

Town of Mancos Water Rate Study

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Summary

The purpose of this report is to provide guidance and analysis to evaluate the need for a change to the Town of Mancos water rate structure. Revenue from the existing rate structure cover operating costs, however, the town needs to make significant capital investments in order to update aging distribution, meter, and storage infrastructure.

Needed capital improvements include:

- Updating water meters to allow for more efficient and year round reading and billing
- Replacement of leaking water mains throughout town
- New water storage tank

The capital improvements plan (CIP) total nearly \$2.9 million and will require the debt/financing. Because current revenues are adequate for operations costs and occasional replacement projects but do not allow for significant capital investment, the town will need to increase rates in order to secure financing to cover the full scope of needed improvements. Based on current budget structures and usage rates, gradually increasing the base rate incrementally over the next five years will allow the Town to borrow up to \$1,100,000 and pay for 38% of the CIP. This will position the Town for cash match on grants and can be leveraged to accomplish more of the CIP. See the proposed water rate structure changes below.

Figure 1 - Proposed 2014 Water Rate Structure

	Proposed Rate Structure	2013 Rate Structure
Base Rate Threshold	7,000 Gallons	10,000 Gallons
Overage Charge Per 1,000 Gallons	\$2.00	\$1.75
Residential Base Rate (\$5 increase)	\$31.72	\$26.72
Commercial base Rate (\$5 increase)	\$33.22	\$28.22
Church/Government Base Rate (\$5 increase)	\$32.22	\$27.22

Figure 2 – Long Term 2014-2018 Rate Schedule, Estimated Cash Flow, and % of CIP Funded

Long-Term Water Rate Schedule			
Dates	Residential	Commercial	Church/Govt.
2014	\$31.72/month	\$33.22/month	\$32.22
2015-2018	Annual increase of \$2.50/mo., rate = \$41.72/mo. in 2018	Annual increase of \$2.50/mo., rate = \$43.22/mo. in 2018	Annual increase of \$2.50/mo., rate = \$42.22/mo. in 2018
Base Rate Threshold	7000 gal.	7000 gal.	7000 gal.
Overage Charge/1000 gal.	\$2/gal.	\$2/gal.	\$2/gal.
Cash Flow			
Estimated Borrowing Power	\$1.1 million		
% of CIP Funded	38%		

The Mancos Valley is often a dry place and is an “over-allocated” basin where water rights are limited and difficult to obtain. Water conservation is an important long-term strategy for the Town and the rate structure needs to encourage water conservation by assigning fair share costs to higher volume water users.

The town’s existing rate structure is lower than many of its peer communities. Based on a survey regularly conducted by the Colorado Municipal League, comparable Colorado small towns have an average base rate of \$29.41 and a base rate threshold of 6,600 gallons. Figure 3 shows comparable rate structures for local communities and other small communities in Colorado.

Figure 3 - Base Rate Comparable Communities

	Base Gallons (1,000s)	Base Rate
Mancos	10	\$26.72
Average of Comparison Communities	6.6	\$29.41
Local Comparison		
Bayfield	7	\$22.00
Ridgeway	9	\$27.75
Silverton	7.7	\$35.72
Other Small Municipal Systems		
Meeker	8	\$24.00
Poncha Springs	3	\$31.00
Nucla	5	\$36.00

Source: Colorado Municipal League

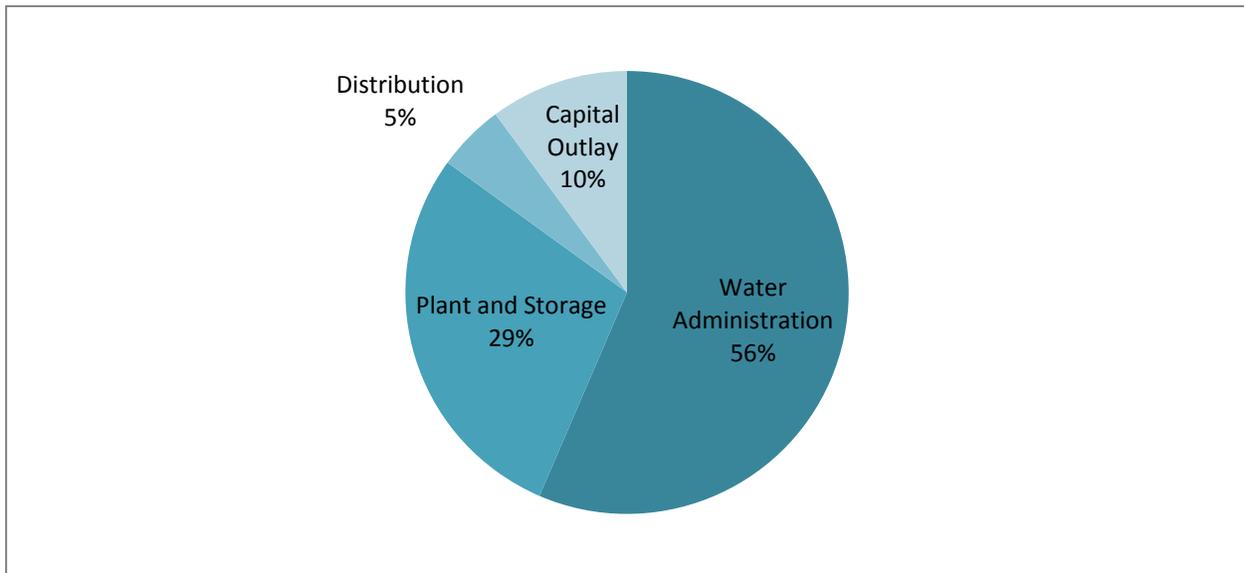
Budget Profile

Between 2009 and 2012, the water fund had average annual average revenues of \$244,000. The majority of revenues originate from regular water service charges, accounting for 92% of total water fund revenues.

Between 2009 and 2012, the water fund had annual average operating expenditures of \$149,000, and non-operating expenditures of \$154,000. The average non-operating expenditure is higher than what is typical because it includes a 2009 general fund transfer of \$324,000. 2010-2012 non-operating expenditures averaged \$96,000.

Operating expenditures include spending on water system administration, plant and storage costs, distribution costs and capital outlay. Water administration costs account for the majority of operating costs. On average water administration accounts for 56% of average operating costs followed by plant and storage costs 29%, capital outlay 10% and distribution 5%.

Figure 4- Operations Expenditures Summary



Source: 2009-2012 Mancos Financial Audits

With the exception of 2009, the water fund had slight budgetary surpluses. The deficit in 2009 is likely due to an unusually large transfer to the general fund. In 2009, the water fund transferred \$324,000 to the general fund, more than the next three years combined. Non-operating revenues and expenses include revenues and expenses such as tap fees, grant revenues, debt service payments, and intergovernmental transfers.

Figure 5 – 2009-2012 Surplus-Deficit Analysis

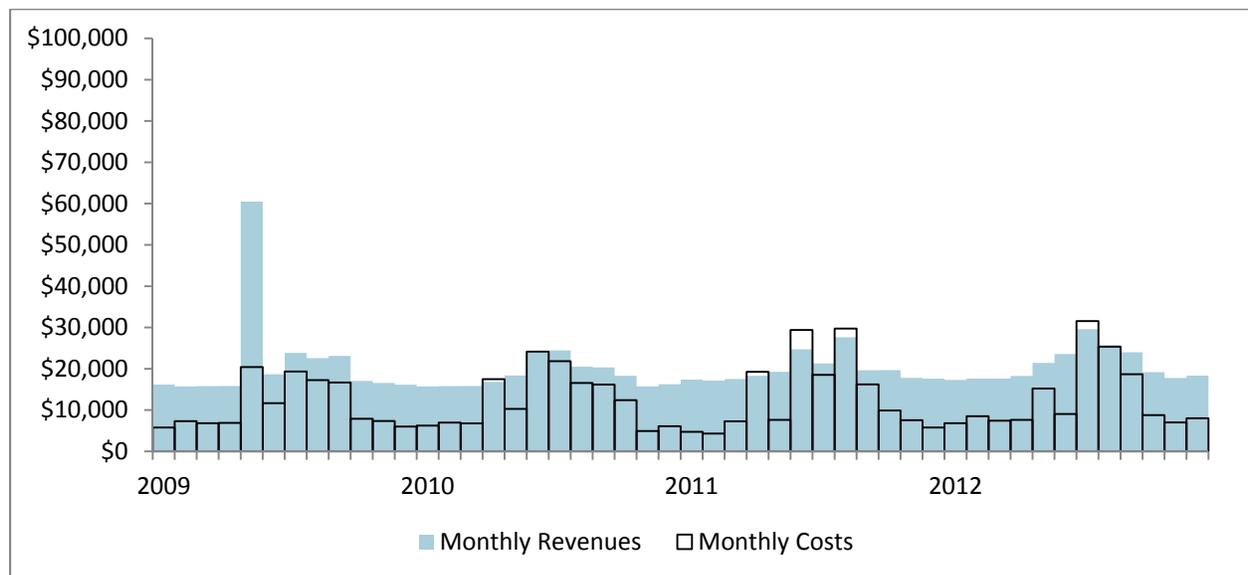
Summary	2009	2010	2011	2012	Average
Total Operating Revenues	\$257,676	\$250,620	\$268,674	\$285,404	\$265,594
Operating Expenses	\$133,460	\$149,934	\$160,402	\$154,154	\$149,488
Non-Operating Revenues/Expenses	\$327,196	\$91,227	\$101,634	\$96,140	\$154,049
Surplus Deficit	-\$202,980	\$9,459	\$6,638	\$35,110	

Source:

Monthly Cash Flows

The town’s operating revenues are usually sufficient to cover operating costs. Between 2009 and 2012, the town had an average monthly operating surplus of \$7,000, and only had deficits in 6 months.

Figure 6 - Operating Monthly Cash Flow

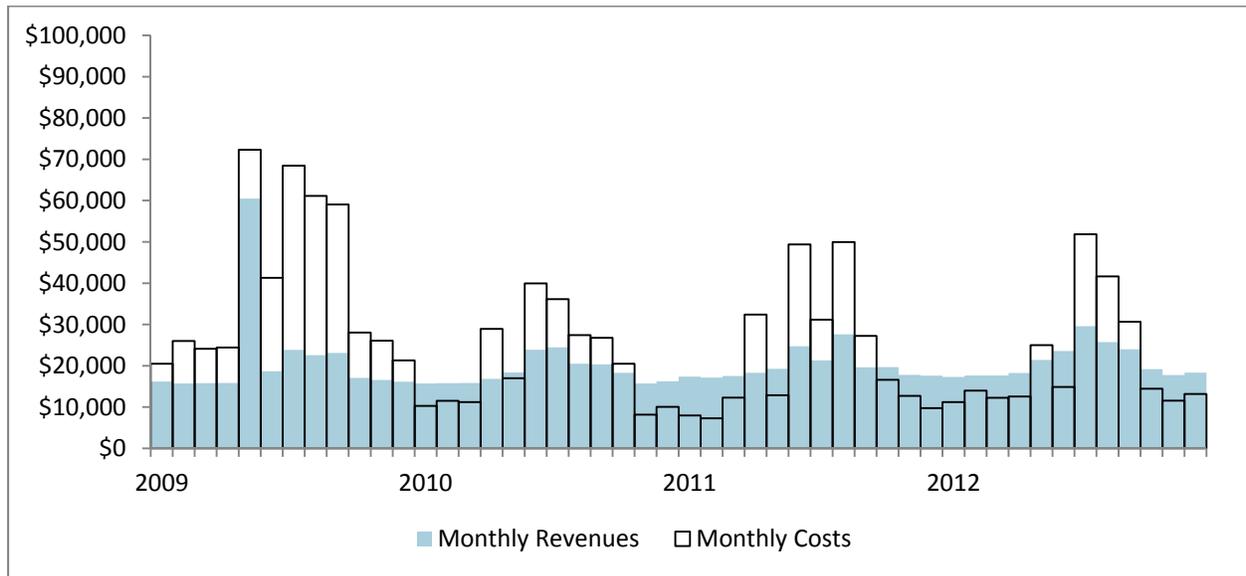


Source: 2009-2012 Mancos Financial Audits, 2009-2012 Water Billing and Usage Data

When debt service and general fund transfers are included in the cash flow analysis, the town has monthly surpluses as often as it has deficits. Between 2009 and 2012, the town had 24 surplus months and 24 deficit months. In total deficits outweighed the surpluses leading to a total deficit of \$27,200 over 4 years.

Because the Town does not record residential usage in the winter months, analysts distribute usage in the first recorded month over the previous winter months.

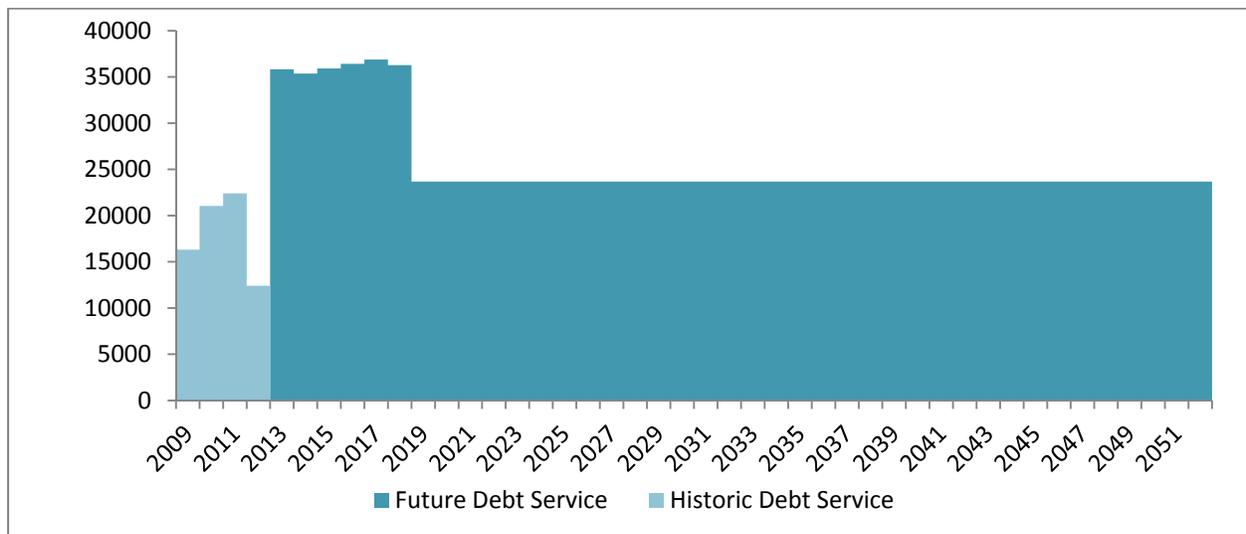
Figure 7 – Monthly Cash Flow Including General Fund Transfer and Debt Service



Debt Service

The town is currently servicing two debts, a bond from 1978, and a USDA loan used to purchase the water tank. Between 2009 and 2012, the town had average debt payments totaling \$18,000. Through 2014, debt payments will increase to between \$35,000 and \$36,000. Once the bond expires in 2018 debt payments will decrease to \$24,000 through 2052. Between now and 2018, debt payments will double over the historic average and in 2019; the town will be paying 31% higher than the current historic average.

Figure 8- Past and Projected Debt Service Payments

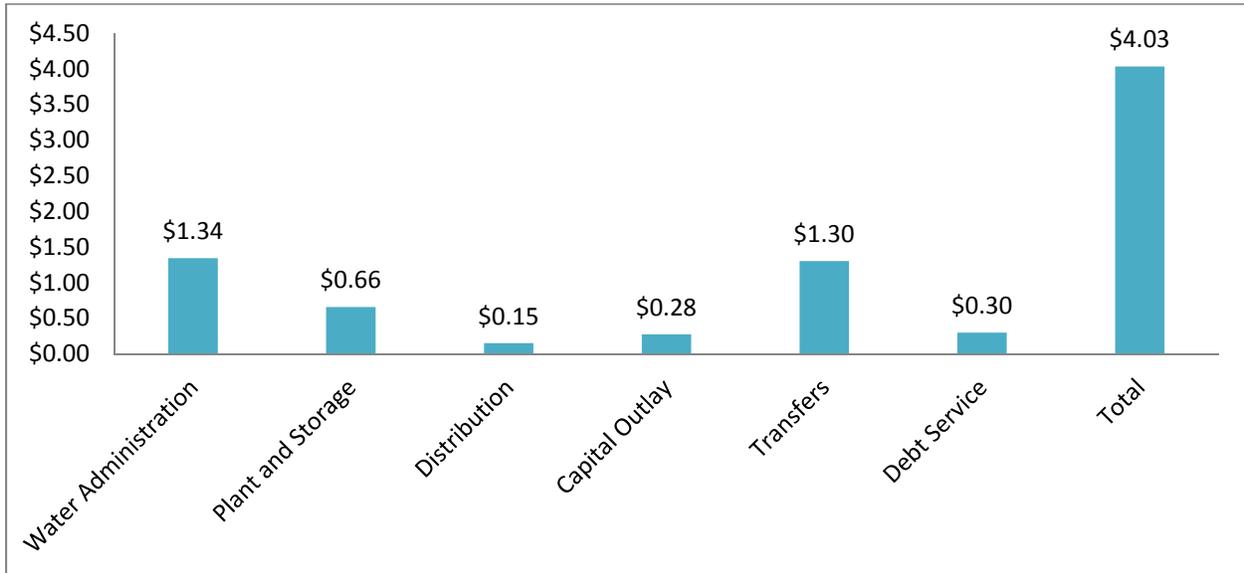


Source: 2009-2012 Mancos Financial Audits, 2009-2012 Water Billing and Usage Data

OPERATIONS, MAINTENANCE AND DEBT SERVICE COST OF PROVIDING MUNICIPAL WATER

The town currently spends a total of \$4.03 per billed gallon of water. This includes \$2.43 per gallon operating costs (including capital outlay), \$0.30 debt servicing costs and \$1.30 for transfers to the general fund. These figures will change, as the monthly billing data is refined.

Figure 9 - 2010-2012 Average Cost per 1,000 Gallons¹



Source: 2009-2012 Mancos Financial Audits, 2009-2012 Water Billing and Usage Data

¹ 2009 figures were excluded from this average because of an unusually high transfer to the general fund.

Capital Improvements Plan (CIP)

The largest single cost in the CIP is the replacement of about 9,000 ft of waterline with new 8" water mains, reconnect to the existing services, and repair the streets. The costs of replacing waterline under a paved street is much higher than for replacing a waterman on a gravel street, which essentially requires only regarding, clean up and graveling. The paved streets included in the water main replacement plan (see map) include South Main, a block of 1st Street and the remaining segment of Park St.. Reconstructing asphalt streets adds an additional \$161/linear ft to the cost of the 1,420 ft. of paved streets included in the CIP. This assumes that the street surface would be complexly reconstructed. The alternative to full reconstruction is to reconstruct only the portion of the street affected by the water main replacement. This is not advisable because of the ribbon effect resulting from reconstructing only a portion of the roadway. It is better long-range practice to reconstruct the entire street. The remaining 7,590 ft. of needed waterman replacement is gravel and less than half the cost.

Figure 10 – Water Line Replacement Costs

	Linear Ft.	Cost Per Linear Ft.	Total Cost
Paved Street Main Replacement (South Main Ave - Grande to Railroad, 1st St - Mesa to South Main, Park St)	1,420	\$251	\$834,900
Gravel Street and Off-Street Main Replacement	7,590	\$90	\$683,100
Total	9,010		\$1,518,000

Source: Town of Mancos

The new water tank and associated improvements is the next most costly item, with a current estimate of \$1,000,000, which has not been accepted by the Town Board of Trustees. However, this does give an order of magnitude for the cost of this project.

Figure 11 – New Water tank and Main Avenue Water Crossing Cost Estimate

New Water tank and Main Avenue Crossing	\$1,000,000
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Source: Town of Mancos

The replacement of the water meters throughout town is a top priority to improve the accuracy and efficiency of the water meter reading and billing process. Currently, the town hand reads the meters for the peak use season. Having accurate, year-round meter data would help with future calibrations to the water rate, capital planning and will drastically improve the efficiency and cut staff time associated with meter reading and billing. This is based on a remote read system with modular transmitters for pit meters. The total cost is just under \$360,000.

Figure 12 – Water Meter Replacement

Software and Set-Up	\$7,840
Handheld Mobile Meter Reading Devise	\$5,753
Pro-Read T-10 Meter 5/8 " - Quantity 559	\$62,888
9-900 Pit Transmitter - Quantity 634	\$63,400

Hydrant Replacement	\$60,000
PRV Stations	\$33,000
Water Meters (Large)	\$13,500
Water Meters pit replacement	\$75,000
Water Meters pit repairs	\$37,500
Total	\$358,881

Source: Town of Mancos

In total the capital improvements plan costs \$2.88 million dollars. Completion of this plan will require both carefully prioritized phasing and financing. The plan used for the water rate study is a 10-year horizon.

Figure 13 – Total Capital Improvement Cost Estimate

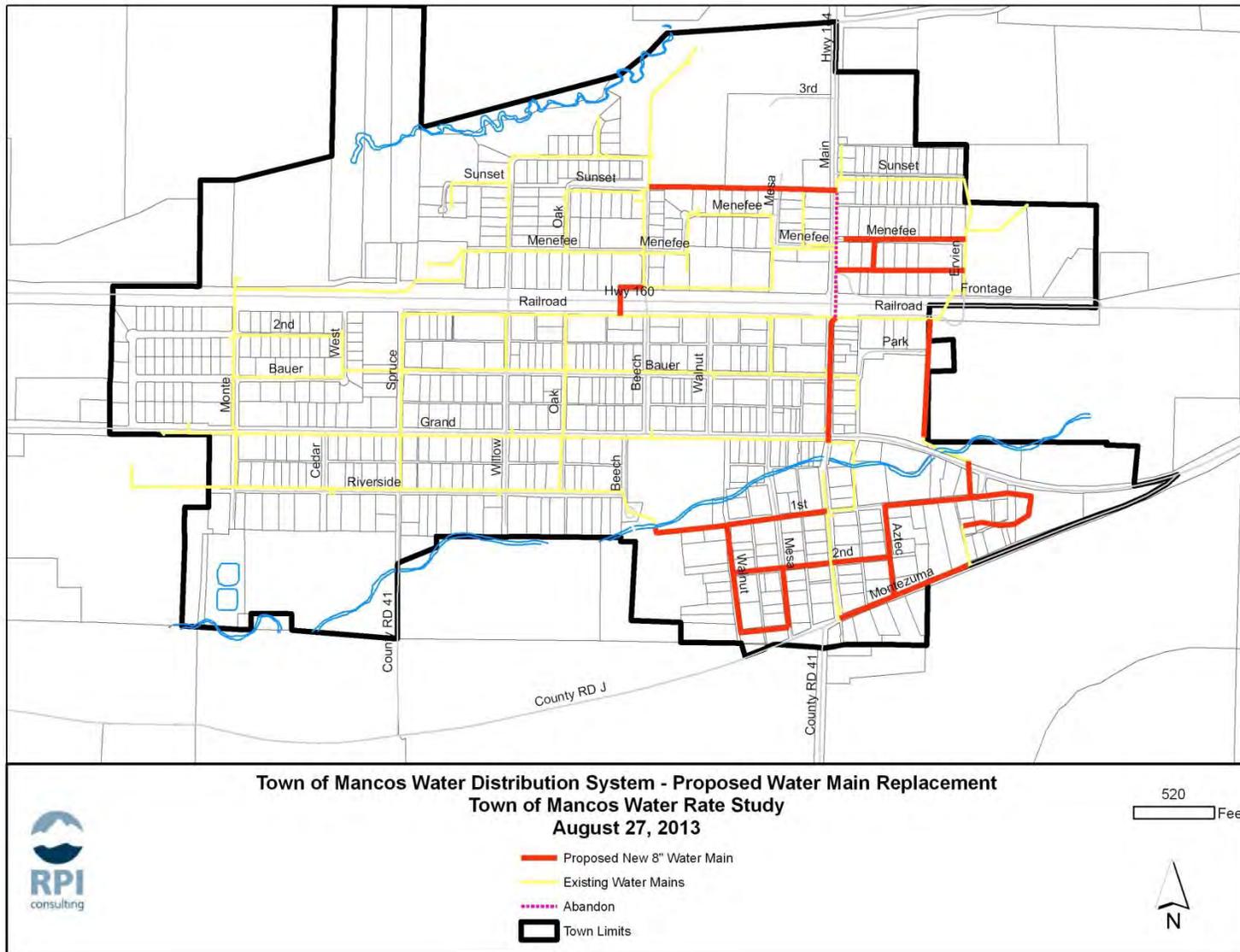
Waterline Replacement	\$1,518,000
New Water tank and Main Avenue Water Main Crossing	\$1,000,000
Water Meter Replacement	<u>\$358,881</u>
Grand Total	\$2,876,881

A series of reports from Wright Water Engineers of Durango in 2007 make several recommendations for the town to acquire future water rights since during dry years the town's adjudicated water rights are called out. Further analysis would be required to explore the most cost effective route for securing additional water rights and costs and the availability are not documented at this time. However, in future updates of the water rate, future water supply investments should be defined and integrated into the rate.

Figure 14 – Water Supply Future Components

Establish beneficial use from Jarrett Ditch water right	Cost Unknown
Pursue decreed augmentation plan and additional water rights	Cost Unknown
Pursue ground water supply	Cost Unknown

Figure 15 – Town of Mancos Distribution System Proposed Water Main Replacement Map



Town of Mancos Proposed Rate Structure

Based on the information and analysis presented in this report, discussions by the Board of Trustees and extensive public outreach, the Town settled on the following update to the rate structure.

- Increasing the base rate by \$5.00 for all residential and non-residential customers
- Decreasing the base rate threshold from 10,000 gallons to 7,000 gallons
- Increasing the overage charge from \$1.75 per 1,000 gallons to \$2.00 per 1,000 gallons
- Increasing the cost of water at the town’s water dock

Figure 16 Proposed Water Rate Increase 2013

	Proposed Rate Structure	Existing Rate Structure
Base Rate Threshold	7,000 Gallons	10,000 Gallons
Overage Charge Per 1,000 Gallons	\$2.00	\$1.75
Residential Base Rate	\$31.72	\$26.72
Commercial base Rate	\$33.22	\$28.22
Church/Government Base Rate	\$32.22	\$27.22

Additionally the Town will take the following actions to ensure that required capital investments can be paid for in the future:

- Increasing the base rate by \$2.50 in 2015, 2016, 2017 and 2018
- Review capital needs and rates for both the sewer and water systems in 2018

Figure 17 – Long Term 2014-2018 Rate Schedule, Estimated Cash Flow, and % of CIP Funded

Long-Term Water Rate Schedule			
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Base Rate Threshold	7000 gal.	7000 gal.	7000 gal.
Overage Charge/1000 gal.	\$2/gal.	\$2/gal.	\$2/gal.
Cash Flow			
Estimated Borrowing Power	\$1.1 million		
% of CIP Funded	38%		

Increasing the base rate to \$31.72 in 2014 and then by \$2.50 each year through 2018 will allow the town to pay for \$1.1 million or 38% if the CIP, but the fee structure will have to be reevaluated in 2018.

