

**50% Completion Report  
For Colorado Water Conservation Board  
Water Efficiency Grant for the Town of Monument  
PO OE PDA 14000000114**

**June 16, 2014**

CWCB's guidelines for Water Efficiency Grants require submission of a 50% completion report to CWCB. In compliance with that requirement, WaterDM and its subcontractor, Water Matters! herewith submit that report.

Peter Mayer of WaterDM and Linda Firth of Water Matters! met with the Town of Monument (Tom Tharnish, Director of Public Works; Nick Harris, Supervisor; and Connie Taillette, Billing Technician) on May 30, 2014 to learn more about their non-revenue water concerns; to establish project goals and timelines; and to begin the data gathering process. We gave Town personnel a list of data needed to begin our analysis, using the AWWA M36 method.

An older town along the Front Range, Monument was established in 1879. It is located in El Paso County, bordered by National Forest on the west, the United States Air Force Academy to the south, foothills and rock outcroppings to the north and rolling plains to the east. It encompasses approximately 5 square miles. Monument has experienced similar growth patterns as its neighbors to the south have, accelerated during the 70s and 80s, slowing at the end of the 90s. It expects modest growth going forward. Its ability to acquire new sources of renewable water will impact its growth potential.

Monument has an annual supply of over 132 million gallons. All supply is groundwater, pumped from the Denver Basin and alluvium formation. This is accomplished through 9 wells, all metered.

The Town is close to completing its changeout of transponders for its AMR system.

Monument's non-revenue water has typically averaged between 13 and 15 percent, with significantly higher occasional spikes.

Our meeting with Monument personnel to enter the data for the desktop audit took place on June 12. Data quality is good. We were able, in most cases, to assign a high confidence level to the various categories of data required by the M36 audit format. Data also appears to be complete and detailed. It appears that improved reporting (or classifying) non-revenue water combined with some potential policy changes will produce a clearer picture of both real and apparent losses.

Next steps include a phone discussion of the areas of concern with Reinhard Sturm of Water System Optimization (WSO is another subcontractor to Water DM) to clarify issues; revision where appropriate of the Reporting Worksheet responses; completion of the Desktop Audit based on input from WSO; the 75% completion report to CWCB; Technical Review meetings with Reinhard Sturm and the Town of Monument; and preparation of the final report for the District and CWCB.

Linda J. Firth, Principal  
Water Matters!