



1.0 Name and Contact Information

St. Charles Mesa Water District : District Office 1397 Aspen Road Pueblo, CO 81006
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Key Personnel:

David K. Simpson, District Manager
Donald R. Williams, Operations Manager
Susann F. Long, Administrative Assistant & Bookkeeper
Michael M. Cid, Treatment Plant Operator, Class A Water

1.01 Organizations and Individuals assisting with Plan Development

St. Charles Mesa Water District: David K. Simpson, District Manager
Southeastern Colorado Water Conservancy District: Jean Van Pelt, Conservation Outreach Coordinator
Young Technology Group: Ken Young, P.E., Owner

1.1 Physical Characteristics of the Existing Water Supply System

The St. Charles Mesa is a geographic region located just east, and adjacent to the City of Pueblo, Colorado. The area is characterized as a "Table top mesa" which is bounded by the Arkansas River on the north, and is bisected by the St. Charles River, which is tributary to the Arkansas River.

The St. Charles River is essentially the delineator between the higher density residential and business developments located to the west, and the more urban, agricultural area located to the east of the river.

The St. Charles Mesa Water District (SCMWD) was formed in 1963 as a water association, by a group of residents and land owners who were committed to creating a not for profit water utility to provide potable water to the residents and businesses on the St. Charles Mesa. In 1988, the association's members voted to convert to a Water District.

The District encompasses approximately 65 square miles. The majority of the system is located in Zone 1, which was the original district boundary. In 1999, the District absorbed the Huerfano Water District into its service area (Zone 2) and includes 152 taps. Zone 2 is currently under a moratorium for new taps.

The District currently serves a population of 10,921. As of May, 2009 there are 3,853 residential taps and 185 commercial (non residential) taps and eight (8) Institutional (School District No. 70) taps. The current average daily use for residential taps is 350 gallons per day, and 1,400 gallons per day for commercial (non residential) taps and 26,000 gallons per day for Institutional (School District No. 70) taps. The largest use is irrigation of lawns by Institutional (School District No. 70) customers. The customers with the highest irrigation usage are Pueblo County High School and South Mesa Elementary School. The largest commercial, non-irrigation user is Mission Foods.



The main components of the overall water system are the 5 MGD treatment facility, 1,800 Acre-Foot Raw Water Storage Reservoir, raw water delivery pipeline from the Bessemer Ditch and 185 miles of distribution piping. There are also four auxiliary wells.

1.2 Water Sources

The following is a summary of the raw water sources which the District utilizes:

1. The Arkansas River Pump Station, which is located approximately 1 mile west of the westerly district boundary, which diverts water from the Arkansas River and pumps the raw water to the raw water storage reservoir (5.5 miles to the east) via a 14" diameter pipeline. A booster pump station is located midway along the transmission line. This is available from November through March.
2. Bessemer Ditch Diversion Number 1 is located at 21st Lane and South Road, and is pumped to the 90 acre-foot raw water reservoir via a 12" diameter pipeline.
3. Bessemer Ditch Diversion Number 2 is located approximately 1 mile west of the 1,800 acre-foot raw water reservoir and is delivered via a 30" diameter gravity pipeline. Both of the Bessemer Ditch Diversions are used during the irrigating season (March 15 – November 15).
4. Cottonwood Creek is a primary source which is utilized between April and October.
5. Zoeller Ditch is a primary source which can be utilized year round.
6. Velasquez Creek is a supplemental source which can be utilized from November 15 through March 15, and has a winter storage priority.
7. Wells #1, #6, #8 and #10 are utilized mainly from March through November.
8. The District also attempts to maintain an annual storage of approximately 2,000 acre-feet of project water in Pueblo Reservoir.

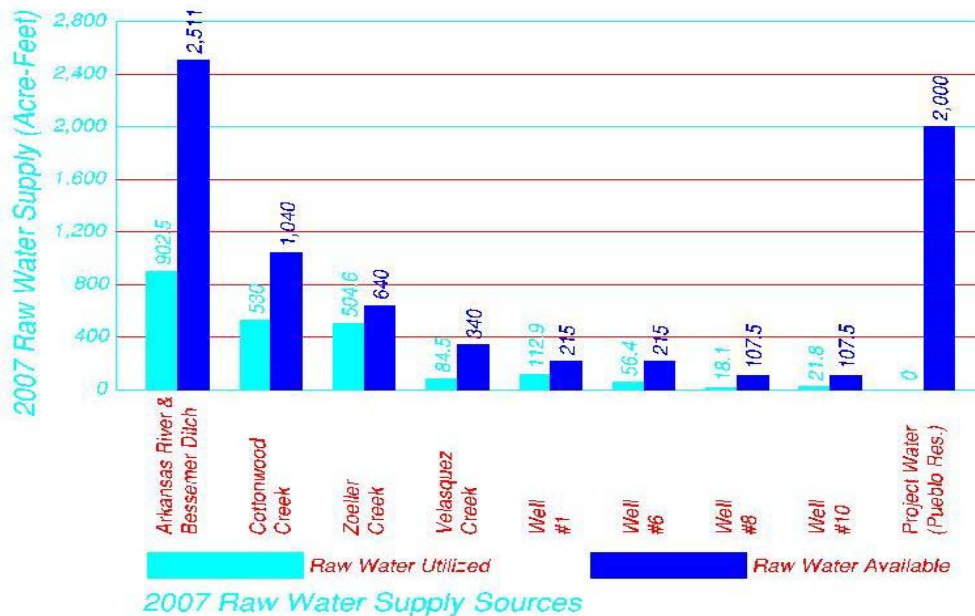


Figure 1.2 – St. Charles Mesa Water District Raw Water Supply Sources



All of the surface water sources, except Bessemer Ditch Diversion #1, are piped to Raw Water Reservoir #2, which has a storage capacity of 1,800 acre-feet. The wells are piped to a central chlorination facility at 21st Lane, Raw Water Reservoir #1, which has a storage capacity of 90 acre-feet, receives water from Bessemer Ditch diversion #1 at 21st Lane.

1.3 System Limitations

The St. Charles Mesa Water District is not located within a designated critical water supply area, nor does the system experience frequent water supply shortages. In fact, the District has never had to institute mandatory water restrictions. During the summer of 2002, in the midst of a region-wide drought, the District did institute voluntary lawn watering restrictions for the first time since its inception. This was done in order to protect the stored raw water reserve, in the event of a protracted drought. The result was almost 100% compliance by the users.

1.4 Water Costs and Pricing

From its inception, the District has made every effort to minimize cost to the user, while maintaining a viable system. In order to promote responsible use, the District has always utilized an inclining block rate. In 2006, the District retained the services of Integrated Utilities, Inc. to perform a rate and tap fee study. The result was a tiered rate structure and various tap fees based on location. The purpose of the tiered rate structure was to encourage high-end users to irrigate more efficiently.

The tap fees were divided into two main categories. The first for users located west of the St. Charles River, where the density is highest and the tap fee low, and the second for users located east of the St. Charles River, where the density is very low.

The following is a summary of the current Tap Fees:



Table 1.4a – St. Charles Mesa Water District Tap Fee Structure

ST. CHARLES MESA WATER DISTRICT							
2007 WATER TAP FEES / MAY 11, 2006 / REVISION OF ARTICLE XI, SECTION 19.01							
Base on Integrated Utilities Plant Investment Fee Study and Financial Plan Prepared for St. Charles Mesa Water District and adopted by the Board of Directors December 13, 2006							
Bessemer Irrigation Ditch Company shares must be provided by applicant at no charge to the District or purchased from the water bank prior to recordation of Final Plat of Subdivision or prior to request for connection to District's water system, whichever occurs first.							
Article XI, Section 19.01 - Revised and Adopted May 10, 2008							
WEST OF THE ST. CHARLES RIVER							
Size	Maximum Flow Rate	Bessemer Ditch Shares Req. per tap	Meter Equivalent ratio	Reimbursement fee	Improvement fee	Installation cost	Water Tap Total cost
5/8"x3/4"	20	1	1	\$2,075.00	\$3,635.00	\$1,000.00	\$6,710.00
1"	50	2	1.7	\$3,527.50	\$6,179.50	\$1,500.00	\$11,207.00
1-1/2"	120	7	3.3	\$6,847.50	\$11,995.50	\$3,000.00	\$21,843.00
No water tap larger than 1-1/2 inch can be installed west of the St. Charles River without being evaluated by the District's hydraulic model and approved by the Board of Directors							
2"	160	10	5.3	\$10,997.50	\$19,265.50	\$5,000.00	\$35,263.00
3"	320	25	10.7	\$22,202.50	\$38,894.50	\$10,000.00	\$71,097.00
4"	500	40	16.7	\$34,652.50	\$60,704.50	\$25,000.00	\$120,357.00



EAST OF THE ST. CHARLES RIVER							
Size	Maximum	Bessemer Ditch	Meter	Reimbursement	Improvement	Installation	Water Tap
	Flow Rate	Shares Req. per tap	Equivalent ratio	fee	fee	cost	Total cost
5/8"x3/4"	20	1	1	\$2,075.00	\$9,946.00	\$1,000.00	\$13,021.00
1"	50	2	1.7	\$3,527.50	\$16,908.20	\$1,500.00	\$21,935.70
No water tap larger than 1 inch can be installed east of the St. Charles River without being evaluated by the District's hydraulic model and approved by the Board of Directors							
1-1/2"	120	7	3.3	\$6,847.50	\$32,821.80	\$3,000.00	\$42,669.30
2"	160	10	5.3	\$10,997.50	\$52,713.80	\$5,000.00	\$68,711.30
3"	320	25	10.7	\$22,202.50	\$106,422.20	\$10,000.00	\$138,624.70
4"	500	40	16.7	\$34,652.50	\$166,098.20	\$25,000.00	\$225,750.70

The following is a summary of the District's current water rates, based on tap size, with a tiered rate structure, based on the Integrated Utilities Study.

Table 1.4b – St. Charles Mesa Water District Water Rate Structure

St. Charles Mesa Water District

2009 WATER RATES

Rate Code						Cost Per
1	Meter 5/8 X 3/4 Residential			Cumulative		1,000 Gal.
First	0	Gallons		\$17.50	Minimum	17.50
Next	5,000	Gallons	\$0.92	5,000	\$22.10	4.4200
Next	30,000	Gallons	\$1.60	35,000	\$70.10	2.0029
All Over	35,000	Gallons	\$2.36	70,000	\$152.70	2.1814
2	HWD 5/8X3/4" Meter Residential			Cumulative		1,000 Gal.
First	0	Gallons		\$17.50	Minimum	17.50
Next	5,000	Gallons	\$1.08	5,000	\$22.90	4.5800
Next	25,000	Gallons	\$1.96	30,000	\$71.90	2.3967
All Over	30,000	Gallons	\$2.90	60,000	\$158.90	2.6483



Rate Code 3		HWD 5/8X3/4" Meter Residential			Cumulative	1,000 Gal.
First	0	Gallons			\$29.75	Minimum 29.75
Next	5,000	Gallons	\$1.08	5,000	\$35.15	7.0300
Next	25,000	Gallons	\$1.96	30,000	\$84.15	2.8050
All Over	30,000	Gallons	\$2.90	60,000	\$171.15	2.8525

Rate Code 4		5/8 X 3/4 COMMERCIAL			Cumulative	1,000 Gal.
First	0	Gallons			\$17.50	Minimum 17.50
Next	12,000	Gallons	\$1.31	12,000	\$33.22	2.7683
Next	70,000	Gallons	\$1.90	82,000	\$166.22	2.0271
All Over	82,000	Gallons	\$3.77	164,000	\$475.36	2.8985

Rate Code 5		1" Meter COMMERCIAL			Cumulative	1,000 Gal.
First	0	Gallons			\$29.75	Minimum 29.75
Next	5,000	Gallons	\$0.92	5,000	\$34.35	6.8700
Next	30,000	Gallons	\$1.60	35,000	\$82.35	2.3529
All Over	35,000	Gallons	\$2.36	70,000	\$164.95	2.3564

Rate Code 6		1" Meter COMMERCIAL			Cumulative	1,000 Gal.
First	0	Gallons			\$29.75	Minimum 29.75
Next	20,000	Gallons	\$1.31	20,000	\$55.95	2.7975
Next	260,000	Gallons	\$1.90	280,000	\$549.95	1.9641
All Over	280,000	Gallons	\$3.77	560,000	\$1,605.55	2.8671

Rate Code 7		1 1/2" Meter COMMERCIAL			Cumulative	1,000 Gal.
First	0	Gallons			\$57.75	Minimum 57.75
Next	40,000	Gallons	\$1.31	40,000	\$110.15	2.7538
Next	560,000	Gallons	\$1.90	600,000	\$1,174.15	1.9569
All Over	600,000	Gallons	\$3.77	1,200,000	\$3,436.15	2.8635

Rate Code 8		1 1/2" LANDFILL			Cumulative	1,000 Gal.
First	0	Gallons			\$57.75	Minimum 57.750
Next	75,000	Gallons	\$2.23	75,000	\$225.00	3.0000



Next	300,000	Gallons	\$3.59	375,000	\$1,302.00	3.4720
All Over	375,000	Gallons	\$5.34	750,000	\$3,304.50	4.4060

Rate Code

9	2" Meter COMMERCIAL			Cumulative		1,000 Gal.
First	0	Gallons		\$92.75	Minimum	92.75
Next	64,000	Gallons	\$1.31	64,000	\$176.59	2.7592
Next	800,000	Gallons	\$1.90	864,000	\$1,696.59	1.9636
All Over	864,000	Gallons	\$3.77	1,728,000	\$4,953.87	2.8668

Rate Code

10	3" METER COMMERCIAL			Cumulative		1,000 Gal.
First	0	Gallons		\$187.25	Minimum	187.25
Next	128,000	Gallons	\$1.31	128,000	\$354.93	2.7729
Next	1,200,000	Gallons	\$1.90	1,328,000	\$2,634.93	1.9841
All Over	1,328,000	Gallons	\$3.77	2,656,000	\$7,641.49	2.8771

Rate Code

11	4" METER COMMERCIAL			Cumulative		1,000 Gal.
First	0	Gallons		\$292.25	Minimum	292.25
Next	200,000	Gallons	\$1.31	200,000	\$554.25	2.7713
Next	2,000,000	Gallons	\$1.90	2,200,000	\$4,354.25	1.9792
All Over	2,200,000	Gallons	\$3.77	4,400,000	\$12,648.25	2.8746

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1.6 Current Policies and Planning Initiatives

In 2000, the District promoted alternate landscape practices for all customers, especially large irrigators. This program has had some success, and continued implementation is planned. In 2002, lawn watering information was provided to all customers. This has resulted in lower overall usage. The largest decline was seen in 2004, after the drought. This can be seen in Table 1.6, Table 2.1 and Figure 2.1.

In 2005, a Long Range Plan for Capital Improvements was prepared by the District. The majority of the projects are listed in Worksheet 3-1. The following is a brief summary of the Long Range Capital Improvement Plan:



Table 1.5 – St. Charles Mesa Water District Long Range Plan for Capital Improvements

Long Range Plan for Capital Improvements	
Year	Project Name(Description)
2006	Upgrade Office Computer System
2006	Distribution System Maps (Phase 1)
2006	3,600 GPM Aerator (RWRes. #2)
2007	Distribution System Maps (Phase 2)
2007	50 HP Tractor & Mower
2007	8-Inch Main Hillside Rd. to Hwy. 50
-	8, 6, 4&2 Inch Mains 30th \$ Everett
2008	Distribution System Maps (Phase 3)
2008	8-Inch Main Everett Rd. (30th-Baxter)
2008	Recoating interior 2.5MG Storage Tank
2009	2.5 Ton Cap. Side Shift Forklift
2009	8-Inch Main 35th Lane (South Rd.-Jersey Rd.)
2010	12-Inch Main 21st Lane (Gale Rd-S. of Hwy. 50)
2010	8-Inch Main 35th Lane (Jersey Rd.-Hwy. 50)
2011	2.5 MG Tank - LaSalle Road Site
2011	12-Inch Main 21st Lane (Iris Rd.-Ex. 12-Inch)
2012	2MGD Microfloc Filter 29850 South Rd.
2013	6-Inch Main Baxter Rd. (Daniel Rd.-Everett)
2013	8-Inch Main Hwy. 50 (on Gale Rd. to 35th Lane)
2014	6-Inch Main Hwy. 50 (35th Lane-36th Lane)
2015	12-Inch Main Gale Rd. (21st Lane-25th Lane)
2016	12-Inch Main Gale Rd. (25th Lane-27th Lane)
2016	4-Inch Main Cortner Rd. (John Gage-South Rd.)
2016	6-Inch Main Hwy. 50 (41st Lane-42nd Lane)
2017	8-Inch Main Hwy. 50 (Baxter Rd. to SC Bridge)
2018	12-Inch Main Gale Rd. (27th Lane-29th Lane)
2019	4-Inch Main 23rd Lane (Everett Rd.-Goodman)
2019	12-Inch Main 25th Lane (South Rd.-County Farm Rd.)
2020	1MGD Microfloc Filter 1440 21st Lane
2020	Chemical Treatment Equip. 1440 21st Lane
2021	8-Inch Main Hwy. 50 (SC Bridge-32nd Lane)
2022	8-Inch Main Hwy. 50 (32nd Lane-35th Lane)



2023	Change Water Meters to Radio Read
2024	Change Water Meters to Radio Read
2024	6-Inch Main 39th Lane (South Rd.-Jersey rd.)
2025	Change Water Meters to Radio Read

1.7 Current Water Conservation Activities

At present, the District does not have any mandatory conservation policies in place. The combination of the inclining block rates, voluntary alternate landscape practices, voluntary irrigation guidelines and voluntary irrigation restrictions (when implemented) have resulted in a net drop in overall use, from 2000 to 2004, and again from 2005 to 2007. The drop in use is even more profound when comparing the increase in taps versus total use.

Table 1.6 – St. Charles Mesa Water District Total Use per Tap

Year	# Taps	Growth %	Usage Ac.-Ft.	Use/Tap Ac.- Ft./Tap
2000	3,771	-	2,011	0.53
2001	3,806	0.93%	1,971	0.52
2002	3,850	1.16%	1,908	0.50
2003	3,900	1.30%	1,823	0.47
2004	3,926	0.67%	1,701	0.43
2005	3,961	0.89%	1,910	0.48
2006	3,991	0.76%	1,917	0.48
2007	4,021	0.75%	1,793	0.45