Water Conservation Plan
Summary 2014
# Table of Contents

City of Rio Rancho Water Conservation Plan ................................................................................ 2  
  Purpose.................................................................................................................................... 2  
  Local Conditions..................................................................................................................... 2  
Assessing Performance ............................................................................................................... 6  
  Data Results and Analysis of the American Water Works Association (AWWA) Water Audit ................................................................. 6  
  Data Results and Analysis of the New Mexico Office of the State Engineer (OSE) Gallons per Capita Day (GPCD) Calculator ................................................................. 8  
Water Conservation Goals ........................................................................................................ 11  
  Objective for Developing a Water Conservation Plan.......................................................... 11  
  Water Conservation Goals .................................................................................................... 11  
  Goal Evaluation .................................................................................................................... 12  
  Best Management Practices ................................................................................................. 12  
Public Involvement, Education, and Outreach ........................................................................ 12  
  Public Involvement during Planning Process ..................................................................... 12  
  Education and Outreach ........................................................................................................ 14  
Water Conservation Program ................................................................................................. 15  
  Challenges ............................................................................................................................ 15  
  Program Components .......................................................................................................... 15  
Proposed Water Conservation Programs ............................................................................. 22  
Summary ....................................................................................................................................... 23  
Appendices .................................................................................................................................... 24  
  Appendix A - American Water Works Association (AWWA) Water Audits ....................... 25  
  Appendix B – Gallons Per Capita Per Day (GPCD) Calculator ............................................. 34  
  Appendix C – Water Loss Audits, A Detailed Analysis 2006 - 2013 .................................... 42  
City of Rio Rancho Water Conservation Plan

Purpose
The purpose of this summary is three-fold. First, it documents the City of Rio Rancho’s (City) current water conservation efforts and guides future City water conservation and sustainability efforts. Second, this document is intended to satisfy a requirement for state funding requests. Third, the City is required to have a water conservation program as part of our water rights permit with the New Mexico Office of the State Engineer (OSE).

Local Conditions
Rio Rancho is the third largest city in the State of New Mexico and is located adjacent to the Albuquerque metropolitan area and within the Middle Rio Grande Basin. The City population is approximately 93,000 with single-family residential property accounts being the major water user classification. Commercial businesses are a smaller component of the water accounts as many of the local residents shop in Albuquerque. The City has one single industrial customer. The City is relatively young, as it was incorporated in 1981.

Map
Figure 1 is a map of the State of New Mexico showing the location of the City of Rio Rancho. Figure 2 is a more detailed depiction of the City limits and water service area.

Figure 1  Location of the City of Rio Rancho in Relation to Albuquerque and Santa Fe in New Mexico.
Water Supply
The City water supply consists entirely of groundwater withdrawn from the Santa Fe Group aquifer. The City has 17 wells currently in operation and diverts about 13,000 acre feet per year. Because the City pulls the water from deep wells, the supply is not as susceptible to climate change or drought as a surface water supply. The City has an emergency water shortage ordinance for the time of drought or limited supply. The ordinance was invoked in 2008 because of equipment issues on two of three wells that supplied water to one area of the city. The City can store up to 41 million gallons of water.

Demographics
As stated earlier, the City of Rio Rancho has approximately 93,000 residents. Estimated median household income is $60,000 per year and per capita income in 2012 was $25,600. The median residential age is 36 years and the average household size is 2.7 persons. The principal language is English and the second most predominant is Spanish. Figure 3 depicts the ethnic races in the City.
Figure 3 shows the Ethnicity of the City of Rio Rancho.

- White alone - 46,653 (52.3%)
- Hispanic - 35,126 (39.4%)
- Black alone - 2,586 (2.9%)
- Two or more races - 2,506 (2.8%)
- Asian alone - 1,572 (1.8%)
- American Indian alone - 770 (0.9%)

**Housing**

Single-family housing predominates in the City. The oldest subdivisions were built in the 1970s with a majority of growth in the 1980s and 1990s. During 2005 to 2007, Rio Rancho was the fastest growing city in the state. There has been a 75% increase in population since 2000. Grass was included in the landscape until the year 2000 when more xeric yards were installed.

**Temperature and Precipitation**

The charts below, taken from City-Data.com, show the average climate in Rio Rancho (Based on data reported by over 4,000 weather stations).
Other Local Conditions

The City of Rio Rancho has a 26,039 acre feet water rights diversion permit (Permit No. RG-6745 et.al., and Declaration No. RG26259.). As part of the pumping permit, the City is required to purchase 750 acre of water rights per five year period. To date, the City has purchased more water rights than required for the current time frame.

Many of the subdivisions built in the 1980s and 1990s were built with polyethylene service lines. This pipe material type has been found to degrade over time and cracks easily. There are many service leaks coming to the surface during the summer months, sometimes 20 to 30 leaks running
each day. The City has an aggressive service line replacement program, with an estimated 1,400 lines being replaced in 2014 to 2015.

Assessing Performance

Data Results and Analysis of the American Water Works Association (AWWA) Water Audit

The City of Rio Rancho has been completing water audits since 2006 when the City partnered with the Office of the State Engineer (OSE) on a grant. The 2006 audit was performed by Andrew Chastain-Howley, one of the designers of the AWWA software. The next year, the City hired Mr. Chastain-Howley to perform the 2007 audit. Thereafter, City staff members performed the calculations. The water audits are on a calendar year rather than the fiscal year. Appendix A includes the AWWA water audits from 2006 to 2013.

In 2014, the City hired a contractor to assist with an eight-year review of the water audit data to determine what to focus on to lower the City’s non-revenue number. The report from this review is included in Appendix C and is titled “Water Loss Audits, A Detailed Analysis 2006-2013”.

Performance Indicators

The following performance indicators are for the 2013 water audit.

Financial

The non-revenue water as a percent of water supplied for 2013 was 13.3% and as a percent of operating system was 2.3%. For comparison, in 2010, the non-revenue water was 9.3% and 2.5% of the operating system. Figure 4, below shows the non-revenue water from 2006 to 2013.

![Figure 4 The Percentage of Non-Revenue water for the City.](image-url)
Table 1, below, shows the 2013 operational efficiency indicators as compared to the 2010 indicators.

<table>
<thead>
<tr>
<th>indicator</th>
<th>2013</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparent losses</td>
<td>2.90 Gallons/connection/day</td>
<td>5.96 Gallons/connection/day</td>
</tr>
<tr>
<td>Real losses</td>
<td>29.51 Gallons/connection/day</td>
<td>28.72 Gallons/connection/day</td>
</tr>
<tr>
<td>Real losses per psi</td>
<td>0.44 Gallons/connection/day</td>
<td>0.43 Gallons/connection/day</td>
</tr>
</tbody>
</table>

Data Validity Score
City staff members went through the individual questions of the water audit to determine the validity of the data. City staff met with those persons with knowledge of that part of the water system to determine the individual data validity score. The overall data validity score for 2013 was 76 out of 100.

Priority Areas for Attention
The following recommendations were provided with the Water Loss Audits study and once the recommendation are fully implemented, there should be a significant reduction in non-revenue water.

Annual testing of all master meters is recommended under an AWWA water loss audit program. The City has seven wells that represent over 70% of the water pumped (#19, 10A, 16, 12, 17, 6 and 14). At a minimum, it is recommended that annual testing occur on these highest producing wells. Annual master meter testing will not only increase the data validity but will provide more accurate volumes for the total water supplied. Master meter errors are being applied to the metered water.

In addition to the master meter testing, it is also recommended that the City expand the end user meter accuracy testing. Currently, the City is responding to customer complaints by testing meters to determine whether they should be pulled or replaced. A full end user meter testing program was recommended. This includes examination of the installation for correct sizing and placement, and periodic testing of all meter ages and types for accuracy, and a more aggressive testing of large meters for accuracy. Regular testing of these meters will help the City track accuracy and make replacements where needed.

A limited assessment of meter data showed a 4% increase in volume of water read with the new automatic meter read (AMR) meters compared to data recorded for previous year using the old meters within a subdivision. A more detailed study that includes multiple subdivisions distributed throughout the City representing different economic and geographic ranges, and a longer study period is recommended. The study should include contributing factors such as weather, rebates applied, changes in occupancy or ownership of the homes, and appropriate installations. A full study of the effectiveness of the AMR replacements could impact both customer accuracy and systematic data handling errors.
The City should track the progress and impact on the operational efficiency and financial performance indicators under the large service line replacement study. The polyethylene pipe installed in the 1990s has been prone to numerous breaks and leaks. The City recently replaced 533 connections. New bids have been release for an additional 700 to 1250 replacements for 2015. This puts the total number of lines being replaced from about 2,000 to 2,550. It is estimated that 15,000 lines need to be replaced. Therefore, the City is working approaching replacement of about 13% of the problem lines. This should decrease the real losses in the system.

The City would benefit greatly from a proactive leak detection program. According to the City’s Leaks and Flushing Reports, the City has recorded finding and repairing leaks that represent less than 5% of system’s water losses. The City should review how these figures are being calculated to make sure that the found leaks are properly calculated. Also, the City should update and use their existing leak detection equipment. Using the City’s 2013 financial cost of real loses and the unavailable real losses, the City is losing approximately $152,974 to leaks that could be recovered. Any program established should use these figures as its baseline for a return on investment.

Data Results and Analysis of the New Mexico Office of the State Engineer (OSE) Gallons per Capita Day (GPCD) Calculator

Period of Study
The City has been using the OSE GPCD calculator since 2007. Again the City partnered with the OSE on a grant to test the GPCD calculator.

Average Size of Household
The average size of households in Rio Rancho is 2.7 persons. This number has been consistent for a number of years.

Annual Single-Family Residential Gallons per Capita Day
Figure 5 shows the single-family gallons per capita day since 2007, the year that the City first used the OSE GPCD spreadsheet.
Figure 5  GPCD for Single-Family Residential since 2007.

**Monthly Single-Family Residential Gallons per Capita Day**

Figure 6, below shows the monthly GPCD for the City’s single-family residential sector.

![Monthly Single-Family Residential GPCD](image)

Figure 6  Monthly Single-Family Residential GPCD for 2013.

**Estimated Single-Family Residential Indoor Water Use**

The City uses an average of the December, January, and February bills to calculate the sewer portion of the water bill. These three months are used for the calculations because most residents
and businesses do not irrigate their landscapes in the winter months, therefore, this represents the indoor water use. The average monthly indoor water use was 4,000 gallons for 2013.

*Estimated Single-Family Residential Outdoor Water Use*

The City does not estimate the outdoor water use.

*Multi-Family Residential*

For the billing system, multi-family residential is defined as two to four units in one building. Apartment complexes are categorized as commercial accounts. For the purposes of the GPCD calculator, the multi-family residential water use is placed into the Industrial, Commercial, Institutional category.

*Industrial, Commercial, Institutional*

Figure 7 shows the industrial, commercial and institutional (ICI) GPCD on a monthly basis. As stated earlier, multi-family housing is included in ICI as well as the bulk fill station. The bulk fill station was built to deliver water to residents inside and outside of the City limits who do not have either water service or a well.

![Monthly Analysis of GPCD - ICI](image-url)
Figure 8 shows the system total GPCD since 2000. The GPCD from 2007 to 2013 was calculated using the OSE software. The increase in 2012 was attributed to the large increase in water use by the industrial customer and increase in irrigation due to drought.

![SYSTEM GPCD](image)

**Figure 8** Gallons per Capita per Day from 2000 to Present.

**Water Conservation Goals**

**Objective for Developing a Water Conservation Plan**

The City of Rio Rancho has had a water conservation plan in the form of the City’s Water Resources Management Plan (WRMP) since 2004. The WRMP was updated in 2014 and is included as Appendix D. The WRMP is a more holistic approach to water management because it includes more than just conservation. The report includes reuse, source water protection, education, supply and infrastructure, economic development, and enforcement. The objective of this document is to comply with the State of New Mexico water conservation plan requirement in order to request funding for water projects.

**Water Conservation Goals**

In 2004, the goal was to reduce GPCD from 181 gallons to 150 gallons. That goal was met in 2005. In 2007, the City stated a new goal of reducing the system GPCD to 135 gallons per capita day by 2017. As shown in Figure 7, the City has come near to that goal and expects to meet the goal by 2017.

A second stated goal is to reduce the non-revenue water to less than 10% of total water pumped. This goal has been more challenging, in part it is thought to be because of the leaking polyethylene service lines.
Goal Evaluation
These goals are evaluated fairly regularly. Since the first GPCD goal was met, another lower
goal was established. As part of the non-revenue water goal, a study was performed of the eight
years of AWWA water audit data. The data was evaluated to determine the areas to focus on and
the direction to go.

Best Management Practices
To reduce the GPDC, the City has:

- A rate structure of increasing block rates to encourage water conservation.
- A water conservation ordinance with time-of-day watering restrictions and restrictions for
  restaurants serving water to customers.
- Rebates for replacement of old toilets and clothes washers.
- A water shortage emergency (drought) ordinance.
- An educational component for students and adults.
- A water use audit/evaluation of the customer’s premise.
- Letters are sent to customers when their AMR meter indicates a possible leak to inform
  the customer of the potential leak.
- A dedicated water conservation page on the City website.
- Periodic newsletters mailed to the residents and businesses.
- Marketing campaigns for rebates, Fix a Leak Week, and time-of-day restrictions.

The City has not gone to a mandatory even-odd watering schedule or other type of mandatory
days-of-week schedule. These types of schedules have been proven to cause citizens to water
even if the landscape does not need it because it is “their day”.

Public Involvement, Education, and Outreach

Public Involvement during Planning Process
The public was involved in 2013 during the update of the WRMP. The original 2004 WRMP
was reviewed by staff and City Utilities Commissioners, and areas of focus were drafted. These
focus areas were then taken to a public meeting on December 14, 2013 and discussed. Those
present were asked to add recommendations and then all participants were asked to prioritize the
39 implementation policies for the next five years. The following figures are photographs taken
at the public meeting.
Figure 9  Amy Ewing of D.B. Stephens presenting to the citizens who attended the meeting.

Figure 10  Citizens attending the public meeting.
Education and Outreach

**Public Information Program**
The City of Rio Rancho sends periodic utility newsletters to the residents and businesses in the city; generally quarterly. These newsletters are mailed directly, not inserted in the water bills. The newsletters discuss water conservation techniques and ideas, give updates on the City’s aquifer storage and recovery project, and other information relevant to the City’s Utilities Operations Division.

There is a dedicated water conservation page on the City’s website. The information is updated periodically and seasonally. The water conservation page includes how to apply for rebates and requirements of the time-of-day watering restrictions.

Additionally, the City uses pamphlets produced by OSE and has produced its own water conservation brochures. These brochures and pamphlets are available at City Hall and whenever there is a tabling event attended by the Water Conservation Office.

**Outreach Activities**
As stated above, the City’s Water Conservation Office attends events to ensure that the citizens know about and are conserving water. These events can be “hands-on” and/or tabling events. Many of these events are run by the City, usually through the Parks and Recreation Division.

**School Educational Programs**
The City’s Water Conservation Office has many educational programs aimed at school children, both in-school settings and bringing the students to the Children’s Water Festival every year. Some of the programs are: SAFE after school education for kindergarten to fifth-grade students,
the Children’s Water Festival where all Rio Rancho fourth-grade students are brought to the Santa Ana Star Center for a half-day of hands-on water-related activities, and working through the RiverXchange program to give detailed information to fifth-grade students about the drinking water and wastewater systems in Rio Rancho. RiverXchange also has a hands-on component. Additionally, for the middle and high school aged students, the Water Conservation Office sponsors the “Every Drop Counts” award. This is a cash award, generally $100, to the best science fair project on water conservation or water quality.

Water Conservation Program

Challenges
The biggest challenge to the water conservation program is staffing resources. The City has 1.5 full-time staff members in the Water Conservation Office. The Water Conservation Office’s budget was cut during the economic downturn of the late 2000s but it has not been an issue to date as the budget has been increasing back to what it was before.

Program Components
The City has two water conservation goals:
- Reduce per capita water usage from 142 gallons per capita per day (GPCD) to 135 GPCD by 2017. (Rated Priority 2 in the WRMP.)
- Reduce non-revenue water to under 10 percent of the total volume of water produced. (Rated Priority 1 in the WRMP.)
Public Education Program

Program Summary
The public education strategies include:

- Design and place graphical displays in City facilities and billboards to show water use, goals for water savings, and water conservation initiatives.
- Encourage and educate residents about on-site rainwater harvesting and use, graywater harvesting and use, efficient irrigation controls, and soil amendments.
- Continue consulting with and improving the partnership with Rio Rancho Public Schools to implement a robust water resources educational curriculum, instituting a formal program at two grade levels based upon available curriculums.
- Develop a “packaged” educational/informational program for senior, civic, and business groups that addresses water issues, and repeat the programs on a quarterly basis (i.e., cycle the program once developed).

Targeted User
This program targets all water users in the City.

Implementation Dates
This program is ongoing. The City is already working with fourth-grade students who attend the Children’s Water Festival. Additional time is needed to bring an educational curriculum to another grade level. Also, more time is needed to develop the “packaged” educational program for adults.

Cost
From the fiscal year (FY) 15 budget, the anticipated costs to continue these programs are:
Marketing services - $47,000
Advertising - $25,000
Printing newsletters - $12,000
Calendar - $8,400
Mailing newsletters - $26,000
Children’s Water Festival - $14,000 (The Festival costs more than $14,000 to put on; additional monies are received from sponsors.)

Staffing
There is currently 1.5 full time staff members in the Water Conservation Office and public education has been provided by those individuals.

Funding Source
Funding for this program is from water and wastewater rate payers.

Anticipated Results and How They Align with Goals
The City’s GPCD should trend lower as more education and outreach occurs. This aligns with the “reduce the GPCD” goal.
Why the Program was Chosen
It is hard to have a water conservation program if no one knows that it exists. Education and outreach is significant to remind citizens and businesses about the importance of the water resources and conserving these limited resource.

Estimated Lifetime Impact of the Program
This program is used to change behaviors of current and future adults. With repeated education, the conservation behaviors of these citizens should continue over their lifetime.

How the Program was implemented
The City’s Utilities Newsletter is mailed to all homes and businesses about four times a year. This newsletter is used to remind citizens about conservation and depending on the time of year, it has conservation and irrigation tips, shows GPCD compared to goals, rebate information, etc. The water conservation staff have made a concerted effort to have articles on rain water harvesting and recently included a customer’s article on irrigation upgrades, and a water conserving project of a local homeowner’s association. Many of these articles migrate to the Water Conservation page of the City website. The City uses local billboards to inform citizens of various campaigns such as the rebate campaign and the Fix a Leak Week campaign. Advertising is also run at the local movie theater, generally corresponding with the campaigns referenced above. There is also a conservation/xeriscape calendar and citizens can submit photographs to be included in the calendar.

Tracking and Evaluation
These programs are evaluated by the water conservation staff. For instance, one rebate campaign doubled the amount of money given out during that month. When the water harvesting article was run, there were large number of citizen calls coming in with questions on where to get rain barrels.

Annual Reporting and Updates
The annual reporting is performed when the City’s GCPD calculations are made, generally in late January to February. The GPCD gives a good indication of whether the education programs are working. The printed brochures are reviewed regularly and updated as needed to include new technologies.

Service Line Replacement Program
Program Summary
The City has an estimated 15,000 polyethylene service lines. This type of pipe was used predominately in the 1980s and 1990s in the subdivisions built during that time frame. The polyethylene lines have not held up as anticipated and they have become brittle overtime, which has resulted in splitting and cracking.

The City has had a service line replacement program since 2004 where a minimum of 100 service lines are replaced annually. The City received $1 million in 2014 from the state for line replacements, and 533 service lines were replaced with copper using these funds. The City
issued a request for proposal (RFP) and hired two firms to replace the service lines. With all the funding sources, an estimated 2,000 to 2,500 service lines are scheduled for replacement by the end of 2015.

**Targeted User**
This program targets all water users in the City.

**Implementation Dates**
This program began in 2004 and was significantly increased in 2014.

**Anticipated Cost**
This action item is anticipated to cost $30 million. The replacement cost is derived from a study performed for the City. The City received $1 million in 2014 from the state for line replacement. Additional funding is anticipated from the state in 2015 and estimated 700 to 1,250 service lines will be replaced with copper with these funds. Moreover, a line-item charge was placed on the water bills to include a replacement cost component.

**Staffing**
In addition to the regular crew that has been replacing the 100 lines per year, the 2014 service line component requires a dedicated crew and equipment to perform the task and two contracting firms were hired.

**Funding Source**
Funding for these components are from water and wastewater rates. Additional money is requested from state and federal grants.

**Anticipated Results and How They Align with Goals**
It is anticipated that the City’s GPCD should trend lower as more lines are replaced and also the non-revenue percentage should also be lower over time. This programs aligns with both water conservation goals of the City.

**Why the Program was Chosen**
The City has been tracking the estimated water loss due to leaks on main and service lines. The actual amount of water lost is probably higher than estimated. As the polyethylene has aged, the number of breaks has increased.

**Estimated Lifetime Impact of the Program**
The copper service lines used in the replacement program should last a minimum of 50 to 100 years. The City has an older subdivision with copper lines that is over 40 years old and there is rarely a leak on those service lines.

**How the Program was implemented**
Replacement costs are added into the annual budget. As additional, large amounts of funds are available, RFPs are distributed and contracts issued for a dedicated crew to replace the service lines. This occurs street by street, home by home. The City has historical records of which
streets have had service lines leaking the most and those streets will be targeted first. The project has a dedicated City project manager and it is inspected by City inspectors.

**Tracking and Evaluation**
The City tracks which lines are replaced by entering them into the Computer Maintenance Management System (CMMS). The CMMS communicates with the City’s GIS system. As stated above, the City also inspects these new lines. As a side-note, the replacement crew has stated that they have found some of the old lines leaking when they were dug up for replacement; the leak had not yet surfaced.

**Annual Reporting and Updates**
The benefit of this program will come to light in the GPCD calculations and the AWWA non-revenue water calculations. This should positively impact these annual calculations. However, many of the homes built in these subdivisions also contain polybutylene piping on the customer side that are still prone to leaks.

**Water Use Audits Program**

**Program Summary**
As stated earlier, the City has been replacing the old water meters with AMR meters and the system change out is about 70% completed. One of the features of the AMR meters is a leak detection module. As the meters are read, those meters that detect at least one 24-hour period of time where water is passing through the meter, send out an alert to City staff members about the possible leak. Those water accounts are mailed a “leak letter” to let the customer know of the potential leak on their side of the meter. These letters encourage customers to look for and repair the leak, and if they are unable to find the leak, the water customers are encouraged to contact the City Water Conservation Office to schedule water use audits at their home or business. Either the Water Conservation Specialist or the water auditor is sent to the customer’s property. The water auditor is an independent contractor under contract with the City. The auditor spends about one hour per home, checking pressure, looking for leaks, changing showerheads and aerators, and discussing water conservation tips and techniques with the customer. A written report follows the visit.

**Targeted User**
This program targets all water users in the City. Single-family residential take advantage of the service more frequently.

**Implementation Dates**
This program is ongoing.

**Anticipated Cost**
Water use audits are budgeted at $72,000 per year as an outside contractor performs most of the water use audits for the customers.
Staffing
As stated earlier, the customer water use audits are predominantly performed by an independent contractor; City staff perform some audits when available.

Funding Source
Funding for these components are from water and wastewater rate payers.

Anticipated Results and How They Align with Goals
The City’s GPCD should trend lower as more customers take advantage of this service and reduce their water consumption due to leaks and non-conserving habits. This aligns with the “reduce the GPCD” goal. Prior to the “leak letters”, the customer’s leaks could occur for four to six months before the customer became concerned.

Why the Program was Chosen
The original 2004 WRMP chose this program as a best management practice to lower water consumption and this program was a continued priority in the 2014 WRMP update.

Estimated Lifetime Impact of the Program
It is believed that this program will have a five year impact per home visited. Customers are taught how to check their toilets and other fixtures for leaks, given conservation tips, and water conserving aerators and showerheads are installed. Once the house is sold though, the next owner will not have the knowledge of the previous and some of the impact is lost.

How the Program was implemented
The City has a contract with an independent water auditor. Customers contact the Water Conservation Office to request audits. Customer information is gathered along with a two-year history of their water use. This information is emailed to the auditor, who contacts the customer to set an appointment for a visit.

Tracking and Evaluation
All audits are logged into an Excel spreadsheet. The auditor sends a monthly estimate of water saved through leak detection and installation of water saving fixtures for the audits completed. Meetings are held with the auditor as needed and at least annually.

Annual Reporting and Updates
The number of audits and estimated water savings are included in reports to the City Utilities Commissioners.

High Efficiency Toilet and Clothes Washer Rebates Program

Program Summary
The City has a rebate program for the two highest water using fixtures in the home, toilets and clothes washers. The rebate is $100 per toilet and $100 for a washer and the credit is applied to the water bill. The old toilet must flush at least 3 gallons of water per flush (gpf) and be replace
with an EPA Water Sense certified model. The new clothes washer must be on the Consortium for Energy Efficiency (CEE) Tier 3 list.

Targeted User
The primary target is single-family residential accounts. Commercial accounts may apply as well.

Saturation of Target User
There are several large subdivisions built prior to 1994 within the city. These homes usually have two toilets flushing a minimum of 3.5 gallons each. Additionally, the oldest housing complex in the city are condominiums with toilets 5.0 gpf.

Implementation Dates
This program is currently in place.

Anticipated Cost
The program was budgeted $70,000 in FY15 and $65,000 is requested for FY16.

Anticipated Staffing
This program takes about two to three hours per week.

Funding Source
The funding is from water and wastewater rate payers.

Anticipated Results and How They Align with Goals
As referenced in Amy Vicker’s book, Water Use and Conservation, toilets use almost 27% of the indoor water and clothes washers use about 22%. Replacing the old and inefficient toilets and clothes washers will reduce the amount of water used in a home, positively impacting the City’s GPCD.

Why the Program was Chosen
Monetary incentives have been shown to influence people to move in the direction wanted. Evidence of this is coupons, sales, and rebates.

Estimated Lifetime Impact of the Program
The toilet portion of the program has a much more lifetime impact because the toilets are now part of the house. The clothes washer, on the other hand, have a lesser impact since citizens will normally take the clothes washers when they move. The next family moving into the home may, or may not, have an efficient water-conserving clothes washer.

How the Program was implemented
Rebate forms were printed and distributed to the local stores that stock the toilets and clothes washers along with information about the rebate program. A letter was sent to plumbing companies giving information about the program and a copy of the rebate form. Ads were
placed in the local newspaper announcing the program. An article was included in the City’s Utilities Newsletter directing citizens to the City website or a telephone number to call for more information.

**Tracking and Evaluation**
Each application is verified to ensure that applicant has not already received a rebate and that the toilet or clothes washer is on the qualifying list. These applications are then entered into an Access database for tracking. A report is issued and submitted to the Water and Wastewater Utilities for the credit to be applied to the customer’s account. Quarterly, the amount of rebates are tabulated and an amount of water save is assigned to them. This estimated water savings is included in the Utilities Commission report.

**Annual Reporting and Updates**
An annual report of number of rebates and estimated water savings is include in annual Utilities Commission report. As the number of rebates has increased over time, there has been a drop in GPCD.

**Proposed Water Conservation Programs**

**Develop a Standard Conservation Plan Format for Developers**

**Program Summary**
Once a water conservation plan format is developed, each new development will be required to submit a conservation plan that meets the City’s standard.

**Targeted User**
The target water user for this program is single-family residential through new subdivisions.

**Implementation Dates**
No date has been determined for implementation of this program.

**Businesses File a Water Conservation Plan with the City**

**Program Summary**
Require specific categories of businesses and/or individual businesses that use large volumes of water to file a water conservation plan to be approved by the City.

**Targeted User**
This targets the commercial accounts in the City.

**Implementation Dates**
No date has been determined for implementation of this program.
Establish Landscape Design Specifications and Water Budgets

Program Summary
Establish landscape design specifications and water budgets for all new golf courses, common landscape area, schools, and parks.

Targeted User
This program targets irrigation accounts.

Implementation Dates
No date has been determined for implementation of this program.

Identify Funding

Program Summary
Identify funding for implementation of water conservation measures at City parks.

Targeted User
City irrigation accounts.

Implementation Dates
This program is on-going; the City is always looking for and taking advantage of grants and other sources of funding.

Review the Commercial Landscaping Development Standards

Program Summary
Review the City’s commercial landscaping development standards and determine whether these requirements should be updated.

Targeted User
This would target commercial irrigation accounts.

Implementation Dates
No date has been determined for implementation of this program.

Summary
The City of Rio Rancho has a robust water conservation program that has produced dramatic results in the past with respect to lowering both GPCD and non-revenue water. This report summarizes the City’s water conservation goals and shows the historic progress towards achieving the goals. The report lists the programs currently used and the proposed programs that will move the City forward to reaching the water conservation goals.
Appendices
Appendix A - American Water Works Association (AWWA) Water Audits
Appendix B – Gallons Per Capita Per Day (GPCD) Calculator
Appendix C – Water Loss Audits, A Detailed Analysis 2006 - 2013