City of Santa Fe

Agenda

CITY CLERK'S OFFICE
DATE 6/2/14 TIME 9:36am
SERVED BY Caryn Grosse
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SANTA FE WATER CONSERVATION COMMITTEE MEETING
CITY HALL - 200 LINCOLN AVE.
CITY COUNCILORS' CONFERENCE ROOM
TUESDAY, JUNE 10, 2014
4:00 PM TO 6:00 PM

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF AGENDA
4. APPROVAL OF CONSENT AGENDA
5. APPROVAL OF MINUTES MAY 13, 2014 WATER CONSERVATION COMMITTEE MEETING
6. CONSENT AGENDA
   A. RESERVOIR IMPROVEMENTS UPDATE (Alan Hook)

DISCUSSION ITEMS:

7. AUTOMATED METER READING SYSTEM (Nick Schiavo, 10 minutes)
8. DROUGHT, MONSOON AND WATER RESOURCE MANAGEMENT UPDATE (Rick Carpenter, 10 minutes)
9. SPRING QWEL TRAINING AND QWEL RECOGNITION UPDATE (Robert Wood, 10 minutes)
10. IRRIGATION REBATE PROCESS (Robert Wood, 10 minutes)
11. UPDATE ON SPRING OUTREACH AND EDUCATION ACTIVITIES (Caryn Grosse, 10 minutes)
12. REBATE ANALYSIS FINDINGS AND RECOMMENDATIONS (Caryn Grosse, 10 minutes)

INFORMATIONAL ITEMS:

13. GROUP REPORTS FROM WATER CONSERVATION COMMITTEE INITATIVES: (Councilor Ives 60 minutes)
    A. GROUP #3- WATER CONSERVATION CODES, ORDINANCES & REGULATIONS (12 minutes)
    B. GROUP #4- REESTABLISH TREND OF NET ANNUAL REDUCTIONS IN PER CAPITA WATER USAGE AND IDENTIFYING LARGE WATER USERS (12 minutes)
    C. GROUP #5- DOMESTIC WELLS WITHIN THE CITY LIMITS (12 minutes)
    D. GROUP #1 – WATER CONSERVATION & DROUGHT MANAGEMENT PLAN UPDATE (12 minutes)
    E. GROUP #2- WATER CONSERVATION EDUCATION/OUTREACH (12 minutes)

MATTERS FROM STAFF:

MATTERS FROM COMMITTEE:

NEXT MEETING – TUESDAY, JULY 9, 2014:

CAPTIONS: JUNE 23, 2014 @3 pm PACKET MATERIAL: JUNE 25, 2014 @3 pm

ADJOURN.

Persons with disabilities in need of accommodations, contact the City Clerk's office at 955-6520, five (5) working days prior to meeting date.

WATER CONSERVATION COMMITTEE
INDEX
JUNE 10, 2014

Melissa McDonald not present at May 13, 2014 meeting.		
Consent Agenda	**Reservoir Improvements Update, Alan Hook**	
Discussion Items - Automated Meter Reading System - Drought, Monsoon and Water Resources Management Update - Spring QWEL Training and QWEL Recognition - Update on Spring Outreach and Education Activities - Rebate Analysis Findings and Recommendations	**Informational – No formal action.**	Page 3-6
6-A – Update on Reservoir, Alan Hook	**Informational**	Page 6-7
Informational Items Group #3 Group #4 Group #5 Group #1 Group #2	All reports informational.	Page 7-9
Matters from Staff	Informational	Page 10
Matters from Committee	None	Page 10
Next Meeting	Tuesday, July 9th	Page 10
Adjournment and signature	There being no further business to come before the Water Conservation Committee, the meeting adjourned at 6:00 pm.	Page 10

SANTA FE WATER CONSERVATION COMMITTEE
CITY HALL – 200 LINCOLN AVENUE, CITY COUNCILOR'S OFFICE
TUESDAY, JUNE 10, 2014
4:00 PM – 6:00 PM

MINUTES

1. **Call to Order**
   Councilor Ives called the Santa Fe Water Conservation Committee meeting to order at 4:00 pm. Roll call reflects a quorum.

2. **Roll Call**

   Present:
   Councilor Peter Ives, Chair
   Doug Pushard
   Tim Michael
   Giselle Piburn
   Stephen Wiman
   Lisa Randall
   Grace Perez

   Not Present (Excused)
   Nancy Avedisian
   Karyn Schmidt
   Melissa McDonald
   Bill Roth

   Others Present:
   Caryn Grosse, Water Conservation Specialist
   Nathan Manzanares, Enforcement Officer for Water Conservation Committee
   Joseph Sugrve, Intern
   Rick Carpenter , Water Department
   Robert Wood
   Nick Schiavo
   Alan Hook
   Anna Serrano for Fran Lucero, Stenographer

3. **Approval of Agenda**

   Request to move Item 11 & 12 to the Consent Agenda, per the minutes of the last meeting I would request that this be placed on the formal agenda to spend more time on the Water Conservation Codes, Ordinances & Regulations.

Ms. Randall moved to approve the agenda as amended, second by Mr. Wiman, motion carried by unanimous voice vote.

4. **Approval of Consent Agenda**
   6-11 & 6-12

   Mr. Hook will present an updated memo on the reservoir improvements.

   Ms. McDonald moved to approve the Consent Agenda as amended, second by Ms. Piburn, motion carried by unanimous voice vote.

5. **Approval of May 13, 2014 Minutes**

   Corrections noted:
   Reference to Mr. Koch throughout the minutes should be Mr. Roth.
   Page 6: Allan should be Alan
   Melissa McDonald not present at May 13, 2014 meeting.

   Ms. Piburn moved to approve the minutes of May 13, 2014 as amended, second by Ms. McDonald, motion carried by unanimous voice vote.

6. **Consent Agenda**
   Reservoir Improvements Update (Alan Hook)

DISCUSSION ITEMS

7. **Automated Meter Reading System (Nick Schiavo)**
   Mr. Schiavo said they have been looking at a meter system for the city's 32,000 water meters. In January of this year the RFP was issued and short listed some different company's and last month they heard from the top 4 proponents. The names of the company's that the committee tentatively selected were shared with the committee. Mr. Schiavo reported that they are in the process of negotiating a price for the new system with them now. Mr. Schiavo visually showed a water meter and explained the components to the committee members. It will read every hour, once every 24 hours in the evening it will provide data that will assist customer service to assist home and business owners. The recommendation is to go with Cellular Network to make use of the existing cell towers in town. The data goes out at approximately 3:00 – 4:00 am; battery warranty is for 20 years. The contract being considered is a long term contract with the vendor for 20 years. A demonstration was given of the customer portal.

   Councilor Ives asked, what is the continuous flow detected?

   Mr. Schiavo responded that the continuous flow is for the last 24-hours and it only reads once an hour but every time it would go to read there was water moving. The current

system does not provide that type of granular data. The only time they would see that is at the end of the month to a homeowner or business detected a leak, we would have to download the data to show them if something is going on. This system is pretty close to real time. There are a couple of them in town right now as test sites.

Ms. Piburn asked how the customer is notified if they detect a leak?

Mr. Schiavo said they can be contacted by e-mail or text. There are also limits that can be set to usage and if you reach that amount you can be notified by email or text message.

Ms. Grosse said this is an option that the customer needs to do, correctly.

Mr. Schiavo said if they get approval at the City Council, all 32,000 sites will have this unit and then the city will have all the data. Having the data on the customer service end will allow the city to be more proactive and contact the customer should there be a problem.

Ms. Perez asked about the summary on monthly billing.

Mr. Schiavo said that they are doing a new utility billing system scheduled to go on line in February, 2015, we are making sure that there will be a clean interface. The city of Boulder has the same CIS Infinity software that we are using with our billing and a very similar system with Badger and we have talked to them and they are happy with the interface. We have a consultant who is helping us with this project and helping us with the software project.

Mr. Schiavo asked that the Chair to add the new proposed bill for review of the software. This demonstration won't have anything on the bill; it will have the raw data on usage each month.

Mr. Schiavo said that the ability of the new system is that customer service will have an exact reading to what the customer is seeing.

Ms. McDonald would like to have more information. Mr. Schiavo said that he will get the names of other cities and do additional checking around. It was noted that we are working on a 20 year plan; say something were to happen in 11 years, Badger will come in and replace all of the components. One other concern that was answered was the installment option; we will have a fixed price for all of the software, the customer portal will all be maintained by them, all of the servers with a flat rate. Mr. Schiavo has been told that they will get 98.5% of the readings each month. The 1.5% could be a trashcan in the wrong spot, etc.; they guarantee 98.5% of the read.

Ms. McDonald offered their help and encouraged Mr. Schiavo not to hesitate to ask. Thank you.

8. **Drought, Monsoon and Water Resource Management Update (Rick Carpenter)**
Memo provided to the committee for review and update. *(Exhibit A)* Changes from last month; many models are now predicting the likelihood of a return of an El Nino weather pattern (75% chance). This could mean increased precipitation for the coming months. As of May 21st, and due to the heavy rains in mid-September and some minor winter snow storms, total combined storage in Nichols and McClure reservoirs is up to 32.1% (or about 1,280 acre-feet of storage). Flows in the Rio Grande are relatively low but the BDD Project is able to divert water. Flows were temporarily increased in the Rio Grande to mimic snow melt runoff in order to create advantageous conditions for silvery minnow spawning. The artificial minnow spike will produce twice the minnows to lay eggs which results in 4 times as many eggs. The snow run-off is lasting longer. San Juan Chama run-off is as high as it's been in years.

9. **Spring QWEL Training and QWEL Recognition Update (Robert Wood)**
(Exhibit B) – Memo dated June 4, 2014 from Mr. Wood to the Water Conservation Committee.

QWEL (Qualified Water Efficient Landscaper) was conceptualized as an addition to the Water Conservation Office in 2011. QWEL is the second approved US EPA Water Sense Irrigation Auditor Certification program in the nation and was developed in cooperation with the California Landscape Contractors Association, Sonoma County Water Agency, City of Santa Rose, Marin Municipal Water District and the colleges of Santa Rosa and Marin. It was noted that some of the EPA brochures are short and geared towards turf. Mr. Wood provided information on each of the classes as referenced in the memorandum dated June 4, 2014. There are currently 49 QWEL certified persons within the state of New Mexico, 24 persons are certified as "for hire" within the city of Santa Fe.

10. **Irrigation Rebate Process (Robert Wood)**
(Exhibit C) Memorandum Dated June 4, 2014 to the Water Conservation Committee from Mr. Wood – Irrigation Rebate Process

Drip irrigations save a lot of water but they are the highest to maintain of any of the irrigation systems. You are putting micro bits of water in there; all it takes is one piece of dirt to mess up an entire system. Maintaining them becomes critical or they fail. Mr. Wood continued by describing different systems and how they are constructed and how long they could become automated in larger systems.

Rebates for irrigation efficiency are being offered as a trial program May 1, 2014 to October 31, 2014. The Water Conservation Office is piloting this rebate for 2014, if

successful rebate will continue in the future. *(Rebate detailed in Exhibit C)* Efficiency rebates are combined with the equipment rebates.

Reference was made to Page 2, addressing the application and audits and timeline for the credit to be issued. It was recommend that the wording be changed regarding the deadline of October 31st and if the customer's request is dated November 1st, this should be stated clearly. Second question; is this going to be continued at the SFCC, it is known that it will be done in the spring of next year. Mr. Wood said that the classes have been done as a partnership and he will continue at any location. The direction is for Mr. Wood to follow up with the Santa Fe Community College to find out if this will be on-going. It was noted that Mr. Wood is in the catalog at the present time. Ms. Grosse said that she had no knowledge of this and that Ms. Trevizo should be contacted on this matter. It was reiterated that we do not want this to fall in between the cracks.

A qualified QWEL (irrigation auditor that has completed training and has the QWEL contractors' agreement on file performs a site visit and evaluates irrigation system by way of the Irrigation Audit.

Change in Agenda Sequence:

6(a) Update on Reservoirs, Alan Hook, City Water Division

Mr. Hook made reference to memorandum dated May 27, 2014 from the project managers, Alex Puglisi and Robert Jorgensen, Water Division Engineers to the Public Utilities Committee regarding: McClure & Nichols Reservoir Improvements, CIP Project #3038.

The Public Utilities committee did tour the structure and the attachment does show progressive pictures of the progress on this project. As of this date we are at about 22% capacity, which is about 49 million gallons. The total capacity of Nichols is around 215 million gallons. We are fully operational. He referred to the first bench, which they refer to as the 16" valve, which is the intake valve that goes to both the Canyon Road Water Treatment Facility and also to the River. As of today they are treating 3.8 million gallons we need to get to 5 million gallons. We have about 3 ½ - 4 million gallons that is going to the living river at this point. We will continue this week at that flow rate which is about 5 ½ CFS; we are having a fishing derby this weekend for children 11 and under this summer (7:00 am – 12:00 noon). Right now they are balancing both the treatments at Canyon Road and what water they have in Nichols, and will continue to build Nichols to about the second intake structure which looks in the picture about half up. The Engineers will test that valve also. For about the last 3 weeks they have been hovering on McClure because of the late spring precipitation, at about a little over 40%, today they were at 38%. Staff will continue to move about 11 million gallons, we have about 11 ½ million gallons coming out of McClure. Goal is to have McClure drained by the middle of August if at all possible. Next phase will begin with construction companies

coming in and do preliminary work end of August to start their contract on September 1, 2014.

Councilor Ives asked if there is another opportunity to tour McClure, he recommends and welcomes that opportunity. It was noted that the thinning process is very impressive.

Mr. Hook said that McClure was built before OSHA rules and the changes will be a lot more efficient. There will be tours planned for the fall season and he will keep the WCC informed.

Mr. Michael's asked for the status on the 2013 Annual Report.

Mr. Hook said that anticipated date for this report is August 2014 and he will bring this back to the WCC.

11. **Update on Spring Outreach and Education Activities (Caryn Grosse)**
(Handout included in packet)

12. **Rebate Analysis Findings and Recommendations (Caryn Grosse)**
(Handout included in packet)

INFORMATIONAL ITEMS

1. **Group Reports from Water Conservation Committee Initiatives (Councilor Ives)**

    a. **Group #3 – Water Conservation Codes, Ordinances & Regulations**
    Doug Pushard
    Rating System – update reports have been provided for the last 3 months with examples. The idea is to address the inside first as the outside will be very difficult. Inside was modeled after the EPA Indoor Program and we basically took their program and have looked at both the NM Build Green Program and the USGBC to come up with a new home rating system which is the water use rating system very similar today to the sustainable use system. We have a rating for energy use inside the house. It was to come up with an equivalent water use inside the house. The plan is to attack the outside once we can agree on the inside. Inside is everything we measure already - the toilets, the urinals, etc. (Exhibit E). The thinking is that this is an audit program, a third party would come in and audit the house and provide a signed audit to the buyer of the house that this conforms to the rating scale. The committee is probably at about 95% for the Indoor project. A spreadsheet will be created and feedback will be welcome. Reminder that this project started by the builders, they want to see a water rating tool, they can build better houses and it offers a way for them to differentiate. Build Green NM is also invested in this project.

Power Point Presentation: *(On file in Water Conservation Office)*
1 – Project Summary Page 2 – BGNM WURS (Exhibit E)
3 – Inspection Information

Councilor Ives asked about lining up some of the categories on the 2nd page to tie this with the rebates. Mr. Pushard said that the rebates we offer today are not offered to the new homes, it is for a tax credit for new homes. There is a discussion that will follow under Legislative updates.

Ms. Randall asked if any assistance is needed from the WCC.

Mr. Pushard is looking for support and concurrence on what has been presented and updates will be provided as it makes its way through the City system. We also want to allow sufficient time for the outdoor. Mr. Pushard will get the spreadsheet on line and as stated earlier, he welcomes feedback to consolidate all comments.

Ms. McDonald mentioned that in the Mayor's Transition Committee there was recommendation to hire a WURS administrator hired and this would allow the city to do these inspections as well so it would be either/or not just outside contractors. There could be open discussion from the constituents on why to have a third party involved.

Legislative Update: They are going back for the green bill tax credit, the intent by Senator Wirth and the builders to make this part of the tax credit bill that gets re-drafted. There are a lot of politics among the homebuilders organization, there is consensus on this issue. This would be a new bill that would go forward the next legislative session. SHB24 was the existing home Water Conservation bill and it will be put forward again in the upcoming session but they really want to model the water around this as well. Mr. Pushard said they tried to model it to do the existing and new with the tool, he feels this is possible for in-door. Outdoor -- existing vs. new are very different. Senator Wirth said there is a good push for water conservation.

Chair Ives asked Ms. Grosse to invite Senator Wirth to the August meeting to have a legislative discussion.

Ms. McDonald said that the Senator was very clear that the only way this is going to pass is if people work together. He had a lot of people of varied interest there and that people need to work together to get this bill passed.

b. **Group #4 – Reestablish Trend of Net Annual Reductions in Per Capita Water Usage and Identifying Large Water Users** *(Exhibit F) – Ms. McDonald*

The city is looking for a new Parks Director, which has delayed work in progress, and they are talking about combining Parks and Rec. We are continuing to work on our water conservation report but feel it is important to have buy-in from the new Division Director and possibly the new department head. POSAC is also requesting community garden majordomos to report water usage monthly for the community vegetable plots as a way to educate and keep track of water used. Bette Booth will give a report on the WAA meeting to POSAC at the June meeting.

c. **Group #5 – Domestic Wells Within the City Limits**
Mr. Wiman reported that his report was not sent out to all members. The Draft report will be provided at the next scheduled meeting.

Q: What is the status of the letter that would be sent to private well users 2 months ago? Ms. Grosse did not have an update at this time.

d. **Group #1 – Water Conservation and Drought Management Plan Update**
Ms. Grosse noted that she has not seen anything from the consultant; Ms. Treviso is working with her directly. Ms. Perez said that the committee is working and prioritizing the project list and will report at the next meeting. Ms. Grosse noted that she will be out on July 2nd and Ms. Treviso would need to work with this group on this day. The consultant will not be available on July 2nd; she is chairing a meeting in Albuquerque.

e. **Group #2 – Water Conservation Education/Outreach**
Ms. Grosse reminded the WCC members that the presentation to the PUC is scheduled for the 9th of July. WCC members need to be available to make that presentation. Ms. Grosse will confirm the date and send information to the committee for their calendar.

Ms. Grosse said that the press release has been drafted and is being reviewed. It will be released on Thursday for the presentations next week.

Ms. Perez informed the committee that she worked at the Green Chamber of Commerce festival and got some sign ups or interest for future presentations.

MATTERS FROM STAFF

Introduction of Nathan Manzanares, Enforcement Officer
J.D. (Joseph) Sugre (spelling) – Summer Intern for Water Conservation and Water Resources Group
Ms. Grosse asked the WCC if they have comments on the Watershed Plan to be sent to Esha no later than Monday, June 16th.

A project-wet workshop is being done next week. Registration can be completed on the city website, it will take place on June 17th and it is a 6 hour session. No charge for attendance due to sponsorship.

MATTERS FROM COMMITTEE
None

NEXT MEETING – Tuesday, July 9th
Chair Ives asked Ms. McDonald to chair the meeting on this date, as this is City Council meeting.

Captions: June 23, 2014 @ 3:00 pm **Packet Material: June 25, 2014 @ 3:00 pm**

ADJOURN

There being no further business to come before the Water Conservation Committee, the meeting was adjourned at 6:00 pm.

Signature Page:

Councilor Peter Ives, Chair Melissa McDonald for C. Ives

Fran Lucero, Stenographer

CITY OF Santa Fe

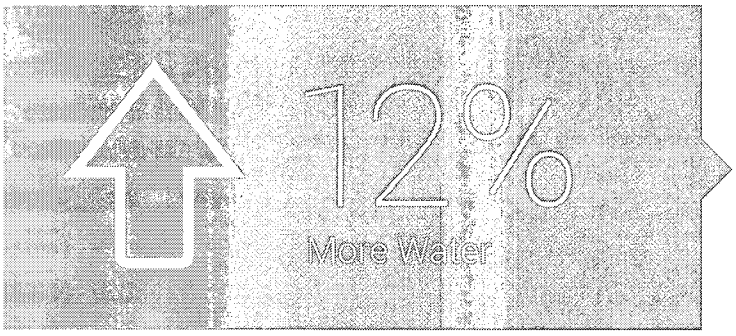
Your Household Water Report

April 1, 2014 — May 1, 2014

Elliott & Gretchen Schwartz
Upper Canyon Road
Santa Fe, NM 87501

Potential Leak Detected[1]
68 Gallons Per Day

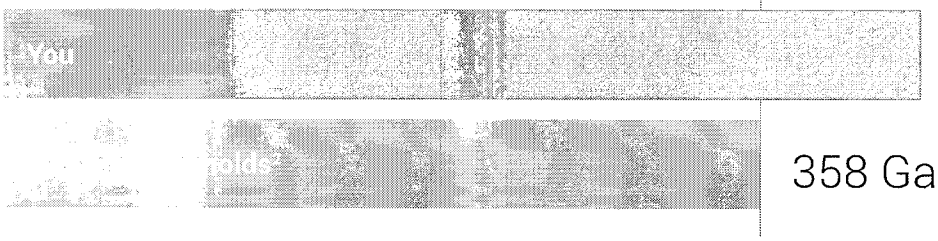
You might have a water leak. Visit myaccount.santafenm.gov for information on leak detections and repairs.



Your household used **12% more water** per day than similar households in Santa Fe.

How Does Your Home Compare?

Here's how your average daily water usage stacked up against households like yours in the past month.

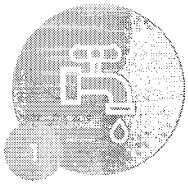


401 Gallons

358 Gallons

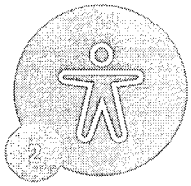
Take Action!

Follow these steps, and you'll be on your way to using water more efficiently.



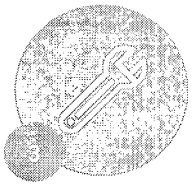
Install aerators.

When you screw an aerator onto a faucet, you add air to the water. You'll use 30% less water anytime the faucet's on (And you'll hardly notice the difference).



Take shorter showers.

A typical shower uses 5 gallons of water per minute. Reducing your shower by 1 minute per day can save 150 gallons per month.



Stop that leaky toilet.

Even a small leak can waste 30 gallons per day. That's over 10,000 gallons per year. Yikes.

Rebate Offer: High-Efficiency Toilets

Save up to $125 on a high-efficiency toilet (HET).

Visit rebates.waterprograms.com to learn about and redeem rebates on eligible devices.

[illegible] are eligible for a rebate of up to $125 per toilet for [illegible] high-efficiency toilets that use 3.5 gallons per flush or more, [illegible] from the approved list of qualifying models.

A Message From the City of Santa Fe

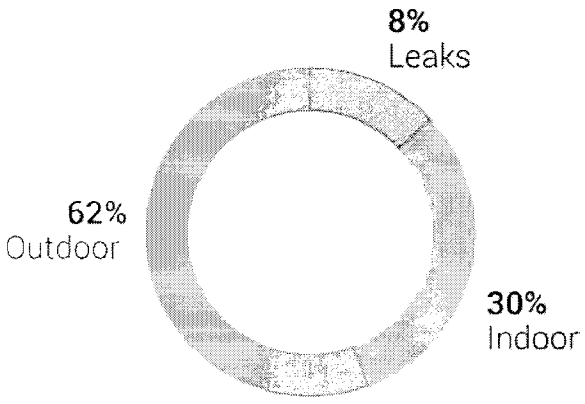
Save more than 3,000 gallons a week and up to $50 a month by installing a smart irrigation controller.

Use 10 fewer gallons every time you turn on the hot water. How? By installing a demand-driven recirculation pump that delivers hot water instantly.

Save at least 20 gallons a day when you install a high-efficiency toilet. Take advantage of our rebate program.

Water usage breakdown last month

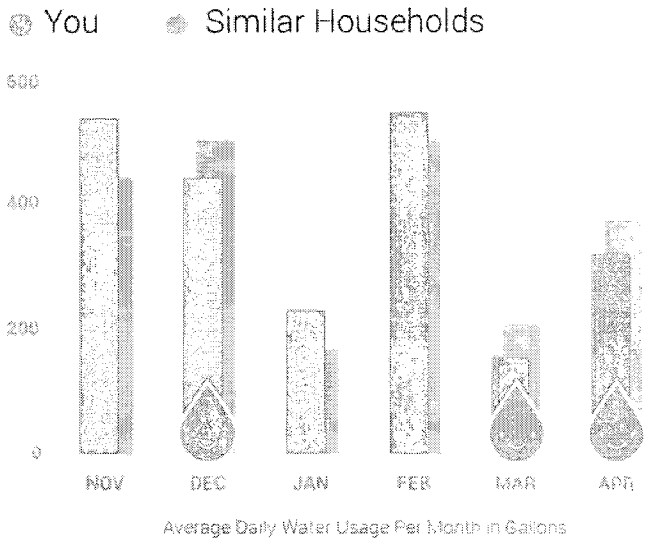
[illegible] where your water went this past month.



Potential Leak Detected[1]
68 Gallons Per Day

Water Usage Over Time[3]

Your water usage compared to similar households in Santa Fe



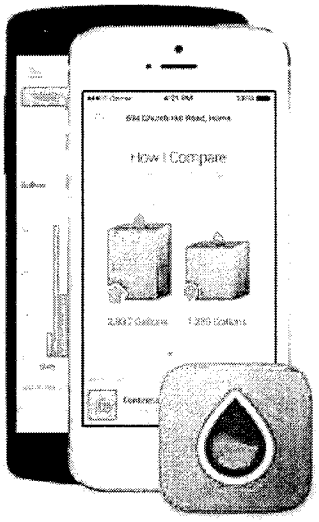
Average Daily Water Usage Per Month in Gallons

Personalize Your Household Profile

If you personalize your household profile (it's easy), we can improve the accuracy of your comparison to similar households.

Scan the QR code with your smartphone, or visit **myaccount.santafenm.gov** and enter this access code.

Access Code: 7859



Get the EyeOnWater App

Download the EyeOnWater App to keep an eye on your water usage, track historical trends, monitor your home for leaks, and more. It's free.

Download on the App Store ANDROID APP ON Google play

[illegible] leak is detected when a continuous flow of more than 1 gallon is measured for 24 consecutive hours. A leak of fewer than 50 gallons per day might be a dripping faucet or a leaky toilet. Larger leaks are likely to be a cracked or broken pipe.

[3] In this comparison, "similar households" are determined by the average water usage of all single family homes in your city. To increase the accuracy of this data, update your household profile at myaccount.santafenm.gov.

[3] Monthly values are calculated based on your billing records.

CITY OF Santa Fe

Your Household Water Report

April 1, 2014 — May 1, 2014

Elliott & Gretchen Schwartz
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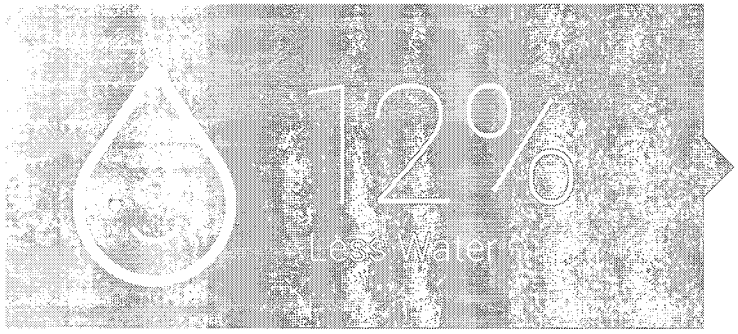

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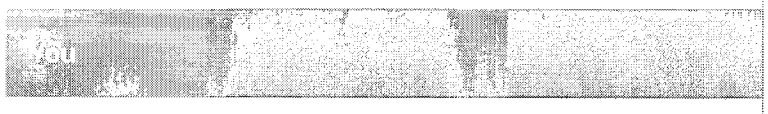

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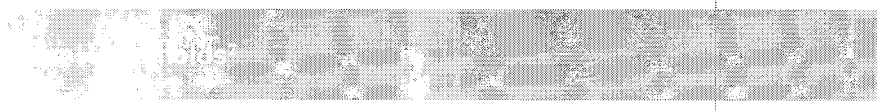

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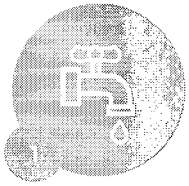

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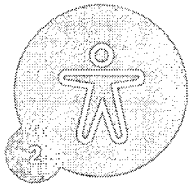
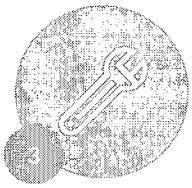


Take shorter showers.

A typical shower uses 5 gallons of water per minute. Reducing your shower by 1 minute per day can save 150 gallons per month.



Stop that leaky toilet.

Even a small leak can waste 30 gallons per day. That's over 10,000 gallons per year. Yikes.

Rebate Offer: High-Efficiency Toilets

Save up to $125 on a high-efficiency toilet (HET).

Visit rebates.waterprograms.com to learn about and redeem rebates on eligible devices.

City of Santa Fe customers are eligible for a rebate of up to $125 per toilet for [illegible] high water use toilets that use 3.5 gallons per flush or more [illegible] approved list of qualifying models.

A Message From the City Of Santa Fe

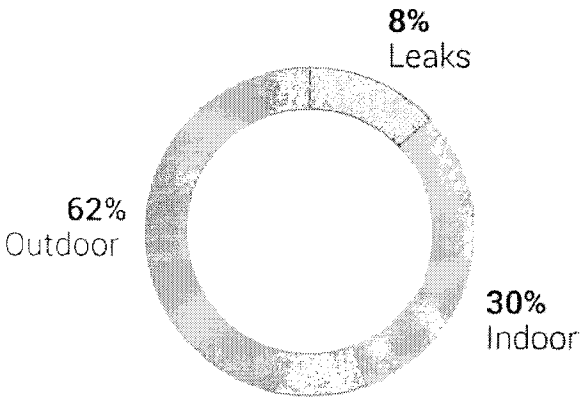
Save more than 3,000 gallons a week and up to $50 a month by installing a smart irrigation controller.

Use 10 fewer gallons every time you turn on the hot water. How? By installing a demand-driven recirculation pump that delivers hot water instantly.

Save at least 20 gallons a day when you install a high-efficiency toilet. Take advantage of our rebate program.

Water breakdown last month

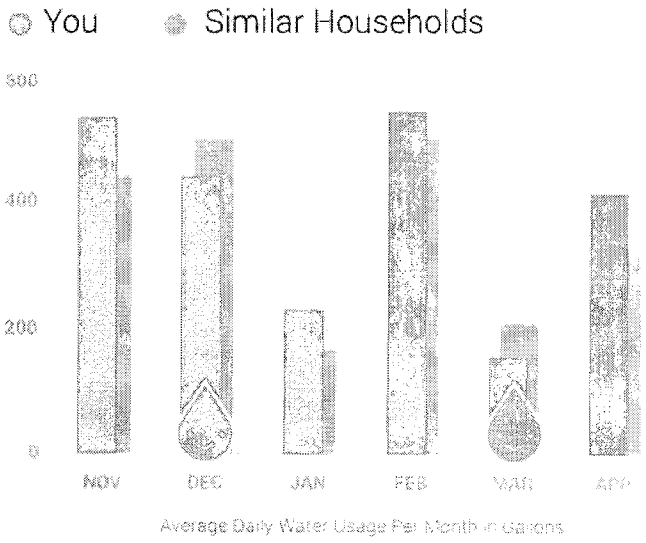
Shows where your water went this past month.



Potential Leak Detected[1]
68 Gallons Per Day

Water Usage Over Time[3]

Your water usage compared to similar households in Santa Fe



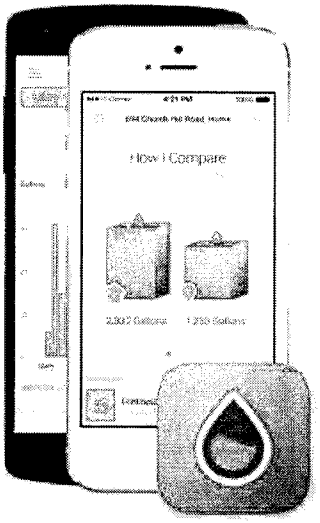
Average Daily Water Usage Per Month in Gallons

Personalize Your Household Profile

If you personalize your household profile (it's easy), we can improve the accuracy of your comparison to similar households.

Scan the QR code with your smartphone, or visit **myaccount.santafenm.gov** and enter this access code.

Access Code: 7859



Get the EyeOnWater App

Download the EyeOnWater App to keep an eye on your water usage, track historical trends, monitor your home for leaks, and more. It's free.

Download on the App Store ANDROID APP ON Google play

[illegible] detected when a continuous flow of more than 1 gallon is [illegible] for 24 consecutive hours. A leak of fewer than 50 gallons per day might be a dripping faucet or a leaky toilet. Larger leaks are likely to be a [illegible] or broken pipe.

[3] In this comparison, 'similar households' are determined by the average water usage of all single family homes in your city. To increase the accuracy of this data, update your household profile at myaccount.santafenm.gov.

[1] Monthly values are calculated based on your billing records.

MEMORANDUM

TO: City of Santa Fe Public Utilities Committee
City of Santa Fe Water Conservation Committee
Buckman Direct Diversion Board

FROM: Rick Carpenter, Water Resources and Conservation Manager

VIA: Nick Schiavo, Acting Public Utilities Department and Water Division Director

DATE: May 22, 2014

SUBJECT: 33[d] Monthly Update on Drought and Water Resource Management

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CURRENT UPDATE – GENERAL WATER RESOURCE MANGEMENT

As the Committee/Board is aware, our region is still suffering through a severe drought. Our region has gone through three consecutive years of record drought and heat. It is now apparent that we are in a fourth consecutive year of severe drought and abnormal heat which will present significant challenges to all water purveyors, utilities, and irrigators going forward into the rest of this year. Weather prediction models had indicated that, at least through the early part of this summer, if not longer, drought conditions in the southwest (especially Arizona and New Mexico) should be neutral to below average precipitation and above average temperatures. However, many models are now predicting the likelihood of a return of an El Nino weather pattern (75% chance). This could mean increased precipitation for the coming months. Fire season is also expected to be very challenging which could have significant water quality implications for the BDD water treatment plant and/or Canyon Road water treatment plant.

This current drought is extreme, but what sets it apart from previous extreme droughts is that, the region will enter into summer without very much carry-over water from the previous year in regional reservoirs – they are at low levels (except for the local McClure reservoir in Santa Fe). For example, Heron reservoir (San Juan-Chama Project water) is currently at about 31% of capacity. However, runoff forecasts from the San Juan watershed seem to indicate substantial accumulation into Heron from this year's snow pack. BoR is predicting that SJCP contractors should receive about 85% of normal deliveries.

It is worth noting, however, the City of Santa Fe has invested in a robust and diverse portfolio of four distinct water supply sources that allows for flexibility in meeting demand: Buckman well field, City well field, Canyon Road Water Treatment Plant on the Upper Santa Fe River, and the Buckman Direct Diversion on the Rio Grande. Supply from these groundwater and surface water sources are expected to be adequate in meeting local demands through the coming high-demand season.

Exhibit A

LOCAL CONDITIONS

Source of Supply Utilization Summary

February 2014

City Wells	0.00mg/m	0.00af/m
Buckman Wells	0.00mg/m	0.00af/m
CRWTP	146.01mg/m	448.09af/m
BRWTP	97.44mg/m	299.03af/m
Other Wells(Osage, MRC, etc)	*0.04mg/m*	*0.13af/m*

Upper Santa Fe River/CRWTP

	Total Combined Reservoir Level	Santa Fe Snow Gage	Reservoir Inflow
March 24, 2014	32.10%	17.0 inches	5.88 MGD
5-Year Average for This Date (2009 – 2013)	46.95 %	22.0 inches	8.75 MGD

As of May 21st, and due to the heavy rains in mid-September and some minor winter snow storms, total combined storage in Nichols and McClure reservoirs is up to 32.1% (or about 1,280 acre-feet of storage). Flows are being by-passed due to construction on the new intake facilities. Inflows are expected to continue for the near future and so the reservoirs have been releasing water to allow for water treatment plant production, active construction, and draining/drying.

Buckman Regional Water Treatment Plant

Flows in the Rio Grande are relatively low but the BDD Project is able to divert water. Turbidity and suspended solids are relatively low and raw water quality is good. Flows in the Rio Grande were temporarily increase over the second and third week of May to mimic snow melt runoff in order to create advantageous conditions for silvery minnow spawning. As of the date of this memo, Wild Earth Guardians has not filed any legal suites pursuant to their recently filed notices of intent to sue.

REGIONAL CONDITIONS

Rio Grande Basin

Surface flows in the Rio Grande and its tributaries have been well below normal, (except for temporary releases for the silvery minnow spawn), storage levels in regional reservoirs are very low currently. Native flows in the Rio Grande will likely be low to very low through the spring and summer.

San Juan Basin

It should be stressed that, conditions could significantly worsen for San Juan Chama Project deliveries next year, if the drought persists, due to a lack of carry-over storage in Heron Reservoir and other reservoirs in the system. Heron Reservoir is currently at a very low level of 31% of capacity for this time of year. It is still too early in the year to quantify with a lot of confidence, but the Bureau of Reclamation has recently indicated that it is very likely that SJCP deliveries this year will be at or near 85% due to good snow pack in the San Juan watershed, high soil moisture, and the storage that was already in Heron at the beginning of the snow melt season.

City of Santa Fe, New Mexico

memo

Date: June 04, 2014

To: Water Conservation Committee

From: Robert Wood, Water Conservation Specialist

Via: Laurie Trevizo, Water Conservation Manager
Rick Carpenter, Water Resources and Conservation Manager
Nick Schiavo, Public Utilities Department and Water Division Director

RE: QWEL training and accomplishments

QWEL (Qualified Water Efficient Landscaper) was conceptualized as an addition to the Water Conservation Office in 2011.

Brief History: QWEL is the second approved US EPA WaterSense Irrigation Auditor certification programs in the nation and was developed in cooperation with the California Landscape Contractors Association, Sonoma County Water Agency, City of Santa Rosa, Marin Municipal Water District and the colleges of Santa Rosa and Marin. At the present time, 11 additional Western states are offering or may soon offer the QWEL program to assist landscape professionals improve the water efficiency of landscapes and to provide a pool of qualified individuals that the public can hire with confidence. QWEL certified individuals may include landscape technicians, landscape designers, landscape maintenance workers and landscape installation contractors. QWEL provides approximately 20 hours of education focused on water efficient principles. In the course, landscape professionals learn how to reduce landscape water use by becoming efficient and effective water managers. Training covers irrigation systems and efficient irrigation, soils and plants, water management and budgeting, irrigation controllers and new, 'smart' technology, and much more. City of Santa Fe Water Conservation Office has complied with the terms/conditions to be considered a professional certifying organization though the EPA. Meaning the City of Santa Fe can offer the QWEL program and the graduates will be eligible to become Watersense partners, with a listing on the Watersense website, and gain access to the partner tools available through the EPA Watersense program.

March 2013

- The first QWEL training was held in March of 2013. The weeklong training included three days of classroom presentations, a half-day each of fieldwork and exam preparation, and the exam on the final day.

Exhibit B

- Twenty one participants gained knowledge in water efficient and sustainable landscape practices, including design, maintenance, and operation of "smart" irrigation systems.
- All 21 participants successfully completed the training and are eligible to be EPA WaterSense Irrigation Partners.
- Graduation rate of 100%

November 2013

- A QWEL class was offered in Silver City, New Mexico in November of 2013.
- Three students registered for the class two passed the final exam.
- Graduation rate of 66.6%
- QWEL was held in November of 2013.
- Training was the same as previous except training was broken into a two week schedule instead of one week to give contractors more opportunity to attend.
- 22 registered students 16 were successful in passing the final test.
- A no charge, one day refresher and re-test were offered; 2 students participated and 1 did pass the final test.
- Graduation rate of 72.7%

March 2014

- QWEL scheduled for March 2014 occurred in April 2014.
- Training was the same format as previous however practice questions at the end of each chapter were introduced.
- The drip portion of the presentation was expanded. Of the 11 students attending the classes 10 successfully completed the final exam.
- Graduation rate of 90.9%

Overall the program has had great success. There are currently 49 QWEL certified persons within the state of New Mexico, 24 persons are certified as "For Hire" within the City of Santa Fe.

Future plans include enhancing the drip component further and offering irrigation rebates.

The City of Santa Fe Water Conservation Office will continue to offer QWEL as a professional development course for the foreseeable future.

City of Santa Fe, New Mexico

memo

Date: June 04, 2014

To: Water Conservation Committee

From: Robert Wood, Water Conservation Specialist

Via: Laurie Trevizo, Water Conservation Manager
Rick Carpenter, Water Resources and Conservation Manager
Nick Schiavo, Public Utilities Department and Water Division Director

RE: **Irrigation Rebate Process:**

Rebates for irrigation efficiency are being offered as a trial program May 1st. 2014 to October 31st, 2014. The Water Conservation Office is piloting this rebate for 2014, if successful rebate will continue in the future.

Two separate rebates that can be combined;

1. Irrigation Efficiency Evaluation Rebate ;
    - Residential (min. 1,000 sf irrigated area) $50.00
    - Commercial (min. 2,500 sf irrigated area) $25.00
2. Irrigation Equipment Rebate;
    - Irrigation Efficiency Evaluation must be completed and repairs made.
    - WS labeled Rain Sensor (add on) $40.00
    - Soil Moisture Sensor (add on) $75.00
    - Weather-based (Smart/ET) Controller ; (Equipment must be WaterSense Approved)
        - 1-6 Zone/Stations $300.00
        - 7-9 Zone/Stations $375.00
        - 10-12 Zone/Stations $450.00
        - 13-18 Zone/Stations $575.00
        - 19-34 Zone/Stations $750.00

A qualified QWEL (irrigation auditor that has completed training and has the QWEL contractors' agreement on file performs a site visit and evaluates irrigation system by way of the Irrigation Audit.

Exhibit C

Irrigation Evaluation Terms and Conditions

1. Applicant must be a City of Santa Fe water utility customer with an account in their name at the service address where the irrigation system is installed.
2. The irrigation system is existing and not a new installation.
3. The irrigation system must be permanent, with proper backflow prevention per city code 14.8-4.
4. The applicant must participate in an irrigation system evaluation conducted by a QWEL certified landscaper.
5. The applicant must provide original receipts (not photocopies) for the cost of the evaluation, as well as a complete copy of the evaluation provided by a Qualified Water Efficient Landscaper (QWEL) certified landscape professional.
6. The completed application must be received no more than 90 days after purchase date and before the program end date. Applications received after October 31, 2014, will not be processed.

Irrigation Equipment Rebate Terms and Conditions

1. Applicant must be a City of Santa Fe water utility customer with an account in their name at the service address where the irrigation system is installed.
2. The irrigation system is existing and not a new installation.
3. The irrigation system must be permanent, with proper backflow prevention per city code 14.8-4.
4. The applicant must participate in an irrigation system evaluation conducted by a QWEL certified landscaper.
5. The applicant must make all recommended repairs, and purchase and install any eligible hardware within 90 days of the evaluation to qualify for the irrigation equipment rebate. Only EPA WaterSense labeled irrigation controllers will be eligible for the Weather-based (Smart/ET) Controller rebate. Use the Irrigation Controllers product category at http://www.epa.gov/WaterSense/product_search.html to search for eligible controllers
6. The applicant must provide original receipts (not photocopies) for the purchase of the equipment for which the rebate is being applied.
7. The completed application must be received no more than 90 days after purchase date and before the program end date. Applications received after October 31, 2014, will not be processed.

When forms and copies of audit are received verification of required information, original receipts, and signatures will be performed. If all paperwork is in order a Rebate will be approved and entered into the database and a credit issued onto the customer's account.

Forms and full rebate instructions can be found on our websites.

http://savewatersantafe.com/ http://www.santafenm.gov/water_conservation

City of Santa Fe, New Mexico

memo

Date: May 27, 2014

To: Public Utilities Committee

Via: Nick Schiavo, Public Utilities Dept. and Water Division Director

From: Alex Puglisi, Source of Supply Manager
Robert Jorgensen, P.E., Water Division Engineer

Subject: McClure & Nichols Reservoir Improvements, CIP Project #3038
Project Status as of May 27, 2014

- Work on the Nichols Dam intake structure is substantially completed.
- Commissioning of the intake structure is underway and will be completed by June 6, 2014.
- Nichols Reservoir initial filling up to the emergency drain piping has taken place and releases to feed the Santa Fe River, acequias, and Canyon Road Water Treatment Plant resumed on May 22, 2014.
- The CRWTP will resume drinking water delivery on May 27, 2014.
- Work at McClure is scheduled to begin no later than September 1, 2014.

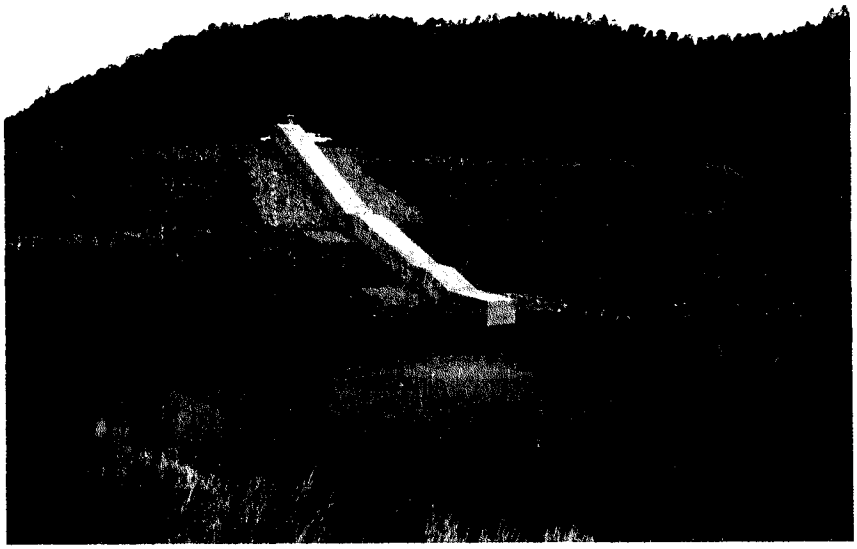
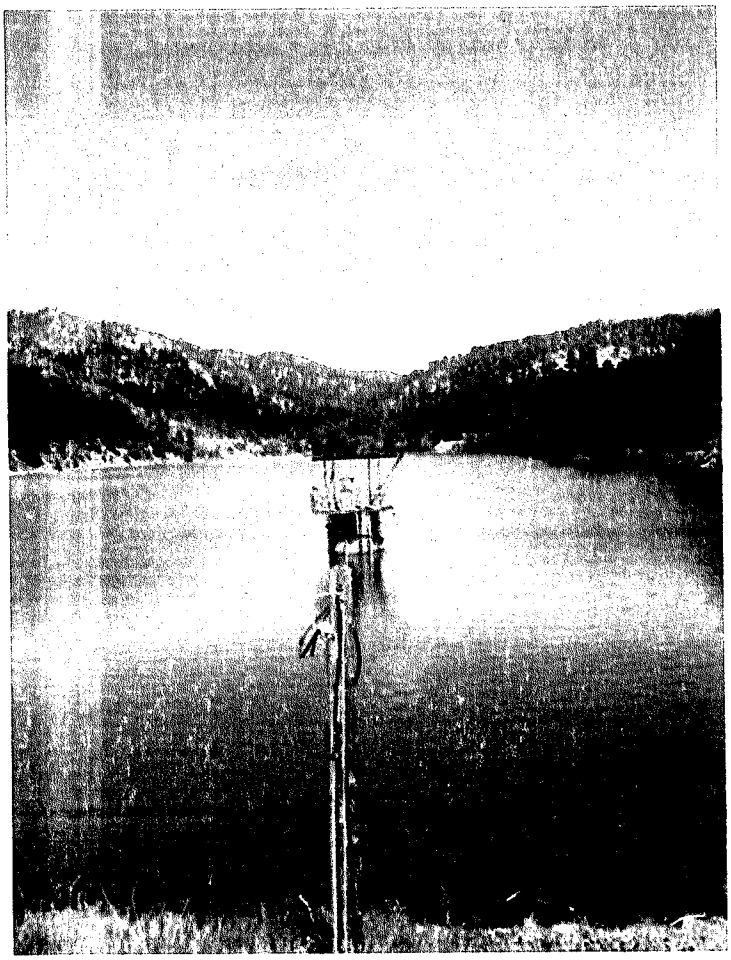
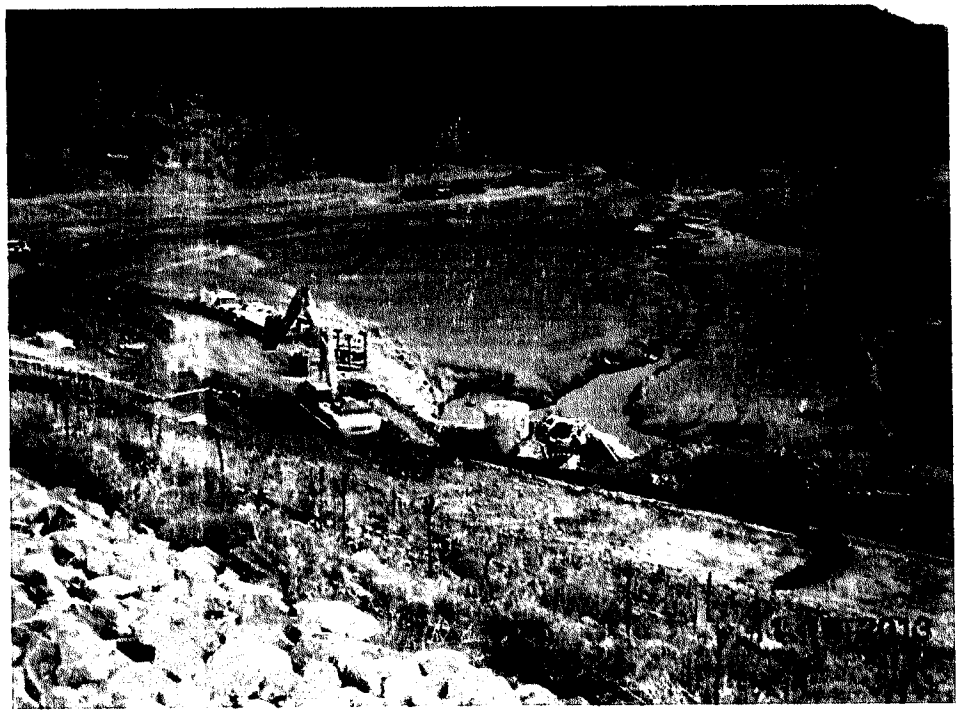


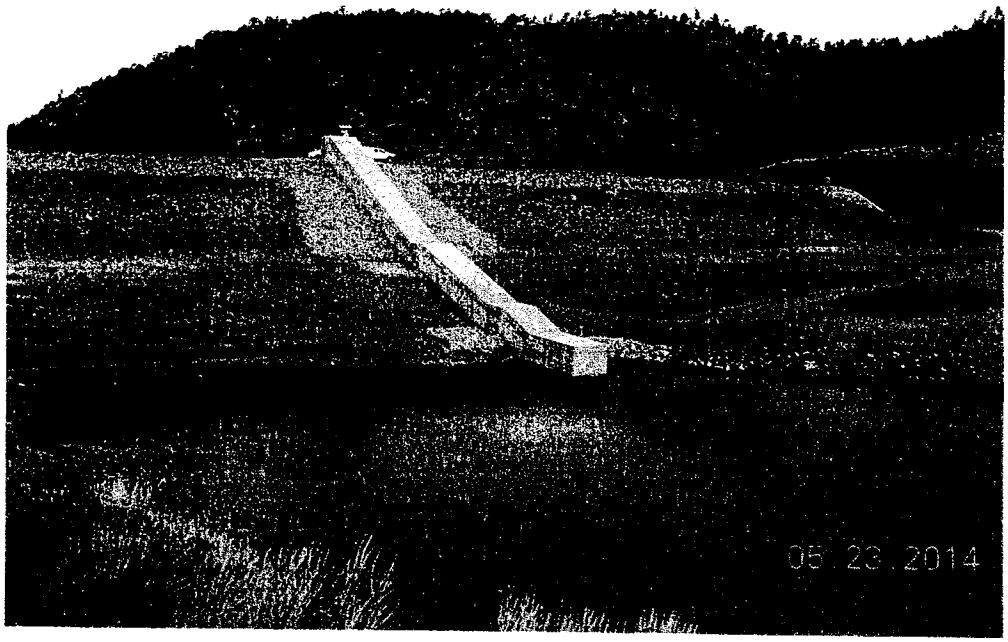
Exhibit D



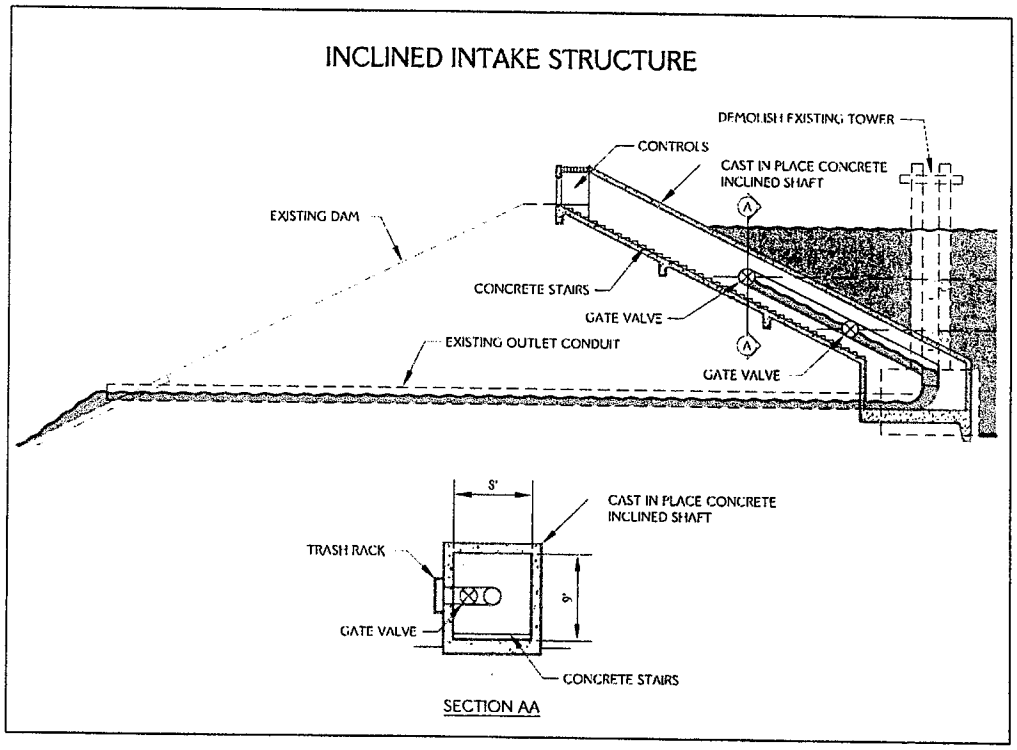
Nichols Vertical Intake Tower Prior to Construction



Nichols Vertical Tower Demolition on November 15, 2013



Nichols Inclined Intake Tower Structure



Schematic Showing How Inclined Intake Structure Functions

BGNM WURS
Indoor Water Use Calculations

Builder
John Smith of Awesome Home Builders

Verification
J. Clouseau of Inspection Company

Project
238 E. Bailey Rd. , Unit L Naperville Illinois 60565

Report 6/4/2014

This report is for Indoor Only

Once the report type is selected on the Summary Page, Dark Grey areas are either calculated or not mandatory and do not require inputs.

Inspection Information

Date 6/4/2014 Time 12:00 PM Code <select code> Building Program BGNM

Indoor Fixtures and Appliances

(Select a Building Program on the Summary Tab if there's an 'X' in the "Program Required Units" boxes.)

	Fixture or Appliance	Industry Baseline	BGNM Program Required Units	Proposed or Actual Units	QTY	Industry Baseline Gal/Day	Proposed or Actual Daily Use in Gallons	Installation Confirmed?	Notes
A	Toilet (GPF)	1.6	1.6	1.28	1	32.00	25.60	<select answer>	
B	Urinal (GPF)	1.0	1.0	0.00	0	0.00	0.00	<select answer>	
C	Showerhead (GPM)	2.5	2.5	1.50	1	50.00	30.00	<select answer>	
D	Tub Faucet (GPM)	3.0	3.0	2.00	1	8.40	5.60	<select answer>	
E	Lavatory (GPM)	2.5	2.2	1.50	1	12.50	7.50	<select answer>	
F	Kitchen Faucet (GPM)	2.5	2.2	1.50	1	40.00	24.00	<select answer>	
G	Dishwasher (GPC)	6.5	6.5	6.00	1	6.50	6.00	<select answer>	
H	Washing Machine (GPC)	23.0	23.0	12.00	1	23.00	12.00	<select answer>	
J	Water used to reach 100 degrees (GPU)	2.2	2.2	1.00	4.0	44.00	20.00	<select answer>	

Totals in Gallons 216.40 130.70

BGNM **MINIMUM WURS** 97.09 **Project WURS** 60.40 NOT FINAL

The WURS (Water Use Rating Score) is based on 0 to 100 with 0 being the best performing home.

Savings per Day $0.26 **Year** $95.64

Signature Section

Exhibit F

BGNM WURS
Project Summary

<... where the report must be sent>
<... if there are questions on the process>
<... if there are questions on the form>

Report Date	6/4/2014
This report is for	Indoor Only

Once the report type is selected, Dark Grey areas are either calculated or not mandatory and do not require inputs.

Project Location

Project Name	Test Case
Project Address(es)	238 E. Bailey Rd. , Unit L
City	Naperville
State	Illinois
Zip	60565
Metro Area	Chicago
Building Code	<select code>

Building Program	BGNM
Climate Zone	
Eto	
Average Rainfall	7
Peak Watering Month	
Water $/1K	$3.30
Sewer $/1K	$0.00

Verification Team

Company	Inspection Company
Contact	J. Clouseau
Phone	
Email	

Builder / Developer

Company	Awesome Home Builders
Contact	John Smith
Phone	
Email	

Building Information

Type	<select building type>
# of units total	
Sample set size	

# of bedrooms	3
# of full baths	
# of 1/2 baths	

Site Information

Lot Size (sf)	15000.00	
Under Roof (sf)	5000.00	
Remaining Lot (sf)	10000.00	
Softscape (sf)	5000.00	50.00%
Permeable Paving (sf)	1000.00	10.00%
Directed Imp. Paving (sf)	1000.00	10.00%
Remaining Impervious (sf)	1000.00	10.00%
Other (sf)	1000.00	10.00%
must total 100%		90.00%

Rainwater Capture?	<select answer>
Roof Overall Size (sf)	1000.00
Roof Run-off Coefficient	1.00
Captured	100.00%
Rainwater Amount (gal)	4361.00
Greywater Capture?	<select answer>
Site Water Amount (gal)	623.00
Indoor Use?	<select answer>
Outdoor Use?	<select answer>

Working Group 4
Issue: **Promoting Conservation Strategies of Large Water Users**

Strategic Goal	Contribute to reducing water use by optimizing water use by large water users
Objectives	Optimize water use by large users
Tasks	• Identify large water users • Promote the installation of electronic transmitting water meters • Estimate contribution to total demand • Engage large water users in the discussion of how to optimize water use • Identify ways to optimize the water consumption of large users, and encourage water conservation by large users • Engage in discussion Research on Smart Controllers for rebates/park installations • Explore and suggest potential rebate programs and potential savings for large users • Explore behavioral modification models as a means to reduction of use • Research commercial water budgets • Training & Code Modifications • Expand relationships with the Santa Fe community by creating liaison to better understand issues and solutions
Members	Karyn Schmitt, Melissa McDonald, Tim Michael
Notes	• Research on Smart Controllers for rebates/park installations • Exploring with WCC on ways to localizing —adding passive water harvesting info to the curriculum perhaps through the QWEL program • Liaison with Parks and Open Space (POSAC--Melissa McDonald & Tim Michael) • Support AMI efforts for better meter reading and better software packages that help consumers track individual daily water use as a tool for increased efficiency and conservation • Review Green Building Code amendments --- chapter 8 • Smart Tech/Soil metering update coming • Support recognition of successful partners and program
Reference Material	• Water Use in Santa Fe, Borchert et al., July 2009 • QWEL Guide and website/WaterSense • US Dept. of Energy, Federal Energy Management Program, Guidelines for Estimating Unmetered Landscaping Water Use • City of Santa Fe Green Building Code & administrative guidelines • EPA WaterSense Documents • SF Watershed Forest & Water Climate Adaptation Plan by Esha Chiocchio • Parks & Recreation, national database report 2014, National Recreation and Parks Association
Fiscal Impact	To be determined

Update:
Parks: Parks division director, Ben Gurule, has retired. The search for a new division director is starting. In addition, the city is looking into combining Parks with Recreation into on department. We are continuing to work on our water conservation report but feel it is important to have buy in from the new division director and possibly the new department head. POSAC is also requesting community garden majordomos to report water usage monthly for the community vegetable plots as a way to educate and keep track of water used. Bette Booth will give a report on the WAA meeting to POSAC at the June meeting.

Legislative Update: SB16 Rainwater Harvesting rebate-we are working with supporters to follow-up with Senator Peter Wirth on the next steps which may include making it part of the sustainable building tax credit in 2015 session.

Updates: Working Group #4 would like to get updates from WC staff on AMI metering /billing status, QWEL training, green lodging initiative

Exhibit F

City of Santa Fe, New Mexico

memo

Date: May 29, 2014

To: Water Conservation Committee

From: Caryn Grosse, Water Conservation Specialist

Via: Laurie Trevizo, Water Conservation Manager
Rick Carpenter, Water Resources and Conservation Manager
Nick Schiavo, Public Utilities Department and Water Division Director

RE: Update on Spring 2014 Outreach & Education Activities

The City of Santa Fe Water Conservation Office participated in a number of events this spring that provided education and outreach opportunities to a variety of audiences.

Wyland Foundation Mayor's Challenge for Water Conservation
April 1-30, 2014

My Water Pledge is a friendly competition between cities to see who can be the most "water-wise," sponsored by the Wyland Foundation. Mayors challenge their residents to conserve water, energy and other natural resources on behalf of their city. This was our 3rd year for participating in the Mayor's Challenge. This year, we ranked at #8 by population (30,000-99,999).

12th Annual Children's Water Fiesta
April 16-17, 2014

A favorite activity with Santa Fe Public Schools 4th graders! This year, the two-day Fiesta was attended by 597 students from 28 classes at 11 different schools. High school students from Monte Del Sol Charter School Environmental Science Class and Santa Fe High School Key Club acted as guides for the 4th grade classes.

City of Santa Fe Proclamation for the Wyland Mayor's Challenge for Water Conservation
April 17, 2014

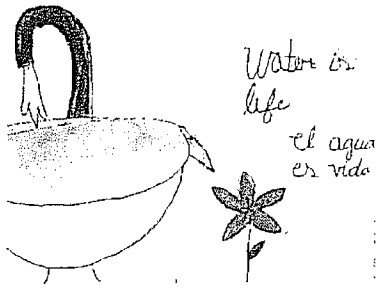
Councilor Peter Ives read the proclamation signed by Mayor Javier Gonzales in support of the Wyland Foundation Mayor's Challenge for Water Conservation during the Children's Water Fiesta.

QWEL (Qualified Water Efficient Landscaper) Training:
April 23-May 1, 2014

The Qualified Water Efficient Landscaper (QWEL) training, co-sponsored by the Water Conservation Office and the New Mexico Water Conservation Alliance, had 11 registrants that completed the course and took the exam. Another training session will be offered in November 2014.

11th Annual Poster Contest
Theme: Saving Water is Always in Season!
Submittal Deadline: December 13, 2013
Judging: January 24, 2014
Awards Presentation: April 30, 2014

The annual poster calendar is a favorite in the Santa Fe community! Winners of the poster contest receive a prize package that includes conservation kits for saving water at home. The grand prize winning poster is displayed for a year on the back of a city bus, on the calendar cover, as well as being used for the Water Fiesta t-shirts. First through third place winners will be featured in the 2015 calendar. The grand prize winner was Molly Murphey, a 4th grader from La Mariposa Montessori.



State of New Mexico Proclamation of Water Quality and Conservation Awareness Week
May 4-10, 2014

Lisa Randall, SFPS, and Elena Kayak, RRPS, invited input and partnership from the Water Conservation Office for the annual NM Water Quality and Conservation Awareness Week proclamation signed by Governor Martinez.

Community Outreach Booths:

- Railyard Stewards Workshop Series, April 19, May 3, June 7, WC Office personnel
- Santa Fe Master Gardeners Spring Garden Fair, May 3, table staffed by WCC members
- CommUNITY Day, May 10, 2014, booth staffed by WC Office and BDD personnel
- Green Chamber, May 17, 2014, booth staffed by WCC members

Muchas Gracias Presentations
May 14, 2014 City Council Meeting

Many of the presenters and other volunteers who participate in the Children's Water Fiesta have been doing so for years. WC Office staff compiled a list of nine people who had participated for five years or more in the Fiesta, and created certificates thanking them for their steadfast contributions. Councilor Ives graciously consented to present the certificates at the City Council meeting.

QWEL Recognition of City Parks Employees
May 14, 2014 City Council Meeting

Five City Parks employees have completed QWEL training and passed the exam to become QWEL certified landscape professionals. The WC Office wanted to recognize their efforts and participate with certificates of recognition at the Council meeting. Councilor Trujillo made the presentations on behalf of the WC Office.

Project WET Workshop
The WC Office is planning to hold a Project WET Workshop during the week of June 16th to help Water Fiesta presenters and other educators become more familiar with the Project WET curriculum.

City of Santa Fe, New Mexico

memo

Date: May 29, 2014

To: Water Conservation Committee

From: Caryn Grosse, Water Conservation Specialist

Via: Laurie Trevizo, Water Conservation Manager
Rick Carpenter, Water Resources and Conservation Manager
Nick Schiavo, Public Utilities Department and Water Division Director

RE: Rebate Analysis Findings and Recommendations

Background:
In writing "A Review of the City of Santa Fe Water Conservation Rebate Program" Doug Pushard and Tim Michael have undertaken a daunting task to try to understand how effective the various rebates have been that the City of Santa Fe has utilized over the last 10 years. The Water Conservation Office appreciates their efforts and anticipates using the information in this document to strengthen the Rebates and Incentives Program in the future.

At the April 2014 WCC meeting, it was stated that the report would be considered final, pending verification of the data by Water Conservation Office staff.

In checking the facts and figures in this document against the data sources maintained by the Water Conservation Office, as well as comparing the numbers used within the document itself, there are several errors which will need to be corrected before the document is finalized and available for publication.

Findings:
As much of the data used in the review is derived from Appendix V, Number of Rebates by Device and Year, corrections to this chart should take priority (see attached spreadsheet.) The changes to this chart will likely impact every table and calculation in the document.

Page 6: Through the end of 2013, the City of Santa Fe had given a total of 8,864 rebates however, the distribution of those rebates by year in Table 1 is incorrect. (Please note that none of the tables or text in the entire document reference the $25 low-flow pre-rinse sprayer rebates which were offered in 2006 (4) and 2007 (26), which contribute to the total). For residential rebates the numbers should be 6,558 to the end of 2012, and 7,101 to the end of 2013, and commercial should be 1,401 and 1,763, respectively.

Page 7: the numbers of residential rebates given from 2004 to 2009 should be 2,462 high-efficiency clothes washers, 1,711 rain barrels and 265 hot water recirculators. These numbers need to be changed in both the table and the text. In addition, in Table 2, the number of rain sensors is incorrect; only 1 was given, not 2. These changes to Table 2 will also impact the text on pages 8 and 9. The

aggregation of similar rebate types, such as clothes washers and rain barrels, into single categories in Table 2 make this information difficult to compare against the information in Table 3 on page 8.

Please note that the rebate amount offered for Air-Cooled Ice Machines was $400, not $200 as noted. This will impact Tables 3, 8, 11, 13, 17, and 18 directly, as well as indirectly affecting the calculations throughout the text. Also, the $0.25 rebate amount shown for cisterns in Table 3 should be footnoted to indicate that this amount is per gallon of capacity, and that the number of cistern rebates provided in Table 2 does not provide capacity data for the cistern rebates.

Page 11: regarding Table 4, it was not possible to verify the dollar amounts using the data provided within the document. Given that the types and quantities in Appendix V are incorrect, as well as some of the dollar amounts for certain device types, it is likely that the expenditure amounts may also be incorrect, and will need to be verified.

Page 13: In several parts of the document, numbers have been rounded, such as the City cost to produce an acre-foot of water, which given as $1,700 here, whereas on page 16 it is $1,670. Likewise, the total expenditure amount has been rounded down to $1,685,000 for the purposes of the calculations on page 16. While rounding these numbers makes the calculations easier, the effect to the accuracy may be substantial.

Page 15: Table 7 will likely change, as a result of the numbers and types of devices changing in Appendix V, which may impact a number of the calculations throughout the text which utilize 128 acre-feet per year of water saved.

Page 18: in Table 9 the median price indicated for Commercial tank type toilets, particularly for Hotel/Motel applications seems high. Most of the recent applications for Hotel/Motel toilet rebates have utilized models that cost less than $200. A similar note should be made regarding the low and median prices for rain barrel 50-99 gallons. Most applications for this rebate type are using models in the $70-80 range. Changes to this table will likely impact Tables 11 and 13 as well.

Page 19: Please note that the irrigation season typically runs from May 1st to October 31st, and that the water rate tiers adjust up to 10,000 gallons in May (through August), and back down to 7,000 gallons in September (through April). Please make sure that the correct information is provided for each reference.

Page 20: Table 1 payback will need to be adjusted due to median prices and rebate amounts previously mentioned.

Page 21: Appendix VI is listed as Appendix 6. Please check all references in document to appendices to make sure that they are consistently called out. Also update Table 12 payback based on previous comments. These changes may also affect the text on page 22.

Page 26: Table 13 should be updated to reflect previous comments regarding median prices. Also, the correction to the rebate amount for air-cooled ice machines will likely affect the payback calculations in this table. Also note that hot water recirculators are paybacks listed in the table are not consistent with the text below it.

Page 27: regarding Table 15, a quick google search turned up the result that air-cooled ice machines and hot water recirculators were promoted via at least two vehicles (i.e., 2. City Website, and 14. Media Coverage.) A more in-depth search may turn up additional vehicles for promoting those device types, as well as results for the commercial dishwasher rebate. As the rebates for the air-cooled ice machines were given in both 2006 and 2007, it is likely that those rebates were promoted during both

years, which will also impact Table 16 on page 28. These changes will also impact the data in Table 20 on page 33.

Pages 29-36: Please make sure all numbers in the text are updated to reflect the previously noted comments. The Table 21 on page 35 will also change due to the previously noted comments.

Appendix I, page 40, please change as noted: "Pressure reducing valves – These are plumbing and irrigation valves designed to reduce incoming water pressure. Reducing incoming pressure saves water by reducing flow rate through the ~~irrigation~~ **water** lines. Generally ~~city~~ **domestic** water pressure ~~will~~ **should** be 60 – ~~90~~ **80** PSI, where irrigation lines typically need no more than 20 – 30 PSI."

Appendix II, page 42, please add: "**2013** Rebates for the same products and at the same values as 2011 were continued in 2013, resulting in 6.6061 acre-feet of conservation credits delivered to the Water Bank."

Appendix III, page 43, is not a comprehensive listing of Water Conservation Ordinances and Resolutions. You may wish to add a note to that effect.

As previously noted, the corrections for Appendix V are attached.

Appendix VI will also need to be updated per previous comments.

Conclusion:
In undertaking "A Review of the City of Santa Fe Water Conservation Rebate Program" Doug Pushard and Tim Michael took on a herculean task, and the information resulting from their work will likely inform decisions about the rebate program for the next several years.

The Water Conservation Office does not currently have sufficient staff to prepare this sort of document in house, nor the budget to hire a consultant to perform this type of analysis. The cost savings provided may have been a few thousand dollars saved, however, regardless as to whether this work was performed by contract or non-contract employees the thorough review of this nature to check for accuracy would have been conducted.

The Water Conservation Office greatly appreciates the time, effort and thoughtfulness which have gone into the creation of this document, and thanks Mr Pushard and Mr Michael for their hard work.

Attachments:
Appendix V: Number of Rebates by Device and Year

Appendix V: Number of Rebates by Device and Year-corrections in Bold

Rebate / Year →	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Commercial HE Toilet, Flushometer	NA	NA	NA	NA	NA	NA	197	2	0	0	199
Commercial HE Toilet, Tank Type not in Hotel/Motel	NA	NA	NA	NA	NA	NA	192	13	6	1	212
Commercial HE Toilet, Tank Type in Hotel/Motel	NA	NA	NA	NA	NA	NA	459	461	0	361	1281
Water-Free Urinal	NA	NA	NA	NA	NA	NA	24	5	0	0	29
Commercial HE Clothes Washer, Top Loader replacement	NA	NA	NA	NA	NA	NA	2	0	0	0	2
Commercial HE Clothes Washer, Front Loader exchange	NA	NA	NA	NA	NA	NA	2	0	0	0	2
Air-Cooled Ice Machine	0	0	1	5	NA	NA	0	0	0	0	6
Commercial Dishwasher	0	0	1	0	NA	NA	0	0	0	0	1
Commercial Process Efficiency	NA	NA	NA	NA	NA	NA	1	0	0	0	1
Pre-Rinse Sprayer			4	26							30
Hot Water Recirculator	60	46	33	49	34	43	NA	NA	NA	NA	265
Residential HE Toilet	NA	NA	NA	NA	NA	NA	236	174	254	267	931
Residential Clothes Washer, Unspecified	217	339	434	456	556	460	NA	NA	NA	NA	2462
Residential HE Clothes Washer, Top Loader replacement	NA	NA	NA	NA	NA	NA	782	266	228	172	1448
Residential HE Clothes Washer, Front Loader exchange	NA	NA	NA	NA	NA	NA	35	35	41	30	141
Rain Barrel, Unspecified	541	286	403	368	113	0	NA	NA	NA	NA	1711
Rain Barrel, 50-99 gallon	NA	NA	NA	NA	NA	NA	15	4	12	67	98
Rain Barrel, 100-199 gallon	NA	NA	NA	NA	NA	NA	5	2	3	2	12
Rain Barrel, 200-299 gallon	NA	NA	NA	NA	NA	NA	19	2	1	2	24
Water Harvesting (Cistern)	NA	NA	NA	NA	NA	NA	2	2	1	3	8
Rain Sensor	NA	NA	NA	NA	NA	NA	0	0	1	NA	1
Moisture Sensor	NA	NA	NA	NA	NA	NA	0	0	0	NA	0
Evapotranspiration Controller	NA	NA	NA	NA	NA	NA	0	0	0	NA	0
Press Reducing Valve	NA	NA	NA	NA	NA	NA	0	0	0	NA	0
Other Outdoor Devices	NA	NA	NA	NA	NA	NA	0	0	0	NA	0
Commercial Total	0	0	6	31	0	0	877	481	6	362	1763
Residential Total	818	671	870	873	703	503	1094	485	541	543	7101
Annual Total	818	671	876	**904**	703	**503**	**1971**	**966**	547	905	8864

Number of Rebates by Device and Year

*NA indicates that rebates were not available