

COUNCIL WATER ISSUES
COMMITTEE
REGULAR MEETING
TUESDAY, JULY 5, 2017
PRESCOTT, ARIZONA

MINUTES OF THE REGULAR MEETING OF THE COUNCIL WATER ISSUES COMMITTEE HELD ON JULY 5, 2017, in the LOWER LEVEL CONFERENCE ROOM, located at CITY HALL, 201 SOUTH CORTEZ STREET, Prescott, Arizona.

A. Call to Order.

Mayor Pro Tem Lamerson called the meeting to order at 10:04 a.m.

B. Roll Call.

COUNCIL WATER ISSUES COMMITTEE MEMBERS:

Present:

Chairman Jim Lamerson
Member Steve Blair
Member Steve Sischka arrived 9:06 am.

Absent/Excused

Staff Present:

Michael Lamar, City Manager
Virginia Mefford, Deputy City Clerk
Clyde Halstead, Assistant City Attorney
Craig McConnell, Regional Programs Director
Leslie Graser, Water Resources Manager

C. Approval of minutes of the June 6, 2017, Council Water Issues Committee meeting.

COUNCILMAN BLAIR MOVED TO APPROVE THE MINUTES OF THE JUNE 6, 2017, WATER ISSUES COMMITTEE MEETING; SECONDED BY COUNCILMAN SISCHKA; PASSED.

D. Alternative Water Portfolio Update

Leslie Graser, Water Resource Manager, gave a presentation on the Alternative Water Portfolio.

Ms. Graser said for Calendar Year 2017 (January 1, 2017, through December 31, 2017), alternative water was made available ("budgeted") by Council in the categories below; the current remaining unallocated balances are as indicated:

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	<u>Budget</u>	<u>Amount of Budget Remaining</u>
1. Residential	70 acre-feet	20.65 acre-feet (AF) ¹
2. Commercial	100 acre-feet	100 acre-feet

¹ 21.35 AF – 0.7 AF administratively approved projects on June 6, 2017, agenda = 20.65 AF

No single project is eligible for allocation of more than 50% of the applicable preceding quantity (residential or commercial), or of the remaining balance during the calendar year.

At year-end 2017, if the preceding quantities are fully allocated, 50 AF would be the opening balance for Calendar Year 2018 according to the policy adopted December 13, 2016, which identified an annual transfer of 50 AF from the vacant, residentially zoned tract reservation (until that reservation is extinguished). The actual volume recommended for 2018 may be more than 50 AF, depending upon any unallocated, year-end 2017 balance.

As of June 20, 2017, no new water service agreement applications have been submitted for placement on this July 6, 2017, agenda.

NO ACTION WAS TAKEN.

E. Rainwater Harvesting Policy

Leslie Graser, Water Resource Manager, said at their Voting Meeting of May 9, 2017, the Council adopted Resolution No. 4380-1589, amending the "Water Management and Calendar Year 2017 Alternative Water Allocation Policy." The resolution included the following direction regarding rainwater harvesting:

Section 3 THAT the Water Resource Management Division shall conduct additional research, engage appropriate stakeholders and experts, and report to the Council Water Issues Committee, and said Committee shall provide a recommendation and/or alternatives to the Council within sixty (60) days of the date hereof, for further consideration of rainwater harvesting as it relates to unit allocations for residential development.

Prior to the May 9, 2017, meeting, rainwater harvesting was discussed at two other Council meetings, April 25, 2017, and September 13, 2016. At the Study Session of April 25, 2017, several Council members expressed an interest in recognizing the contribution rainwater harvesting can make in reducing outdoor potable water use by offering, as an additional incentive, a lesser unit allocation (enabling more units per acre-foot of alternative water) for residences built with qualifying installations. As

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stated then, the subject was previously raised by the Council Water Issues Committee, at which time the Water Resource Management Division recommended the following:

Rainwater harvesting – Water-Efficient Residential Development, as described herein, relies upon EPA WaterSense® best practices, including outdoor (landscaping) improvements. No specific consideration is proposed for rainwater harvesting as a means of reducing potable outdoor water use; however, it should be noted that the City offers a conservation rebate for installing qualifying storage (<http://www.waterrebates.com/az-prescott>), and the homeowner will benefit from recurring savings on their water bill.

Ms. Graser said concerns were expressed at the April 25, 2017, Study Session regarding offering a lesser unit allocation as suggested: to what type(s) of rainwater harvesting the incentive would apply (barrels, above or below-ground cisterns), how to determine the reduction quantity (the fraction of an acre-foot offset in potable water use provided by the rainwater harvesting), whether the rainwater harvesting equipment would be properly maintained, sediment removed, etc., and consistently used in the long-term future. Additionally, it was pointed out that to the extent a property with rainwater harvesting is more extensively landscaped to take advantage of that irrigation source, in years of drought, if the rainwater harvesting storage/replenishment is insufficient to properly sustain the landscaping, it is conceivable that an increase in potable water could actually result.

Ms. Graser said at the September 13, 2016, Voting Meeting, a representative of Dorn Homes addressed questions about the Antelope Crossing subdivision preliminary plat, a workforce housing project. Councilman Blair spoke on the benefit of rainwater harvesting, and asked if the developer would consider installing two rainwater cistern systems per house. The Dorn Homes representative said he was willing to consider that, and would work with the Citizens Water Advocacy Group (CWAG) and the City. Councilwoman Wilcox moved to approve preliminary plat PP16-001 for Antelope Crossing with the additional requirement that rainwater harvesting systems be built with each residence. The action subsequently passed.

Ms. Graser said that in consideration of the Council action and direction of Resolution No. 4380-1589, Water Resource Management has further addressed the topic including: (1) review of City data related to rainwater harvesting; (2) compilation of stakeholder input; and (3) evaluation of the US EPA document titled, *Rainwater Harvesting, Conservation, Credits, Codes, and Cost Literature Review and Case Studies*, for information and applicability.

Ms. Graser said in 2009 the City included rainwater harvesting as a rebate opportunity within the Water Conservation Incentive Program (Resolution No. 4691-0934). In September 2016, the rebate for rainwater harvesting was increased by City Council action (Ordinance No. 5002-1540). The City also migrated its rebate program data from spreadsheets and paper applications into an efficient database (WaterWays) in 2016, to improve customer service and administration. According to WaterWays, since 2009, 52 customers have received the rainwater harvesting rebate.

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Ms. Graser commented that the rainwater harvesting the rebate was increased from \$0.10/gal to \$0.50/gal on September 13, 2016, by Ordinance No. 5002-1540.

Ms. Graser said a questionnaire was sent to three stakeholders to gain their perspectives on rainwater harvesting: an advocacy group (#1), developer (#2), and landscape architect (#3). Table 1 provides the survey questions and responses.

Mayor Pro Tem Lamerson asked if there was a correlation of water use reduction to the installation of rainwater harvesting systems.

Ms. Graser said they did look at this and it was inconclusive.

Mayor Pro Tem Lamerson asked then why offer the rebate.

Ms. Graser said the rebate program was valuable in raising customer awareness of water conservation.

Councilman Blair said the rebate program does make a difference: not using as much water, and water customers saving money, were beneficial.

Councilman Sischka commented that only 52 customers have taken advantage of the rainwater harvesting rebate: he asked what was the average water use reduction.

Craig McConnell said the presentation would be addressing this aspect.

Mayor Pro Tem Lamerson observed that the biggest users were government and the hospitals, and asked whether they have been contacted about rainwater harvesting.

Ms. Graser said the water conservation approach being pursued contemplates outreach to the major water users. She said the City of Tucson had experience with rainwater harvesting on commercial (non-residential) properties.

Mayor Pro Tem Lamerson said that government should lead by example.

Michael Lamar, City Manager, agreed, and said that the City of Prescott would look to identify rainwater harvesting opportunities.

Mayor Pro Tem Lamerson suggested that through public relations, they could educate and show how it was working for the City.

Mr. McConnell said the focus on rainwater harvesting at this time was residential and not commercial, but agreed the latter is also a good topic to address.

Councilman Blair said in Sonora, Mexico, rainwater is used for irrigation, shower, and bathrooms, helping with their water supply situation.

Councilman Sischka suggested that it would be useful to ask customers who may have considered installing a rainwater harvesting system but then did not, the reason why not.

Councilman Blair stated that rainwater harvesting should be installed in new development. When the Touchmark project was designed, it included rainwater

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detention tanks, but no one asked them to reuse the water. He felt that this was a missed opportunity.

Question	Stakeholder Responses		
	#1	#2	#3
Are you familiar with the City's Water Conservation Rebate Program, which offers a Rainwater Harvesting Rebate of \$0.50/gal of storage? The rebate is added as a credit on the user's water bill.	Yes	Yes	Yes
Considering the City's tiered water rate structure, and the increasing popularity and installation of xeriscaped residences, do you believe that Rainwater Harvesting would be of specific, significant, and continuous benefit to new development?	Yes	Yes	No
Did you install or implement additional landscaping to take advantage of the water stored and made available by a Rainwater Harvesting system?	No	Yes	No
If you have a Rainwater Harvesting System, in years of drought would you rely upon City potable water to sustain your landscaping?	Yes ¹	Yes	Yes ¹
Should the city set aside less water for each new home built that has a rainwater harvesting system, but charge more for the water used in excess of the lower quantity that was set aside?	No	Yes	Yes

¹Stakeholder responded "NA" (not applicable) to a previous question, "If you have a Rainwater Harvesting cistern, do you maintain the catchment, storage, and delivery system?"

Mayor Pro Tem Lamerson said if people are not informed on rain harvesting, they're not going to do it.

Councilman Blair said if the hospital was approached, he was sure they would do this.

Councilman Sischka said the landscaping at the hospital was minimal.

Ms. Graser commented upon the ongoing, very positive dialogue with Embry-Riddle regarding water conservation; the university agreed to install artificial turf to save water. Councilman Blair said he would support the approach expressed in the last survey question.

Ms. Graser suggested that further reducing the unit allocations for residential development at this time, before meaningful data is available, would be premature.

Councilman Blair said that once the Granite Dells Estates development was completed, that information would be known.

Mayor Pro Tem Lamerson asked several questions regarding the incentive for rainwater harvesting.

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Ms. Graser advised the Committee that the stakeholders also had the opportunity to provide comments supplemental to the questionnaire. Table 2 is a compilation of that input.

Table 2: Additional Stakeholder Comments	
Monthly water bills should be lower if folks use rainwater harvesting instead of pumping groundwater	A legitimate concern is customers relying on City potable water to sustain landscaping in times of drought. Education on how, why, and when to use rainwater harvesting is important.
Promote rainwater harvesting for new and existing homes because: it attracts the public, leads to more interest in xeriscaping, possibly already has lowered the use of rainwater in Prescott.	If a lower water allocation was rewarded, homeowners may invest in a high-water use landscape, and the excess water use will be unpredictable.
Give incentives for creation of rain gardens, storm-water slowing & green infrastructure, wetlands and other habitat creation, native & low water landscape etc.	Rainwater harvesting needs to be coordinated project by project. It can be expensive to install systems large enough to have a meaningful impact on a water budget.
Potable water could potentially be reduced.	Rainwater harvesting can be an eye sore on neighborhoods.
Size of storage tanks to support landscaping through the drier months would be too large for most home developments.	Tighter housing density makes rainwater harvesting a challenge.
Overflow could cause warranty issues with customers and have an effect of drainage on the lots.	

Ms. Graser said that during discussion of outdoor irrigation in this region, the topic of greywater inevitably arises. Prescott does not allow diversion of greywater to outside use, since our wastewater has been pledged to the Arizona Department of Water Resources for assured water supply (treated wastewater is one type of alternative water that is made available for development).

Mr. McConnell said that the City's standard water service agreement contains a requirement that if sewer is or become available, the party receiving the water must connect.

Mr. Lamar observed that talking to the stakeholders was a great thing to do, but more education would certainly raise the awareness of this effective conservation means within the community.

Councilman Blair agreed with the benefit education would provide, and mentioned that there was already a conservation-oriented group that could assist with education.

Councilman Sischka said they needed to find out why more people weren't doing rainwater harvesting; reasons might include the cost of maintaining the equipment, and whether it was worth the effort.

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Ms. Graser described the educational materials presently available on the City website, as well as printed brochures.

Mayor Pro Tem Lamerson commented that water rates must be set considering infrastructure and operating costs, as well as such things as rebates and the effect of water use reduction, so that the City's water enterprise continues to have adequate resources.

Councilman Sischka asked about possible unintended consequences of rainwater harvesting.

To address various questions by the Committee members, Ms. Graser referenced an overview of rainwater harvesting at the national level by the US EPA, which compiled *Rainwater Harvesting, Conservation, Credits, Codes, and Cost Literature Review and Case Studies* (January 2013). This document reviewed the existing literature in four key areas related to rainwater harvesting: water conservation, stormwater runoff volume and pollution load reduction, code and administration, and cost factors. These topics were further reviewed based on technical, operation and maintenance, programmatic, and predictability merits. The following statements were excerpted from the water conservation section:

- "...the potential for water conservation...varies significantly with factors such as climate, land use, and development type."
- "The water conservation performance of active systems is significantly better than that of passive systems (e.g., rain barrels) due to two primary factors: storage and delivery systems."
- "In general, passive systems (e.g., rain barrels) require only minor maintenance at little or no cost to the system owner. The City and County of San Francisco, CA, lists some basic guidelines for rain barrel maintenance in a 2008 Memorandum of Understanding between the San Francisco Public Utilities Commission, Department of Building Inspection, and Department of Public Health. "
- "There are currently no federal regulations governing rainwater harvesting for non-potable use, and the policies and regulation enacted at the state and local levels vary widely from one location to another. Regulations are particularly fragmented with regard to water conservation, as the permissible uses for harvested water tend to vary depending on the climate and reliability of the water supply."
- "...the efficiency of a rainwater harvesting system for conserving water depends largely on the ability to balance water demands with the supply provided by regional precipitation."

Councilman Sischka said that was why people are reluctant to do this, it has so many moving parts.

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Councilman Blair said an old fashioned water tank with a spout could be used, with no maintenance needed.

Ms. Graser said the complete EPA document is available online at the following link: www.epa.gov/sites/production/files/2015-11/documents/rainharvesting.pdf

Ms. Graser said based upon the research and evaluation performed and summarized in the agenda memorandum, pertinent regulations of the Prescott Active Management Area (PrAMA), and stakeholder input, the following findings are provided by Water Resource Management.

1. Participation by existing City water customers in the rainwater harvesting conservation rebate program (and hence conservation savings, if any) has been minimal to date (not more than 10 rebates in any one year as compared to 21,300 residential water customers).
2. It is arguable that the creation of new rainwater harvesting incentives for new subdivisions, even when accompanied by a public education program, will not bring significant potable water savings, and at best would be premature:
 - Most of the new housing units will be built as "Water-Efficient Residential Development," defined in the "Water Management and Calendar Year 2017 Alternative Water Allocation Policy" (as amended, Resolution No. 4380-1589, May 9, 2017). As it pertains to potable water, a primary focus of this type of development is already reduction of outdoor water use through xeriscaping.
 - There is no data suggesting the buyers of new homes want rainwater harvesting systems, they (and their successors in ownership) are prepared to operate them, and will in fact do so—the Prescott demographic, an older population, is more often seeking lifestyle simplification, including reduced yard and landscaping maintenance.
 - The placement of storage basins on smaller lots (with narrow side-yards enclosed by walls, e.g., Antelope Crossing) is problematic.
 - To the extent a property with rainwater harvesting is more extensively landscaped to take advantage of that irrigation source, in years of drought, if the rainwater harvesting storage/replenishment is insufficient to sustain the landscaping, as has been the case observed throughout the City, an increase in potable water would undoubtedly result to protect the landscaping investment.
 - On-site inspections of any type after conservations measures are installed to assure compliance/operability would require adding personnel and associated expenses, and should be avoided.

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3. It would be prudent to track water usage and assess the recent policy change for "Water-Efficient Residential Development" unit allocations before considering creating another (even lower) unit allocation for development providing rainwater harvesting, and/or a lower water rate recognizing the same. The Antelope Crossing subdivision will provide useful information regarding public perception, implementation, homeowner usage/acceptance of rainwater harvesting, and determination whether it is actually causing a reduction in outdoor water use.
4. Continuing to offer a rainwater harvesting rebate to the owners of occupied residences, both new and those built in past years, will provide a means for reducing outdoor water use, and lowering water bills.

Mr. McConnell said the recommendation was to forward this topic to the Council for a presentation, Council discussion, and public comment, at a study session.

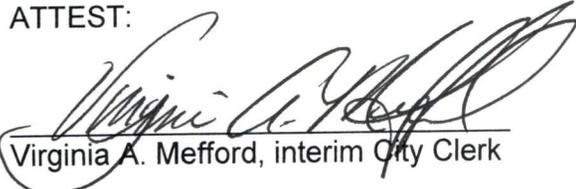
THE WATER ISSUES COMMITTEE AGREED BY CONSENSUS TO MOVE THE TOPIC FORWARD TO COUNCIL AS RECOMMENDED.

F. Adjournment

There being no further business to be discussed, the Council Water Issues Committee adjourned the Public Meeting of July 5, 2017, at 11:13 a.m.


JIM LAMERSON, Chairman

ATTEST:


Virginia A. Mefford, interim City Clerk