



April 23, 2020

Dear Center Point HOA,

Jane Baker has requested that Oro Valley Water Utility conduct an account audit on Center Point HOA irrigation meters. She is concerned more specifically with turf areas. We are happy to provide this free service to our customers and encourage you to work directly with your landscape contractors to determine best management practices for your site.

In this report, I have provided a breakdown of your total water use per meter for the year of 2019. In addition, an analysis was conducted over the years of 2017 to the most recent completed billing period of 2020. It does appear that the annual water use has decreased over time and 2020 is following that same trend. In regards to the turf areas, I used GIS aerial maps to measure the area so that I could calculate the required annual water amount for the turf. Using a computer program may skew the results as under or over estimating the area can occur. Therefore, these estimated requirements are truly estimated and only provide a baseline to begin your process. Watering requirements are very site specific and system efficiencies or inefficiencies contribute greatly to conservation. Typically sprinkler systems have about a 60% efficiency rate from the start as compared to drip irrigation which is approximately 80-90% efficient. Which means that the water is going where it is desired and meets the plant's needs. Over time these efficiencies can decrease due to age, environment, and maintenance.

The method I chose to calculate turf water requirements is used by water utilities in the Phoenix area. ****Again, this is only an estimate and provides a reference. You should follow the recommendations of your landscape contractors.**

I have analyzed 10 meters listed under Center Point HOA. Five (per Jane) are related to turf with one being a commercial meter that supplies turf/rec center/pool combined. The other 5 meters appear to be related to the landscape plants supplied by drip irrigation. ****Drip irrigation water requirements were not calculated due to unknown size of landscape plant areas.**

If you have any questions or would like the spreadsheets for the data, please let me know.

Sincerely, Karn Boyce

Results

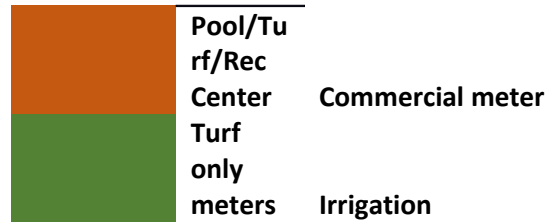
Overview of 2019

Total Annual Water Use in Gallons 2019

Meter #	Gallons
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79146159	253,000
81499885	44,000
75413405	682,000
77246294	674,000
76962350	863,000
77246239	263,000
76962361	61,000
81499888	225,000
77246238	878,000

Designated meters for Turf



77246243 241,000

Total 4,184,000

**Comparison
of Annual
Site Water
Use Over
Time in
Gallons
(2017-2019)**

2017	2018	2019	2020 to April
5,343, 000	4,698, 000	4,184, 000	234,00 0

Estimated Turf/Landscape Plant Water Requirements

Estimates were completed using the formula below:

Turf (high water use type) - 35,000 gallons/1,000 sq. ft. of turf/year

(not used in this report) - Landscape plants (low water use desert type) – 15,000 gallons/1,000 sq. ft. of landscape plants/year

2019

**Turf Areas
Actual/Req
uired
Water Use
in Gallons**

		Area (sq. ft.)	Water Required	Water Use
77246294	Commercial Meter	Pool/Turf (Gazebo)/Rec Center Turf area north of Rec Center parking lot	11,000	385,000
76962350		Turf at Lark Bunting Ln.	2,200	263,000
77246239		Turf at Desert Firetail Ln.	1,500	225,000
81499888		Turf at Pebble Creek Park	5,000	878,000

Summary

Overall the total water use on this site had decreased over the years and may represent the fact that landscape plants are maturing and do not need the water they required when they were first planted. There is also a pattern of seasonal trends at this site which is ideal. Less water is used in the cooler months. Turf requires water all year especially when over seeding is done. Winter rye typically needs more water to germinate and needs more water in general than Bermuda. From a conservation perspective, over seeding of winter rye is discouraged. The commercial meter poses some complications for analyzing irrigation due to the fact that the pool is on this meter and the total water use is a combination of needs. Pima county sewer rates apply to this meter because of indoor and outdoor use.

Ways to Save Water

- Continue with seasonal adjustments to watering schedules when applicable.
- Turn irrigation timers off when sufficient rainfall occurs. If you do not already have them installed, rain sensors on your irrigation controllers can help with this.
- Only provide the water that is required for plants and turf. Work with your landscape contractor to determine a proper water budget that keeps your plants healthy and within budget.
- Protect your investments in landscaping. Reduction of water use on a site too fast or extreme can be detrimental. Make adjustments accordingly.
- Proper pruning methods for landscape plants are important to protect plants during the hot summer months.
- Preventive maintenance is imperative for your irrigation systems to be as effective and efficient as possible. Work with your landscape contractor to verify system maintenance.
- Fix leaks as soon as possible.
- Check rec center bathroom or kitchen fixtures to make sure they are working properly and are low water use fixtures.
- Uphold pool maintenance.

-Monitor your water use on WaterSmart (orovalley.watersmart.com). Set appropriate daily use notifications.