



Agenda

CITY CLERK'S OFFICE

DATE 9/24/14 TIME 12:01 PM

SENT BY Caryn Grosse

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**SANTA FE WATER CONSERVATION COMMITTEE MEETING
SANTA FE COMMUNITY CONVENTION CENTER - 200 LINCOLN AVE.
CITY COUNCILORS' CONFERENCE ROOM
TUESDAY, OCTOBER 7, 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 SEPTEMBER 9, 2014 WATER CONSERVATION COMMITTEE MEETING
6. CONSENT AGENDA

DISCUSSION ITEMS:

7. DROUGHT, MONSOON AND WATER RESOURCE UPDATE (Rick Carpenter, 5 minutes)
8. CLIMATE ACTION TASK FORCE (Councilor Ives, 5 minutes)
9. SAN FRANCISCO BLUEPRINT FOR REUSE (Laurie Trevizo, 10 minutes)

INFORMATIONAL ITEMS:

10. GROUP REPORTS FROM WATER CONSERVATION COMMITTEE INITIATIVES: (Councilor Ives, 90 minutes)
 - A. GROUP #5- DOMESTIC WELLS WITHIN THE CITY LIMITS (30 minutes)
 - B. GROUP #1 – WATER CONSERVATION & DROUGHT MANAGEMENT PLAN UPDATE (15 minutes)
 - C. GROUP #2- WATER CONSERVATION EDUCATION/OUTREACH (15 minutes)
 - D. GROUP #3- WATER CONSERVATION CODES, ORDINANCES & REGULATIONS (15 minutes)
 - E. GROUP #4- REESTABLISH TREND OF NET ANNUAL REDUCTIONS IN PER CAPITA WATER USAGE AND IDENTIFYING LARGE WATER USERS (15 minutes)

MATTERS FROM STAFF:

11. WATER CONSERVATION COMMITTEE PROPOSED 2015 SCHEDULE (Laurie Trevizo, 5 minutes)

MATTERS FROM COMMITTEE:

MATTERS FROM PUBLIC:

NEXT MEETING – TUESDAY, NOVEMBER 4, 2014:

CAPTIONS: OCTOBER 20, 2014 @ 3 pm PACKET MATERIAL: OCTOBER 22, 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
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September 9, 2014**

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Call to Order and Roll Call	Councilor Peter Ives, Chair, called the Water Conservation Committee Meeting to order at 4:00 pm in the City Councilor's Conference Room, City Hall. A quorum did exist.	Page 2
Approval of Agenda	Amend agenda: Laurie Trevizo and Rick Carpenter not in attendance. Stephen Wiman to present monsoon update. <i>Ms. Randall moved to approve the agenda as amended, second by Mr. Roth, motion carried by unanimous voice vote.</i>	Page 2
Approval of Consent Agenda	<i>Ms. McDonald moved to approve the consent agenda as presented, second by Ms. Perez, motion carried by unanimous voice vote.</i>	Page 2
Approval of Minutes, August 12, 2014 Corrections: #8 Sustainable Santa Fe Proposal should say: Special Meeting of WCC Names Misspelled – Audience in Attendance Tracy Neal Jim Lodes Xubi Wilson Mark Brotton Mr. Pushard asked if there was a reason why it was called Public Hearing. The Chair said that he agreed with the description of the meeting as it did allow public input. Mr. Wiman asked if it was appropriate to publish the sign in sheet and why it was part of the public record. The question is if this is invasive to disclose everyone that was there? The Chair responded if you are coming to a public meeting, to some degree you are acknowledging that you are	<i>Mr. Pushard moved to approve the minutes of August 12, 2014 as amended, second by Mr. Wiman, motion carried by unanimous voice vote.</i>	Page 3

<p>present at the meeting, which is being held in some official capacity. We don't take roll call of the audience at the council meetings but anyone who gets up to speak of course does get noted. The Chair said he was not aware of any prohibitions and he did not think that anyone would find it intrusive.</p> <p>It was noted that there were some people at the meeting that did not sign up. Sign in sheet on record with the Water Conservation Committee office.</p>		
Consent Agenda A. Drought, Monsoon and Water Resource Update		Page 3
Discussion Items <ul style="list-style-type: none"> • Climate Action Task Force • WCC Follow Up on Sustainable Santa Fe Proposal on Water Conservation in City Facilities • Results of EPA Region 6 GILID 2014 Poster Competition 	Informational	Page 3-5
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Matters from Staff	Next Meeting, October 7, 2014	Page 10
Matters from Committee	Informational	Page 10 - 11
Adjournment and signature	There being no further business to come before the Water Conservation Committee, the meeting was adjourned at 6:10 pm.	Page 11

**SANTA FE WATER CONSERVATION COMMITTEE MEETING
CITY HALL - 200 LINCOLN AVE.
CITY COUNCILORS' CONFERENCE ROOM
TUESDAY, SEPTEMBER 9, 2014
4:00 PM TO 6:10 PM**

MINUTES

1. CALL TO ORDER

Councilor Peter Ives, Chair for the Water Conservation Committee called the meeting to order at 4:00 pm. A quorum was declared by roll call.

2. ROLL CALL

Present:

Councilor Peter Ives, Chair
Melissa McDonald, Acting Chair
Doug Pushard
Giselle Piburn
Bill Roth
Stephen Wiman
Lisa Randall
Grace Perez
Nancy Avedisian

Not Present

Tim Michael, Excused
Karyn Schmidt, Excused

Others Present:

Bob Kreger, Design/Builder, Audience
Andy Otto, Santa Fe Watershed Association
Mary Schruben, Neighborhood Association
Jeff Green, Audience
Bill Liberman, Audience
Caryn Grosse, Water Conservation Specialist
Fran Lucero, Stenographer

3. APPROVAL OF AGENDA

Amend agenda: Laurie Trevizo and Rick Carpenter not in attendance. Stephen Wiman to present monsoon update.

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

4. APPROVAL OF CONSENT AGENDA

Ms. McDonald moved to approve the consent agenda as presented, second by Ms. Perez, motion carried by unanimous voice vote.

**5. APPROVAL OF MINUTES AUGUST 12, 2014
WATER CONSERVATION COMMITTEE MEETING**

Corrections:

#8 Sustainable Santa Fe Proposal should say: Special Meeting of WCC

Names Misspelled – Audience in Attendance

Tracy Neal

Jim Lodes

Xubi Wilson

Mark Brotton

Mr. Pushard asked if there was a reason why it was called Public Hearing. The Chair said that he agreed with the description of the meeting as it did allow public input.

Mr. Wiman asked if it was appropriate to publish the sign in sheet and why it was part of the public record. The question is if this is invasive to disclose everyone that was there?

The Chair responded if you are coming to a public meeting, to some degree you are acknowledging that you are present at the meeting which is being held in some official capacity. We don't take roll call of the audience at the council meetings but anyone who gets up to speak of course does get noted. The Chair said he was not aware of any prohibitions and he did not think that anyone would find it intrusive.

It was noted that there were some people at the meeting that did not sign up. Sign in sheet on record with the Water Conservation Committee office.

Mr. Pushard moved to approve the minutes of August 12, 2014 as amended, second by Mr. Wiman, motion carried by unanimous voice vote.

6. CONSENT AGENDA

A. DROUGHT MONSOON AND WATER RESOURCE UPDATE (Rick Carpenter)
(*Not in attendance*)

DISCUSSION ITEMS:

7. Climate Action Task Force (Councilor Ives)

The Chair noted that this is one of the three new task forces that the Mayor has convened in different topic areas. The first meeting will be held on Thursday, September 11th at the Convention Center from 4 pm to 6 pm. The main focus will be looking for action items in response climate impacts and the anticipated effects of our changing Santa Fe. The Chair stated that from his perspective the City of Santa Fe's long term sustainability and resiliency as a community is the main topic. Other topics of discussion in different working groups would be, Energy Conservation dealing with retrofitting buildings, researching funding opportunities for programs and hopes to benefit from the significant dollars that PNM offers to engage in those types of activities. Another one on energy supply issues looking at promoting solar and potentially using wind, trying to encourage PNM to look down that path as opposed to replacing coal with coal. Transportation will be looked at on a broad spectrum, everything from electric vehicles to changing the whole nature of how the city does its' own fleet management. There will be a Youth Group, some of the kids from global warming who have expressed interest. There is also a young lady, Senior at Prep who is outfitting a number of residences with energy monitoring devices similar to the meters that have been put on water meters that will allow residences to

assess and evaluate their own energy use to become more energy efficient. The education component, food security is on that list; looking at urgent gardens, re-modernized victory gardens and a host of issues deal with production of food and its distribution around the city.

There will also be a whole working group on financing mechanisms, looking to everything from public banking to impact, to the use of potential bond funds for these types of programs and projects. The water component functionally rests with the Water Conservation Committee. The good work of this committee is recognized and acknowledged.

Ms. McDonald noted that Councilor Ives is also the Co-chair of the above mentioned task force with former Mayor Coss.

The Chair noted that there is a wide spectrum of community leaders as members, list not available at this time.

It was recommended that the Chair provide an update on the task force progressiveness at each meeting if available.

8. WCC Follow Up on Sustainable Santa Fe Proposal on Water Conservation in City Facilities

The Chair noted that this is something he would like to tackle and find a resolution quickly to spur the city in to action in that regard. It would involve an initial survey on some 60 odd buildings to find the nature and expense of water use and needs are in those various facilities. The Chair will be calling on the Water Division to produce some records over the last year of actual water use and get to the level where recommendations are being made and figure out how to fund replacements of toilets, aerators, whatever the case might be. At the last meeting it was very clear that the City needs to lead on these issues and that is correct.

Caryn stated that Laurie specifically asked to include information on the Alliance for Water Efficiency. There is a proposed ban for use of federal funds on replacing water efficient toilets.

Ms. McDonald asked if POSAC has been approached by Sustainable Santa Fe.

The Chair believes that they have not been approached.

Ms. McDonald believes it would be helpful and great if Esha could be informed.

The Chair stated that Esha and Louise gave the presentation and of course the Watershed Association is involved.

The Chair invited any of the WCC members to join him in working on a proposed resolution as soon as possible to engage the attention of all the building managers across the cityscape in a good way. Ms. McDonald volunteered to work with the Chair. Ms. Randall also volunteers to assist and to include SFPS.

9. Results of EPA Region 6 GL/LID 2014 Poster Competition (Robert Wood)

Bob Wood stated that the city won most honorable mention. EPA approached the city of Santa Fe wanting to know if we wanted representation; we did not have much representation. Mr. Wood worked together with David Pike on storm water on this small project. The reason it was successful was because it was small and the next smallest project actually won 1st place, which was over \$1 million dollars (poster circulated). It showed what you could do with recycled material in a short period of time with very few dollars and a lot of people liked it. It was Mr. Woods understanding that Storm Water

has been getting calls of inquiry on how they did it and how could it be done some where else. The poster will be on the EPA website for 1 year and the WCC logo is there.

Ms. McDonald extended her congratulations and commented that it is a very nice poster.

Ms. McDonald asked if there was any other interest in moving this board on to other conferences. There might be other conferences where it could be posted and Ms. McDonald is willing to pass the information on.

Mr. Wood said he is interested but that the requests should go through the Storm Water Management Department. Mr. Wood did say that he is working with Storm Water Management to find other projects that could be done throughout the city.

Mr. Wood said that in 2010 he worked with Land Use and the resolution passed on the design median guidelines for medians and parkways. It was noted that that the design guidelines and BMPs are already there. The Chair asked Mr. Wood to please provide him with copies.

Mr. Wood stated that Phoenix, AZ has not done very much in the way of storm water work. They had 3.2 inches of rain, a lot of property and infrastructure damage, things like that which will cost the city millions of dollars to repair.

Ms. McDonald stated that although passive water harvesting is not a water conservation issue, she actually thinks that passive water harvesting is a water conservation issue. If you reduce demand which it does it is going to benefit everybody. She would like to see a shift in the thinking in the city saying; "this is a resource for us". When we talk about leadership, which is an area where we have so many resources around town that understand passive harvesting.

With the full consensus of the WCC members it was asked that congratulations be extended to David Pike and his staff and the committee and group who worked on this Storm Water Management.

INFORMATIONAL ITEMS:

10. GROUP REPORTS FROM WATER CONSERVATION COMMITTEE INITIATIVES: (Councilor Ives 60 minutes)

- **GROUP #1 - WATER CONSERVATION & DROUGHT MANAGEMENT PLAN UPDATE**

Caryn reported that a great deal of progress is being made, they have most of the sections drafted and are being edited. Caryn has started the graphic layout for the report and plan to have a final draft ready next month to be given to Committee rounds.

Councilor Ives stated that the report is due in final form in February, 2015. Caryn said it is due in 2015 and January is the target date.

Ms. Perez asked if it would be shown to the working groups before the committee?

Caryn reported that the working groups have already seen and done their part on the report.

Ms. Perez inquired if the consultant had made dramatic changes. Caryn stated that the consultant picked up all of the edits that the working group had made. Caryn will speak to Laurie for clarification.

The Chair asked if time permitted if it could be re-circulated to the WCC members.

Caryn did reiterate they are trying to get it complete before Ms. Treviso's deadline.

Ms. Randall stated in reference to this topic, historically there is a working group working on this report and then when the state issued their template it was removed from the hands of the working group and the group had done all the existing decade report and there were still some additions that the working group is interested in making, strategies for conservation and other things. At this point are we a working group?

Caryn stated if there were recommendations that the working group wanted to make she would recommend they get them in to Laurie Trevizo ASAP.

Ms. Randall added to Ms. Perez point, she thought that the conversation was once the paid person had done their job it was coming back to the working group and to the larger committee for review and input. If they are going to push up against this deadline and not really have any time for input, she felt the committee should just be told that.

Caryn stated that her understanding was that the working group was working on those things, strategies and so on. Nothing has been turned in to staff to include in the report.

Councilor Ives stated if we have a draft back from the consultant it would be a perfect time to get it back out to the working group as it sounds they have additional input for it. The Chair said he did not know what the contract with the consultant called for in terms of production and those types of things.

Caryn stated that she has not been involved in those conversations and will discuss them with Ms. Treviso to report at next meeting.

Ms. Perez stated that she was not sure that they were going to produce something that fits in to the new format. The bigger issue is the overall process which she thought included review of what the consultant has done, as we have no idea if it includes new data and new information that wasn't in what was reviewed before. After comments were made previously, was it revised as necessary or not and it would come to the full committee.

Caryn said that where they left off with the working group was that the working group was working on a number of strategies but it isn't know if those every got finalized.

Mr. Pushard said that the al the working group was in attendance at tonight's meeting and the entire working group feels that they have worked at a team together and then the consultant came in; I think we can all understand that decision. Since that there have been no call for meetings, no distribution of information to the working group. What you are hearing is the frustration of the working group.

The Chair outlined the timeline for corrections and input and feels that there is time for the committee to review and provide feedback to Ms. Trevizo.

Mr. Pushard asked for clarification on the calendar as it says input items to Council by October 8th.

Caryn said that what she knows is that Laurie is hoping to have it ready to go through city council before her leave of absence.

Mr. Pushard said the next WCC meeting is the 7th; typically the WCC would get an update before it would go to Finance Committee of City Council and this schedule has it going to them before it comes to the WCC. Mr. Pushard feels it would be inappropriate for it to go to council prior to coming to this committee.

Caryn stated that given the time constraints, bringing it to this committee first might mean that it happens next spring rather than this fall.

- **GROUP #2 - WATER CONSERVATION EDUCATION OUTREACH**

Ms. Nancy Avedisian and Tim Michael presented to the Homebuilders Association. It was reported that it went well; there was a large audience in attendance. They are starting about updating the presentation so it is more than the basic presentation it is now.

Councilor Ives asked what type of feedback is coming from these presentations.

Ms. Avedisian said in her recollection that at another presentation it was mentioned at every other presentation about the importance of developing grey water use. At the Green Chamber of Commerce they also talked about grey water harvesting.

Mr. Roth said that there is a lot of interest in substituting collected water for potable water and maybe addressing that more and illustrating what possible impact and savings would be with those types of things based on what we can concurrently do by code. Mr. Roth feels that they can raise people's awareness of what's available and discussion on passive collection. The other thing would be certain groups going in with a higher level with information already, it might be worth prior to going – "we can't tailor to everyone", with some groups you can be more specific than others because they are going in at the ground level. That may be something to think about as you go in with two or three presentations.

Ms. Avedisian said she was quite surprised at all the water related experts in the room. There was a lot of interest in the basic information even in an educated audience. Ms. Avedisian said if they went back to that group they couldn't do the same thing they would have to take it another step up. There is a lot of room for development in future presentations.

Mr. Andy Otto from the Watershed Association said that he was also at the Homebuilder's Association and they talked about retrofitting and grey water.

- **GROUP #3 - WATER CONSERVATION CODES, ORDINANCES & REGULATIONS**

(Written report presented) (Exhibit B)

Mr. Pushard reported that he sits on the International Code Council, which is a joint consensus committee on rain water collection systems design and installation. They had their third meeting in August; next meeting is scheduled for October. They are defining rain water code for ICC which is specifically the building code and more so the commercial code in most places in the country. There is a draft which has been done and it is on the public website. This is a Canadian / US standard which would be the first of its kind, which is definitely presenting some challenges. Mr. Pushard is in charge of the Controls Working Group and on the Quality Working Group. The intent was to have a draft ready by November but that is not going to happen. Best case taking in to consideration the holidays a draft that will go out with wide public circulation in January. It will probably miss the 2015 code vote. It will probably be published as a standalone code. Public website for review and comment.

There are a couple of challenges they are trying to address; one is potable water so it will be codified and how to build a rainwater harvesting system for potable water. They are breaking it down in to four water quality levels, sub-surface irrigation, human no contact, human limited contact, human contact and then potable. The standard will break it down as to what is required in each one of those areas. They are also addressing another area which is a tough one; potable water is tough enough because it has not been codified anywhere although we do it. There are no codes for it. Water quality input is also one of the things that the committee is working on, as there are not codes as to what is acceptable rainwater input. People today try to do rainwater harvesting out of green roofs. There are also no published controls on any of the standards or guidelines so there will be minimum controls installed.

In response to Chair Ives question from the last meeting, we want to make sure there is no confusion, because they are tied but not tied. There is going to be a building tax credit bill that goes forward to the legislature this year. Senator Wirth wants to have water in that bill. Mr. Pushard said that he is not clear at this time, having met with the builders, Senator Wirth wants to have something drafted by November 13th to the Tax Committee. The bill would then go to the interim committee, December 18th or 19th. Senator Wirth is also thinking it might go to another committee, that is what he is thinking and he would like to see the building tax credit bill and has put that timeline on the builders. He has also told them that water has to be a portion of the bill. At this point in time, Mr. Pushard is not sure that the builders have heard from the Senator.

Mr. Pushard continued on the second part of his report, the working group met last week and they worked on a couple of things, 1) the state has picked up WURS and is running with it given the timeline, exterior is probably not going to occur even if they adopt something. The working group pushed exterior off the agenda for a while until they find out what the state is going to do with the credit and what the Senator wants

to do with the water portion of that. The group is trying to work on the WURS water rating system as showed to this committee 2 months ago. They are trying to push this forward as what they would include in the bill.

WURS, as mentioned, working group is not going to work on the exterior right now, we will finalize what we have as a working prototype and get that refined as they need to have something working anyway. At the meeting they also reviewed David Dunlap's comparison of the different programs. Summary is provided for information. (Current Water Efficiency Programs and Codes)

Next step, they did get some feedback on the existing tool, there have been a couple of people who have used it and to get that working model agreed upon, get it finalized and bring it back to the WCC and also take it to the Sustainable Santa Fe Committee.

Mr. Pushard stated that by the next WCC they will have summarized the notes that they took and the summary will be presented at the next meeting.

Ms. McDonald commented that she was recently in Canada and they discussed the closed loop system, they have tons of water. They said they have been doing this for 13 years and that they were top of the line, it is municipal level. Ms. McDonald will bring more information.

- GROUP #4 – RE-ESTABLISH TREND OF NET ANNUAL REDUCTIONS IN PER CAPITA WATER USAGE AND IDENTIFYING LARGE WATER USERS

(Written report attached) – Ms. Melissa McDonald (Exhibit C)

The city has been interviewing for a new Parks Director, there has not been one selected but they are hoping to make a job offer this month. POSAC is very happy about this as many of the projects are on a holding pattern. In the meantime they have been pulling together different things that they are concerned and interested in so that when the new Director comes in they can sit with him/her and discuss some of these things. One of the things they did this month was start the process of looking at how they are going to inventory urban agriculture and community gardens and a piece of water conservation is a part of that. The Food Policy group and several others, Santa Fe Community College for one, looked over what they might look at, they participated in that. POSAC's role is to look at the initiative, what do we have, how is it being used, and then they may go in to how will it change. There is a lot that will happen between those two points.

Ms. McDonald went to Sustainable Santa Fe - Climate Action Task Force. Ms. McDonald is very interested in how they are going to look at urban agriculture as it relates to water. She is hoping that POSAC is going to take an active role.

Giselle Piburn has also joined the committee to look at education, food policy and health. She is an active gardener as well.

The Majordomos are reading meters now and that has been communicated through the Food Policy Group.

Ms. McDonald has invited Ms. Lisa Randall to come to the POSAC meeting as there are a lot of ideas they share that would be beneficial to people taking in to regard the overlap that is shared with the parks.

Ms. McDonald said that they would like bring Laurie Treviso in on the conversation; they have been looking in the internet as to what might be large water users and how to approach them. There is a great fact sheet that is put out by an organization called, Green Colorado and it is for HOAs. The discussion is to possibly do their own worksheet with Water Conservation, running it through the committee so the HOAs could have, since there are a lot of HOAs who don't know what to do. Ms. McDonald said that they here this through POSAC as well as they have blurred areas where they share meters with the city, or they get turned over later and people don't realize that it gets turned over. The fact sheet was circulated for the WCC members to review.

- **GROUP #5 - DOMESTIC WELLS WITHIN THE CITY LIMITS**

Stephen Wiman

The report is still in the hand of some of the working group members and I will respond if I get their comments in time otherwise I am going to make the deadline for the next meeting and present the whole report. It will include the conclusions and the action items that we recommend. That will basically be the end of that working group; we want to submit the report and not try to negotiate. Mr. Wiman reported that he has gotten some good help from a local hydrologist, Peter Belue who has helped all the way through. Mr. Wiman said possibly at the next meeting he would present his idea of what the next working group should be. Mr. Wiman said he has done most of this work and would like to put it on a map, everything that you could possibly ask about the water system; the sources, the right of conversion, how much the reservoirs hold, what the laws are about the reservoirs, what the return credits are, etc.

It was suggested that Leonard be contacted to see if he would map it.

Doug Pushard suggested that the group report on domestic wells in the city limits be added to next month agenda as a separate topic of discussion for 30 minutes.

MATTERS FROM STAFF:

Caryn: REMINDER. 1st Tuesday of every month for the next 2 months package materials need to be in a week earlier due to the holidays. October 7th is the next meeting date.

The Chair asked that at the next meeting if a staffing plan could be shared with the WCC members during Laurie's absence.

MATTERS FROM COMMITTEE:

Mr. Wiman stated that he could not locate the 2013 City of Santa Fe Annual Water Report on the website.

Caryn responded that it is in the works. She will consult with Allan Hook in Water Resources for a status.

Mr. Wiman asked how many tickets have been issued for water violation this year.

Caryn did not have data off hand and will bring that information back to the WCC.

Mr. Wood said that he has been issuing a lot of warnings.

Public Comments:

Mr. Bill Liberman, Creator and Founder of the new "Put Water First". Mr. Liberman said that he has some really ideas that he would like to interest the WCC members today and ask for time to meet with any of the WCC members who would be interested in helping him present to full committee. Mr. Liberman said he had spoken with Lisa Randall and therefore did not present a formal presentation and provided a handout. Mr. Liberman stated that his modest goal is to make Santa Fe the Water Conservation Capital of the world. (Exhibit A)

Bob Kreger, Architect & Builder – The meeting last month was amazing. In Seattle there is a "Living Community" – which is a living building challenge to reach a net zero water criteria. Out of that living building challenge also comes out the scale jumping at the community scale where you can plant, there is always something flowing for a master plan for St. Michael's Dr. Scale jumping for water would be an extremely advantageous solution. Document presented to Doug and he will circulate amongst the committee.

NEXT MEETING – TUESDAY, October 7, 2014:

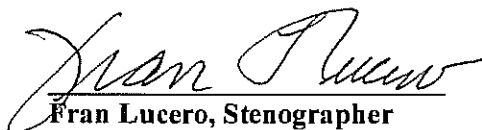
CAPTIONS: SEPTEMBER 22, 2014 @3 pm PACKET MATERIAL: SEPTEMBER 24, 2014 @3 pm

ADJOURN.

There being no further business to come before the Water Conservation Committee, the meeting was adjourned at 6:10 pm.

Signature Sheet:

Councilor Peter Ives, Chair


Fran Lucero, Stenographer

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, Public Utilities Department and Water Division Director *NSA*

DATE: September 22, 2014

SUBJECT: 37th Monthly Update on Drought and Water Resource Management

CURRENT UPDATE – GENERAL WATER RESOURCE MANGEMENT

As the Committee/Board is aware, our region is still suffering through a drought. Our region has gone through three consecutive years of record drought and heat. In fact, recent data suggests that this past summer was the hottest on record (June-August). This fourth consecutive year of drought has eased somewhat, but will still likely present significant challenges to all water purveyors, utilities, and irrigators going forward into the next year.

July yielded good summer rains due to a series of moist northeast cold fronts. August also yielded good rains, and a recent return of a more south to north classic monsoonal flow pattern, But September did not yield as much precipitation as was hoped for (so far). Many models are predicting the likelihood of a return of an El Nino weather pattern (70% chance, but down from 75%, of normal to above normal precipitation) over the next several months and into early winter. This could mean good precipitation for the winter months (snow pack). El Nino seems to be weakening relative to early predictions, but normal to above normal snow pack is still likely this coming winter.

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.

LOCAL CONDITIONS

Source of Supply Utilization Summary

August 2014

City Wells	36.94mg/m	107.22af/m
Buckman Wells	57.99mg/m	177.97af/m
CRWTP	76.00mg/m	233.25af/m
BRWTP	156.07mg/m	478.96af/m
<i>Other Wells(Osage, MRC, etc)</i>	<i>0.18mg/m</i>	<i>0.55af/m</i>

Upper Santa Fe River/CRWTP

	Total Combined Reservoir Level	Santa Fe Snow Gage	Reservoir Inflow
July 20, 2014	12.20%	0.00 inches	1.42 MGD
5-Year Average for This Date (2009 – 2013)	49.80 %	0.00 inches	4.81 MGD

As of September 18, total combined storage in Nichols and McClure reservoirs is 12.2% of total (or about 550 acre-feet of storage). Some flows have been by-passed due to construction on the new intake facilities. Minor nflows 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 (BDD)

Flows in the Rio Grande are relatively good, and turbidity has been high at times following rains, but the BDD Project in general has been able to divert water.

REGIONAL CONDITIONS

Rio Grande Basin

Surface flows in the Rio Grande and its tributaries through mid-Sept have been good. However, storage levels in regional reservoirs is still very low. A good snow pack this coming winter is essential if there is to be significant carry over storage in regional reservoirs for next high demand season.

UPDATE: Wild Earth Guardians (WEG) has either filed law suits or Notices of Intent (NOI's) against the US Army Corps of Engineers, Bureau of Reclamation, State of Colorado, State of NM, and MRGCD. Other entities continue to contemplate the efficacy of filing as an "intervener" with the Court. The City of Santa Fe, Santa Fe County, and the BDD continue to be

unnamed in the suits/NOI's, although there is some indication that imported SJCP water could become part of future legal proceedings. Updates will be provided by staff as necessary.

Also, on August 14, 2014, the USFWS proposed that the yellow billed cuckoo be listed as an endangered species. This could become an issue since the cuckoo tends to occupy habitat that is similar to flycatcher and silvery minnow riverine habitat, the cuckoo's habitat is broader and more expansive. Updates will be provided by staff as necessary.

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.

The Bureau of Reclamation has recently indicated that SJCP deliveries this year will be 85%. Deliveries for August were zero, and likely zero through the rest of the irrigation season, unless there are significant late rains. If deliveries end up for 2014 at 85% of total firm yield, then that would mark the first time since the inception of the SJCP Project that total firm yield deliveries were not completely met.

City of Santa Fe, New Mexico

memo

Date: September 29, 2014

To: Water Conservation Committee

From: Laurie Trevizo, Water Conservation Manager *LT*

Via: Rick Carpenter, Water Resources and Conservation Manager *RC*
Nicholas Schiavo, Public Utilities Department and Water Division Director *NSA*

RE: "Innovation in Urban Water Systems" Blueprint for Onsite Water Systems

Background: San Francisco Public Utilities organized a technical meeting to host different agencies to discuss challenges and strategies for reducing demand, water reuse, new technologies and conservation. The meeting was held May 29-30, 2014.

Purpose: The technical meeting was to share knowledge and lessons learned on managing water supplies (both potable and non-potable) and controlling stormwater as an opportunity of scaling on-site water reuse systems in other cities and states. The strategies identified in the meeting will be translated into a Blueprint "How-To" Guide to assist public agencies in advancing on-site water reuse across the country.

Results: The Blueprint "How-to" was finalized and sent to workshop participants. The purpose of the blueprint is to give other communities who have never been faced with water scarcity a path to water resiliency.

Onsite water treatment systems offer a broad range of benefits:

- Augmenting existing water supply by treating alternate water sources for beneficial use
- Treating water only as needed for its end use application
- Reducing potable water consumption for toilet flushing and irrigation
- Minimizing stormwater flows to combined and separate sewer systems or storm drains
- Increasing resiliency and adaptability of our water and wastewater infrastructure

The Blueprint focuses on **10 steps** to developing a local program:

1. Convene a Working Group: establish a group to guide the development of the program
2. Select Types of Alternate Water Sources: narrow the specific types of water sources
3. Identify End Uses: classify specific non-potable end uses
4. Establish Water Quality Standards: for each alternative water source and end use
5. Identify and Supplement Local Building Practices: integrate building permit process
6. Establish Monitoring and Reporting Requirements: determine water quality for ongoing operations
7. Prepare an Operating Permit Process: for initial and ongoing operations for onsite water systems
8. Implement Guidelines and the Program: Publicize the program to provide clear
9. Evaluate the Program: promote best practices for onsite water systems
10. Grow the Program: explore opportunities and expand and encourage onsite water systems

The Blueprint for Onsite Water Systems can be found online at: www.sfwater.org/np/iuws

BLUEPRINT for Onsite Water Systems

A Step-by-Step Guide for Developing a Local Program to Manage Onsite Water Systems



On May 29-30, 2014, the San Francisco Public Utilities Commission partnered with representatives from local, state, and federal public agencies across North America, along with research institutions to discuss onsite water systems at the *Innovation in Urban Water Systems* meeting. The purpose of the convening was to discuss the barriers, opportunities, and research needs for onsite water systems for non-potable applications.

The Blueprint for Onsite Water Systems is a result of the two-day meeting. We would like to thank all of the participants for their time and input.

We also thank the Water Environment Research Foundation and Water Research Foundation for funding this project and for recognizing the need for collaborative action on decentralized, onsite water systems.



Published: September 2014



Exploratorium, San Francisco, by Amy Snyder © Exploratorium

INNOVATION IN URBAN WATER SYSTEMS

www.sfwater.org/np/iuws

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Create a New Water Paradigm

Water is vital to maintaining healthy communities, vibrant economies, and a thriving natural environment, but managing water is not an easy task. We face many challenges, including dwindling freshwater supplies, long-lasting droughts, and rapid urbanization. As the strain on our centralized water and wastewater facilities increase, many cities are looking for new ways to develop and manage local water resources.

We have the opportunity to create a new water management paradigm by incorporating innovative strategies to conserve, reuse, and diversify our water supply. One of those strategies is integrating smaller, decentralized, onsite water systems into our broader centralized systems. Today, buildings in New York, San Francisco, Santa Monica, Seattle, Tokyo, Sydney, and many other cities throughout the world are collecting and treating water onsite to serve their own non-potable needs in place of potable water.

The Blueprint for Onsite Water Systems was created to assist communities with developing a local program to manage and oversee onsite water systems that protect public health. A local program can build on existing plumbing, public health, and building standards and codes while addressing water, stormwater, and wastewater management programs in a coordinated and streamlined manner.



Build Water Resilience

Onsite water systems can be tailored to the needs of the local community and implemented at a variety of scales, including building, block, district, and region with the appropriate safeguards in place. These systems can be a valuable component of a broad strategy to create a new water paradigm and build water-resilient communities across the country.

Onsite water systems offer a broad range of benefits, including:

- + Augmenting existing water supply portfolios by treating alternate water sources for beneficial use
- + Treating water only as needed for its end use application
- + Reducing potable water consumption for toilet flushing and irrigation
- + Minimizing stormwater flows to combined and separate sewer systems and/or storm drains
- + Increasing resiliency and adaptability of our water and wastewater infrastructure

Onsite water systems in green buildings, suburban developments, and urbanized areas are often integrated with existing centralized water and wastewater infrastructure without negatively impacting centralized systems. Onsite water systems build water resilience as they help communities stretch drinking water supplies by decreasing demand on potable water sources and can help extend the life of centralized wastewater infrastructure by redirecting stormwater flows and relieving stress on the system.



San Francisco Public Utilities Commission Headquarters, San Francisco



2001 Market Street, San Francisco, by BAR Architects

Stay Ahead of the Curve

Developers and designers are incorporating innovative onsite water systems into their projects, such as treating graywater for toilet/urinal flushing and using rainwater and stormwater for irrigation. Throughout the world, onsite water systems have been successfully operating for decades.

Green building programs, like the LEED® rating system and Living Building Challenge™, often encourage onsite water systems as a sustainable water management tool. The proliferation of net zero and water neutral buildings emphasizes the need for a local oversight program to ensure consistency and safety, and improve the efficiency of implementing these systems.

Green buildings strategies and practices are the future of building construction. Developing a local program to promote the safe installation and operation of onsite water systems allows municipalities to adapt to local issues while proactively supporting the green building movement. Institutionalizing a process will help your community build a cohesive and collaborative initiative.

By developing programs to manage the implementation of these systems, local officials can stay ahead of the curve and create a process that helps streamline and scale onsite water projects. The remainder of this Blueprint is designed to serve as a step-by-step guide to help communities develop and launch local programs to manage onsite water systems.

San Francisco Public Utilities Commission Headquarters, San Francisco

10 Steps for Developing a Local Program

Developing a local program to manage onsite water systems offers a proactive way to increase water resiliency and promote green building practices while protecting public health. The development of a program should follow a sequence of steps and associated actions, which will inform critical decisions regarding the scope, structure, and implementation of the program.

- 1 Convene a Working Group**
Establish a small working group to guide the development of the local program.
- 2 Select the Types of Alternate Water Sources**
Narrow the specific types of alternate water sources covered in the program.
- 3 Identify End Uses**
Classify specific non-potable end uses for your program.
- 4 Establish Water Quality Standards**
Establish water quality standards for each alternate water source and/or end use.
- 5 Identify and Supplement Local Building Practices**
Integrate your program into local construction requirements and building permit processes.
- 6 Establish Monitoring and Reporting Requirements**
Establish water quality monitoring and reporting requirements for ongoing operations.
- 7 Prepare an Operating Permit Process**
Establish the permit process for initial and ongoing operations for onsite water systems.
- 8 Implement Guidelines and the Program**
Publicize the program to provide clear direction for project sponsors and developers.
- 9 Evaluate the Program**
Promote best practices for onsite water systems.
- 10 Grow the Program**
Explore opportunities to expand and encourage onsite water systems.

The State of Hawaii has established a collaborative working group to develop water quality standards for treated alternate water sources for non-potable applications. The working group includes members from the Governor's Office, public health officials, landowners, and union members.



Los Angeles Skyline by Telephoto on Wikipedia

The Los Angeles County Department of Public Health collaborated in a two-year process with the City of Los Angeles, the City of Santa Monica, and a number of environmental organizations led by Heal the Bay and TreePeople in the development of their "Rainwater Harvesting Matrix". Produced in 2011, the document establishes guidelines for harvesting rainwater, stormwater, and dry weather urban runoff for outdoor non-potable use within Los Angeles County. The document includes information on system requirements, water quality standards, and treatment processes.

STEP 1 convene a Working Group

There is no single approach to developing a local program for onsite water systems; however, protecting public health is the essential foundation of any initiative. The chosen format of the program depends upon local circumstances and traditional levels of regulatory authority. Stakeholders that are likely to participate in program oversight need to be involved in its development. Engage a small group of public health, planning, and building officials along with water and wastewater utilities that have jurisdictional authority in your area.

The core group will guide how the program develops and unfolds. The group will also:

- + Identify roles and responsibilities of individual agencies
- + Evaluate existing authorities and potential policy or regulatory changes
- + Agree on water quality criteria, monitoring, and permitting requirements
- + Ensure the program reflects needs of its core members
- + Establish fees
- + Provide an identity for the program
- + Determine appropriate incentives

Private developers, non-profit organizations, or other non-governmental stakeholders that are heavily engaged in the local green building movement or water reuse can also be invited to participate or provide feedback.

STEP 1 outcome

Establish a small working group to guide the development of the local program.

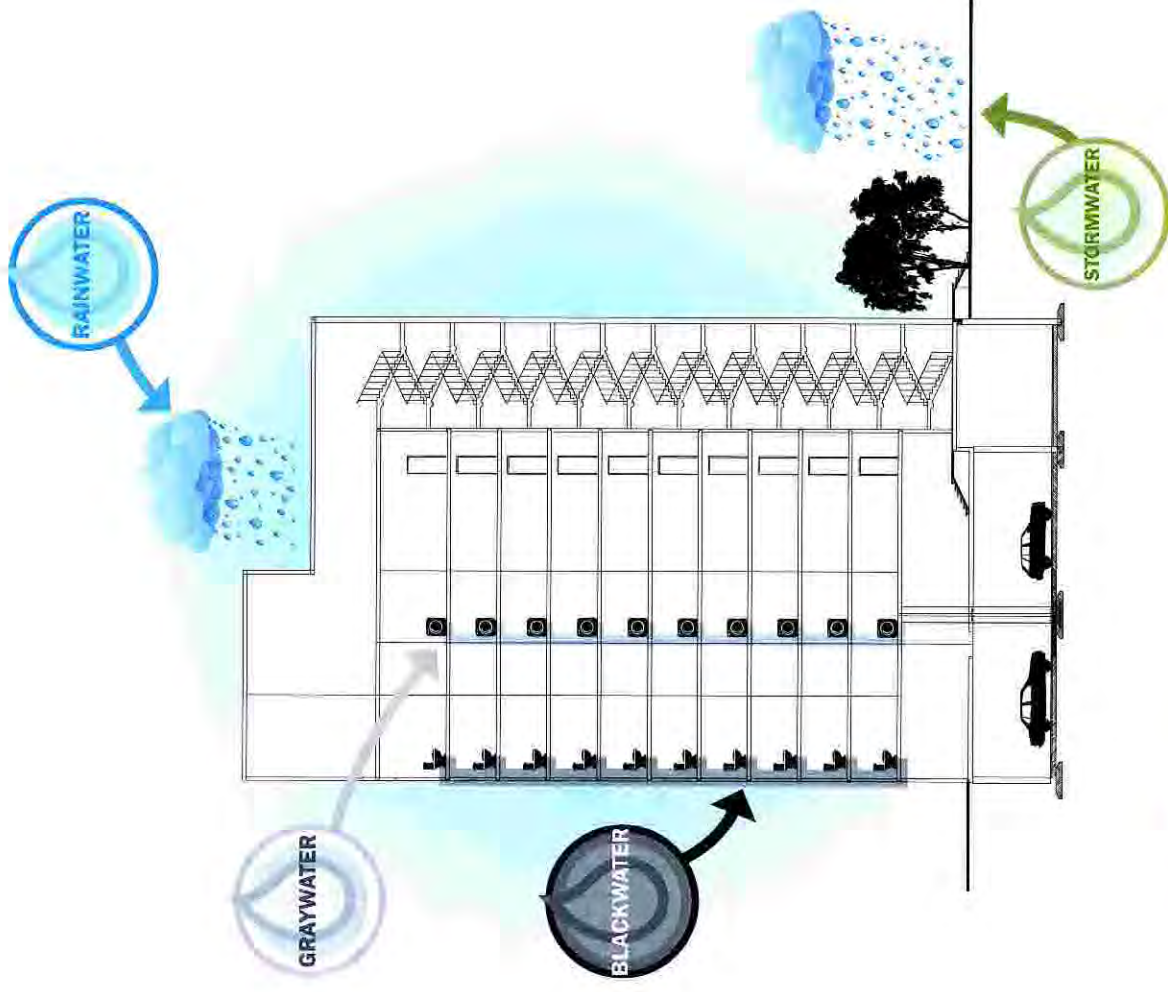
STEP 2 Select the Types of Alternate Water Sources

To establish manageable parameters for your program, identify the specific types of alternate water sources that will be approved for collection and treatment. The amount of resources and staff needed for a program can increase with the number of alternate water sources that are incorporated. Therefore, the selection of a single water source, such as rainwater, may be ideal for initiating a program with the potential to incorporate additional water sources as the program progresses.

Buildings, including commercial and multi-family residential buildings, generate a number of different types of alternate water sources. The most common types of alternate water sources produced by buildings include:

- + **Rainwater** - precipitation collected from roofs;
- + **Stormwater** - precipitation collected from ground plane;
- + **Graywater** - wastewater from bathtubs, showers, bathroom sinks, and clothes washing machines; and
- + **Blackwater** - wastewater from toilets, dishwashers, kitchen sinks, and utility sinks.

Terminology and definitions may vary across regions or sectors. When identifying the specific alternate water sources for your program, use the same terminology and definitions that are contained in the local building, plumbing, and health codes and guidelines that will regulate the onsite water systems. Using consistent definitions will help streamline implementation of the program and minimize confusion by developers.



STEP 2 Outcome

Narrow the specific types of alternate water sources covered in the program.

STEP 3 Identify End Uses

Alternate water sources can be used for a variety of non-potable uses within and outside a building. It is important to identify the specific non-potable end uses (e.g., irrigation) that will be allowed in the program and describe how and where the end use is allowed (e.g., spray or sub-surface irrigation).

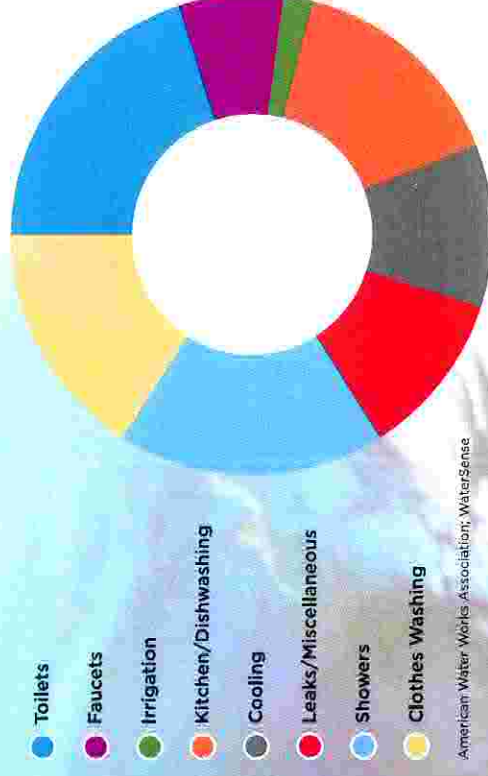
The most common indoor use is toilet/urinal flushing, which can represent approximately 25% of the total water demand in a residential building and up to 75% of the total water demand in a commercial building (assuming no cooling demand). Other potential non-potable water demands include irrigation, clothes washers, cooling/heating applications, and process water. These additional applications can increase the non-potable water demand up to 50% for residential buildings and up to 95% for commercial buildings.

Incorporating multiple end uses may result in a more complex program structure but potentially more widespread application of non-potable water. The specific type of alternate water sources and end uses selected serve as the foundation of your program. As with alternate water sources, using consistent definitions will help streamline implementation of the program and minimize confusion by developers.

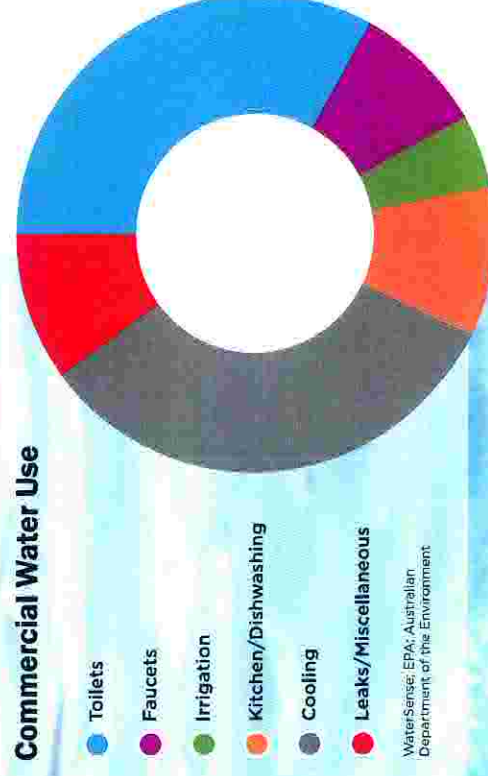
STEP 3 Outcome

Classify specific non-potable end uses for your program.

Multi-Family Residential Water Use

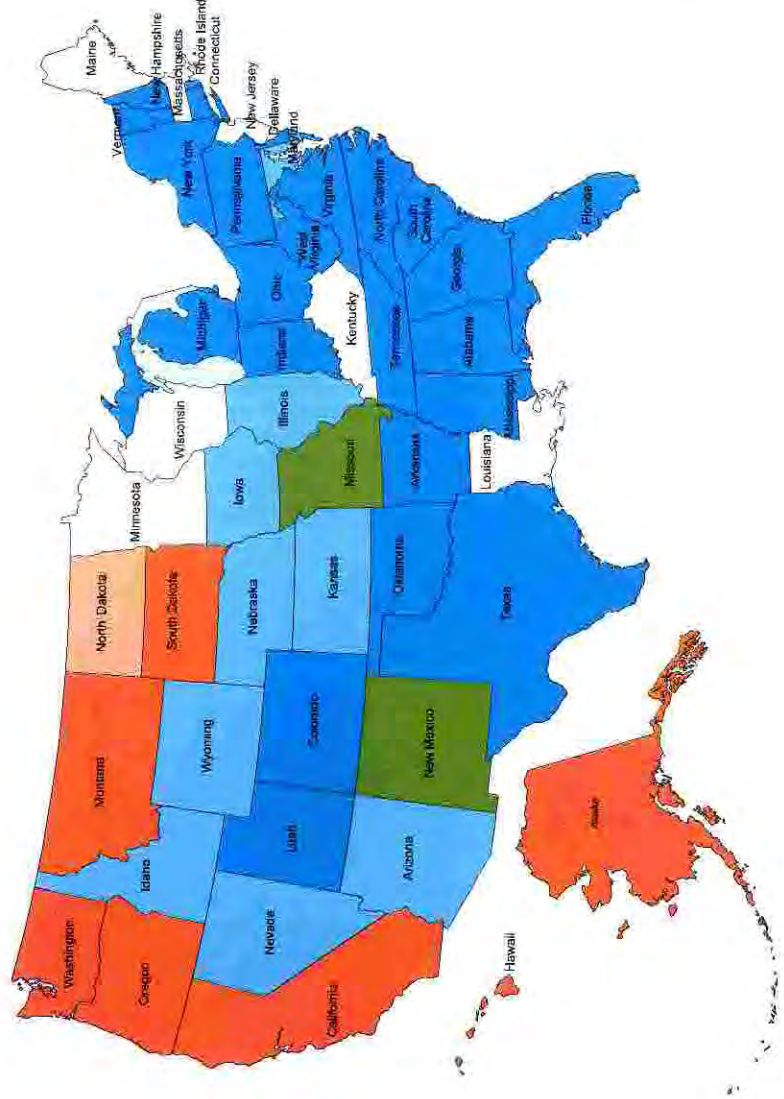
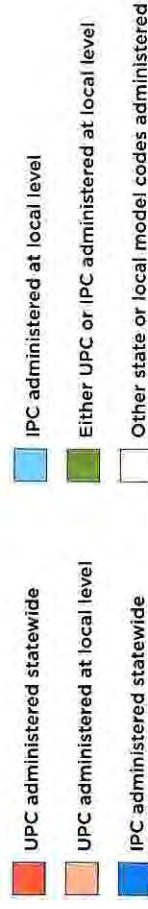


Commercial Water Use



STEP 4 Establish Water Quality Standards

Once alternate water sources and allowed end uses are identified, the next step is to set water quality standards. Currently, there are no overarching national standards for water quality or required treatment for alternate water sources. Your state and county public health agencies may have applicable requirements. In addition, a number of plumbing codes, guidance documents, and policies can also assist you with developing your own water quality standards.



Plumbing Codes

Existing plumbing codes provide a context for a local program and identify the current requirements that can be built upon or expanded. The plumbing codes for most communities are modeled after the International Plumbing Code (IPC) or the Uniform Plumbing Code (UPC).

- + IPC:** The IPC addresses graywater systems for flushing of toilets and urinals and for sub-surface landscape irrigation. The IPC also establishes the minimum acceptable level of safety to protect life and property from the potential dangers associated with supplying potable water and the conveyance of wastewater. (See Chapter 13, IPC 2012.)
- + UPC:** The UPC addresses alternate water sources, including recycled water, rainwater, graywater, and onsite treated non-potable water for a number of identified non-potable applications. The UPC indicates that water quality standards should meet the applicable water quality requirements determined by the Public Health Authority Having Jurisdiction. (See Chapters 16 and 17, UPC 2012.)

The IPC and UPC have been amended by some states and local municipalities to establish their own laws, guidelines, and codes to further refine allowable uses, minimum water quality criteria, and treatment requirements. Some codes may not allow onsite water systems and will need to be amended before a local program can be implemented.

Water Reuse Standards

Absent the guidance of established overarching guidelines, setting water quality standards can be one of the most time consuming and challenging components of a program.

Additional resources that may be helpful to review when setting water quality standards include:

- + **EPA Water Reuse Guidelines:** The United States Environmental Protection Agency (EPA) developed water reuse guidelines (last updated in 2012) in support of local regulations and guidelines developed by states, tribes, and other authorities. While the water reuse guidelines provide direction at a national level, currently there are no federal reuse regulations or standards in the U.S.
- + **State Municipal Recycled Water Regulations:** Many states already have established water quality limits and monitoring requirements for producing recycled water from municipal wastewater for non-potable applications (e.g., Title 22 of the California Code of Regulations).

- + **NSF/ANSI Standard 350 and 350-1:** These standards establish material, design, construction, water quality, and performance requirements for onsite residential and commercial water reuse systems treating graywater and wastewater for non-potable uses.

- + **Rainwater Harvesting Potential and Guidelines for Texas:** The Texas Rainwater Harvesting Evaluation Committee paper presents the potential benefits and advantages that may be derived from rainwater harvesting and describes minimum water quality guidelines and treatment methods.

- + **Guidelines for Harvesting Rainwater, Stormwater, & Urban Runoff for Outdoor Non-potable Uses:** The Los Angeles County Department of Public Health developed water quality standards for exterior use of harvested rain and dry weather runoff (known as the Matrix).

- + **The Wisconsin Plumbing Code, SPS 382.70, Subchapter VII:** This subchapter establishes standards for plumbing systems that supply water including stormwater to outlets based on intended end uses and that is of a quality that will protect public health and the waters of the state.

STEP 4 outcome

Establish water quality standards for each alternate water source and/or end use.

STEP 5 Identify and Supplement Local Building Practices

It is important to understand the steps of the building plan review, permitting, and construction inspection process in your community in order to integrate the process for review and installation of onsite water systems. For example, onsite water systems may be incorporated into current plumbing permits or may require additional types of applicable plan review and construction inspection procedures.

Some building and plumbing codes may require local amendments to allow for the installation of an onsite water system. Any additional construction requirements included in your program should be consistent with or incorporated into plumbing and building requirements.

Consider the following requirements for inclusion in your local program:

- + **System Bypass:** ability to connect to municipal water and sewer services during onsite water system maintenance or outages.
- + **Backflow Prevention Devices:** include approved backflow prevention devices on make-up water connections to the onsite water system.
- + **Cross Connection Control:** perform cross connection tests to physically verify the potable and non-potable water systems are separate.
- + **Storage Tanks:** ventilate storage tanks to prevent odors from entering into the building.
- + **Non-potable System Identification:** identify system components by installing signage, valve tags, and purple pipe or other appropriate pipe identification scheme.

STEP 5 Outcome

Integrate your program into local construction requirements and building permit processes.



QHSU 1, Portland, Oregon by M.O. Stevens on Wikipedia

The New York City Building Department's *Building Bulletin 2010-027* established water quality monitoring, reporting, and permitting requirements. The requirements apply to all alternate water sources and end uses except for harvested rainwater used solely for subsurface irrigation, drip irrigation, or washing of sidewalks, streets, buildings, or vehicles. All alternate water sources require monthly monitoring and annual reporting.



Lower Manhattan by Nisha on Flickr

The San Francisco Department of Public Health Director's *Rules and Regulations Regarding the Operation of Alternate Water Source Systems* established monitoring requirements for various alternate water sources. Rainwater, stormwater, and graywater require monthly monitoring and annual reporting. Blackwater requires daily monitoring and monthly reporting.

STEP 6 Establish Monitoring and Reporting Requirements

Most communities will find that standards and guidelines do not exist for the ongoing operation and maintenance of onsite water systems. Building codes, including the plumbing code, are generally enforced at the time of construction and are not intended to mandate or assure ongoing operation and maintenance. Establishing a monitoring regime and reporting requirements are critical to protecting public health and public water systems. The oversight authority may need to be identified or authorized to act.

Monitoring and reporting frequency can vary across alternate water sources and end uses due to different levels of water contaminants and public exposure. More frequent monitoring should be conducted during initial operational phases.

STEP 6 Outcome Establish water quality monitoring and reporting for ongoing operations.

STEP 7 Prepare an Operating Permit Process

An effective local program should establish procedures for ensuring ongoing compliance with the monitoring and reporting requirements established for the program. Compliance is typically addressed through an operating permit for a treatment system that is administered by a local agency with authority to shut down the treatment system if it fails to comply with permitting requirements.

The operating permit process can include reviewing and approving an engineering or design report, issuing a permit, and reviewing monitoring data. An engineering report would detail the proposed collection of alternate water source(s), treatment system and process, end use applications, entities responsible for treatment system operations and maintenance, a monitoring and reporting plan, and emergency and maintenance procedures. The level of detail and length of the report will be dependent upon the complexity of a project.

Consider the following permit phases for your program:

Start-up Permit: During start-up (first 1-3 months), the alternate water source is treated and discharged to the sanitary sewer if applicable. Potable or recycled water may be supplied to the non-potable applications during this period. Monitoring is necessary on a regular basis until the system operations are fine tuned.

Temporary Use Permit: During temporary use (3-9 months), the alternate water source is treated and supplied to the approved non-potable end uses. Frequent monitoring is necessary and if all water quality requirements are met, a Final Permit may be issued.

Final Permit: Once all water quality standards are consistently met and the system is deemed to be fully operational, safe, and reliable, a final permit can be issued. Ongoing monitoring and reporting requirements are needed for the life of the system, but may be reduced after a period of successful operation.

STEP 7 Outcome

Establish the permit process for initial and ongoing operations for onsite water systems.

Battery Park, New York, by Gryffindor on Wikipedia



In New York, the Battery Park City Authority issued Environmental Residential Guidelines in 2000 which established goals and standards for the creation of environmentally-responsible buildings, including water reuse objectives that exceed LEED® requirements. In response, the NYC Building Department issued *Buildings Bulletin 2010-027* to establish alternative acceptance and maintenance criteria for onsite water recycling systems. The bulletin outlines the water quality requirements as well as the installation, certification, and maintenance requirements for such systems. The phased acceptance and permitting approach outlined in this bulletin has been used by others, like the City of San Francisco, in developing their programs.



STEP 8 Implement Guidelines and the Program

The ability to provide clear direction for project sponsors and developers—especially with respect to building standards, permits, fees, and operating requirements—will be a key strategy for any type of program. Clearly defining the process for design, construction, and operation of onsite water systems and determining the responsible agency for each program element are critical to program success. Developing educational materials, such as brochures or guidebooks, is an important part of communicating the objectives and requirements of your program. The outline below suggests various elements that can be incorporated into your program.

Design Phase Requirements:

- + **Application** - provides a basic overview of the proposed treatment of alternate water sources and end uses
- + **Engineering Report** - details design of treatment systems and means of compliance with water quality standards
- + **Construction Permits** - incorporates necessary local permits

Construction Phase Requirements:

- + **Treatment System Review** - confirms requirements, such as back flow prevention, are met
- + **Construction Certification** - verifies treatment systems were constructed per approved plans
- + **Cross Connection Control Test** - confirms no cross connection between potable and non-potable systems



Market Street Place, San Francisco, by CRP/Cypress Market Street, LLC

Operation Phase Requirements:

- + **Permit** - provides approval to operate an onsite water system
- + **Monitoring** - establishes a protocol and schedule for ensuring that regular sampling is taking place and water quality standards are met
- + **Reporting** - sets a schedule and framework for providing ongoing documentation certifying that public health is being protected

Implementing a local program can involve approval from city or state agencies having authority in the jurisdictional area. Identifying policy makers and political allies to champion the program will help to ensure successful implementation. Support can take the form of a general resolution, a specific ordinance, or planning policy.

STEP 8 Outcome

Publicize the program to provide clear direction for project sponsors and developers.



Exploratorium, San Francisco. by Amy Snyder © Exploratorium

San Francisco's City Ordinance Streamlines Permitting Process

Water Department	Public Health Department	Building Department
Review onsite non-potable water supplies & demands	Issue water quality & monitoring requirements	Conduct plumbing plan check and issue plumbing permit
Administer citywide project tracking	Review and approve non-potable engineering report	Inspect and approve system installations
Provide technical support & outreach to developers	Issue permit to operate onsite systems	
Provide financial incentives to developers	Review water quality reporting	

STEP 9 Evaluate the Program

After your program has been established and several onsite water systems have been implemented, it is important to reflect on the effectiveness of the initiative, accomplishments, and lessons learned. Take time to assess and evaluate the program's achievements to determine if it is supporting the community's vision. This consideration can help you recognize needed adjustments and identify best practices for moving forward. Local programs should be dynamic and adapt over time to respond to the needs of the jurisdiction, evolution of treatment technologies, and changing water demands and supplies.

Monitor regulatory compliance of projects and collect data on the types and end uses of alternate water sources for inclusion in summary reports and status updates. This sort of documentation will allow you to continue to modify and improve the program over time, as well as provide a case study highlighting the number of buildings participating in the program, describing the types of technologies installed, and showcasing the water and cost savings achieved by the onsite water systems. Additionally, these reports can serve as promotional tools to garner additional interest in onsite water systems among community leaders, elected officials, the development community, and other stakeholders.

STEP 9 outcome

Promote best practices for onsite water systems.



San Francisco's Non-potable Water System Projects

San Francisco Public Utilities Commission
May 2014

To track the effectiveness of onsite non-potable water use in San Francisco, the San Francisco Public Utilities Commission prepared the 2014 *San Francisco's Non-potable Water System Projects Report*. The report includes data on the potable water offset, capital costs, operation and monitoring costs, and project drivers.

STEP 10 Grow the Program

Local programs can be expanded by increasing the types of alternate water sources and non-potable applications, and by increasing the scale from a single building to a district or neighborhood level. Programs can also include financial incentives to encourage the proliferation of onsite water systems.

Types of Alternate Water Sources:	Types of Non-potable End Uses:	Types of Incentives:
+ Rainwater	+ Toilet and urinal flushing	+ Reduced or waived permit fees
+ Stormwater	+ Irrigation	+ Property tax and/or stormwater fee reductions
+ Graywater	+ Cooling tower make-up	+ Water and sewer bill reductions
+ Blackwater	+ Clothes washers	+ Loans or on-bill financing
+ Foundation drainage	+ Process water	+ Grants or rebates
+ Cooling tower blowdown	+ Decorative fountains	
+ Condensate water		

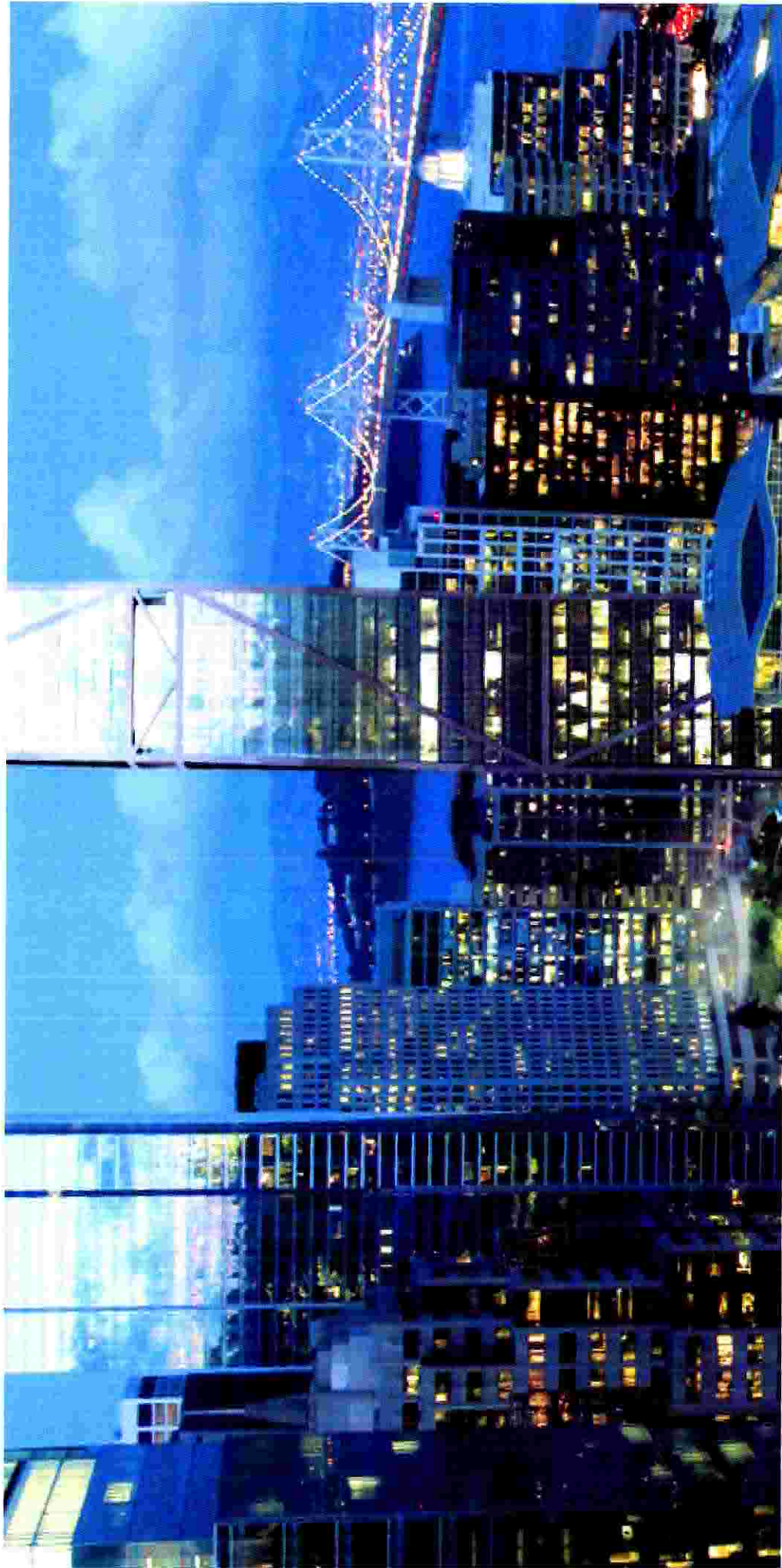
STEP 10 outcome

Explore opportunities to expand and encourage onsite water systems.



Santa Monica Pier, by Matthew Field www.photography/matfield.com

Santa Monica waives building permit fees and New York City provides wastewater allowances to qualified properties with onsite water systems. San Francisco provides up to \$250,000 for an individual building and up to \$500,000 for multiple buildings implementing onsite water systems.



BLUEPRINT for Onsite Water Systems



San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission



Water Environment Research Foundation
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THE REGULATION OF PRIVATE WELLS IN THE CITY OF SANTA FE, NEW MEXICO
An Assessment of the Need, Benefit and Powers of the City to Regulate the Use
of Private Wells

By

The City of Santa Fe Water Conservation Committee
Working Group #5 - Private Wells in the City

September 2014

SUMMARY

Private wells in the City of Santa Fe have the potential to lower regional aquifer levels and reduce flows in the Santa Fe River. This paper presents an estimate of the number of wells, the amount of water produced on an annual basis, and the impact of private wells in the City on the regional Tesuque Formation aquifer, the alluvial aquifer along the Santa Fe River and surface flows of the Santa Fe River. Cost differences between City-provided water and privately-provided water are discussed. This working group suggests actions that the City could pursue in order to monitor the impact of private wells on underground and surface water resources and to more equitably regulate the use of privately-provided water. It also suggests outreach and education actions to encourage compliance with City water-use regulations. Working Group members concluded that the effect of private wells on water resources is small and an emergency response is not required. There are, however, measures that the City could implement. Private well effects would be best managed in a long-term program of controlling new permits, educating residents on the water use ordinances and water use practices that apply to wells, and taking advantage of the court adjudication process to incentivize well owners to take action in the public record as users of private wells.

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APPENDICES

- A. Memo, Andrew Erdmann, City of Santa Fe Water Resources Coordinator, 5/8/2014:
 "Domestic Wells Within the City of Santa Fe"
- B. Memo, Rick Carpenter, Water Resources and Conservation Manager, 6/3/2013:
 "Response to Domestic Well Questions"
- C. Application for Domestic Water Well Permit Within the City Limits Under 25-1.10 SFCC 1987
- D. Application for Permit to Use Underground Waters in Accordance with Sections 72-12-1.1, 72-12-1.2 or 72-12-1.3 NMSA, New Mexico Office of the State Engineer

INTRODUCTION

Some Water Conservation Committee members expressed concerns 1) regarding the impact of private wells¹ on the regional aquifer and the Santa Fe River and 2) that private well owners may not be aware that they are subject to City of Santa Fe water use regulations. Other concerns include the following:

- the number of private wells, location and geographic extent (in view of recent annexations) within the City;
- the amount of water pumped annually from private wells;
- the impact of private well pumping on water conservation and on municipal water customers;
- the cost to the well owners to use the groundwater source;
- the cost to the City due to the exclusive use of groundwater by some residents;
- the potential role of private wells during water emergencies;
- the threat of abandoned or improperly plugged private wells on the water quality of the regional aquifer;
- the extent of City authority to regulate existing and new private wells, including replacement wells;
- and whether or not City-scale governance is best suited to address the problem, rather than Santa Fe County or State of New Mexico regulation

Water Conservation Committee Working Group #5 (WG #5), *Private Wells within the City*, was formed in response to these concerns. The group consists of three Committee members and four invited residents. The group's goals were to investigate the impact of private wells on the regional aquifer and related streams, to summarize the State of New Mexico Statutes and City of Santa Fe Regulations that specify the City's powers to regulate private wells within the City (including recently annexed areas), and to make recommendations to the Committee regarding private wells. This document summarizes the work of WG #5.

NUMBER OF PRIVATE WELLS

Andrew Erdmann, City of Santa Fe Water Resources Coordinator states that there is no comprehensive list of all domestic wells in Santa Fe (**Erdmann 2014, Attachment A**). He goes on that say that the best source for data on the number of wells is the OSE *WATERS* database. Cautioning that the database may not be complete because there are wells that were in place before 1956 when the Office of the State Engineer (OSE) began requiring permits for private wells for household or domestic use in the Santa Fe area, Erdmann states that there are 753 domestic wells located within the City of Santa Fe's current boundaries based on the most current (2011) records in the OSE database.

¹ For the purposes of this paper, the term "private wells" means all private-sector wells, whether for domestic or household, irrigation, commercial or other uses, and whether permitted under any authority or pre-dating the requirements for permitting. The term excludes public wells operated by the City water utility and industrial wells.

A domestic well is defined in State regulations as "The point of diversion authorized under a 72-12-1.1 domestic well permit." The Office of the State Engineer (OSE) may issue a "72-12-1.1 domestic well permit" for a new well. The OSE may also issue a permit under 72-12-22 and 23 for a replacement well. A replacement well may be for domestic use, although a well is not referred to as a "domestic well" under the replacement well statutes.

This is somewhat different from the number reported in the City's 2012 Annual Water Report². The City reported 711 private wells at the end of 2011. This can be compared to with 695 and 600 private wells listed in the 2010 and 2011 Annual Water Reports, respectively.

Information from the Nambé-Pojoaque-Tesuque Area Water Master Report³ may be useful in estimating the total number of private wells, including those drilled prior to 1956. That report found 18 % more wells in the field than are listed in the OSE file records of permits since 1956. Applying that factor (18%) to the number (753) listed by Erdmann results in an estimate of approximately 890 private wells within the City limits.

Another source for an estimate of the number of wells is the 1990 US Census, which reported 868 drilled wells and 66 hand-dug wells serving houses in Santa Fe, for a total at that time of 934 private wells. There is little information about how many of these wells are in use or are operational. Because this number was from a survey and not from file records, there is no reason to increase it by a factor to account for wells that are not recorded. The actual current count may be greater as a result of wells drilled since 1990, or that are within the areas recently annexed by the City. However, for the purposes of this investigation, the census count (934) will be used as the best estimate of the number of private wells within the City.

WATER CONSUMED BY PRIVATE WELLS AND IMPACT ON THE REGIONAL AQUIFER, THE ALLUVIAL AQUIFER AND SANTA FE RIVER SURFACE FLOWS

The Nambé-Pojoaque-Tesuque area Water Master Report found that for more than 300 domestic wells in the Nambé -Pojoaque-Tesuque area, the average water use rate was 0.29 acre-feet per year (afy). Similar results were reported in a more recent study published by Santa Fe County (Lewis, 2013), which found a median metered rate of 0.28 afy for shared wells in Santa Fe County. Using this value (0.28 afy) and the estimate of 934 private wells yields an estimate of 260 afy for the private well water use amount. http://www.ose.state.nm.us/PDF/News/2005/pr_2005-05-06_NPT_report.pdf

The 37 square mile area within the City limits contains 3,550 acre-feet per foot of saturation at a specific yield (the ratio of water content in aquifer volume) of 15%, as given in the OSE/USGS model used for water administration (McAda and Wasiolek, 1988). Continued use of 260 afy corresponds to an additional 3 feet of water-level decline in 40 years of domestic-well use, accounting for a little less than 0.1 feet per year of the overall drawdown trend. However, restrictions on the installation of new domestic wells since 1999 prevent the aquifer water level from declining an additional 2 feet in the next 40 years, according to published model projections (Balleau and Silver, 2005). Drawdown projected to be 5 feet is now constrained to about 3 feet due to the City ordinance limiting new wells.

For the wells near the river, the water source may be Santa Fe river alluvium, and pumping may influence alluvial water levels and river flow. Although the specific portion is unknown, some of the

²http://www.santafenm.gov/media/files/Public_Uilities_WATER/2012_City_of_Santa_Fe_Annual_Water_Report.pdf

³http://www.ose.state.nm.us/PDF/News/2005/pr_2005-05-06_NPT_report.pdf

private well water (and possibly some of the City Well Field water) is derived from the river alluvium. (Models are capable of quantifying the portion derived from the alluvium and from the regional aquifer.) Whatever the amount, the 3 feet in 40 years of domestic well aquifer impacts to the regional aquifer will be reduced by the amount produced by private wells that draw from the Santa Fe River alluvium.

Private wells are concentrated in the eastern mountain-front zone of the city and along the Santa Fe River. Except for the Santa Fe River, there is little relationship of local wells to the adjacent perennial streams, Tesuque Creek and Galisteo Creek, due to their distance. The Santa Fe River is usually flowing for the first four miles through the City center in springtime and is dry in winter. According to City meter records, (Lewis and Borchert, 2009b) about 0.4 cubic feet per second (100 afy over 4 months) is lost in conveyance in the four-mile reach, generally less than 10% of the flow. The relatively efficient conveyance through the City is supported by a lens of saturated shallow riparian water table.

To summarize, private wells in the City have only a few feet of impact on the regional aquifer and tens of afy on the Santa Fe River. Private wells add 2.6 % to the total City supply of 10,000 afy and more than 20% to the City well field withdrawals of 1,150 afy reported in the 2012 Annual Water Report. Alluvial wells near the Santa Fe River may have a larger relative impact on stream flows. The net impact on the regional aquifer is less than the consumption rate due to return flow both to the aquifer and to the wastewater treatment plant. In any case, the demand for water diverted by private wells would otherwise have to be supplied by the City or other sources.

STATUTES, REGULATIONS AND PERMIT REQUIREMENTS

WG#5 has collected and examined the relevant documents on municipal domestic wells to provide a lay citizen's understanding of the controlling legalities. The WG sought review by the City Attorney, but that has not been arranged.

The documents examined include:

1. Domestic Well Statute 72-12-1 NMSA.
2. OSE Rules and Regulations for Domestic Wells 19.27.5 NMAC.
3. City of Santa Fe Code Chapter XXV Water 25-1.10 Regulations for the Drilling of New Domestic Water Wells.
4. Powers of Municipalities 3-53-1 and 2 NMSA.
5. City of Santa Fe Application for Domestic Well Permit Within the City Limits. Appendix C.
6. OSE Application for Well Permit. Appendix D.
7. Anaya Adjudication case docket.
8. NM Court of Appeals and Supreme Court decisions on domestic wells.
9. Water rate schedule, Sangre de Cristo Water Division household water.

72-12-1.1 NMSA Underground waters; domestic use; permit.

A person, firm or corporation desiring to use public underground waters described in this section for irrigation of not to exceed one acre of noncommercial trees, lawn or garden or for household or other domestic use shall make application to the state engineer for a well on a form to be prescribed by the state engineer. Upon the filing of each application describing the use applied for, the state engineer shall issue a permit to the applicant to use the underground waters applied for; provided that permits for domestic water use within municipalities shall be conditioned to require the permittee to comply with all applicable municipal ordinances enacted pursuant to Chapter 3, Article 53 NMSA 1978.

The OSE has required permits for all wells in the Santa Fe area since November 1956, when it declared the Rio Grande Underground Water Basin to be under its administration.

Rick Carpenter, City of Santa Fe Water Resources and Conservation Manager, replied to questions posed by Working Group #5 on private wells within the City (**Carpenter 2014, Attachment B**). Carpenter states that "Domestic well statutes are the subject of considerable legal and legislative attention over recent years."

Domestic wells in the Aamodt case (concerning the basin adjacent to the north of Santa Fe) were decreed court-validated water rights based on levels of historical use, and domestic wells are decreed in other adjudication cases in the state. An excellent overview of the adjudication process is found in an

overview of the Rio Jemez Adjudication (UNM Law School).

http://uttoncenter.unm.edu/pdfs/Rio_Jemez_Background_Papers.pdf

City of Santa Fe Regulations for the Drilling of New Domestic Wells (25-1.10 SFCC⁴) were enacted in 1999 and revised in 2004 after new State of New Mexico legislation in 2001.

The City permit is issued subsequent to the issuance of a domestic well permit by the OSE and also requires a letter from the City of Santa. The application for the City well permit is included as **Attachment C** and the required OSE application for a permit is included as **Attachment D**.

The City permit is issued only if the applicant meets one of the following conditions: 1) the nearest property boundary is greater than 300 feet from a water distribution line or, 2) the total cost of connecting to the City water system is greater than the cost of drilling a new domestic well. The City is required to act within thirty days of the request upon all domestic water well permit applications for properties within the municipal boundaries. If the well permit is denied, the City is required to provide water service to that property within ninety days of the denial of the permit application and this service is subject to the City's standard charges and rate schedules. The City is required to issue the domestic well permit if it is unable to provide water service within ninety days due to City ordinance, rules, regulations or actions, but due to no fault of the applicant.

Since the enactment of the City regulations, the City has denied most applications for the installation of new wells. The City has approved permits for probably no more than 25 replacement wells (oral comm. , C. Borchert).

City of Santa Fe Authority

The City of Santa Fe regulates wells under 25-1.10 SFCC, Regulations for the Drilling of New Domestic Water Wells. According to paragraph C of the City regulation, "An application for a city domestic water well permit may only be filed subsequent to approval of a state domestic water well permit issued by the state engineer pursuant to NMSA 1978, § 72-12-1.1." On this basis, the City restricts the drilling of domestic water wells that are both new and permitted by the OSE under 72-12-1.1 NMSA.

In part, the City is authorized to regulate wells by 3-53-1.1 NMSA which states that "a municipality may, by ordinance, restrict the drilling of new domestic water wells..." Statute 3-53-1.1 NMSA does not explicitly authorize the City to approve or deny applications for City permits for wells that are not new and not permitted under 72-12-1.1 NMSA. Statute 3-53-2 NMSA is as follows: "In order to prevent waste and to conserve the supply of water, a municipality which owns and operates a water utility, or has granted a franchise for the operation of a public water system, may by ordinance regulate and restrict the use of water."

City permits are approved subject to seven conditions listed in Paragraph F of the regulation:

⁴ <http://clerkshq.com/default.ashx?clientsite=Santafe-nm>

1. The well shall be metered to City specifications and monthly usage shall be recorded and reported annually to the City Water Division.
2. In certain parts of the City, as delineated by the City Water Division, the well shall be drilled a minimum of fifty feet (50') into the Tesuque Formation and a seal must be constructed to prevent the mixing of water between the Tesuque and Ancha Formations.
3. The well shall be constructed to standards established by the City of Santa Fe and shall be drilled by a licensed well driller.
4. The well owner shall agree to dedicate a ten to twenty foot (10' – 20') wide easement along the necessary property lines for the installation of future infrastructure, as delineated by the City Water Division.
5. The well owner shall be subject to all City ordinances and penalties governing the amount and usage of water extracted from domestic water wells as set forth in this chapter.
6. The well owner shall be subject to subsection 14-8.12(F)(3) SFCC 1987, requiring the well owner to demonstrate that the water demand created by the use of the structures for which the domestic water well is sought will be entirely offset in accordance with the annual water budget procedures and subsection 14-8.13(F) prior to use of the well.
7. The City may impose further conditions as necessary to implement the City's ordinances, to prevent waste and conserve the supply of water and for the public health, safety and general welfare of its citizens.

Summary of the Authority of the City to Restrict the Drilling of New and Replacement Wells

NMSA 1978 Section 3-53-1.1⁵, enacted by the Legislature of the State of New Mexico in 2001, authorizes municipalities to enact ordinances restricting the drilling of new domestic water wells. The statute became effective June 15, 2001. Other statutes delegate powers to municipalities regarding the use of wells in general, the use of water in general, water conservation, public acequias, irrigation of public grounds and preventing waste or excessive use. The powers to regulate new domestic wells and other water uses in general have been supported after review by the Court of Appeals of New Mexico and the Supreme Court of New Mexico.

⁵ <http://public.nmcompcomm.us/nmpublic/gateway.dll/?f=templates&fn=default.htm>

Pertinent case law confirming the City's power to limit the drilling of new wells is found in:

Stennis v. City of Santa Fe, Court of Appeals of New Mexico, 2006

<http://www.nmcompcomm.us/nmcases/NMCA/2006/2006-NMCA-125.pdf>

Stennis v. City of Santa Fe, Supreme Court of New Mexico, 2008

<http://www.nmcompcomm.us/nmcases/NMSC/2008/2008-NMSC-008.pdf>

Smith v. City of Santa Fe, Court of Appeals of New Mexico, 2006

<http://www.nmcompcomm.us/nmcases/NMCA/2006/2006-NMCA-048.pdf>

Smith v. City of Santa Fe, Supreme Court of New Mexico, 2007

<http://www.nmcompcomm.us/nmcases/NMSC/2007/2007-NMSC-055.pdf>.

OSE Water Rights Director John T. Romero, at a meeting with WG# 5 members on 5/5/2014 confirmed the City's power to regulate wells within the City so long as its requirements are more restrictive than State regulations.

DISCUSSION

Cities can restrict the drilling of new domestic wells under NMSA § 3.53.1.1. The domestic well ordinance in Santa Fe has been challenged twice in *Smith vs. City of Santa Fe* and in *Stennis v. City of Santa Fe*. In both cases, the municipal restrictions on domestic wells were upheld. There is direction in these cases regarding the need to regulate domestic wells. The opinion in *Smith* highlights the fact that local regulations are necessary because they address different concerns than state law.

Private well owners may feel "entitled" to their wells and an attempt by the City to regulate them may be considered an infringement of their rights. An operable private well can be considered an enhancement of the value of a property. Private well owners may enjoy the feeling of independence from the City water supply and may think that their well is associated with the ownership of a "water right." Although private well owners have the expense of maintaining their own pumps, pipe, tanks, repairing freeze damage, managing water odor and other matters, and the power cost for pumping, water from a private well is generally less expensive than City water.

For most City water customers, the volume water cost is \$6.06 per thousand gallons (up to 7,000 gallons or up to 10,000 gallons during the irrigation season), and \$21.72 per thousand gallons for amounts greater than either 7,000 or 10,000 gallons. For private well owners, the volume cost often is less than this, with no premium for increased levels of use. Private wells owners may be able to take advantage of City-supplied domestic water for household use, and use well water for landscape purposes.

Although the OSE requires metering and reporting of shared wells within the City, there is no metering or reporting requirement for other well owners. Conditions of City private well permits that have been

issued since 1999 require monthly metering and annual reporting; however the permit provisions are not enforced and reporting is inconsistent. In comparison, metering of new private wells has been ordered by the adjudication court in the Aamodt case immediately north of the City.

Private wells might be of use to the community in the case of an emergency disruption of the public water supply. However, private wells, either operational or not operational, or improperly plugged, are a possible source of aquifer contamination. There may be a significant number of old wells in the City that remain unplugged after the owners stopped using the wells. There is no funding or program in place to identify and plug these wells. The OSE depends on the City to ensure that abandoned wells within the City are properly plugged in the case of a replacement well. Licensed well drillers are aware of these requirements. The City does not have the responsibility, either by ordinance or regulation, to remind owners of plugging requirements. There is no specific enforcement for private wellhead protection, which EPA applies solely to public water supplies.

CONCLUSIONS

There are in the range of 700 to 900 active private wells in the City. The certainty of this count is unknown.

Using a census well count of 934 and a use rate of 0.28 afy from a recent study, the best estimate if the amount of water produced by private wells in the City is 260 afy. As is the case for the well count, there is little basis for estimating the uncertainty of this value.

Private wells in the City impact a few hundred afy on the regional aquifer and the Santa Fe River. Continued use at the average rate of 260 afy corresponds to an additional 3 feet of water-level decline in 40 years of domestic-well use, accounting for a little less than 0.1 feet per year of the overall drawdown trend.

State statute 3-53-1.1 NMSA authorizes the City of Santa Fe to restrict the drilling of new domestic wells. Although the City requires a permit for a replacement well, 3-53-1.1 does not expressly authorize the City to regulate replacement wells. According to State statute 3-53-2 NMSA, a municipality may by ordinance regulate and restrict the use of water. Since 1999, the City has required permits for new and replacement wells. City permits are not required for wells installed before 1999 except when well owners replace these wells.

The City regulates and permits wells under 25-1.10 SFCC. One of the City permit conditions is that the well shall be metered and monthly usage shall be recorded and reported annually to the City Water Division. This permit condition is not being enforced.

Without changing how it regulates private wells, and if it were to decide to do so, subject to court determination, the City, or the court at the City's request, could require private well owners to register their wells, install meters, and submit monthly meter readings.

State regulations under 19.27.5 NMSA limit the amount of water that may be produced by a new domestic well from 0.25 to 3.0 afy.

There is limited legal basis for restricting the amount of water that can be produced by a replacement well or a well that is not permitted. An adjudication court may be the appropriate vehicle to equitably restrict the amount.

Private well effects would be best managed in a long-term program of controlling new permits, educating residents on the ordinances on water use practices that apply to wells, and taking advantage of the court adjudication process to incentivize well owners to take action to put their use on the public record.

An emergency response to the impact of private wells is not warranted.

ACTION PLAN RECOMMENDATIONS TO THE WATER CONSERVATION COMMITTEE

- Notify private well owners that even though some or all of their water may be from a private well, they are nevertheless subject to all City of Santa Fe water conservation regulations.
- Publish public notification of this requirement to ensure that all well owners, known and unknown to the City, are aware of this ordinance.
- Clarify the amount of water in afy that may be produced by a well permitted by the City.
- Require compliance with the existing monthly metering and annual reporting requirements for new and replacement wells for which the City has issued permits.
- Require private well owners to register their wells with the City, install meters and submit monthly usage readings to the City.
- Propose to State legislators a modification of 3-53-1.1 NMSA as follows: "a municipality may, by ordinance, restrict the drilling of both new domestic and replacement water wells..."
- Conduct a public-information program to bring private well owners into the city water-conservation programs using rebates applicable toward City of Santa Fe utility bills (as most private well owners utilize City refuse pickup, sanitary service and most are also connected to the City water system). The issue of providing rebates to private well owners would require an ordinance change as they are currently excluded. But because they must abide by all City water regulations, it is fair to afford private well owners access to the same benefits.

- Investigate the potential benefits of identifying private wells posted with signage as secure, safe and sanitary sources of community drinking water in an emergency.
- Encourage the City, in the spirit of inclusiveness and concern for our common aquifer, to find out how many private wells are actually producing water in order to estimate more accurately how much water is being withdrawn from the regional aquifer.
- Develop a concise statement explaining its policies on permit requirements for replacement wells and clearly stating its policy regarding the permitting of new wells in the City. Current regulations are spread out among several ordinances and are difficult to both locate and interpret.
- Seek review by the City Attorney's staff of the merit of a court-ordered procedure to claim the use of private wells within the city for court examination and pursue adjudication of all domestic wells in the Santa Fe Stream System Adjudication (Anaya Case).
http://www.ose.state.nm.us/legal_santa_fe_adjudication.html).
- The Working Group considers a court decree of valid well rights to be of potential benefit to the City, insofar as the data on location, owner, and amounts based on historical use would become known. Those who decline to claim and process their well appropriation through the court would likely be declared to have "no right". This could alter the incentive from hiding the information on private wells, to becoming in the owners' interest to make the facts of their claims known. The City or OSE apparently cannot extinguish the validity of existing (old) well rights. That power is reserved for the adjudication courts on evidence of abandonment or forfeiture (Montgomery v. Lomos Altos, Inc., Supreme Court of New Mexico, 2006).
<http://www.nmcompcomm.us/nmcases/NMSC/2007/2007-NMSC-002.pdf>
- In the interest of compiling a more complete record of private wells in the City of Santa Fe, WG#5 recommends that the City Attorney move the court to require that domestic well users claim their historic usage before the court for final action, thereby identifying the location, ownership and decreed amount of each well. The resulting data will aid the City in accounting for valid uses and consequent effects for managing the overall basin water account in the future. Although private well use is a small component of the City's total water consumption, well production data will be helpful for future water accounting and management of City water resources. For the well owner, it is as simple as exchanging a single letter with the Office of the State Engineer. It would be a win-win situation, with the well owner being more likely to obtain a higher declaration for historical use than a court would subsequently rule without petition from the well owner and with the City having a more complete record of the number of private wells within the city limits.

REFERENCES

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McAda Douglas P. and Maryann Wasiolek, 1988. Simulation of the Regional Geohydrology of the Tesuque Aquifer System near Santa Fe, New Mexico, USGS WRIR 87-4056 (The basis of the OSE administrative model and of the City's SURFS and WaterMap models for planning). Found at <http://pubs.usgs.gov/wri/1987/4056/report.pdf>. July 18, 2014.

APPENDIX A

To: Water Conservation Committee

From: Andrew Erdmann, Water Resources Coordinator, City of Santa Fe Water Division

Date: May 8, 2014

Re: Domestic Wells Within the City of Santa Fe

The purpose of this memo is to summarize the Domestic Well permitting process at the City of Santa Fe for the Water Conservation Committee. There are two halves of this summary – a summary of the permitting process itself including the administration of the permits subsequent to issuance, and a summary of the domestic wells in the City both under City permit and those believed to exist based on New Mexico Office of the State Engineer (OSE) records.

The Permitting Process:

In order to drill a well within the City of Santa Fe limits, two permits are required. The first of these is an OSE domestic well permit (72-12-1 permit). Santa Fe falls within the OSE's District VI office which is located in Santa Fe, so these permits are relatively easy to get through the office located in the Bataan Building near the State Capital. In order to receive such a permit in New Mexico, the permittee must submit proof of ownership of the property – a deed with a good property description or a plat if the deed is inadequate – and a \$125 filing fee. In the event that the well is existing, located on the property of another owner, intended to be used for multiple households, or intended to be used for multiple purposes, additional steps are required of the owners. A copy of this application is included at the back of this memo.

Additionally, because wells within the City of Santa Fe are regulated in some ways by the City, the OSE requires a letter from the City of Santa Fe validating that the subject property meets the City's criteria for a domestic well before they will issue a permit.

The City Ordinance governing the permitting of Domestic Wells by the City of Santa Fe is 25-1.10 SFCC, first passed in 1999 and revised in 2004. The ordinance prohibits the drilling of wells within City limits without a City-issued permit which is only issued subsequent to the issuance of a domestic well permit by the OSE. The permit shall be issued only if the applicant meets one of the following conditions: 1) the nearest property boundary is greater than 300' of a water distribution line or, 2) the total cost of connecting to the City water system is greater than the cost of drilling a new domestic well.

The ordinance further specifies 7 conditions of approval to be attached to City-issued domestic well permits, some of which are identical to conditions imposed by the OSE. The conditions of approval, as listed in the ordinance, are as follows:

1. The well shall be metered to City specifications and monthly usage shall be recorded and reported annually to the City Water Division.
2. In certain parts of the City, as delineated by the City water division, the well shall be drilled a minimum of fifty feet (50') into the Tesuque formation and a seal constructed to prevent the mixing of water between the Tesuque and Ancha formations.
3. The well shall be constructed to standards established by the City of Santa Fe and shall be drilled by a licensed well driller.

4. The well owner shall agree to dedicate a ten to twenty foot (10' - 20') wide easement along the necessary property lines for the installation of future infrastructure, as delineated by the City Water Division.
5. The well owner shall be subject to all City ordinances and penalties governing the amount and usage of water extracted from domestic water wells as set forth in this chapter.
6. The well owner shall be subject to subsection 14-8.12(F)(3) SFCC 1987, requiring the well owner to demonstrate that the water demand created by the use of the structures for which the domestic water well is sought will be entirely offset in accordance with the annual water budget procedures and subsection 14-8.13(F) prior to use of the well.
7. The City may impose further conditions as necessary to implement the City's ordinances, to prevent waste and conserve the supply of water and for the public health, safety and general welfare of its citizens.

By the time the applicant reaches the water office with a Domestic well permit from the OSE, the City water division will have already evaluated the property in terms of meeting the requirements set forth in the Domestic Well Ordinance, so issuing the permit should not be a lengthy process.

Existing Domestic Wells in Santa Fe:

There is no comprehensive list of all of the domestic wells in Santa Fe. The best existing source for this data comes from the OSE's WATER's database, but because of the age of the City in relationship with the relatively recent requirements to file for a Domestic Well Permit with the State, there are likely many wells which are not in the State's records and some of these may still be in use.

There are 753 domestic wells located within the City of Santa Fe's current boundaries based on the 2011 (most current) OSE well location database. The bulk of these are clustered in and around Santa Fe's east side, likely the result of this area having been the first to develop.

Permitted well owners with City permits, a group that should include all well owners since at least 2004, are required to submit meter readings but this does not appear to be either an established or an enforced practice. In addition, the conditions of approval listed in the ordinance do not address the quantity of water to which well owners are entitled – meaning that the 1-3 afy limit (1 afy for wells permitted since 2005; 3 afy for wells permitted between the declaration of the basin in 1956 and the change in policy in 2004) imposed by the OSE is the only restriction to use – and many of the tools described in the ordinance (a delineation of the Tesuque / Ancha formation, specifications for well construction) have not been developed at this time.

The present regulations are permissible because they are not in conflict with State law. However, if the City were to attempt to regulate beyond what it currently does, we would have to evaluate whether we would be prohibiting an action that the State permits:

The 1999 Ordinance is neither inconsistent with nor antagonistic to Section 3-53-1.1 because it restricts the same activities as Section 3-53-1.1 but does so in a less restrictive manner. *See McCall*, 58 N.M. at 538, 273 P.2d at 644 (concluding that an ordinance, which was less restrictive than the corresponding State statute, “merely complement[ed] the statute and [was] nowhere antagonistic therewith”). The Legislature likely had the 1999 Ordinance in mind when it enacted Section 3-53-1.1 because Section 3-53-1.1 is more restrictive than the 1999 Ordinance: the 1999 Ordinance prohibited drilling within two hundred feet of a water distribution line, while


Section 3-53-1.1 prohibits domestic wells within three hundred feet. Because the 1999 Ordinance was less restrictive than Section 3-53-1.1 and was not in conflict with it, we hold that the 1999 Ordinance was still effective after the enactment of Section 3-53-1.1.

Stennis v. City of Santa Fe, 2008-NMSC-008, ¶ 22, 143 N.M. 320.

APPENDIX B

City of Santa Fe, New Mexico

memo

Date: June 3, 2013
To: Water Conservation Committee
From: Rick Carpenter, Water Resources and Conservation Manager 
RE: Response to Domestic Well questions

Background:

This memo is in response to questions outlined in the document titled "Private Wells in the City of Santa Fe"

Response:

Discussion Items Requiring Answers from City

1. *What is the city's position on the use of private wells?*

The City's position is identified in the City Code Chapter 25 Section 1.01 requiring all new domestic wells be permitted with the City of Santa Fe. Policy decisions on use of private wells are a matter for elected officials and are not under the purview of staff.

2. *What is the policy for the redrilling of existing wells?*

The current regulation does not address deepening or rehabilitation of a well, because it's not a new well. However, if a new hole is drilled (new well, supplemental well, etc.) then the well owner must go through the OSE and City permitting process, whereupon certain conditions of permit approval may be applied.

3. *What is the requirement (if any) for metering and monitoring of wells within the city?*

Chapter 25 Section 1.10

F. For domestic water well permit applications approved within the municipal boundaries the following conditions shall be met:

(1) The well shall be metered to city specifications and monthly usage shall be recorded and reported annually to the city water division.

4. *Do property owners in the city have actual water rights or presumptive water rights?*

72-12-1 Domestic Well statutes are the subject of considerable legal and legislative attention over recent years. Generally domestic wells are permits and are not a water right.

Questions for Discussion at WCC meeting on 6/11/2013

5. Can we get a better estimate of the number of wells and put a range on how much water they can be pumping from the aquifer?

Amy Lewis has estimated 1,437 active domestic wells serving 6,645 people in the Santa Fe watershed, (which includes the City limits and some of Santa Fe County) and based on the assumption that there is one home per well and 2.2 persons per household. Domestic wells can be shared wells and serve multiple households.

Amy's research has further identified that there are 823 wells in the City limits, out of those 823, 711 are designated as domestic and shared wells. Depending on the date the wells were drilled the allocation of water is 1-3 acre foot per year, which would result in 231 million to 695 million gallons per year, assuming all wells used their total allotment.

Water Conservation Committee volunteers are welcome to visit the NM OSE and expand on or verify the information provided.

The 2012 Annual Water Report has been amended to reflect the information provided above. The revised 2012 Annual Water Report can be found at <http://www.santafenm.gov/index.aspx?NID=2300/>

6. Is this issue something the city really wants to address, given all the other water issues it faces?

This continues to be an issue that staff tracks for wells that have been drilled since 2007 as stated in the City Code. Enforcement and monitoring meter readings for wells drilled prior to 2007 are under the jurisdiction of the NM OSE and Santa Fe County.

7. Is this an issue in which the Water Conservation Committee can help the city?

Perhaps, but refer to the respective answers to question Nos. 5 and 6 above.

8. Is it the best use of (limited) WCC volunteer resources and time?

The Water Conservation Committee has prioritized and identified important water conservation tasks identified in item #10 on the agenda.

Attachments:

25-1.10 Regulations for the Drilling of New Domestic Water Wells.

APPENDIX C



City Permit No. _____
(Assigned by City)

City Of Santa Fe Water Division

APPLICATION FOR DOMESTIC WATER WELL PERMIT WITHIN THE CITY LIMITS UNDER CITY OF SANTA FE ORDINANCE No. 25-1.10 SFCC 1987

1. **Applicant Information:**

Name: _____

Address: _____

Phone Numbers: (h) _____ (w) _____ (m) _____

Email: _____

2. **Land Owner Information (if different from applicant):**

Name: _____

Address: _____

Phone Numbers: (h) _____ (w) _____ (m) _____

Email: _____

3. **Information to be provided by Applicant:**

- ☐ Copy of current recorded plat map of property on which well is to be drilled.
 - ☐ Proposed well coordinates including the coordinate system and x & y locations.
 - ☐ Santa Fe County Assessor Office's Parcel Number _____.
 - ☐ Office of the State Engineer §72-12-1.1 well drilling permit.
- or**
- Office of the State Engineer existing well permit, well record, and OSE permit to drill a supplemental or replacement well

4. **Applicability**

A. Is this well application for the replacement of an existing well? Yes _____ No _____

B. Is this well application for a supplemental well for an existing well? Yes _____ No _____

C. Do you currently have City water service to your lot? Yes _____ No _____

D. Are you applying for a domestic well based on a claim that your lot property line is more than 300 feet from an existing water line? Yes _____ No _____

If yes, please submit with this application all evidence showing that the nearest property line for which you are applying for a domestic well permit is more than 300 feet from a City water distribution line.

E. Are you applying for a domestic well based on a claim that it will be less expensive to drill a domestic well than to connect to the City water system? Yes _____ No _____

If yes, please submit with this application two written quotes by well drillers licensed by the State of New Mexico for a well completed in a manner consistent with the conditions outlined in Section 4. The quotes need to specify that all the items identified in Section 4, as well as a water line stub out are all included in the price.

5. **Conditions of Approval**

City Permit No. _____
(Assigned by City)

The well shall be constructed in accordance with standards established by the Office of the State Engineer (OSE) reference including being drilled by a well driller licensed in the State of New Mexico. (See <http://www.ose.state.nm.us/doing-business/WellDrillerRegs/WellDrillerRulesRegs-2005-08-31.pdf>)

In addition, the following City's Conditions of Approval shall apply:

- (1) The permittee will notify the Water Division at 505-955-4203 at least 48 hours before drilling is to begin and allow City staff access to site during well drilling.
- (2) The permittee shall install an appropriately-sized, totalizing meter, accessible from the exterior, to measure all of the water produced from the well. Monthly meter readings shall be taken by the well owner and be submitted to the Water Division Director by February 1 of each year.
- (3) Within 30 days of completing the well, the well owner shall provide to the Water Division Director: a) all the information as specified by NMAC 19.27.4.29 (K) (e.g. well record); and b) as-built coordinates for the well including the coordinate system and x & y locations
- (4) The applicant agrees to permit Water Division staff access to install an automatic meter reader on the well meter, if or when the City decides to do so.
- (5) The applicant agrees to permit Water Division staff access to the well and the meter for reading the meter, sampling water quality and measuring the depth to water, provided that Water Division staff gives the well owner 48-hour advance notice.
- (6) This City well permit shall expire if and when the OSE permit expires
- (7) Other Conditions:

6. **Applicant Agreement**

Pursuant to City of Santa Fe Ordinance No. 25-1.10, the undersigned hereby applies for a permit to drill a new domestic water well within the City limits, recognizing the conditions upon the well set forth in Section 5 above, and by the City's Ordinance 25-1.10(E) and by the State of New Mexico statute NMSA 1978, Chapter 3, Article 53 and 72-12-1.1. Obtaining the permit does not relieve the undersigned from the responsibility of obtaining any other permits required under State, County, or City, regulations or ordinances or other requirements of State and Federal law.

To the best of my knowledge, the information provided within this application is true and correct. By signing this agreement, I, the applicant, understand that I must comply with all the conditions and requirements of this permit

Applicant Signature

Date

7. **Sangre de Cristo Water Division Action** (To be completed by City)

Your application for a new domestic water well has been reviewed, and:

- 2.) _____ Pursuant to 25-1.10 A, SFCC 1987, the request to proceed with drilling a new domestic water well within the municipal limits of the City of Santa Fe is hereby denied. The property owner is directed to request water service from the Water Division for domestic water uses.

City Permit No. _____
(Assigned by City)

- 3.) _____ Pursuant to 25-1.10 B, SFCC 1987, the request to proceed with drilling a new domestic water well is hereby granted for the use indicated under the conditions stipulated below.

This application shall become a permit to drill upon acceptance by the Sangre De Cristo Water Division ("Water Division"). The granting of this permit does not supercede any restrictions of record concerning the use of water on this property. Domestic water wells within the municipal boundaries of the City are also subject to all ordinances governing water use within the City of Santa Fe, including water conservation requirements and emergency regulations and drought management stages.

Engineer Supervisor

Dated: _____

Director, Sangre De Cristo Water Division
City of Santa Fe, New Mexico

Dated: _____

APPENDIX D

NEW MEXICO OFFICE OF THE STATE ENGINEER



APPLICATION FOR PERMIT TO USE UNDERGROUND WATERS IN ACCORDANCE WITH SECTIONS 72-12-1.1, 72-12-1.2, OR 72-12-1.3 NEW MEXICO STATUTES



For fees, see State Engineer website: <http://www.ose.state.nm.us/>

1. APPLICANT(S)

Name:	Name:
Contact or Agent: <input type="checkbox"/> check here if Agent	Contact or Agent: <input type="checkbox"/> check here if Agent
Mailing Address:	Mailing Address:
City:	City:
State: Zip Code:	State: Zip Code:
Phone: <input type="checkbox"/> Home <input type="checkbox"/> Cell Phone (Work):	Phone: <input type="checkbox"/> Home <input type="checkbox"/> Cell Phone (Work):
E-mail (optional):	E-mail (optional):

2. WELL LOCATION Required: Coordinate location must be New Mexico State Plane (NAD 83), UTM (NAD 83), or Lat/Long (WGS84). District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

NM State Plane (NAD83) - In feet	NM West Zone <input type="checkbox"/> NM Central Zone <input type="checkbox"/> NM East Zone <input type="checkbox"/>	X (in feet): Y (in feet):
UTM (NAD83) - In meters	UTM Zone 13N <input type="checkbox"/> UTM Zone 12N <input type="checkbox"/>	Easting (in meters): Northing (in meters):
Lat/Long (WGS84) - To 1/10 th of second	Latitude: deg min sec Longitude: deg min sec	
Other Location Information (complete the below, if applicable):		
PLSS Quarters or Halves:	Section:	Township: Range:
County:		
Land Grant Name (if applicable):		
Lot No:	Block No:	Unit/Tract: Subdivision:
Hydrographic Survey:	Map:	Tract:
Other description relating point of diversion to common landmarks, streets, or other:		
Point of Diversion is on Land Owned by (Required):		

FOR OSE INTERNAL USE

Application for Permit, Form wr-01, Rev 6/14/12

File No.:	Trn No.:	Receipt No.:
Sub-basin:	POD No.:	Log Due Date:

3. PURPOSE OF USE

- ☐ Domestic use for one household
- ☐ Livestock watering
- ☐ Domestic use for more than one household. Number of households _____
- ☐ Drinking and sanitary uses that are incidental to the operations of a governmental, commercial, or non-profit facility
- ☐ Prospecting, mining or drilling operations to discover or develop natural resources
- ☐ Construction of public works, highways and roads
- ☐ Domestic use for one household and livestock watering
- ☐ Domestic use for multiple households and livestock watering
- ☐ Domestic well to accompany a house or other dwelling unit constructed for sale

4. WELL INFORMATION

File Information: (If existing well, provide OSE no. & indicate below if well is to be replacement, repaired or deepened, or supplemental. If new well, leave blank, as OSE must assign no.)

OSE Well No. (If Existing)

New Well No. (provided by OSE)

Driller Name:

Driller License Number:

Approximate Depth of Well (feet):

Outside Diameter of Well Casing (inches):

☐ Replacement well

(List all existing wells if more than one):

☐ Repair or Deepen:

☐ Clean out well to original depth

☐ Deepen well from _____ to _____ ft.

☐ Other (Explain):

☐ Supplemental well

(List OSE No. for all wells this will supplement):

5. ADDITIONAL STATEMENTS OR EXPLANATIONS

ACKNOWLEDGEMENT

I, We (name of applicant(s)),

Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER (FOR OSE USE ONLY)

This application is approved subject to the attached general and specific conditions of approval.

Witness my hand and seal this _____ day of _____ 20 _____, for the State Engineer,

By:

Signature

Print

FOR OSE INTERNAL USE

Application for Permit, Form wr-01, Rev 6/14/12

File No.:

Trn No.:

Receipt No.:

Sub-basin:

POD No.:

Log Due Date:

**NEW MEXICO OFFICE OF THE STATE ENGINEER
APPLICATION FOR PERMIT TO USE UNDERGROUND WATERS
IN ACCORDANCE WITH SECTIONS 72-12-1.1, 72-12-1.2, AND 72-12-1.3 NEW MEXICO STATUTES**

INSTRUCTIONS

1. The application shall be made in the name of the actual user of the well for the purpose specified in the application (if the agent is submitting the application, check the agent box).
2. The application shall be filed with the appropriate filing fee.
3. A separate application must be filed for each well to be drilled or used.
4. If well to be used is an existing well, an explanation (and the file number, if possible) should be given under Remarks (Item 5).
5. If well is to be used for livestock watering on state or federal land, proof of the following must be included as part of the application; (a) applicant is legally entitled to place his or her livestock on the land where the water is to be used, (b) applicant has been granted access to the drilling site and has permission to occupy the portion of the land as is necessary to drill and operate the well.
6. An application to drill a well on land owned by another person, the state of New Mexico, the federal government, or another entity shall be accompanied by written consent of the landowner.
7. For an application for drinking and sanitary uses that are incidental to the operations of a governmental, commercial, or non-profit facility, the applicant shall demonstrate that no alternative water supply is reasonably accessible or available.
8. An application for a 72-12-1.1 domestic well to serve multiple households shall be filed with documentation listing the number of households to be served by the well, the owner's contact information for each household to be served, and a description of the legal lot of record for each household to be served. A copy of a well share agreement may be filed to support the claim that the 72-12-1.1 domestic well will serve more than one household.
9. The Office of the State Engineer may require an application to be filed with a deed or purchase contract and plat of survey on file with the appropriate county.
10. See General Conditions of Approval for more information.

FEE SCHEDULE FOR APPLICATIONS

72-12-1.1 (domestic) = \$125.00
72-12-1.2 (livestock) = \$5.00
72-12-1.3 (temporary) = \$5.00
Replacement well = \$ 75.00
Supplemental well= \$125.00
Repair or Deepen = \$ 75.00
Amend Domestic Use = \$ 75.00

Application for permit, well records and requests for information in the following basins should be addressed to the Office of the State Engineer at:

Bluewater, Estancia, Gallup, Middle Rio Grande, Northern Tularosa, and Sandia Basins
District No. 1. 5550 San Antonio Dr. NE , Albuquerque, NM 87109 Phone # 505-383-4000

Capitan, Carlsbad, Casey Lingo, Curry County, Fort Sumner, Hagerman Canal, Hondo, Jal, Lea County, Peñasco, Roswell-Artesian, and Portales Basins
District No. 2. 1900 West Second St., Roswell, NM 88201 Phone # 575-622-6521

Animas, Cloverdale, Gila-San Francisco, Hachita, Lordsburg Valley, Mimbres, Mount Riley, Nutt-Hockett, Playas, San Simon, Virden Valley, and Yaqui Basins
District No. 3. P.O. Box 844, Deming, NM 88031 Phone # 575-546-2851

Lower Rio Grande, Southern Tularosa, Hueco, Las Animas Creek, Salt, and Hot Springs Basins
District No. 4. 1680 Hickory Loop, Suite J, Las Cruces, NM 88005. Phone # 575-524-6161

San Juan Basin
District No. 5. 100 Gossett Drive, Suite A, Aztec, NM 87410 Phone # 505-334-4571

Northern Rio Grande and Upper Pecos Basins
District No. 6. P.O. Box 25102, Santa Fe, NM 87504-5102 Phone # 505-827-6120

Canadian River, Clayton, and Tucumcari Basins
District No. 7. P.O. Box 481, 301 East 9th Street, Cimarron, NM 87714 Phone # 575-376-2918

**NEW MEXICO OFFICE OF THE STATE ENGINEER
APPLICATION FOR PERMIT TO USE UNDERGROUND WATERS
IN ACCORDANCE WITH SECTIONS 72-12-1.1, 72-12-1.2, or 72-12-1.3 NEW MEXICO STATUTES**

GENERAL CONDITIONS OF APPROVAL

- 06A The maximum amount of water that may be appropriated under this permit is acre-feet in any year.
- 06B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated. A licensed driller shall not be required for the construction of a driven well; provided, that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter (Section 72-12-12).
- 06C Driller's well record must be filed with the State Engineer within 20 days after the well is drilled or driven. Well record forms will be provided by the State Engineer upon request, or may be printed from the OSE website at www.ose.state.nm.us, under applications & forms.
- 06D The casing shall not exceed 7 inches outside diameter except under specific conditions in which reasons satisfactory to the State Engineer are shown.
- 06E To request a change to the use of water authorized under this permit, the permittee shall file an application with the State Engineer.
- 06F An application for a new 72-12-1.1 domestic well permit where the proposed point of diversion is to be located on the same legal lot of record as an operational 72-12-1.1 domestic well shall be treated as an application for a supplemental well.
- 06G If artesian water is encountered, all rules and regulations pertaining to the drilling and casing of artesian wells shall be complied with.
- 06H The drilling of the well and amount and uses of water permitted are subject to such limitations as may be imposed by a court or by lawful municipal or county ordinance which are more restrictive than the conditions of this permit and applicable State Engineer regulations.
- 06I The permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.
- 06J The well shall be set back a minimum of 50 feet from an existing well of other ownership unless a variance has been granted by the State Engineer. The State Engineer may grant a variance for a replacement well or to allow for maximum spacing of the well from a source of groundwater contamination. The well shall be set back from potential sources of contamination in accordance with rules and regulations of the New Mexico Environment Department.
- 06K Pursuant to Section 72-8-1 NMSA, the permittee shall allow the State Engineer and his representatives entry upon private property for the performance of their respective duties, including access to the well for meter reading and water level measurement.
- 06L The permit is subject to cancellation for non-compliance with the conditions of approval or if otherwise not exercised in accordance with the terms of the permit.
- 06M The right to divert water under this permit is subject to curtailment by priority administration as implemented by the State Engineer or a court.
- 06N In the event of any change of ownership to this permit the new owner shall file a change of ownership form with the State Engineer in accordance with Section 72-1-2.1 NMSA.
- 06O This well permit shall automatically expire unless the well is completed and the well record is filed with the State Engineer within one year of the date of issuance of the permit. It is the responsibility of the permit holder to ensure that the well record has been properly filed with the State Engineer.

SUMMARY:

A public meeting was held at the Convention Center by Working Group #3 on the Water Efficiency Rating System (WERS) – Outdoor tool for New Construction on August 12, 2014.

The event was attended by the Santa Fe Water Conservation Committee and over 40 individuals from the public.

An overview of the current Outdoor evaluation programs for Santa Fe, Green Build New Mexico, GBC, and the EPA was presented to the committee and the attendees. The intent of the presentation was to educate all that there exists already a confusing array of overlapping programs for builders to choose from for evaluating water use outdoors. The meeting was also to solicit public input on the direction of the Outdoor WERS tool for new construction. Comments were written on Post-Its on the walls around the room and are listed below.

The working group greatly appreciates all the time and input gathered from the meeting attendees and the committee. It is apparent from the attendance and the input that is a lot of interest in this topic.

As was stated at the meeting, the working group acknowledges this is a very complex issue as is apparent by the current set of City, County, State, and National programs focused on Outdoor Water Efficiency tools.

Consequently, the committee will work to come up with an outdoor recommendation that reflects the concerns of the citizens and yet simplifies the current process. It is expected that this will take several months and once a draft is formulated another public meeting will be scheduled.

Again, Working Group #3, greatly appreciates the efforts of all to make this effort successful and reflect the values of the community.

NOTES FROM PUBLIC WCC MEETING AT CONVENTION CENTER:

- I would like to see focus on homes other than the new ones. How to incentivize remodels and retrofits... in landscaping.
- I agree 100% need to include existing homes in our thinking - new projects are a small percentage of our use.
- High % of organic matter in soil = better score.
- Lot contouring to capture rain and reduce runoff - minimizes mulch movement
- Permeable paving – any credit for those of us who are ahead of the curve and did some of these things years ago?

- Several days ago, early in the morning right after we had rain, I heard the sprinkler system working in my neighbor's yard. I wish there is a system which senses how moist the soils is and turns off sprinkler systems – especially for non-environmentally conscious people, and may be a regulation or restriction to install that kind of system.
- Local weather reporting tied to texting notice of amount of time to water.
- Incentivize small individual responsible urban agriculture.
- Water sensors to notify controller if it needs to run.
- In the living building challenge, they have a concept called “scale jumping” which facilitates existing urban0scale water issues as well as new planned urban-scale water issues. More from Bob Kreger about this in the next few weeks.
- Yes, outdoor water use is very complex. But I believe if we replace the various existing prescriptions and checklists with another difficult checklist (or whatever it gets called), we will not be creating INCENTIVES to efficiency.
- Equity among income classes should be considered. That is, a 5acre home can use much more than a city lot.
- How do we keep different value systems intact? If one chooses “NO” plant landscape will that lead to making my veggie food garden impossible/not permitted?
- Consider points for soil quality including training as to “How To” improve soils and points for irrigation consciousness. This is preferable to no plants. Plants serve EXTREMELY IMPORTANT qualities in our community.
- HERS operates like an extortion racket. How do we avoid that tendency of prof cert orgs.
- Passive systems
- Cost should not be preventative to implementation
- GRADING = PASSIVE WATER HARVESTING WE NEED WERS RATERS THIS IS VERY COMPLEX AND SHOULDN'T LEAVE TO BUILDERS TO RATE/DESIGN
- Consumption vs. PRODUCTIVITY (Food, Beauty, wind protection, Bee Forage, shade, erosion control, wildlife habitat
 - Soil infiltration rates, - % of household use for landscaping, - ck w NRLS, -Spanish Certification, - Education Based, many landscapers are not computer literate
- *Builder Education Points, * Homebuyer Education Points, * Leaks Education/Outreach Points?, *Plants/Transpiration – Can it take us below ZERO the way photovoltaics does (&Edibles & Etc)
- EDIBLES?!?
- Cooperative based – not competitive.
- Outdoor regulations should apply to all residences (City and/or well water)
- Consider Building behaviors vs. Land behaviors vs. occupant behaviors in setting Values and Policies. Consider incentives for behavior changes and measurable outcomes that fulfill goals that are other, and possible more important than money, either spent, earned, or saved.

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	<ul style="list-style-type: none">• 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, Giselle Piburn, Tim Michael
Notes	<ul style="list-style-type: none">• 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 AML 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	<ul style="list-style-type: none">• 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: We are currently working on the development of a survey and inventory process of the city's parks for urban agriculture. We had several meeting to develop this which included meeting with the city's Renewable Energy Planner John Alejandro. We also had a meeting with arborist/ horticulturist Tracy Neal to discuss water conservation and tree cover.

Pamphlet – our working group is looking into creating a couple of pamphlets that the WCO could use as information for larger water users. Included is a sample from GREENCO in Colorado. We would like to work with WCO staff to make sure it included all the information.

General: Did out reach for QWEL class in November

2015 Meeting Schedule Proposals

Santa Fe Water Conservation Committee

Location: City Councilors' Conference Room, 200 Lincoln Avenue

Time: 4-6 PM

Day: Second Tuesday of the month (except as noted)

Option 1:

Meeting Date	Caption Deadline, 3 PM	Packet Material Deadline, 3 PM
January 13, 2015	Tuesday, December 23, 2014	Monday, December 29, 2014
February 10, 2015	Monday, January 26, 2015	Wednesday, January 28, 2015
March 10, 2015	Monday, February 23, 2015	Wednesday, February 25, 2015
April 14, 2015	Monday, March 30, 2015	Wednesday, April 1, 2015
May 12, 2015	Monday, April 27, 2015	Wednesday, April 29, 2015
June 9, 2015	Friday, May 22, 2015	Wednesday, May 27, 2015
July 14, 2015	Friday, June 26, 2015	Monday, June 29, 2015
August 11, 2015	Monday, July 27, 2015	Wednesday, July 29, 2015
September 10, 2015 (Thursday)	Monday, August 24, 2015	Wednesday, August 26, 2015
October 15, 2015 (Thursday)	Monday, September 28, 2015	Wednesday, September 30, 2015
November 10, 2015	Monday, October 26, 2015	Wednesday, October 28, 2015
December 9, 2015	Friday, November 20, 2015	Monday, November 23, 2015

Option 2:

Meeting Date	Caption Deadline, 3 PM	Packet Material Deadline, 3 PM
January 13, 2015	Tuesday, December 23, 2014	Monday, December 29, 2014
February 10, 2015	Monday, January 26, 2015	Wednesday, January 28, 2015
March 10, 2015	Monday, February 23, 2015	Wednesday, February 25, 2015
April 14, 2015	Monday, March 30, 2015	Wednesday, April 1, 2015
May 12, 2015	Monday, April 27, 2015	Wednesday, April 29, 2015
June 9, 2015	Friday, May 22, 2015	Wednesday, May 27, 2015
July 14, 2015	Friday, June 26, 2015	Monday, June 29, 2015
August 11, 2015	Monday, July 27, 2015	Wednesday, July 29, 2015
September 15, 2015 (Third Tuesday)	Friday, August 28, 2015	Monday, August 31, 2015
October 20, 2015 (Third Tuesday)	Friday, October 2, 2015	Monday, October 5, 2015
November 10, 2015	Monday, October 26, 2015	Wednesday, October 28, 2015
December 9, 2015	Friday, November 20, 2015	Monday, November 23, 2015



January 2015

No.	Su	Mo	Tu	We	Th	Fr	Sa
1					1	2	3
2	4	5	6	7	8	9	10
3	11	12	13	14	15	16	17
4	18	19	20	21	22	23	24
5	25	26	27	28	29	30	31

February 2015

No.	Su	Mo	Tu	We	Th	Fr	Sa
6	1	2	3	4	5	6	7
7	8	9	10	11	12	13	14
8	15	16	17	18	19	20	21
9	22	23	24	25	26	27	28

March 2015

No.	Su	Mo	Tu	We	Th	Fr	Sa
10	1	2	3	4	5	6	7
11	8	9	10	11	12	13	14
12	15	16	17	18	19	20	21
13	22	23	24	25	26	27	28
14	29	30	31				

April 2015

No.	Su	Mo	Tu	We	Th	Fr	Sa
14				1	2	3	4
15	5	6	7	8	9	10	11
16	12	13	14	15	16	17	18
17	19	20	21	22	23	24	25
18	26	27	28	29	30		

May 2015

No.	Su	Mo	Tu	We	Th	Fr	Sa
18						1	2
19	3	4	5	6	7	8	9
20	10	11	12	13	14	15	16
21	17	18	19	20	21	22	23
22	24	25	26	27	28	29	30
23	31						

June 2015

No.	Su	Mo	Tu	We	Th	Fr	Sa
23		1	2	3	4	5	6
24	7	8	9	10	11	12	13
25	14	15	16	17	18	19	20
26	21	22	23	24	25	26	27
27	28	29	30				

July 2015

No.	Su	Mo	Tu	We	Th	Fr	Sa
27				1	2	3	4
28	5	6	7	8	9	10	11
29	12	13	14	15	16	17	18
30	19	20	21	22	23	24	25
31	26	27	28	29	30	31	

August 2015

No.	Su	Mo	Tu	We	Th	Fr	Sa
31							1
32	2	3	4	5	6	7	8
33	9	10	11	12	13	14	15
34	16	17	18	19	20	21	22
35	23	24	25	26	27	28	29
36	30	31					

September 2015

No.	Su	Mo	Tu	We	Th	Fr	Sa
36			1	2	3	4	5
37	6	7	8	9	10	11	12
38	13	14	15	16	17	18	19
39	20	21	22	23	24	25	26
40	27	28	29	30			

October 2015

No.	Su	Mo	Tu	We	Th	Fr	Sa
40					1	2	3
41	4	5	6	7	8	9	10
42	11	12	13	14	15	16	17
43	18	19	20	21	22	23	24
44	25	26	27	28	29	30	31

November 2015

No.	Su	Mo	Tu	We	Th	Fr	Sa
45	1	2	3	4	5	6	7
46	8	9	10	11	12	13	14
47	15	16	17	18	19	20	21
48	22	23	24	25	26	27	28
49	29	30					

December 2015

No.	Su	Mo	Tu	We	Th	Fr	Sa
49			1	2	3	4	5
50	6	7	8	9	10	11	12
51	13	14	15	16	17	18	19
52	20	21	22	23	24	25	26
53	27	28	29	30	31		

January 1 New Year's Day
January 19 Martin Luther King Day
February 16 Presidents Day and Washing..
May 25 Memorial Day

July 4 Independence Day
September 7 Labor Day
October 12 Columbus Day
November 11 Veterans' Day

November 26 Thanksgiving
December 25 Christmas Day

See more [2015 Holidays](#)