

To: Pointe Community Association
Board of Directors
From: Pointe Community Association
Water Committee
Date: August 14, 2017
Re: Water Committee Findings and Recommendations

Background

In the fourth quarter of 2012, the Pointe Community Association (PCA) arranged for the installation of individual water sub-meters for the common area landscape islands and Single Family Attached (SFA) residences. The meter installations were on a voluntary basis with the cost of the meter and installation paid for by the SFA homeowners and the PCA, for island meters. Prior to the sub-meter installation water charges for the SFA homes were determined by dividing the water and related water based charges by the number of users associated with each of the twenty (20) City of Phoenix (COP) water meters. This resulted in each SFA homeowner and the common area landscape island sharing the all-in water costs on an equal basis regardless of actual water usage by the individual SFA homes or Landscape Island.

After the sub-meter installations, the COP individual meter water charges were allocated to SFA homeowners and applicable common area landscape islands based on their respective sub-meter usage readings. Since not all SFA homeowners elected to install a water sub-meter, the non-metered homeowners were charged by deducting the sum of the sub-metered water usage from the COP water bill and billing the balance of the water usage to unmetered accounts. If there was more than one unmetered account for a given COP meter, the unmetered SFA homeowners shared the remaining water usage cost equally.

In February of 2016, PCA President Nancy Sharp formed a PCA Water Committee consisting of PCA Treasurer, Sofia Durrett, Board Member Patrick Murphy and SFA homeowners Jeff Jones and Ted Joufflas. The committee was formed for the purpose of looking into the increasing variance between the COP SFA/Island water charges and the amounts reimbursed by the SFA homeowners based on the sub-meter readings and to reconcile the water usage reported on the twenty (20) COP water meters as compared to the usage measured by individual sub-meter readings.

Water Committee Findings

The Committee first attempted to compare the COP vs. sub-meter water usage and deferred any consideration of dollar variances until water usage was better understood. The Committee received copies of the COP water bills beginning for the year 2015 along with the Vision Community Management (VCM) monthly water reports. From this information, Jeff Jones developed a sophisticated excel spreadsheet to monitor COP vs. sub-meter water usage. Based on a monthly review of the various reports, the committee made the following observations concerning water usage variances:

1. COP meters were calibrated in Cubic feet while Sub-meters were read in gallons. Each cubic foot contains 7.48 gallons

2. Initially meters were not read on the same date causing an unmeasurable usage variance.
3. Some sub-meters were not working at all.
4. Some COP meters were not working at all.
5. One sub-meter was found to be installed backward.
6. There were some significant water leaks occurring between the COP meter and the island sub-meter.
7. Sub-meters assigned to COP meters three and four were installed in a continuous loop, so that any of these sub-meters could draw water from either COP meter making individual COP meter reconciliation impossible. There could be two additional COP meter sets that could be connected in a loop configuration.
8. A sub-meter was assigned to the wrong COP meter making reconciliation impossible for two of the COP meters.
9. Some of the 20 COP meter links showed consistent minor variances in the water usage measured by COP meters vs. PCA sub-meters indicating that that sub-meters are accurate.

Water Committee Actions

Over the course of the remainder of 2016, the committee continued to monitor the water usage as measured by the COP and reported on the monthly COP water bills. In addition the water usage readings from the installed sub-meters were studied and compared to the COP water bills. In an effort to reconcile the usage, the following actions were taken:

1. The monthly reading dates were coordinated with the COP readings to eliminate differences resulting from the different read dates. The actual time of day meters were read still contributes to some minor variance.
2. Beginning in early 2017 the committee obtained copies of the actual sub-meter read sheets and verified the readings with the prior month. Some errors were found in the transcribing of the monthly readings.
3. The COP meter link 10, consisting of four homes at Frier Dr. and Dreamy Draw Lane, were closely monitored because of continued variances in the COP vs Sub-meter usage. All meters, on several days, were read at precisely the same time to detect possible leaks between the COP meter and the sub-meters. No leaks were indicated based on those readings. As a follow-up, the committee arranged, through Armor Plumbing, for a American Leak Detection to monitor the meters and water lines on COP 10 using sensitive listening equipment to detect possible leaks. That testing was inclusive and further testing would have required that the leak detection company return and introduce helium gas into the water lines extending from the COP meter to each of the four sub-meters. If a leak(s) was present the escaping helium gas would have been more easily detected allowing for excavation of the water line(s). This procedure is time consuming and expensive, costing between \$1,400 and \$1,900. Based on the committee's recommendation, the PCA Board approved replacing the four COP link 10 sub-meters to determine if the originally installed sub-meters were giving inaccurate readings. A new meter manufacturer was used to supply the four new meters. After the installations, usage comparisons improved, but still did not precisely reconcile with the COP.
4. A new sub-meter was installed at COP link 16 to replace the non-working meter.
5. The COP water department was requested to field test the COP link 11 meter. They did so on October 18, 2016 and the meter functioned properly and provided RFI readings that agreed with the manually read dials on the meter.
6. On March 13, 2017 COP, on their own, replaced the COP link 11 meter because of age.

Conclusions and Recommendations

Some 18 months has passed since the PCA water committee was formed and many steps and procedures have taken place to verify the accuracy of the COP water usage as compared to the PCA sub meter readings. Many issues were discovered and corrected however reconciling the COP water usage with the applicable sub-meters has proven elusive. With the actions that have been taken the readings are closer and even though there remains a variance for the individual COP meters, the total water used for the twenty (20) COP meters has been coming in at a variance of 2% to 5%. When the COP is questioned about reasons for the individual and overall variances, the COP has always claimed the fault is with our individual sub-meters, leaks and the meter reading procedures we follow. Some COP meter links, for example link 10, continue to show variances that could be explained by the issues raised by COP or possibly an unknown water user. We inspected for such user(s) but found none.

Attached to this report are 20 graphs displaying the water usage of each COP meter as compared to their related PCA sub-meters. The graphs cover the monthly periods of January, 2017 through July, 2017. The blue lines represent water usage measured by COP meters, the black lines represent water usage measured by the PCA sub-meters and the red line represents the variances between the COP and PCA meters.

The committee is of the opinion that as long as the combined water usage fluctuates in the range of from 5% to 8% that its work can be suspended and the committee disbanded.

Respectfully submitted

Pointe Community Association
Water Committee

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Jeff Jones
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