including a list of xeric plant materials, information on establishing water efficient blue grama lawns and indoor and outdoor water management guides. All handouts and outlines for the classes taught by the Conservation Specialist are also available on this web page, as well as the current class schedule.

Water-saving demonstrations. In 2002, the Town of Parker began using Netafim drip irrigation on all landscaped medians, and developed a turfgrass demonstration garden highlighting its use on Mainstreet south of the Parker Library.

School programs. The District's full-time Water Conservation Specialist teaches classes to District elementary, middle school and high school students (grades 3 through 12) on water conservation.

Informative & understandable water bill. The District's water bill gives actual meter readings and actual water usage. The bill also gives a graph with the customer's water use from last year compared to the current billing month and the previous billing month. The bill also has a note on the bottom that reads "We encourage your participation in our water conservation program by reporting line leaks upstream of your meter promptly, by repairing your own leaks promptly, by not overwatering your yard, and setting automatic sprinklers for offpeak watering."

Water bill inserts. The District publishes a monthly newsletter that goes to all of its customers that contains information on xeriscaping and conservation techniques and seasonal water conservation tips. This newsletter is also distributed on the Douglas County Water Resource Authority website.

Customer water use audits targeted at large users and at large landscapes. The District provides free individual home water audit kits from the District's main office. Please refer to the Give-aways discussion below for more information.

On-site visits by the District's Water Conservation Specialist currently assists contractors and HOA's to program irrigation controllers and improve overall irrigation efficiency.

Water conservation expert available. The District hired a full time Water Conservation Specialist in April 2007 who specializes in xeriscape and public education. The Conservation Specialist's sole responsibilities focus on the District's water conservation efforts. The Conservation Specialist represents the District's strong promotion of water conservation by providing a wide variety of information through several media and event types, which are described in more detail in the following activities.

Volume billing. The District has had a rate structure based on the volume of water used by customers since the early 1980s. The District has observed significant decreases in water consumption as a result of this billing approach.

Conservation (tiered) rate structure. The District has an inclining block rate structure based on volume of water used. The District does not use a flat rate structure. Please refer to Section 1.4 for more information.

Increased (monthly) billing frequency. The District issues water bills once per month, with bills issued within approximately 2 weeks of meter reading. This is far more frequent than older quarterly billing methods, and provides customers the opportunity to reduce their water use more often by drawing more frequent attention to their bill.

Turf restrictions. In 2003, the Town of Parker adopted an ordinance that prohibits restrictive covenants requiring turf grasses. In 2008, the Town adopted a revised landscaping code that limits turf to no more than 15 percent of the required on-site landscaping for new construction.

Landscape design/layout. Please refer to the turf restrictions topic above.

Soil preparation. On new construction, the Town of Parker requires soil amendment, in the amount of 5 cubic yards of organic matter per 1000 square feet, incorporated to a depth of 6 inches. This requirement has been in place since 2002.

Irrigation equipment. In 2007, the District passed a resolution requiring all new construction (commercial, industrial and residential homeowner's association common areas) in the District to be equipped with evapotranspiration (ET) based irrigation controllers and rain sensors. All new single family homes are required to have rain sensors installed. The resolution also requires all corresponding existing development in the District to be in compliance with these requirements by August 1, 2012.

Water waste prohibition. In 1996, the District passed Resolution 1996-8, which allows it to shut off water services that are wasting water. Please refer to Section 1.5 for more information.

Give-aways. The District provides free water conservation literature, available from the District's main office.

The District distributes free home water audit kits with toilet leak detection tablets, shower flow measuring bags and informational brochures that encourage water conservation. We also provide our customers with water restricting faucet aerators, rain gauges and instructions on how to determine irrigation system precipitation rates for more efficient use of landscape irrigation water.

The District advertises and distributes free, 2.0 gpm low flow shower heads. Water saving educational coloring books and activity books for children are given away at community events (such as the District-sponsored summer "Concerts in the Park") and during tours of our facilities. These items are also available free of charge at our main office along with other water conservation literature.

Reuse of tertiary-treated reclaimed water. The District currently practices a highly innovative reclaimed water reuse program that allows it to reuse all of its wastewater, gallon for gallon, through its augmentation programs and through its reclaimed water irrigation policies. The former is accomplished by treating all of the Districts' wastewater with advanced treatment systems, discharging the treated wastewater into Cherry Creek and then, after mixing and natural treatment in the Cherry Creek alluvium, each gallon of wastewater is reclaimed through the District's alluvial wells for treatment and distribution into the potable water system.

Leak repair. Identified leaks are promptly repaired by either District staff or a variety of local contractors. The District created and constantly updates a geographical information system (GIS) database of their water system infrastructure. The District uses their GIS database to locate waterlines and provide waterline location mapping to contractors.

Removal of phreatophytes. In 2003, the Town of Parker began a Russian Olive tree removal program along Cherry Creek, and the program is ongoing.

Leak identification. The District currently has a low leakage rate of approximately 9 percent. It constantly monitors the difference between the water it pumps from its wells and the amount of water it actually delivers by means of a Supervisory Control and Data Acquisition (SCADA) system to be constantly aware of leakage losses. It maintains strict construction standards for all new water infrastructure construction, which is rigidly inspected with the standards enforced to maintain the highest possible water distribution system integrity. The District also uses sonic testing contractors to assess pipeline integrity.

Meter source water. The District has flow meters installed on every well, as required by CDPHE.

Meter service connections. The District has had flow meters installed on each service connection since 1986.

Meter testing and replacement. The District recalibrates each well flow meter every three years, and replaces flow meters as necessary.

Improved water accounting. The District produces internal consumption reports on each tap, which are reviewed for potential water usage anomalies. For billing, the District uses an in-house lockbox system that was started in 2007. The lockbox system accumulates all customer bills, which are inserted in a machine that scans each bill, reads each bill, forms a batch, posts the batch to the billing system, and electronically sends the deposit to the bank. The system's automation has increased District staff efficiency.

Analysis of non-account water. Non-account water includes water used for construction, fire suppression, distribution system flushing, and District facilities. The District requires flow meters for construction water use; construction water taken without a flow meter carries a minimum $500 fine. The District monitors water use at its facilities to check for leaks and confirm normal system operation.

The Town of Parker has implemented many water conservation efforts in addition to the District's. The Town's efforts have been aided and supported by PWSD and its Conservation Specialist, who worked on the ordinances and put many of the Town's programs in place during his tenure as Town Arborist and Horticulturist from 2002 through 2007.

The District's primary incentive to promote conservation of water, at the present time, is through an inclining block rate structure, whereby increasingly higher users of water must pay increasingly higher unit costs in dollars per 1,000 gallons for water used, as described in Section 1.4. The District has evaluated additional incentives, such as rebates for evapotranspiration-based sprinkler controllers or water efficient fixtures and appliances, but has determined that the inclining block rate structure is sufficient at this time.

CWCB Worksheet 1-3 presents a summary of current water conservation activities. Water savings estimates are frequently not known due to variables such as participation rates, water use practices, public education effectiveness, fixture flow rates, and other issues.

CWCB Worksheet 1-3 Summary of Current Conservation Activities

Water conservation measures and programs	*Approximate* annual water savings (1,000 gallons)	Implementation dates	Is continued implementation planned?
Water efficient fixtures			
Low water use requirements for new fixtures [1]	6,761	1997 to present	Yes
Landscape efficiency	Not known		
Low water use landscapes		2003 to present	Yes
Drought-resistant vegetation		2003 to present	Yes
Efficient irrigation		2007 to present	Yes
Industrial and commercial efficiency	Not known		
Water-efficient processes		2003 to present	Yes
Education/information dissemination	Not known		
Public education		2007 to present	Yes
Water-saving demonstrations		2002 to present	Yes
School programs		2007 to present	Yes
Informative & understandable water bill		Ongoing	Yes
Water bill inserts		2007 to present	Yes
Technical assistance			
Customer water use audits targeted at large users and at large landscapes [2]	5,233	1994 to present	Yes
Water conservation expert available	Not known	2007 to present	Yes
Rate structures & billing systems	Not known		
Volume billing		1980s to present	Yes
Conservation (tiered) rate structure		1988 to present	Yes
Increased (monthly) billing frequency		Ongoing	Yes
Regulations/Ordinances	Not known		
Turf restrictions		2008 to present	Yes
Landscape design/layout		2002 to present	Yes
Soil preparation		2002 to present	Yes
Irrigation equipment		2002 to present	Yes
Water waste prohibition		1996 to present	Yes
Incentives			
Give-aways			
Home water audit kits [2]	5,233	1994 to present	Yes
Low flow shower heads [3]	1,528	1996 to present	Yes
Water restricting faucet aerators [4]	n/a	2008 to present	Yes
Water reuse systems			
Reuse of tertiary-treated reclaimed water [5]	440,846	1980 to present	Yes
Distribution system efficiency	Not known		
Leak repair		1990 to present	Yes
Removal of phreatophytes		2003 to present	Yes
Leak identification		1990 to present	Yes
Meter source water		1980s to present	Yes
Meter service connections		1986 to present	Yes
Meter testing and replacement		1980s to present	Yes
Improved water accounting		2007 to present	Yes
Analysis of non-account water		1997 to present	Yes

Notes: [1] Low water use requirements for new fixtures water savings includes the total of the water savings from the District's give-away programs.

[2] Home water audit kits water savings assume a 5 percent reduction in average water use per household per kit, 162 gpcd average water use, 2.95 people per household, and 600 kits per year.

[3] Low flow shower heads water savings assume 3.0 gpm heads replaced with 2.5 gpm heads for a 17 percent reduction in showering water use, 20 percent of average water use for showering, 162 gpcd average water use, 155 heads per year, and 1 person's water use per head
[4] Water restricting faucet aerators are a new program in 2008, so no annual water savings estimate is available yet.
[5] Reuse of tertiary-treated reclaimed water annual water savings is based on 1,353 acre-feet pumped from District reclamation facilities in 2008.

CWCB Worksheet 1-3 identifies several water conservation activities for which water savings data is not known. In the future, the District will endeavor to track water conservation data for existing activities by coordinating with regional governmental entities and by instituting additional internal data tracking programs.

The District has had water conservation activities since the 1980s. The water savings from the District's past water conservation activities can be estimated. Average annual water use in Colorado without any water conservation activities has been documented in the 1990s at rates of over 490 gallons per capita per day in unmetered communities including the City of Monte Vista and the Town of Del Norte (City of Monte Vista Master Infrastructure Plan, December 1997, Integra Engineering). Average annual water use in Colorado in 2006 was documented at rates as high as 260 gallons per capita per day (Front Range Water Meter, Western Resources Associates, November 2007). Conservatively assuming District water use without any water conservation activities would be in excess of 250 gallons per capita per day based on Vickers' Handbook of Water Use and Conservation (2002), the District's current water conservation activities are realizing a savings of at least 34 percent ((250 gpcd – 165 gpcd) / 250 gpcd). Vickers' Handbook of Water Use and Conservation (2002) indicates a 35 percent water savings between nonconserving homes and conserving homes.

This Water Conservation Plan examines the expansion and addition of conservation activities that will result in additional water savings beyond the District's current programs.

SECTION 2
CHARACTERIZE WATER USE AND FORECAST DEMAND

2.1 CHARACTERIZE CURRENT WATER USE

PWSD's customers are primarily residential, with some commercial and no industrial users. **Figure 2-1** summarizes the District's tap distribution.

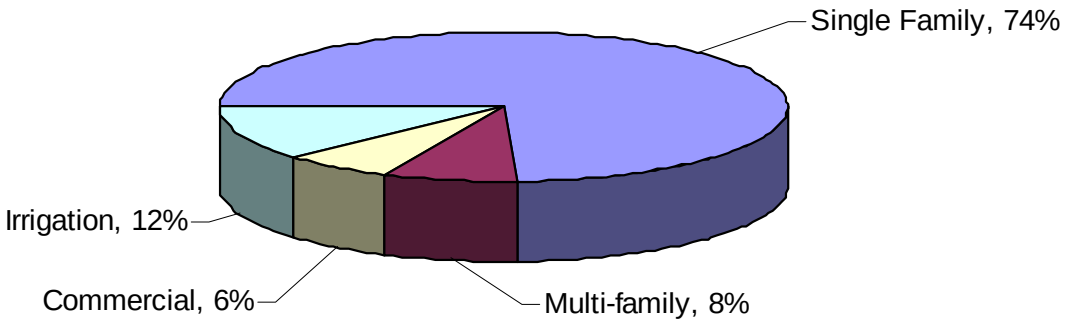

Figure 2-1 District Water Tap Distribution

The District's water use is predominantly for irrigation, and is therefore closely associated with regional precipitation. Higher precipitation will require less irrigation water use. **Figure 2-2** shows annual precipitation in Denver since 1999 per National Oceanic and Atmospheric Administration data.

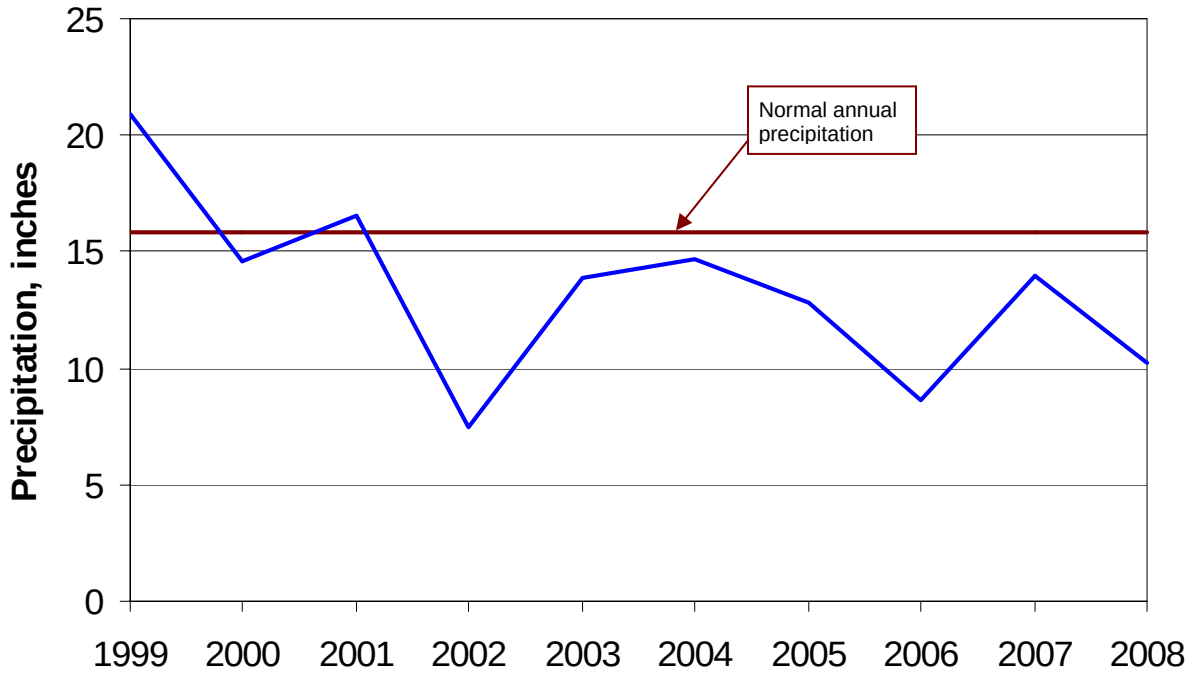

Figure 2-2 Denver Annual Precipitation

The below-average precipitation experienced in the area since 2001 has emphasized the District's water conservation programs in recent years.

The District's total water use has been generally increasing due to consistent population growth. The District has seen significant population growth since the late 1990s, with annual growth rates exceeding 18 percent in 1997 and 1999. **Table 2-1** provides District population estimates.

Table 2-1 Estimated District Population

Year	Total
2000	25,441
2001	26,995
2002	29,273
2003	30,830
2004	32,890
2005	35,946
2006	38,869
2007	40,082

Notes: 1. Population estimated based on number of sanitary sewer taps and assuming 2.95 people per tap; 2.95 people per household based on U.S. Census Bureau Census 2000 demographic data for Douglas County for average household size of owner-occupied units.

Figure 2-3 summarizes the water use per year since 2000 by tap category and total.

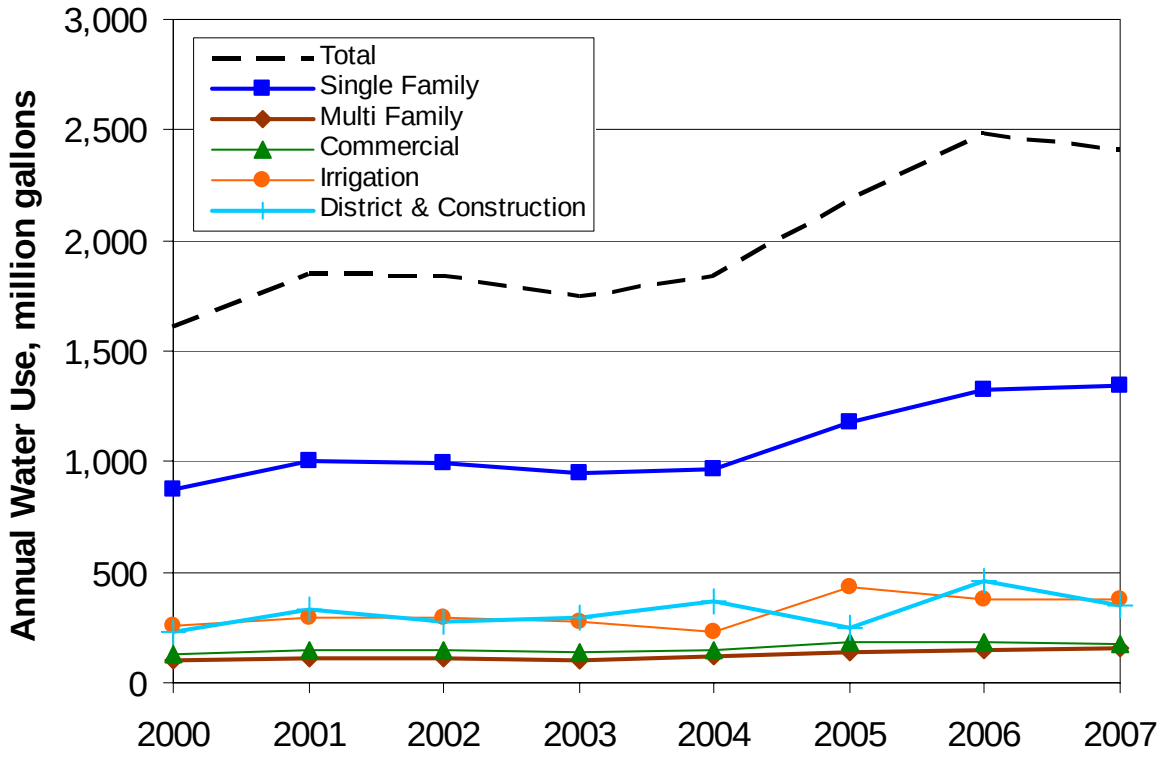

Figure 2-3 Water Use by Tap Category

Figure 2-3 shows elevated water use in 2001-2002 and in 2006. The elevated use is attributed primarily to regional drought conditions in 2002 and 2006. **Table 2-2** provides the water use data used in **Figure 2-3**.

Table 2-2 Annual Water Use by Tap Category

Year	Single Family Residential	Multi-Family Residential	Commercial	Irrigation	District and Construction	Total
2000	870	97	129	258	226	1,611
2001	1,001	111	148	296	334	1,853
2002	992	110	147	294	276	1,838
2003	946	105	140	280	298	1,752
2004	965	123	147	232	370	1,837
2005	1,181	138	182	429	250	2,181
2006	1,324	144	181	374	458	2,481
2007	1,342	154	177	382	353	2,408

Notes: 1. Water use is listed in million gallons.

District water use varies seasonally as shown in **Figure 2-4**, with low use in the winter and high use in the summer. The high use is due to irrigation, and irrigation typically fluctuates in proportion with the year's precipitation conditions.

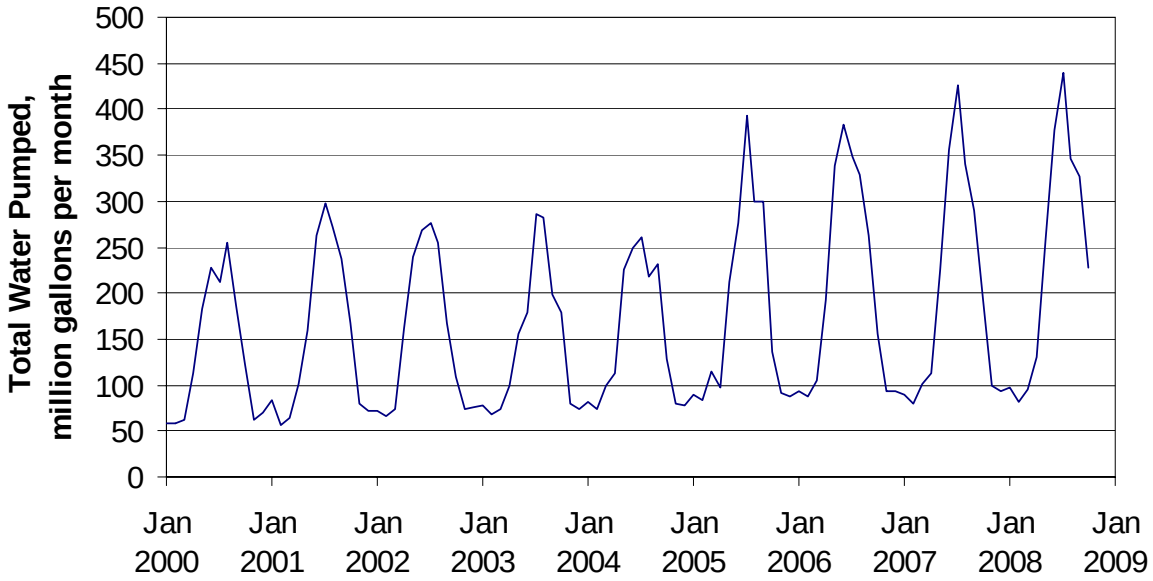

Figure 2-4 Monthly Total Water Use

Figure 2-4 shows the District's highest total monthly use occurred in July 2008.

Due to the District's recent significant population growth, the total water use can be put in perspective by calculating the water use on a per person basis. **Figure 2-5** represents the District's average annual water use per person.

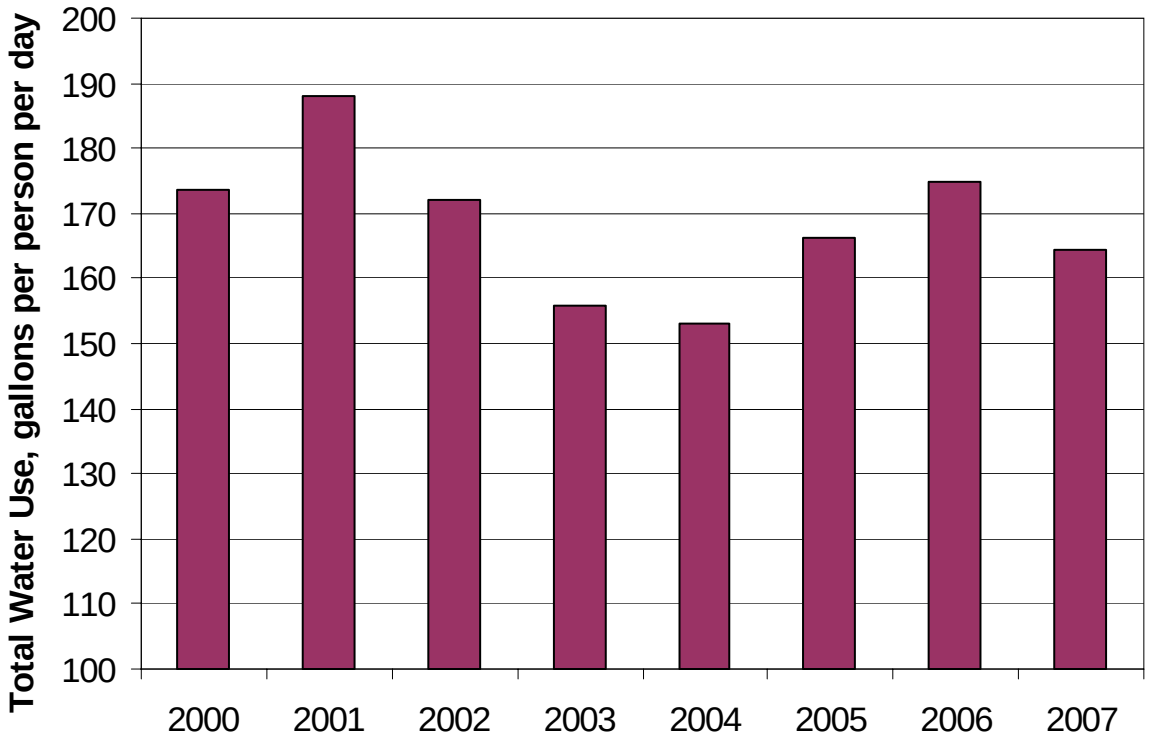

Figure 2-5 Average Treated Water Use per Person

Figure 2-5 shows 2001 and 2006 had the highest water use per person in recent years, which are attributed to significant reductions in annual precipitation experienced in the region. **Table 2-3** provides the water use data used in **Figure 2-5**.

Table 2-3 Average Treated Water Use per Person

Year	Total Annual Water Use (million gallons)	Population	Total Annual Water Use (gallons per person per day)
2000	1,611	25,441	174
2001	1,853	26,995	188
2002	1,838	29,273	172
2003	1,752	30,830	156
2004	1,837	32,890	153
2005	2,181	35,946	166
2006	2,481	38,869	175
2007	2,408	40,082	165

Note: 1. Gallons per person per day formula: Total Annual Water Use * 1,000,000 / 365 / Population.

The District's 2006 average annual treated water use per person was 175 gallons per person per day. The District's average water use per person decreased after severe regional droughts experienced in 2002 and 2006, as noted in **Figure 2-5**. This is attributed to the District's water conservation efforts and elevated public awareness of water supply issues.

Table 2-4 shows average annual water use per person per day for other Colorado water suppliers for comparison to the District's use.

Table 2-4 Colorado Water Suppliers' Average Treated Water Use per Person in 2006

City	Total Water Use (gallons per person per day)
Aurora Water	152
Town of Berthoud	203
City of Boulder	148
City and County of Broomfield	181
Colorado Springs Utilities	174
Denver Water	182
Town of Erie	176
City of Evans	111
City of Fort Lupton	171
City of Fort Morgan	260
City of Longmont	195
City of Louisville	175
City of Loveland	203
Parker WSD	175

Note: 1. Non-PWSD data from Front Range Water Meter report, Western Resources Associates, November 2007, reported system-wide potable use.

The data in **Table 2-4** shows an average water use per person for other Colorado water suppliers of approximately 179 gallons per person per day. The District's average water use per person of 175 gallons per person per day in 2006 shows the District's water use is similar to other Colorado water suppliers.

Use by Account Type

The District's billing system tracks water use with the following account types:

- Single family residential
- Multi-family residential
- Commercial
- Irrigation
- District and construction

Multi-family residential includes apartments, condominiums, and townhomes. The District and construction water use category represents the difference between the total water pumped and the billing records. **Figure 2-6** shows the total 2007 water use per account type.

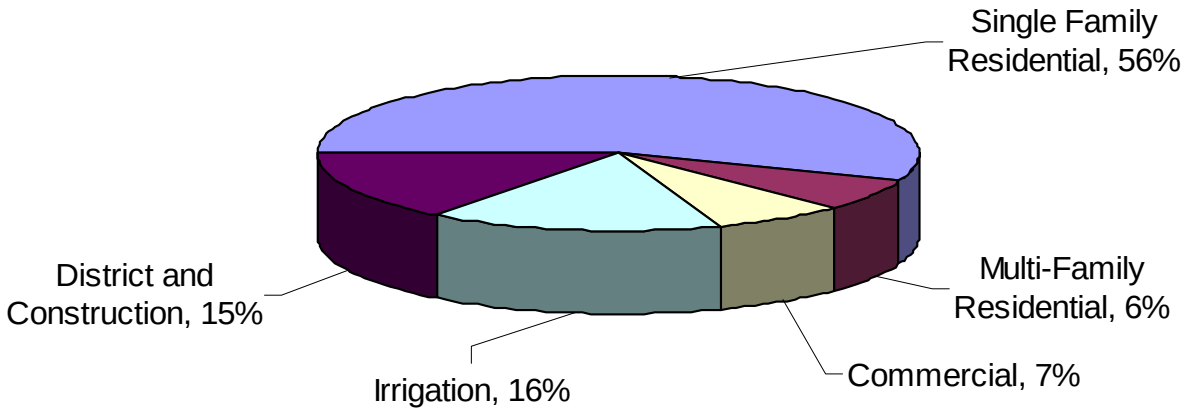

Figure 2-6 2007 Total Water Use by Account Type

Figure 2-6 shows the majority of the water use is for residential taps.

Indoor and Outdoor Water Use

Water use can be classified by indoor and outdoor categories to characterize customer use patterns. Outdoor represents primarily landscaping irrigation. Irrigation occurs in the summer months, so the winter months represent primarily indoor use. Based on District water use data, its customers do not irrigate during November through March, therefore this period is assumed to represent the typical indoor use.

Table 2-5 2005 to 2007 Annual Indoor and Outdoor Water Use by Account Type

Percentage of Total Use						
	Single Family Residential	**Multi-Family Residential**	**Commercial**	**Irrigation**	**District and Construction**	**Total**
Indoor	52%	75%	67%	3%	56%	47%
Outdoor	48%	25%	33%	97%	44%	53%
Total	100%	100%	100%	100%	100%	100%
Millions of Gallons						
	Single Family Residential	**Multi-Family Residential**	**Commercial**	**Irrigation**	**District and Construction**	**Total**
Indoor	56	9	10	1	16	92
Outdoor	51	3	5	32	13	104
Total	107	12	15	33	29	196

Notes: 1. Indoor use is based on November through March.
2. Outdoor use is the difference between the Total use and the Indoor use.

Table 2-5 shows outdoor use is higher than indoor use. This can be attributed to the high growth the District has experienced over the past 10 years, where newer homes and neighborhoods typically have operational irrigation systems and homeowners associations more likely to require landscaping maintenance.

2.2 FORECASTING METHOD

The Colorado Water Conservation Board's water use forecasting method was used for this Water Conservation Plan. The method applies current use rates to future years for a 20-year period. The method assumes that water use rates will remain approximately the same. This is anticipated to be generally accurate, as ongoing water conservation efforts will continue to improve customer sensitivity to water use and should lead to the same if not lower water use.

2.3 DEMAND FORECAST

The District's current population is approximately 41,000. Based on current inclusions and service agreements, the District's population in the year 2020 is projected to be approximately 60,000. The District's projected build out population is approximately 128,000. Build out is not expected to occur within the next 20 years.

The demand forecast is summarized in **CWCB Worksheet 2-1**, in a format suggested by CWCB.

CWCB Worksheet 2-1 Water Demand Forecast

Line	Item	Current year	5-year forecast	10-year forecast	20-year forecast
A	**RESIDENTIAL DEMAND**				
1	Current annual water residential sales (total gal.s)	1,496,007,654			
2	Current population served	40,800			
3	Residential sales per capita (line 1 divided by line 2)	36,667			
4	Projected population		48,800	57,000	70,600
5	Projected annual residential water demand (line 3 multiplied by line 4)		1,789,342,488	2,090,010,693	2,588,679,911
B	**NONRESIDENTIAL DEMAND**				
6	Current annual water nonresidential sales (total gallons)	558,390,668			
7	Current percentage of population [2]	18%			
8	Water use per capita (line 6 divided by line 7)	76,034			
9	Projected percentage of population		18%	18%	18%
10	Projected annual nonresidential water demand (line 8 multiplied by line 9)		667,879,034	780,104,610	966,234,832
C	**NONACCOUNT WATER (WATER NOT SOLD TO CUSTOMERS)**				
11	Current and forecast amount [3]	353,150,653	450,719,667	575,245,201	937,013,816
D	**WATER SYSTEM TOTAL DEMAND**				
12	Current total annual water demand (add lines 1, 6, and 11)	2,407,548,975			
13	Projected total annual water demand (add lines 5, 10, and 11)		2,907,941,189	3,445,360,503	4,491,928,560
14	Adjustments to forecast (+ or -)		-0-	-0-	-0-
15	Current (line 12) and adjusted total annual water demand forecast (add lines 13 and 14)	2,407,548,975	2,907,941,189	3,445,360,503	4,491,928,560
16	Current and projected annual supply capacity [4]	4,909,104,000	7,645,494,400	8,350,849,600	11,264,250,400
17	Difference between total use and total supply capacity (+ or -) (subtract line 15 from line 16)	2,501,555,025	4,737,553,211	4,905,489,097	6,772,321,840

Line	Item	Current year	5-year forecast	10-year forecast	20-year forecast
E	**AVERAGE-DAY AND MAXIMUM-DAY DEMAND**				
18	Average-day demand (line 15 divided by 365)	6,596,025	7,966,962	9,439,344	12,306,654
19	Current maximum-day demand	16,490,061			
20	Maximum-day to average-day demand ratio (line 20 divided by line 19)	2.5			
21	Projected maximum-day demand (line 18 multiplied by line 20 for all forecast years)		19,917,405	23,598,360	30,766,634
22	Adjustment to maximum-day demand forecast		-0-	-0-	-0-
23	Current (line 19) and adjusted maximum-day demand forecast (add lines 21 and 22)	16,490,061	19,917,405	23,598,360	30,766,634
24	Daily supply capacity (divide line 16 by 365) [5]	13,449,600	20,946,560	22,879,040	30,860,960
25	Ratio of maximum-day demand to daily supply capacity (divide line 23 by line 24) [5]	0.82	1.05	0.97	1.00

Notes: 1. 2007 was assumed as the baseline for water use.

[2] Nonresidential Demand growth was assumed to maintain the current percentage of total taps, where taps are directly related to population by a factor of 2.95 people per tap. Nonresidential Demand includes commercial and irrigation taps, which currently represent 18 percent of the total taps. The Nonresidential Demand growth rate is thereby assumed to be the same as the projected population growth rate.

[3] Nonaccount water was assumed to increase at 5 percent per year.

[4] The annual supply capacity assumes one additional 1,000 gpm well facility per year, and an additional ten million gallons per day for six months per year will be added from the District's new Rueter-Hess Water Treatment Plant in 2012.

[5] The daily supply capacity can be increased to draw more water from the groundwater wells; the numbers listed represent typical average annual supply rates.

SECTION 3
PROFILE PROPOSED FACILITIES

3.1 IDENTIFY AND COST POTENTIAL FACILITY NEEDS

As PWSD's Denver Basin groundwater source continues to decline, the District continues to develop more wells to provide additional capacity. Acknowledging groundwater as a limited resource, the District has been developing surface water storage and treatment systems for over 20 years. Recent approvals have moved the Rueter-Hess Reservoir construction into its final stages. With the upcoming surface water storage, the District has started design of a surface water treatment plant. These major facilities will have associated transmission infrastructure for raw and potable water conveyance; the primary raw water conveyance system has already been completed in 2006.

New developments are also planned, with associated additional infrastructure for water and wastewater service. Additional infrastructure will include transmission mains, potable water storage tanks, and various wastewater collection and treatment facilities.

CWCB Worksheet 3-1 summarizes information on anticipated improvements.

CWCB Worksheet 3-1 Anticipated Improvements and Additions

Type(s) of Project(s)	Improve-ment	New Capacity	Start date	End date
Source of supply	☒	☒	Ongoing	
Water treatment facilities	☐	☒	2010	2011
Treated water storage	☐	☒	2010	2011
Major transmission lines	☒	☒	Ongoing	2009
Other _____	☐	☐		

Need(s) for Project(s)	Notes
Enhance compliance with regulations	☐ _____
Replace older equipment or facilities	☒ Ongoing
Meet average-day demand	☒ New well facilities
Meet maximum-day demand	☒ Rueter-Hess Reservoir, Rueter-Hess Water Treatment Plant, additional storage tank
Meet future growth needs	☒ New wells, wastewater treatment facility improvements
Other _____	☐ _____

Funding

Project: Rueter-Hess Reservoir (72,000 acre-feet of raw water storage)
Project Cost: $177,000,000.00
Financing Cost: $141,016,454.23 (through 2043)
Total Capital Cost: $318,016,454.23

Project: Rueter-Hess Water Treatment Plant (10 million gallons per day of potable water production capacity)
Project Cost: $50,000,000.00
Financing Cost: $76,876,144.32 (Assuming 4.5% annual interest rate for 20 years)
Total Capital Cost: $126,876,144.32

Project: 5 million gallon potable water storage tank
Project Cost: $3,500,000.00
Financing Cost: $5,900,914.95 (Assuming 4.5% annual interest rate for 25 years)
Total Capital Cost: $9,400,914.95

Note: 1. Financing costs are approximate.

3.2 PREPARE AN INCREMENTAL COST ANALYSIS

A simple incremental cost analysis was prepared using a modified version of **CWCB Worksheet 3-3**. The incremental cost analysis was based on the following:

- A 20-year analysis term
- The forecasted average day demand (ADD) is based on the **CWCB Worksheet 2-1** calculation methods
- The annual operation and maintenance costs listed are based on 2008 expenses
- The annual operation costs include chemicals, power, and labor
- The annual maintenance costs include parts, equipment, and labor
- The annual capital costs reflect anticipated costs for major improvement projects, including wells, Rueter-Hess Reservoir, Rueter-Hess Water Treatment Plant, and a 5-million gallon potable water storage tank
- Present Worth costs are used because Future Worth cost information is not applied elsewhere in this document

CWCB Worksheet 3-3 Cost of Supply-Side Facilities (modified worksheet format)

Year	Year	Forecasted ADD, mg	Operation Costs, $/mg	Operation Costs, $	Maintenance Costs, $	Capital Costs, $	Present Worth Total Costs, $
0	2008	2,408	739	1,780,000	442,000	11,950,411	14,172,411
1	2009	2,506	776	1,945,251	450,840	11,950,411	14,346,502
2	2010	2,605	815	2,123,296	459,857	18,670,255	21,253,408
3	2011	2,700	856	2,310,767	469,054	18,670,255	21,450,076
4	2012	2,801	1,358	3,802,538	1,114,435	18,670,255	23,587,228
5	2013	2,908	1,426	4,145,283	1,136,724	18,670,255	23,952,262
6	2014	3,016	1,497	4,514,403	1,159,458	18,670,255	24,344,117
7	2015	3,130	1,572	4,919,756	1,182,647	18,670,255	24,772,659
8	2016	3,231	1,650	5,331,383	1,206,300	18,670,255	25,207,939
9	2017	3,337	1,733	5,782,751	1,230,426	18,670,255	25,683,432
10	2018	3,445	1,819	6,268,300	1,255,035	18,670,255	26,193,590
11	2019	3,560	1,910	6,800,182	1,280,136	18,670,255	26,750,573
12	2020	3,676	2,006	7,372,467	1,305,738	18,670,255	27,348,460
13	2021	3,778	2,106	7,956,345	1,331,853	18,670,255	27,958,453
14	2022	3,882	2,211	8,583,686	1,358,490	18,670,255	28,612,431
15	2023	3,987	2,322	9,257,736	1,385,660	18,670,255	29,313,651
16	2024	4,094	2,438	9,981,994	1,413,373	18,670,255	30,065,622
17	2025	4,208	2,560	10,773,122	1,441,641	18,670,255	30,885,018
18	2026	4,299	2,688	11,555,914	1,470,473	18,670,255	31,696,642
19	2027	4,397	2,822	12,409,975	1,499,883	18,670,255	32,580,113
20	2028	4,492	2,964	13,311,927	1,529,880	18,670,255	33,512,063

Notes: 1. 'ADD' = Average Day Demand.
2. All costs are represented in Present Worth.
3. Operation Costs are anticipated to increase by approximately 5 percent annually to account for increased power and pumping costs, and do not include inflation due to the present worth analysis.

4. Maintenance Costs are anticipated to increase by approximately 2 percent annually to account for increased material costs, and do not include inflation due to the present worth analysis.
5. 'Capital Costs' include costs for new well facilities, the Rueter-Hess Reservoir, the Rueter-Hess Water Treatment Plant, and the 5 million gallon potable water storage tank.
6. 'Total Costs' are the sum of the operation, maintenance, and capital costs.
7. In 2010, the Rueter-Hess Water Treatment Plant and 5 million gallon potable water storage tank capital cost expenses are shown as beginning. In 2012, the Rueter-Hess Water Treatment Plant is planned to begin operation, with its preliminary estimates of annual operation and maintenance costs. In 2012, the previous operation and maintenance costs are assumed to reduce by 50% to reflect reduced well production to offset the new water treatment plant production.

3.3 DEVELOP PRELIMINARY CAPACITY FORECASTS

The decline of the Denver Basin aquifers is well-documented, and continued population growth has escalated the demand for water rights. For the District's water rights planning purposes, **CWCB Worksheet 3-4** summarizes the total water system supply capacity impacts of the anticipated water rights additions and retirements.

CWCB Worksheet 3-4 Preliminary Supply-Capacity Forecast

Year	Year	Additions (+ gallons per year)	Retirements (- gallons per year)	Total supply capacity for the system (gallons per year)
0	2008	n/a	n/a	4,909,104,000
1	2009	525,600,000	324,295,200	5,110,408,800
2	2010	525,600,000	334,281,600	5,301,727,200
3	2011	525,600,000	343,742,400	5,483,584,800
4	2012	2,350,600,000	352,677,600	7,481,507,200
5	2013	525,600,000	361,612,800	7,645,494,400
6	2014	525,600,000	369,496,800	7,801,597,600
7	2015	525,600,000	377,380,800	7,949,816,800
8	2016	525,600,000	384,739,200	8,090,677,600
9	2017	525,600,000	392,097,600	8,224,180,000
10	2018	525,600,000	398,930,400	8,350,849,600
11	2019	525,600,000	405,237,600	8,471,212,000
12	2020	525,600,000	411,019,200	8,585,792,800
13	2021	525,600,000	166,615,200	8,944,777,600
14	2022	525,600,000	173,973,600	9,296,404,000
15	2023	525,600,000	180,806,400	9,641,197,600
16	2024	525,600,000	187,639,200	9,979,158,400
17	2025	525,600,000	194,472,000	10,310,286,400
18	2026	525,600,000	201,304,800	10,634,581,600
19	2027	525,600,000	207,612,000	10,952,569,600
20	2028	525,600,000	213,919,200	11,264,250,400

Notes: 1. 'Additions' assume one new well facility per year, where one facility includes four wells (one in each aquifer), and the entire facility has a capacity of 1000 gpm. Additional well facilities will be added as needed depending on well performance.
2. 'Additions' assumes an additional ten million gallons per day for six months per year will be added from the District's new Rueter-Hess Water Treatment Plant in 2012.
3. 'Retirements' represents a 5 percent annual decline in the performance of groundwater wells until 2020, and 2 percent from 2020 on; 5 percent is approximated per the District's groundwater consultants.

SECTION 4
IDENTIFY CONSERVATION GOALS

4.1 DEVELOP WATER CONSERVATION GOALS

In order to make wise use of existing and future water resources, Parker Water & Sanitation District is continuing to implement water-wise best management practices, while maintaining its close monitoring of water use through weekly and monthly production reports and other system performance data.

The District's past water conservation efforts have realized a significant water use reduction of approximately 12 percent over the last seven years from 188 gpcd in 2001 to 165 gpcd in 2007. Past conservation efforts have included reuse of tertiary-treated reclaimed water since 1980, which appears to have realized the most significant water savings of all the District's efforts.

Defining water conservation goals is an important step in ensuring the District will meet its forecasted water demands. The two primary goals of the District's water conservation plan are to reduce new water pumping by expanding water reuse systems, and to reduce average water consumption by 10 gallons per person per day in the next 10 years. The District has developed the following water conservation goals:

1. The total water conservation goals are summarized in Section 7 in **CWCB Worksheet 7-1**. Based on the projected Year 10 (2018) population, the projected average annual water use would be approximately 140 gallons per person per day, which is lower than the goal of 155 gpcd. This would represent over a 15 percent reduction compared to current water use.

2. Reduce new water pumping by expanding water reuse systems, including the Rueter-Hess Reservoir and the Rueter-Hess Water Treatment Plant. The water savings realized by expansion of the reuse programs is discussed in Section 6 in **Table 6-2**, and is estimated will result in a total water savings of 508,195,000 gallons per year.

3. Reduce the average annual water demand by 10 gpcd between 2009 and 2018. Based on the projected Year 10 (2018) population, the difference between 165 gpcd and 155 gpcd would result in a total water savings of approximately 208,196,000 gallons per year.

4. Continue existing water conservation programs so long as they continue to be effective.

5. Evaluate new water conservation programs to determine those that would provide the most savings for the least cost.

6. Note high and/or inefficient water users when evaluating new water conservation programs.

7. Select additional programs that will be compatible with the community while achieving the necessary water conservation savings.

8. Promote water conservation education for all users in the District's service area.

9. Improve data collection for monitoring and characterizing water use and to assess ongoing and future conservation savings.

4.2 Document the Goal Development Process

The District's water conservation goals were developed after consideration of historic water use and the efficacy of various water conservation programs. The District's Water Conservation Specialist and other water resources staff contributed extensively to the selection and development of the conversation goals.

The District has also solicited input from its residents through many public outreach programs. Input from residents will also be solicited through a 60-day public review period for the draft of this Water Conservation Plan. The public review period include a public review meeting held on April 9, 2009 at the District's main office.

SECTION 5
IDENTIFY CONSERVATION MEASURES AND PROGRAMS

5.1 IDENTIFY CONSERVATION MEASURES AND PROGRAMS

The District's existing water conservation measures and programs are described in Section 1.6, and are noted in **CWCB Worksheets 5-1 and 5-2** below by the answer Yes in the Already Implemented column.

Prospective new water conservation measures and programs are noted in **CWCB Worksheets 5-1 and 5-2** below by the answer No in the Already Implemented column.

CWCB Worksheets 5-1 and 5-2 Conservation Measures and Programs Identified in the Planning Process

Measure or Program	Already Implemented?	Evaluated in this Plan?	Comments
DEMAND-SIDE MEASURES			
Water-efficient fixtures and appliances			
Toilets	Yes	Yes	Refer to Section 1.6 [1]
Urinals	Yes	Yes	Refer to Section 1.6 [1]
Showerheads	Yes	Yes	Refer to Section 1.6 [1]
Faucets	Yes	Yes	Refer to Section 1.6 [1]
Washing machines	No	Yes	Refer to 'Rebates' below
Landscape efficiency			
Low water use landscapes	Yes	Yes	Refer to Section 1.6
Drought-resistant vegetation	Yes	Yes	Refer to Section 1.6
Efficient irrigation	Yes	Yes	Refer to Section 1.6
Industrial and commercial efficiency			
Water-efficient processes	Yes	Yes	Refer to Section 1.6
DEMAND-SIDE PROGRAMS			
Education/information dissemination			
Public education	Yes	Yes	Refer to Section 1.6
Water-saving demonstrations	Yes	Yes	Refer to Section 1.6; demonstration xeriscaping gardens could be installed
School programs	Yes	Yes	Refer to Section 1.6
Informative & understandable water bill	Yes	Yes	Refer to Section 1.6
Water bill inserts	Yes	Yes	Refer to Section 1.6
Technical Assistance			
Customer water use audits	Yes	Yes	Refer to Section 1.6
Targeted at large users	No	Yes	Refer to Section 1.6
Targeted at large landscapes	Yes	Yes	Refer to Section 1.6; individual customer audits could be offered cost-effectively through the Center for ReSources Conservation's Slow the Flow program.
Water conservation expert available	Yes	Yes	Refer to Section 1.6

Measure or Program	Already Implemented?	Evaluated in this Plan?	Comments
Rate structures & billing systems designed to encourage efficiency			
Volume billing	Yes	Yes	Refer to Section 1.6
Conservation (tiered) rate structure	Yes	Yes	Refer to Section 1.6
Increased (monthly) billing frequency	Yes	Yes	Refer to Section 1.6
Regulations/Ordinances			
Addressing landscapes			
Turf restrictions	Yes	Yes	Refer to Section 1.6
Landscape design/layout	Yes	Yes	Refer to Section 1.6
Soil preparation	Yes	Yes	Refer to Section 1.6
Irrigation equipment	Yes	Yes	Refer to Section 1.6; expanded use of evapotranspiration-based controllers and rain sensors would reduce irrigation water use.
Water waste prohibition	Yes	Yes	Refer to Section 1.6
Incentives			
Rebates	No	Yes	Rebates on water-consuming appliances can be offered to offset the consumer's purchase cost of more water-efficient appliances.
Give-aways	Yes	Yes	Refer to Section 1.6
SUPPLY-SIDE MEASURES			
Water reuse systems			
Reuse of tertiary-treated reclaimed water	Yes	Yes	Refer to Section 1.6; existing major infrastructure projects are anticipated to significantly improve water reuse.
Distribution system efficiency			
Leak repair	Yes	Yes	Refer to Section 1.6
Removal of phreatophytes	Yes	Yes	Refer to Section 1.6
SUPPLY-SIDE PROGRAMS			
Distribution system efficiency			
Leak identification	Yes	Yes	Refer to Section 1.6; sonic leak detection subcontractors could be hired.
Meter source water	Yes	Yes	Refer to Section 1.6
Meter service connections	Yes	Yes	Refer to Section 1.6
Meter testing and replacement	Yes	Yes	Refer to Section 1.6
Improved water accounting	Yes	Yes	Refer to Section 1.6
Analysis of non-account water	Yes	Yes	Refer to Section 1.6; additional District staff time could be invested to analyze non-account water uses and potential efficiency improvements.

Note: [1] Water efficient fixtures are 1.6 gallon per flush toilets, 1 gallon per minute urinals, and 2.5 gallon per minute faucets and shower heads at a pressure of 80 pounds per square inch.

Following is a summary of expansion options for currently-implemented water conservation measures or programs listed in **CWCB Worksheets 5-1 and 5-2**.

Water-saving demonstrations. Demonstration gardens can provide living examples of successful xeriscape plantings and water efficient irrigation. Signs identify the various plants and water conservation techniques. The District has a xeriscape demonstration

garden design for the District's main office with evapotranspiration based irrigation controllers and rain sensors. The District is planning additional demonstration landscaping at other facilities, including the future Rueter-Hess Water Treatment Plant.

Customer water use audits targeted at large landscapes. Water use audits can range from do-it-yourself kits to a professional water auditor visiting a specific location to perform a custom audit. The Center for ReSources Conservation (CRC), a Colorado non-profit organization, is an industry-recognized program that provides professional water auditing services through a program called Slow the Flow. CRC is funded by grants and participating municipalities and special districts.

Irrigation equipment. Evapotranspiration (ET) based irrigation controllers and rain sensors are currently required for all new construction, including commercial, industrial, and residential areas. The District's 2007 resolution will require existing homeowner's associations and commercial properties to retroactively install ET-based irrigation controllers and rain sensors by August 1, 2012. The 2007 resolution will also require existing residential homeowners to retroactively install rain sensors by August 1, 2012.

Water reuse systems. Completion of the Rueter-Hess Reservoir and Water Treatment Plant will provide additional reuse capacity through significantly increased storage and treatment systems.

Leak identification. The District currently repairs major and reported leaks in its distribution system. Various detailed leak detection programs are available that can identify smaller leaks, including sonic leak detection. Sonic leak detection would be performed by a contractor hired by the District.

Analysis of non-account water. The District could perform additional analysis of construction, fire suppression, hydrant flushing, and other non-account uses. Construction water use is metered, however it is not fully integrated with the District's billing records. Fire suppression and hydrant flushing water use could be estimated.

Following is a summary of prospective new water conservation measures or programs listed in **CWCB Worksheets 5-1 and 5-2**.

Rebates. Rebates on water-consuming appliances can be offered to offset the consumer's purchase cost of more water-efficient appliances. Rebate programs define high water use and low water use levels for eligible appliances. Typically rebate programs are limited to distribute the program funding to more customers.

5.2 Develop and Define Screening Criteria

The following criteria were used to evaluate the proposed water conservation measure and program options, both for the initial screening described in Section 5.3 and the evaluation in Section 6.2.

Criteria 1: Existing measure or program

The measure or program is a standard practice that has already been implemented, and will be a key part of operating the water system in the future. The measure or program is not evaluated in the Water Conservation Plan, but is included in the final list of measures or programs to be implemented.

Criteria 2: Community improvement

The measure or program provides an environmental, aesthetic, educational, or otherwise cultural improvement to the community that cannot be measured in economic terms.

Criteria 3: Cost / Cost-effectiveness

The measure or program may have a high implementation or maintenance cost. Given the generally poor current economic conditions, the District may need to delay the implementation of additional water conservation programs and measures. This criterion also considers the cost of District labor required to implement and maintain measures and programs.

5.3 Screen Conservation Measures and Programs

The following conservation measures and programs were removed from further consideration.

Washing machines. Plumbing codes do not currently require low water use washing machines. Institution of a low water use washing machine requirement would have significant regulatory implications for the District, as it is the Town of Parker's responsibility to manage construction requirements. This program will be considered in future projects with the Town of Parker, however it is not currently in the District's purview.

Rebates. The District has evaluated rebates on appliances in the past, and has determined they are not as effective as educational and landscape water management programs. Demand from customers for rebate programs has been minimal – the District reports only 3 customer inquiries about a rebate program in the last 18 months. Also, minimal District staff is available to administer the rebate program. This program will be considered for re-evaluation in the future, however at this time the District's experience indicates it is not the most cost-effective investment towards their water conservation efforts.

SECTION 6
EVALUATE AND SELECT CONSERVATION MEASURES AND PROGRAMS

6.1 DEFINE EVALUATION CRITERIA

Please refer to Section 5.2 for evaluation criteria information.

6.2 MEASURES AND PROGRAMS SELECTED FOR EVALUATION

The measures and programs selected for evaluation are listed in **Table 6-1**. The measures and programs include existing activities because the District plans to continue all existing programs.

Table 6-1 Initial List of Water Conservation Activities Selected for Evaluation

Water Conservation Measures and Programs	Primary Screening Criteria Used
Water-efficient fixtures and appliances	
Low water use requirements for new fixtures	1
Landscape efficiency	
Low water use landscapes	1
Drought-resistant vegetation	1
Efficient irrigation	1
Industrial and commercial efficiency	
Water-efficient processes	1
Education/information dissemination	
Public education	1
Water-saving demonstrations	1, 2, 3
School programs	1
Informative & understandable water bill	1
Water bill inserts	1
Technical assistance	
Customer water use audits targeted at large users	1
Customer water use audits targeted at large landscapes	1, 3
Water conservation expert available	1
Rate structures & billing systems designed to encourage efficiency	
Volume billing	1
Conservation (tiered) rate structure	1
Increased (monthly) billing frequency	1
Regulations/Ordinances	
Turf restrictions	1
Landscape design/layout	1
Soil preparation	1
Irrigation equipment	1, 3
Water waste prohibition	1
Incentives	
Give-aways	1
Water reuse systems	
Reuse of tertiary-treated reclaimed water	1, 3
Distribution system efficiency	
Leak repair	1
Removal of phreatophytes	1

Water Conservation Measures and Programs	Primary Screening Criteria Used
Leak identification	1, 3
Meter source water	1
Meter service connections	1
Meter testing and replacement	1
Improved water accounting	1
Analysis of non-account water	1, 3

Note: 'Low water use landscapes' includes drought-resistant vegetation.

Table 6-1 shows potential expansion of several existing water conservation activities, noted by activities with primary screening criteria 2 or 3 in addition to 1.

6.3 ESTIMATE COSTS AND WATER SAVINGS OF EXPANSION CONSERVATION OPTIONS

Table 6-2 lists anticipated costs and water savings of the expansion water conservation measures and programs identified in **Table 6-1**.

Table 6-2 Costs and Water Savings of Expansion Water Conservation Activities

Water Conservation Measure or Program	Project Duration	Number of Units (annual value if ongoing project)	Estimated Annual or One-Time Costs	Estimated Annual Water Savings (in Year 1) (gallons)	Estimated Annual Water Savings (in Year 7) (gallons)
Water-saving demonstrations [1]	One-time	2	$62,000	112,707	337,707
Customer water use audits targeted at large landscapes [2]	Ongoing	$10,000	$10,000	66,000	66,000
Irrigation equipment [3]	Ongoing	170	$5,000	660,000	6,600,000
Reuse of tertiary-treated reclaimed water [4]	Ongoing	1	Year 1: $60,000 Year 7: $120,000	212,734,000	508,195,000
Leak identification [5]	Ongoing	1	$140,000	0	240,000
Analysis of non-account water [6]	Ongoing	$25,000	$25,000	240,000	240,000

Notes: [1] Water-saving demonstrations Year 1 water savings is based on the completion of xeriscape demonstration landscaping at the District's main office in 2009. The District's main office annual water savings assumes 12,523 square feet of sod will be removed and replaced with xeric plant material. Kentucky bluegrass necessary water consumption is 18 gallons per square foot per year, while customers use from 20 to 50 gallons per square foot per year. Xeric landscaping planned for 9 gallons per square foot per year. Year 7 water savings is based on the completion of xeriscape demonstration landscaping at the District's Rueter-Hess Water Treatment Plant in 2012. The RHWTP annual water savings assumes 25,000 square feet of landscaping using xeric plant material.

[2] Customer water use audits targeted at large landscapes Year 1 and Year 7 water savings assumes 10 percent of 2007 irrigation water was for large landscapes, assumes the water audits would reach 10 percent of large landscape customers per year, and estimates a 20 percent reduction in large landscaping irrigation water use. 2007 irrigation water use was approximately 33 million gallons.

[3] Irrigation equipment number of units an estimate by District staff. Estimated annual costs represent District staff labor spent administering the project. Year 1 water savings is based on an estimated 2 percent reduction in irrigation water use, assuming 6 percent compliance by HOA's and commercial accounts with the proposed evapotranspiration-based irrigation control equipment program. Year 7 water savings is based on an estimated 20 percent reduction in

irrigation water use, assuming 60 percent compliance by HOA's and commercial accounts with the proposed evapotranspiration-based irrigation control equipment program. 2007 irrigation water use was approximately 33 million gallons.

[4] Reuse of tertiary-treated reclaimed water estimated annual costs are based on historic power costs. Year 1 water savings is based on the savings due to a new District reclaimed water facility coming online in 2009. Year 7 water savings assumes 90 percent of all tertiary-treated wastewater is captured by the Cherry Creek diversion system for an estimated total savings of approximately 1.4 million gallons per day.

[5] Leak identification would include hiring a sonic detection contractor in the first year, then performing the evaluation approximately every five years. Leak identification Year 1 water savings assumes that the sonic detector contractor would perform the evaluation in Year 1, but that no repair work could be performed in the first year. Year 7 water savings is based on assuming 10 percent of the non-account water use results from leaks, and a 10 percent reduction of leaks by 2007 through miscellaneous pipe repair projects. 2007 non-account water use was approximately 24 million gallons.

[6] Analysis of non-account water Year 1 and Year 7 water savings assumes improved analysis practices result in a 1 percent per year savings. 2007 non-account water use was approximately 24 million gallons.

6.4 COMPARE BENEFITS AND COSTS

Table 6-3 discusses the anticipated primary benefits and costs of the expansion water conservation measures and programs identified in **Table 6-1**.

Table 6-3 Benefits and Costs of Water Conservation Activities

Water Conservation Measure or Program	Benefits	Costs
Water-saving demonstrations	• Provides public access to a functioning xeriscape demonstration garden. • Reduces District operation and maintenance costs compared to conventional landscaping for the same area.	• Capital cost. • Operation costs associated with arranging and giving tours.
Customer water use audits targeted at large landscapes	• Reduces water use. • Improves the health of the landscapes.	• Capital cost. • District staff time to administer the program.
Irrigation equipment	• Reduces water use. • Improves the health of the landscapes.	• Capital cost.
Reuse of tertiary-treated reclaimed water	• Reduces water use.	• Capital cost. • Operation and maintenance cost.
Leak identification	• Reduces water system losses.	• Capital cost.
Analysis of non-account water	• Reduces water use.	• District staff time to perform the program.

6.5 SELECT CONSERVATION MEASURES AND PROGRAMS

Table 6-4 summarizes the evaluation and selection of the expansion water conservation measures and programs identified in **Table 6-1**.

Table 6-4 Program Evaluation and Selection Status of Conservation Measures

Water Conservation Measures and Programs	Selected for Implementation	Primary Selection Criteria Applied	Evaluation Narrative
Water-saving demonstrations	Yes	3	The District budgeted for this program in 2009, however recent economic conditions have required the delay of its implementation. This program has been rescheduled for implementation in 2012.
Customer water use audits targeted at large landscapes	Yes	3	The District budgeted for this program in 2009, however recent economic conditions have required the delay of its implementation. This program has been rescheduled for implementation in 2010.
Irrigation equipment	Yes	2	The District's ordinance will require existing homes to use ET-based controllers as of August 1, 2012.
Reuse of tertiary-treated reclaimed water	Yes	3	Rueter-Hess Reservoir is currently scheduled for completion in 2011, and the Water Treatment Plant is scheduled to be online in 2012.
Leak identification	Yes	3	The District budgeted for this program in 2009, however recent economic conditions have required the delay of its implementation. This program has been rescheduled for implementation in 2012.
Analysis of non-account water	Yes	3	This program will require primarily additional District staff time to develop, and has the potential to result in significant savings.

Note: 1. Please refer to **Table 6-2** for estimated water savings associated with each measure or program.

Implementing the selected water conservation activities indicated in **Table 6-4** would result in an additional annual savings of approximately 515,000,000 gallons per year, which is the total Year 7 annual water savings per **Table 6-2**. As noted in Section 4.1, the District's goal of reducing water use by 10 gallons per capita per day would equate to approximately 208,000,000 gallons per year in 2018. Therefore the selected water conservation activities would achieve the desired goal before planned. The primary water conservation activity will be the completion of Rueter-Hess Reservoir for the subsequent operation of the Cherry Creek diversion system, which is planned for approximately year 2011.

As noted in **CWCB Worksheet 1-3**, several existing measures and programs were implemented in 2007 with the addition of the District's full-time Water Conservation Specialist. The new measures and programs have not yet fully developed, such that the resulting water conservation impacts are not yet fully realized. Additional time invested in existing measures is anticipated to result in additional water conservation.

SECTION 7
INTEGRATE RESOURCES AND MODIFY FORECASTS

7.1 REVISE DEMAND FORECASTS

This Water Conservation Plan identified new water conservation activities to be implemented, as summarized in **Table 6-4**. Water demands before and after implementing the new water conservation activities are listed in **CWCB Worksheet 7-1**.

CWCB Worksheet 7-1: Modified Demand Forecast

Line	Item	Current year [1]	Year 5 [2]	Year 10 [2]	Year 20 [2]
1	Average-day demand before new conservation activities	6,596,025	7,966,962	9,439,344	12,306,654
2	Average-day demand after new conservation activities [3]		6,554,144	8,026,525	10,893,835
3	Reduction in average-day demand (line 1 less line 2) [4]		1,412,818	1,412,818	1,412,818
4	Maximum-day demand before new conservation activities	16,490,061	19,917,405	23,598,360	30,766,634
5	Maximum-day demand after new conservation activities		16,385,359	20,066,314	27,234,588
6	Reduction in maximum-day demand (line 4 less line 5)		3,532,046	3,532,046	3,532,046
7	Ratio maximum-day to average-day demand before new conservation activities (line 4 divided by line 1)	2.5	2.5	2.5	2.5
8	Ratio maximum-day to average-day demand after new conservation activities (line 5 divided by line 2)		2.5	2.5	2.5

Note: [1] Current year average day and maximum day demands are from **CWCB Worksheet 2-1**.
[2] Year 5, 10, and 20 water savings are assumed to equal the Year 7 savings listed in **Table 6-2**.
[3] Average-day demand after new conservation activities assumes the amount of water pumped from District water reclamation facilities in 2008 will remain approximately the same in the future, with additional water reclaimed being processed through the new District facilities (Rueter-Hess Reservoir and Water Treatment Plant).
[4] Reduction in average-day demand is the same for Years 5, 10, and 20 because the total water savings listed in **Table 6-2** are assumed to remain the same for these years for the purposes of this evaluation. This is a conservative assumption as the total water savings is anticipated to increase through continuous public awareness improvement and increased water reuse.

CWCB Worksheet 7-1 shows the current year (2008) average day and maximum day demands based on the District's existing water conservation activities. The District will continue the existing water conservation activities and expand them where feasible as noted in **Table 6-1**, which will realize the same or improved water conservation in the future.

By implementing the new water conservation activities discussed in **Table 6-4**, the District's average day demand is forecasted to realize significant average day demand reductions. Line 3 shows a forecasted reduction of approximately 1.4 million gallons per day, or a reduction of approximately 15 percent in Year 10 (2018) water demand.

This is due to the major impact of the District's Rueter-Hess Reservoir and Water Treatment Plant projects. Based on the projected Year 10 (2018) population, the projected average annual water use would be approximately 140 gallons per person per day.

No significant change in the ratio of maximum day to average day demand is expected as a result of water conservation efforts.

Figure 7-1 presents the impact of the new water conservation activities on the District's projected average day demand from the data in **CWCB Worksheet 7-1** Lines 1 and 2.

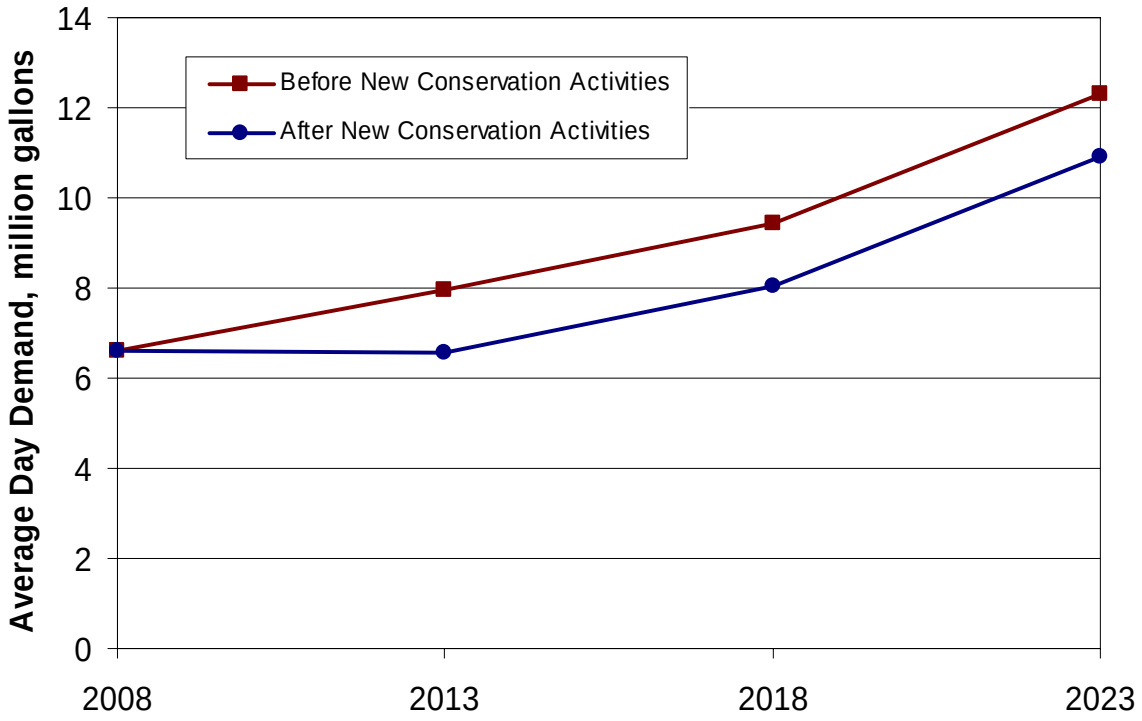

Figure 7-1 Average Day Demand Impact From New Conservation Activities

7.2 CONSIDER REVENUE EFFECTS

Decreased water use resulting from water conservation efforts will result in decreased revenues for the District. However, decreased water use from conservation will help offset increased water demand from population growth, which requires less infrastructure construction, operation, and maintenance for the District.

SECTION 8
DEVELOP IMPLEMENTATION PLAN

8.1 DEVELOP IMPLEMENTATION SCHEDULE

CWCB Worksheet 8-1 provides implementation schedule guidelines for the District's water conservation activities. The District's Water Conservation Specialist is responsible for coordinating and monitoring the selected water conservation activities.

CWCB Worksheet 8-1: Implementation Schedule for Measures and Programs

Line	Measure/Program	Required action	Beginning date	Completion date	Notes
1	Low water use requirements for new fixtures	Continue the existing activity.	Existing	Ongoing	
2	Low water use landscapes	Continue the existing activity.	Existing	Ongoing	
3	Drought-resistant vegetation	Continue the existing activity.	Existing	Ongoing	
4	Efficient irrigation	Continue the existing activity.	Existing	Ongoing	
5	Water-efficient processes	Continue the existing activity.	Existing	Ongoing	
6	Public education	Continue the existing activity.	Existing	Ongoing	
7	Water-saving demonstrations	Continue the existing activity.	Existing	Ongoing	If budget becomes available, implement the expanded program.
8	School programs	Continue the existing activity.	Existing	Ongoing	
9	Informative & understandable water bill	Continue the existing activity.	Existing	Ongoing	
10	Water bill inserts	Continue the existing activity.	Existing	Ongoing	
11	Customer water use audits targeted at large users	Continue the existing activity.	Existing	Ongoing	
12	Customer water use audits targeted at large landscapes	Continue the existing activity.	Existing	Ongoing	If budget becomes available, implement the expanded program.
13	Water conservation expert available	Continue the existing activity.	Existing	Ongoing	
14	Volume billing	Continue the existing activity.	Existing	Ongoing	
15	Conservation (tiered) rate structure	Continue the existing activity.	Existing	Ongoing	
16	Increased (monthly) billing frequency	Continue the existing activity.	Existing	Ongoing	
17	Turf restrictions	Continue the existing activity.	Existing	Ongoing	
18	Landscape design/layout	Continue the existing activity.	Existing	Ongoing	
19	Soil preparation	Continue the existing activity.	Existing	Ongoing	

Line	Measure/Program	Required action	Beginning date	Completion date	Notes
20	Irrigation equipment	Enforce the District's ordinance requiring existing homes to use rain sensors and HOA's and commercial properties to use ET-based controllers as of August 1, 2012.	Existing	Ongoing	
21	Water waste prohibition	Continue the existing activity.	Existing	Ongoing	
22	Give-aways – Home water audit kits	Continue the existing activity.	Existing	Ongoing	
23	Give-aways – Low flow shower heads	Continue the existing activity.	Existing	Ongoing	
24	Give-aways – Water restricting faucet aerators	Continue the existing activity.	Existing	Ongoing	
25	Reuse of tertiary-treated reclaimed water	Continue the existing activity. Continue progress on the Rueter-Hess Reservoir and the Water Treatment Plant construction projects.	Existing	Reservoir: 2011, WTP: 2012, Reuse: Ongoing	Expand reuse by reservoir completion.
26	Leak repair	Continue the existing activity.	Existing	Ongoing	
27	Removal of phreatophytes	Continue the existing activity.	Existing	Ongoing	
28	Leak identification	Continue the existing activity.	Existing	Ongoing	If budget becomes available, implement the expanded program.
29	Meter source water	Continue the existing activity.	Existing	Ongoing	
30	Meter service connections	Continue the existing activity.	Existing	Ongoing	
31	Meter testing and replacement	Continue the existing activity.	Existing	Ongoing	
32	Improved water accounting	Continue the existing activity.	Existing	Ongoing	
33	Analysis of non-account water	Expand District staff time spent analyzing non-account water uses to reduce consumption where possible.	Existing	Ongoing	

8.2 Develop Plan for Public Participation in Implementation

Public participation is critical to the success of water conservation. Most of the water conservation measures and programs rely on the District's customers changing their water use themselves, with the assistance of the measures and programs. Public feedback on the draft Water Conservation Plan was requested during a 60-day review period from March 2009 to May 2009. The draft Water Conservation Plan was available on the District's website (www.pwsd.org) and hard copies were available from the District's main office at 19801 East Mainstreet, Parker, CO 80138. The public review period was advertised on the District's website, in the Douglas County News Press newspaper, and via public notices posted at the Town of Parker Town Hall and the Parker Library. A copy of each of these notices is included in **Appendix A**.

Comments on the draft Water Conservation Plan were requested to be received by May 12, 2009. Comments were requested to be mailed or e-mailed to:

Craig Miller
Water Conservation Specialist
Parker Water and Sanitation District
19801 East Mainstreet
Parker, CO 80138
cmiller@pwsd.org

The draft Water Conservation Plan was submitted to the District's Board of Directors for their review and comment.

8.3 Develop Plan for Monitoring and Evaluation Process

The District will continue to monitor its water conservation activities to ensure the programs are being implemented efficiently and to maximum benefit. Monitoring will include data collection, customer feedback, and District staff feedback. Monitoring will be coordinated through the District's Water Conservation Specialist.

Evaluation of the District's water conservation activities will continue as in the past, with particular attention to recording data. Water conservation activities will be monitored regularly throughout the year.

This Water Conservation Plan is scheduled for re-evaluation in seven years in 2016, at which point existing conservation activities will be re-examined and new conservation activities evaluated.

8.4 Develop Plan for Updating and Revising the Conservation Plan

The District has created cross-generational public education programs, an improved and informative monthly newsletter, and regulations that promote conservation and the use of efficient new irrigation technology. The District has water rate structures that reward efficient water use and discourage water waste. The District also has extensive conservation resources available on its website that are constantly updated and expanded. The District intends to re-evaluate and reissue this Water Conservation Plan every 5 years, and no later than 2016, where 2016 would be seven years after the previous version in accordance with Colorado Revised Statutes §37-60-126.

8.5 Develop Plan Adoption Date/Plan Completion Date/Plan Approved Date

The PWSD Water Conservation Plan was completed, adopted, and approved by the District on May 28, 2009. District adoption documentation is included in **Appendix C**.

The public review period was advertised as follows, with a copy of each of these notices attached:

- On the District's website
- In an article on a regional website
- In the Douglas County News Press newspaper
- Via a public notice posted at the Town of Parker Town Hall
- Via a public notice posted at the Parker Library
- In the District's April 9th Board Meeting agenda

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Mission Statement

PWSD's mission is to “provide service to the entire community now and in the future, both

economically and without interruption, always remembering its role as public servants and its allegiance to the community as a whole."

Regular Board Meeting Notice

Parker Water & Sanitation District 19801 E Mainstreet, Parker CO 80138

March 12, 2009 - 7:00PM Agenda

Message from Mary Spencer, President

Welcome to the PWSD Web site. We are glad you are here because every resident, every

customer has a part to play in Parker's water future.

We have every reason to be optimistic about our ongoing water supply. PWSD possesses the will, the resources, the experience and the leadership to secure water not only for this generation but for many to come. Yet, we must work hard together – the entire community – to make it happen.

There can be no debate about this central truth: we must increase our supply of water to ensure a reliable resource for both present and future generations. As we work to transition from a groundwater-reliant system to other sources, we encourage you to stay tuned-in, to comment and question. We'll be listening.

Sincerely,

Mary Spencer, President

WATER CONSERVATION PLAN AVAILABLE FOR REVIEW

Parker Water & Sanitation District is accepting comments on its recently completed Draft Water Conservation Plan. Copies of the Plan can be picked up at the District Office, 19801 E. Mainstreet in Parker.

The plan can also be downloaded here.

The State of Colorado requires water conservation plans be approved by the Colorado Water Conservation Board under §37-60-126 C.R.S. The Water Conservation Act of 2004 amended §37-60-

126 C.R.S. to include additional requirements. While PWSD does have a state approved Water Conservation Plan on file, the plan was last updated in 1997 and does not meet the new requirements.

The Draft Water Conservation Plan is a five year strategic plan that identifies and evaluates programs we should offer and support in an effort to achieve our community's long-term water conservation goals. A Public Review Meeting is scheduled for April 9, 2009, 7 PM at the District Office, 19801 E. Mainstreet.

Comments are due by May 12, 2009 and can be submitted to:

Craig Miller
Water Conservation Specialist
19801 E. Mainstreet
Parker, CO 80138
cmiller@pwsd.org

Notice of Water Main Flushing

Parker Water and Sanitation District will start flushing water mains on Monday, March 16, 2009 and will continue for approximately two months. Water mains are flushed once a year to remove

mineral deposits from the lines. Workers will be opening fire hydrants and blow-off valves at the end of cul-de-sacs Monday thru Friday until flushing is completed. Expect to see temporary water discoloration in your home for several hours during the flushing process. If this happens, avoid doing laundry since the discolored water can stain clothing. If staining occurs, please avoid drying of clothing. Call 303-841-4627 between the hours of 7:30 am and 4:00 pm and Parker Water and Sanitation District will provide you with Iron Out, an iron stain removal powder. After flushing is completed in your area, run cold water to clear any discolored water in your service lines. Put this water to good use by watering plants or grass through a garden hose. The discolored water poses no health risk to people or animals. Signs will be posted in the flushing area before and during flushing operations to notify our customers. PWSD thanks you for your patience during this necessary operation.

PWSD water conservation plan available for review > General News > Stories > Parker > YourHub.c - Windows Internet Explorer

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PWSD water conservation plan available for review

[Edit]

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Contributed by: Craig Miller on 3/9/2009

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CONTRIBUTOR INFORMATION

Craig Miller
Parker , CO

Craig Miller has posted **5** stories and **0** comments since joining on **4/3/2008**. Craig Miller 's average story rating is **5**.

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PublicNotices

PUBLIC NOTICE

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cmiller@pwsd.org

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Publisher: Douglas County News-Press

PUBLIC NOTICE

Highlands Ranch
COMBINED NOTICE OF SALE, RIGHT TO CURE, AND RIGHT TO REDEEM
Public Trustee Sale No. 2009-0021
To Whom It May Concern: On 1/9/2009 9:39:00 AM the undersigned Public Trustee caused the Notice of Election and Demand relating to the Deed of Trust described below to be recorded in Douglas County:
Original Grantor: SIMONE M. PATRICK AND LEIF REMLEY
Original Beneficiary: MORTGAGE ELECTRONIC REGISTRATION SYSTEMS, INC., AS NOMINEE FOR AMERICAN MORTGAGE NETWORK, INC.
Current Owner of Evidence of Debt: CHASE HOME FINANCE LLC
Date of Deed of Trust (DOT): 11/21/2007
Recording Date of DOT: 12/7/2007
Reception No. of DOT: 2007094682
DOT Recorded in Douglas County.
Original Principal Amount of Evidence of Debt: $179,450.00
Outstanding Principal Amount as of the date hereof: $178,463.55
Pursuant to C.R.S. §38-38-101 (4) (i), you are hereby notified that the covenants of the deed of trust have been violated as follows: Failure to pay monthly installments due Note Holder.
THE LIEN FORECLOSED MAY NOT BE A FIRST LIEN.
THE PROPERTY DESCRIBED HEREIN IS ALL OF THE PROPERTY ENCUMBERED BY THE LIEN OF THE DEED OF TRUST.
Legal Description of Real Property:
PARCEL A:
BUILDING 6504, UNIT C, SILVER MESA, A RESIDENTIAL CONDOMINIUM COMMUNITY, ACCORDING TO THE

PUBLIC NOTICE

Castle Rock
COMBINED NOTICE OF SALE, RIGHT TO CURE, AND RIGHT TO REDEEM
Public Trustee Sale No. 2009-0056
To Whom It May Concern: On 1/14/2009 12:05:00 PM the undersigned Public Trustee caused the Notice of Election and Demand relating to the Deed of Trust described below to be recorded in Douglas County:
Original Grantor: KENNETT L BARNETT AND R CATHLEEN BARNETT
Original Beneficiary: MORTGAGE ELECTRONIC REGISTRATION SYSTEMS, INC., AS NOMINEE FOR EVERBANK
Current Owner of Evidence of Debt: WELLS FARGO BANK, N.A. DBA AMERICAS SERVICING COMPANY
Date of Deed of Trust (DOT): 12/8/2006
Recording Date of DOT: 12/13/2006
Reception No. of DOT: 2006107149
DOT Recorded in Douglas County.
Original Principal Amount of Evidence of Debt: $251,200.00
Outstanding Principal Amount as of the date hereof: $251,130.65
Pursuant to C.R.S. §38-38-101 (4) (i), you are hereby notified that the covenants of the deed of trust have been violated as follows: Failure to pay monthly installments due Note Holder.
THE LIEN FORECLOSED MAY NOT BE A FIRST LIEN.
THE PROPERTY DESCRIBED HEREIN IS ALL OF THE PROPERTY ENCUMBERED BY THE LIEN OF THE DEED OF TRUST.
Legal Description of Real Property:
LOT 10, BLOCK 3, RED HAWK FILING NO. 1, COUNTY OF DOUGLAS, STATE OF COLORADO.
Which has the address of: 1366 Ballata Court , Castle Rock, CO 80109
NOTICE OF SALE
The current owner of the Evidence of Debt secured by the Deed of Trust described herein, has filed written election and demand for sale as provided by law and in said Deed of Trust.
THEREFORE, Notice Is Hereby Given that on the first possible sale date (unless the sale is continued) at 10:00 a.m. Wednesday, May 6, 2009, at the Douglas County Wilcox Building, 301 Wilcox Street, Castle Rock, Colorado, I will sell at public auction to the highest and best bidder for cash, the said real property and all interest of said Grantor(s), Grantor(s)' heirs and assigns therein, for the purpose of paying the indebtedness provided in said Evidence of Debt secured by the Deed of Trust, plus attorneys' fees, the expenses of sale and other items allowed by law, and will deliver to the purchaser a Certificate of Purchase, all as provided by law.
First Publication: 3/12/2009
Last Publication: 4/9/2009
Published in: Douglas County News Press
NOTICE OF RIGHTS
You may have an interest in the real property being foreclosed, or have certain rights or suffer certain liabilities pursuant to Colorado statutes as a result of said foreclosure. You may have the right to redeem said property or you may have the right to cure default under the Deed of Trust being foreclosed. A copy of said

PUBLIC NOTICE

Castle Rock
COMBINED NOTICE OF SALE, RIGHT TO CURE, AND RIGHT TO REDEEM
Public Trustee Sale No. 2009-0092
To Whom It May Concern: On 1/15/2009 4:01:00 PM the undersigned Public Trustee caused the Notice of Election and Demand relating to the Deed of Trust described below to be recorded in Douglas County:
Original Grantor: KEVIN D JACKSON
Original Beneficiary: WELLS FARGO BANK, N.A.
Current Owner of Evidence of Debt: US BANK NATIONAL ASSOCIATION, AS TRUSTEE FOR CMLTI 2007-WFHE1
Date of Deed of Trust (DOT): 10/25/2006
Recording Date of DOT: 11/1/2006
Reception No. of DOT: 2006094217
DOT Recorded in Douglas County.
Original Principal Amount of Evidence of Debt: $413,250.00
Outstanding Principal Amount as of the date hereof: $430,265.63
Pursuant to C.R.S. §38-38-101 (4) (i), you are hereby notified that the covenants of the deed of trust have been violated as follows: Failure to pay monthly installments due Note Holder.
THE LIEN FORECLOSED MAY NOT BE A FIRST LIEN.
The property described herein is all of the property encumbered by the lien of the deed of trust.
Legal Description of Real Property:
LOT 11, BLOCK 7, THE MEADOWS, FILING 16 - PARCELS 1, 2, 3 & 4, 3RD AMENDMENT, COUNTY OF DOUGLAS, STATE OF COLORADO.
Which has the address of: 1539 Candleglow Street , Castle Rock, CO 80104
NOTICE OF SALE
The current owner of the Evidence of Debt secured by the Deed of Trust described herein, has filed written election and demand for sale as provided by law and in said Deed of Trust.
THEREFORE, Notice Is Hereby Given that on the first possible sale date (unless the sale is continued) at 10:00 a.m. Wednesday, May 6, 2009, at the Douglas County Wilcox Building, 301 Wilcox Street, Castle Rock, Colorado, I will sell at public auction to the highest and best bidder for cash, the said real property and all interest of said Grantor(s), Grantor(s)' heirs and assigns therein, for the purpose of paying the indebtedness provided in said Evidence of Debt secured by the Deed of Trust, plus attorneys' fees, the expenses of sale and other items allowed by law, and will deliver to the purchaser a Certificate of Purchase, all as provided by law.
First Publication: 3/12/2009
Last Publication: 4/9/2009
Publisher: Douglas County News Press
NOTICE OF RIGHTS
You may have an interest in the real property being foreclosed, or have certain rights or suffer certain liabilities pursuant to Colorado statutes as a result of said foreclosure. You may have the right to redeem said property or you may have the right to cure default under the Deed of Trust being foreclosed. A copy of said

PUBLIC NOTICE

Castle Rock
COMBINED NOTICE OF SALE, RIGHT TO CURE, AND RIGHT TO REDEEM
Public Trustee Sale No. 2009-0030
To Whom It May Concern: On 1/9/2009 9:54:00 AM the undersigned Public Trustee caused the Notice of Election and Demand relating to the Deed of Trust described below to be recorded in Douglas County:
Original Grantor: LEIGH R. DAVIES, CRYSTAL JOY
Original Beneficiary: MORTGAGE ELECTRONIC REGISTRATION SYSTEMS, INC. ACTING SOLELY AS A NOMINEE FOR PAUL FINANCIAL, LLC
Current Owner of Evidence of Debt: AURORA LOAN SERVICES, LLC
Date of Deed of Trust (DOT): 8/17/2006
Recording Date of DOT: 8/29/2006
Reception No. of DOT: 2006074441
DOT Recorded in Douglas County.
Original Principal Amount of Evidence of Debt: $192,000.00
Outstanding Principal Amount as of the date hereof: $198,546.17
Pursuant to C.R.S. §38-38-101 (4) (i), you are hereby notified that the covenants of the deed of trust have been violated as follows: Failure to pay monthly installments due Note Holder.
THE LIEN FORECLOSED MAY NOT BE A FIRST LIEN.
THE PROPERTY DESCRIBED HEREIN IS ALL OF THE PROPERTY ENCUMBERED BY THE LIEN OF THE DEED OF TRUST.
Legal Description of Real Property:
LOT 6, BLOCK 5, SILVER HEIGHTS AMENDED, COUNTY OF DOUGLAS, STATE OF COLORADO.
Which has the address of: 3630 North Collins Street , Castle Rock, CO 80108
NOTICE OF SALE
The current owner of the Evidence of Debt secured by the Deed of Trust described herein, has filed written election and demand for sale as provided by law and in said Deed of Trust.
THEREFORE, Notice Is Hereby Given that on the first possible sale date (unless the sale is continued) at 10:00 a.m. Wednesday, April 29, 2009, at the Douglas County Wilcox Building, 301 Wilcox Street, Castle Rock, Colorado, I will sell at public auction to the highest and best bidder for cash, the said real property and all interest of said Grantor(s), Grantor(s)' heirs and assigns therein, for the purpose of paying the indebtedness provided in said Evidence of Debt secured by the Deed of Trust, plus attorneys' fees, the expenses of sale and other items allowed by law, and will deliver to the purchaser a Certificate of Purchase, all as provided by law.
First Publication: 3/5/2009
Last Publication: 4/2/2009
Published in: Douglas County News Press
NOTICE OF RIGHTS
You may have an interest in the real property being foreclosed, or have certain rights or suffer certain liabilities pursuant to Colorado statutes as a result of said foreclosure. You may have the right to redeem said property or you may have the right to cure default under the Deed of Trust being foreclosed. A copy of said statutes, as such statutes are presently

PUBLIC NOTICE

Castle Rock
COMBINED NOTICE OF SALE, RIGHT TO CURE, AND RIGHT TO REDEEM
Public Trustee Sale No. 2008-2163
To Whom It May Concern: On 12/30/2008 4:03:00 PM the undersigned Public Trustee caused the Notice of Election and Demand relating to the Deed of Trust described below to be recorded in Douglas County:
Original Grantor: MARK E HELTON AND MARTHA C HELTON
Original Beneficiary: WASHINGTON MUTUAL BANK, FA
Current Owner of Evidence of Debt: BANK OF AMERICA, NA
Date of Deed of Trust (DOT): 3/3/2006
Recording Date of DOT: 3/13/2006
Reception No. of DOT: 2006020059
DOT Recorded in Douglas County.
Original Principal Amount of Evidence of Debt: $580,000.00
Outstanding Principal Amount as of the date hereof: $578,110.42
Pursuant to C.R.S. §38-38-101 (4) (i), you are hereby notified that the covenants of the deed of trust have been violated as follows: Failure to pay monthly installments due Note Holder.
THE LIEN FORECLOSED MAY NOT BE A FIRST LIEN.
THE PROPERTY DESCRIBED HEREIN IS ALL OF THE PROPERTY ENCUMBERED BY THE LIEN OF THE DEED OF TRUST.
Legal Description of Real Property:
LOT 45, KEENE RANCH FILING NO. 1, COUNTY OF DOUGLAS, STATE OF COLORADO.
Which has the address of: 3841 Castle Butte Drive , Castle Rock, CO 80109
NOTICE OF SALE
The current owner of the Evidence of Debt secured by the Deed of Trust described herein, has filed written election and demand for sale as provided by law and in said Deed of Trust.
THEREFORE, Notice Is Hereby Given that on the first possible sale date (unless the sale is continued) at 10:00 a.m. Wednesday, April 22, 2009, at the Douglas County Wilcox Building, 301 Wilcox Street, Castle Rock, Colorado, I will sell at public auction to the highest and best bidder for cash, the said real property and all interest of said Grantor(s), Grantor(s)' heirs and assigns therein, for the purpose of paying the indebtedness provided in said Evidence of Debt secured by the Deed of Trust, plus attorneys' fees, the expenses of sale and other items allowed by law, and will deliver to the purchaser a Certificate of Purchase, all as provided by law.
First Publication: 2/26/2009
Last Publication: 3/26/2009
Published in: Douglas County News Press
NOTICE OF RIGHTS
You may have an interest in the real property being foreclosed, or have certain rights or suffer certain liabilities pursuant to Colorado statutes as a result of said foreclosure. You may have the right to redeem said property or you may have the right to cure default under the Deed of Trust being foreclosed. A copy of said statutes, as such statutes are presently constituted, which may affect your rights, is attached to all mailed copies of this

PUBLIC NOTICE

Castle Rock
COMBINED NOTICE OF SALE, RIGHT TO CURE, AND RIGHT TO REDEEM
Public Trustee Sale No. 2008-2166
To Whom It May Concern: On 12/31/2008 3:04:00 PM the undersigned Public Trustee caused the Notice of Election and Demand relating to the Deed of Trust described below to be recorded in Douglas County:
Original Grantor: SHAWN T STRATTON
Original Beneficiary: ARGENT MORTGAGE COMPANY, LLC
Current Owner of Evidence of Debt: DEUTSCHE BANK NATIONAL TRUST COMPANY, AS TRUSTEE FOR ASSET-BACKED PASS-THROUGH CERTIFICATES, SERIES 2004-W7
Date of Deed of Trust (DOT): 2/13/2004
Recording Date of DOT: 3/17/2004
Reception No. of DOT: 2004026854
DOT Recorded in Douglas County.
Original Principal Amount of Evidence of Debt: $266,475.00
Outstanding Principal Amount as of the date hereof: $252,353.62
Pursuant to C.R.S. §38-38-101 (4) (i), you are hereby notified that the covenants of the deed of trust have been violated as follows: Failure to pay monthly installments due Note Holder.
THE LIEN FORECLOSED MAY NOT BE A FIRST LIEN.
THE PROPERTY DESCRIBED HEREIN IS ALL OF THE PROPERTY ENCUMBERED BY THE LIEN OF THE DEED OF TRUST.
Legal Description of Real Property:
LOT 13, BLOCK 2, SCOTT II FILING NUMGBER 3, COUNTY OF DOUGLAS, STATE OF COLORADO
Which has the address of: 744 Whispering Oak Drive , Castle Rock, CO 80104
NOTICE OF SALE
The current owner of the Evidence of Debt secured by the Deed of Trust described herein, has filed written election and demand for sale as provided by law and in said Deed of Trust.
THEREFORE, Notice Is Hereby Given that on the first possible sale date (unless the sale is continued) at 10:00 a.m. Wednesday, April 22, 2009, at the Douglas County Wilcox Building, 301 Wilcox Street, Castle Rock, Colorado, I will sell at public auction to the highest and best bidder for cash, the said real property and all interest of said Grantor(s), Grantor(s)' heirs and assigns therein, for the purpose of paying the indebtedness provided in said Evidence of Debt secured by the Deed of Trust, plus attorneys' fees, the expenses of sale and other items allowed by law, and will deliver to the purchaser a Certificate of Purchase, all as provided by law.
First Publication: 2/26/2009
Last Publication: 3/26/2009
Published in: Douglas County News Press
NOTICE OF RIGHTS
You may have an interest in the real property being foreclosed, or have certain rights or suffer certain liabilities pursuant to Colorado statutes as a result of said foreclosure. You may have the right to redeem said property or you may have the right to cure default under the Deed of Trust being foreclosed. A copy of said statutes, as such statutes are presently

Parker Water & Sanitation District
19801 E. Mainstreet
Parker, CO 80138
Phone: 303-841-4627

PUBLIC NOTICE

Parker Water & Sanitation District is accepting comments on its draft Water Conservation Plan. Copies of the Plan can be picked up at the District Office, 19801 E. Mainstreet in Parker.

The plan can also be downloaded from the District's website, www.pwsd.org

Comments are due by May 12, 2009 and can be submitted to:

Craig Miller
Water Conservation Specialist
19801 E. Mainstreet
Parker, CO 80138
cmiller@pwsd.org

Board Meeting Agenda

Meeting Notice and Agenda

Parker Water & Sanitation District
19801 E. Mainstreet, Parker Colorado

April 9, 2009

7:00 pm. meeting convenes

I. CALL TO ORDER

II. ROLL CALL

III. CHANGES / ADDITIONS TO THE AGENDA

IV. RESOLUTION 2009-5 LOCATION CHANGE FOR FUTURE BOARD MEETINGS

V. PUBLIC COMMENT

VI. APPROVAL OF MINUTES –MARCH 12, AND MARCH 19, 2009

VII. ACCOUNTS PAYABLE – MARCH 2009

VIII. RATE STUDY / COMMUNITY GROUP UPDATE

IX. CONSERVATION PLAN – PUBLIC HEARING

X. COLORADO / WYOMING COALITION

XI. IDENTITY THEFT PREVENTION PROGRAM

XII. BOARD COMMENTS

Meeting Notice and Agenda

Parker Water & Sanitation District
19801 E. Mainstreet, Parker

APRIL 9, 2009

7:00 pm. meeting convenes

I. CALL TO ORDER

II. ROLL CALL

III. CHANGES / ADDITIONS TO THE AGENDA

IV. RESOLUTION 2009-5 LOCATION CHANGE FOR FUTURE BOARD MEETINGS

V. PUBLIC COMMENT

VI. APPROVAL OF MINUTES –MARCH 12, AND MARCH 19, 2009

VII. ACCOUNTS PAYABLE – MARCH 2009

VIII. RATE STUDY / COMMUNITY GROUP UPDATE

IX. CONSERVATION PLAN – PUBLIC HEARING

X. COLORADO / WYOMING COALITION

XI. IDENTITY THEFT PREVENTION PROGRAM

XII. BOARD COMMENTS

Comments on the draft Water Conservation Plan were requested to be received by May 12, 2009. Comments were requested to be mailed or e-mailed to:

Craig Miller
Water Conservation Specialist
Parker Water and Sanitation District
19801 East Mainstreet
Parker, CO 80138
cmiller@pwsd.org

The draft Water Conservation Plan was submitted to the District's Board of Directors for their review and comment.

Comments were received by e-mail and are attached, with responses added to each in italic font.

1) PWSD's rate structure should be modified to include an earlier block that will encourage efficient outdoor use and a later block to discourage excessive water use. The Plan states that PWSD's primary incentive to promote conservation of water is its inclining block rate structure, and while the existing rate structure does have large increases between blocks that send a strong price signal to consumers, it can be improved.

According to data presented in the Plan, average winter consumption (AWC) for each residential account is approximately 5,000 gallons per month.[1] With the current 1st block covering all water use up to 20,000 gallons, an average customer could quadruple their AWC and still not see a change in the price of water. Setting a block rate change around 6,000 gallons per month (slightly higher than AWC) would encourage residents to use their outdoor water more efficiently. Landscape irrigation and outdoor water use could also be made more efficient by adding another block at the high end to encourage conservation by the largest water users. A block rate change around 45,000 gallons per month may be appropriate, but will depend on PWSD's unique financial situation and customer use statistics.

Other rate structure options include using a water budget approach, providing peer-to-peer educational information, and tying sewer fees to water use fees. Water budget-based rate structures have been successfully employed in Colorado by the Centennial Water & Sanitation District and the City of Boulder. Implementation of this type of rate structure provides an equitable way to share limited supply while preserving choice, improves the customer's linkage between who causes costs and who pays for them, and provides superior and equitable pricing control during times of drought.[2]

Providing a peer-to-peer comparison of water use on a customer's bill offers educational information to the customer and may result in decreased water use through social

pressure. If an individual knows they are using more water than others on their block or in their neighborhood, they may be more likely to reduce their water use.

Tying sewer fees to water use fees, rather than having a set monthly fee, is another way to incentivize conservation. People who can save money on two parts of their water bill may be more apt to use water efficiently.

[1] PWSD provided approximately 100,000,000 gallons of water per month to its customers during the winter of 2008 (Figure 2.4 Monthly Total Water Use). About 56% of PWSD water is supplied to 11,500 single family residential taps, making residential AWC 4,870 gal/mo.

[2] Mayer, P. & DeOreo, W. 2008. Water Budgets and Rate Structures: Innovative Management Tools. Journal AWWA. May.

> *The District is currently reviewing their rate structure, and this suggestion will be considered by the Rate Study Working Group, which is comprised of local citizens.*

2) WRA strongly questions PWSD's refusal to use rebate programs for encouraging water conservation. Successful rebate programs throughout the State of Colorado save hundreds of acre-feet per year and are almost always cost-competitive[3] with other supply options (such as adding a 1000 gpm well complex every year). PWSD states customer demand for rebate programs is minimal, but the District has not offered or promoted rebate programs. Using lack of demand as an excuse is like putting the cart before the horse; good rebate programs require active and comprehensive marketing. WRA would be happy to advise PWSD on potential rebate programs and provide supporting research and reports from successful programs implemented in Colorado and throughout the Southwest.

[3] For example, the City of Aurora estimates their toilet and clothes washer rebate program has saved over 188 AF from 2002-2006 at a cost of $232/AF. Western Resource Advocates. 2008. Smart Savings, Water Conservation Measures that Make ¢ents.

> *Noted for future consideration.*

3) It is essential that PWSD and the Town of Parker work with developers to encourage the construction of new water-efficient homes and businesses. Revisions to the current plumbing code or other ordinances requiring the use of state-of-the-art water conserving appliances, such as EPA's WaterSense products, can have a significant impact in determining the water use of new residents. Developers who have pursued water-smart projects have found that these homes sell for very competitive prices. A reduction in the

water development fee for home builders who can demonstrate that their homes use less water than the average, may be one way to incentivize and encourage more water smart development. PWSD should also evaluate the potential for submetering of all new multi-family residences to encourage higher rates of conservation across all customer classes.

In addition, PWSD should seek to participate in recently passed Colorado legislation, HB 091129 (Looper), which establishes a pilot program for rainwater harvesting. With an expected tripling of existing connections by build-out, perhaps one of the bill's new pilot developments could be located in PWSD's service area.

> *Noted for future consideration. The District does encourage the construction of new water-efficient homes and businesses.*

4) WRA strongly urges PWSD to implement a proactive leak detection and water loss management program and to set future goals for reducing system losses. The large percentage of lost water (9%) is costly to the District, represents inefficient use of a precious resource, and can be lowered. Although the American Water Works Association has determined that a ten percent system loss is acceptable, many Front Range water providers have water loss percentages far lower than PWSD.[4] PWSD does fix identified leaks and uses a GIS system to speed repairs, but an active water loss program will help identify and prioritize needed capital improvements to the water supply system and will ultimately result in greater revenue for the District and improved management of the resource.

[4] Nine of the thirteen communities evaluated in WRA's Front Range Water Meter report have unaccounted-for water values of 9% or less.

> *Noted for future consideration. The Plan selected Leak Identification as an existing program to be expanded. Table 6-4 indicates the program is scheduled for implementation in 2012.*

5) Outdoor water use can be significantly reduced by responsible planning initiatives, proper irrigation system design, improved maintenance, and better scheduling. About half of PWSD's delivered water is used for outdoor irrigation, and the Plan states that over 50% of outdoor irrigation is wasted. PWSD should explore the use of separate irrigation meters for all properties so that customers can become more knowledgeable about (and directly pay for) their outdoor water use. The District should require irrigation systems to be certified and audited by a landscape professional for all irrigated areas greater than some area (say 5,000 sq ft) before water service commences. PWSD should compel all customers with irrigation-only meters to use ET controllers and abide by an irrigation budget specific to the vegetation's requirements. A turf replacement rebate program should be explored, and the District should also implement a time-of-

day and time-of-year irrigation ordinance so that water is applied during the most appropriate times. These outdoor conservation strategies will help mitigate peak day demands; decreasing the need for additional infrastructure improvements and allowing for more flexible operation of the future Rueter-Hess Reservoir.

Noted for future consideration.

The PWSD Water Conservation Plan was completed, adopted, and approved by the District on May 28, 2009. District adoption documentation is attached.

RESOLUTION NO. 2009- 6

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE PARKER WATER AND SANITATION DISTRICT ADOPTING A WATER CONSERVATION PLAN

WHEREAS, the Parker Water and Sanitation District provides water and sanitation services to residents of the District; and

WHEREAS the underground aquifers from which the District withdraws water are suffering depletion, which depletion results from increased water demands of the residents of the District and the surrounding communities; and

WHEREAS the Board of Directors of the District has commissioned the staff of the District to develop a water conservation plan which will be available for reference and use by residents and water users of the District which, when implemented, will result in a slowing of the depletion of the aquifers and a reduction in the amount of water required to be produced by the District; and

WHEREAS the Board of Directors of the District wishes to adopt the water conservation plan attached hereto and incorporated herein, and directs the staff of the District to make the same available to the residents and water users of the District and to make efforts to disseminate such plan so that the water conservation measures identified therein may be widely utilized in the Parker community.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE PARKER WATER AND SANITATION DISTRICT

Section 1. The Water Conservation Plan attached hereto as Exhibit A is hereby adopted effective on the date hereof.

Section 2. The staff of the District is hereby directed to advertise the existence and content of the Water Conservation Plan and to work with residents and water users in the Parker Water and Sanitation District to implement the conservation measures identified therein.

Done and Resolved this 28th day of May, 2009.

PARKER WATER AND
SANITATION DISTRICT

By: _____
~~President~~ Vice President

ATTEST BY: _____
Secretary, Mike Casey

S:\ACCOUNTING\JOY\WATER CONSERVATION PLAN.RES 2009-6DOC.DOC
05/21/2009

Parker Water and Sanitation District
19801 East Mainstreet
Parker, CO 80138
303-841-4627

Integra Engineering
1095 South Monaco Parkway
Denver, CO 80224
303-825-1802