# CUSTOMER CHARACTERISTICS ANALYSIS

## 2022 RATES AND FEES STUDY



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BUSINESS SOLUTIONS TEAM

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# *EXECUTIVE SUMMARY*

As a part of the annual Rates and Fees Study, Castle Rock Water conducts an in-depth analysis of accounts in service to determine customer characteristics and consumption patterns. We start by looking at the most current billing data for FY2021. From there, we break down the number of accounts by meter size and customer class. We then compare the number of actual permits for the last several years to the number of projected permits in that same year. The Town's Development Services Department provides the number of accounts by customer class for past actuals as well as the forecasted amounts for FY2022 and FY2023.

An average consumption based on the most current three years (2019-2021) by account, meter size, customer class and winter versus summer season is calculated. This average three-year period serves as a comparison to previous three-year periods going back as far as 2012. This takes into consideration weather patterns and rainfall variances from year-to-year. We have added a section in the report showing the monthly rainfall compared to average consumption patterns as one tool to evaluate the effectiveness of water conservation.

These individual three-year average consumption calculations provide the basis for meter equivalency factors. Starting in 2010, the Town implemented actual use meter equivalency factors in assessing the monthly service charges for water, wastewater, and water resources. The average consumption for all ¾" meters serves as the base unit with the average consumption for all larger size meters divided into this base unit to get an equivalency factor by meter size and customer class.

Customer data for the last three years (2019-2021) then determines an average representative customer for each customer class. One customer from each customer class then represents the class average and their consumption patterns are used to calculate a typical customer's annual bill.

In 2020, we started showing the average consumption patterns of atypical customer's consumption patterns compared to the average customer. Atypical can be defined as a customer whose consumption patterns are not typical of an average customer in that same meter size and or customer class due to the nature of their business or varying water needs. We eliminate these from the average calculation as to avoid skewing the average for a representative customer by meter size and customer class.

Billed usage by tier from 2012-2021 by customer class is analyzed to see if customers are staying within their water budget tiered rate structure. The purpose of this data analysis is also to see if customers over time are conserving water and avoiding Tier 3 – Excessive usage and Surcharge (over 40,000 gallons per month).

We also looked at the customers with a 0.67 SFE to see if their consumption patterns are meeting the intent of the program, to use one-third less water than an average ¾" residential customer's usage. Additional information such as 0.67 SFE accounts by irrigated area also help us to understand the larger irrigated accounts that typically consume larger amounts of water and may or may not be meeting the intent of the program. In addition to the 0.67 SFE accounts, we also show the Water Efficiency Plan (WEP) accounts which started in 2019. Although we do not have much data yet, we will continue to analyze the consumption patterns over time to determine if these customers are meeting the spirit of the intent to consume less water than a 1 SFE account.

Other areas within the study include consumption patterns based on watering schedules, consumption patterns based on water wiser designations, customer class consumption based on irrigated areas, consumption patterns for customers designated as HOA's, bulk water accounts consumption and Town accounts consumption patterns over time. We also compare weather patterns to customer usage across the customer classes to see if there is a correlation between the two.

Like the water fund, we also chart the number of accounts from the latest 2021 billing data plus growth projections for 2022 and 2023 for customers who are receiving water resources and wastewater services. Stormwater Single Family Equivalents (SFE's) is the unit of measure for the stormwater fund, unlike accounts which are the unit of measure in the other three enterprise funds. CRW uses 3,255 impervious square feet for one SFE for this calculation.

Key information found in this report integrates into the development of rates and fees.

# *WATER ENTERPRISE FUND*

## NUMBER OF ACCOUNTS BY METER SIZE & CUSTOMER CLASS

Table 1 below shows the number of accounts by meter size and customer class using 12 months of billing data (Jan21-Dec21). This shows that 24,779 customers were receiving water service during this capture period. The FY2020 accounts based on 12 months of billing data (Jan20-Dec20) showed 23,781 customers were receiving water service. There are 998 more accounts in FY2021 than FY2020. The number of accounts by meter size are key inputs into the system development fees model. The number of accounts then convert into Single Family Equivalents (SFE's) which determines existing versus new system capacities and are then used in the calculations within the Water and Wastewater cost of service models.

## TABLE 1: ACCOUNTS BY METER SIZE & CUSTOMER CLASS (FY2021)

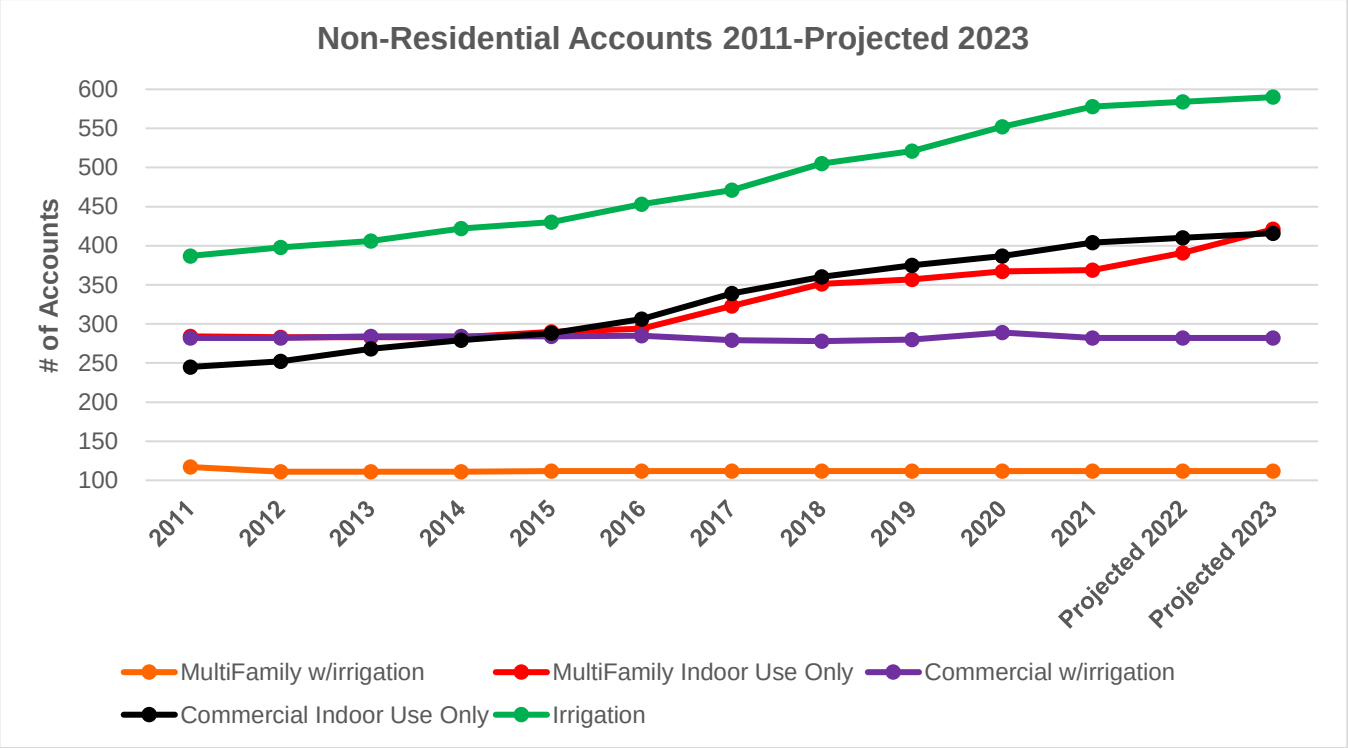
| Meter Size | Residential | Multifamily | Commercial | Bulk | Irrigation | MultiFamily Indoor Use Only | Commercial Indoor Use Only | Total |
|---|---|---|---|---|---|---|---|---|
| 5/8" | 2,170 | - | - | - | 2 | 4 | 7 | 2,183 |
| 3/4" | 20,730 | 14 | 126 | 108 | 208 | 101 | 132 | 21,419 |
| 1" | 26 | 25 | 71 | - | 112 | 100 | 104 | 438 |
| 1.5" | - | 55 | 51 | - | 158 | 119 | 94 | 477 |
| 2" | - | 15 | 27 | - | 89 | 41 | 50 | 222 |
| 3" | - | 2 | 5 | - | 7 | 4 | 15 | 33 |
| 4" | - | 1 | - | - | 2 | - | 2 | 5 |
| 6" | - | - | 2 | - | - | - | - | 2 |
| Total | 22,926 | 112 | 282 | 108 | 578 | 369 | 404 | 24,779 |

Chart 1 below shows the growth in residential accounts from 2011-2021 and the projected growth for FY2022 and FY2023. An increase of 1,250 permits for 2022 and 1,100 for 2023 is being forecasted by the Town's Development Services Department for the residential customer class.

## CHART 1: RESIDENTIAL WATER ACCOUNTS

Chart 2 shows the number of non-residential accounts from 2011-2021. Over the last few years, we have started to see multifamily indoor use only number of accounts increasing. The projection for 2022 shows the biggest increase seen in recent years. However, the projection for 2023 shows this curve starting to flatten back out.

### CHART 2: NON-RESIDENTIAL WATER ACCOUNTS




Castle Rock Water projects FY2023 water accounts by using FY2021 billing data plus the projected growth for FY2022 and FY2023. The FY2023 water accounts are projected to equal 27,097 (25,276 for residential and 1,821 for non-residential). These projections do not include existing bulk water accounts as those are temporary accounts. Growth projections are as follows by customer class:

**2022 Projected New Accounts by Customer Class:**

| | |
|---|---|
| 1,250 | Residential (1 SFE) |
| 22 | Multi-Family |
| 6 | Commercial |
| 6 | Irrigation |
| 1,284 | Total |

**2023 Projected New Accounts by Customer Class:**

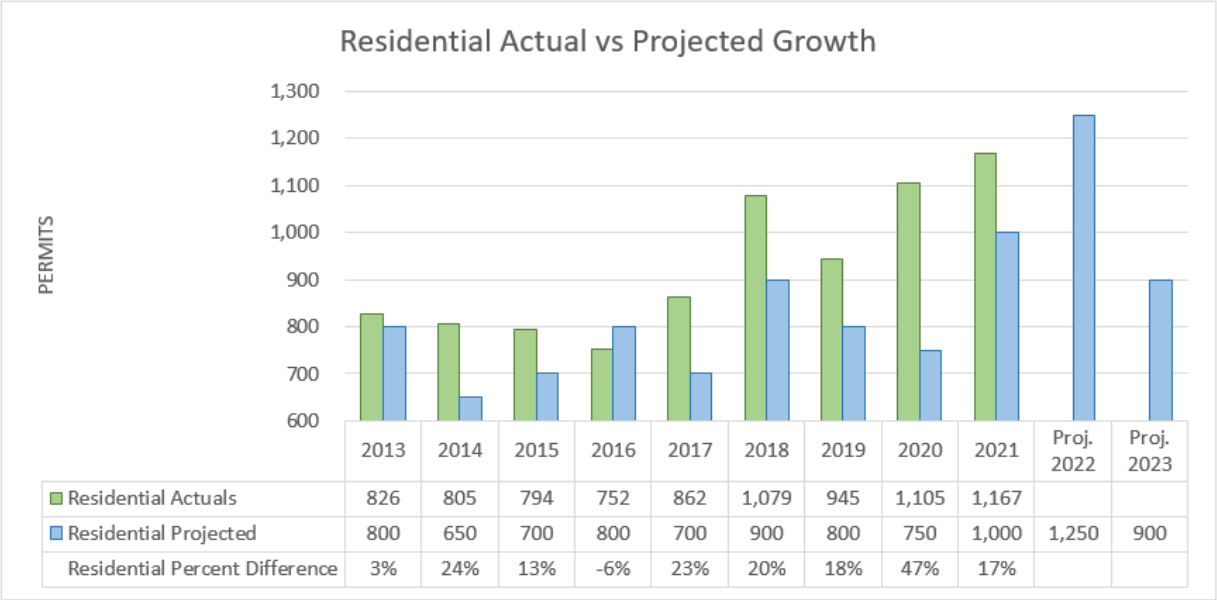
| | |
|---|---|
| 900 | Residential (1 SFE) |
| 30 | Multi-Family |
| 6 | Commercial |
| 6 | Irrigation |
| 942 | Total |

Projections are for 1,284 new accounts for FY2022 and 942 new accounts for FY2023 for a total increase through FY2023 of 2,226 new accounts.

## 2013-2023 ACTUAL GROWTH VERSUS PROJECTED GROWTH

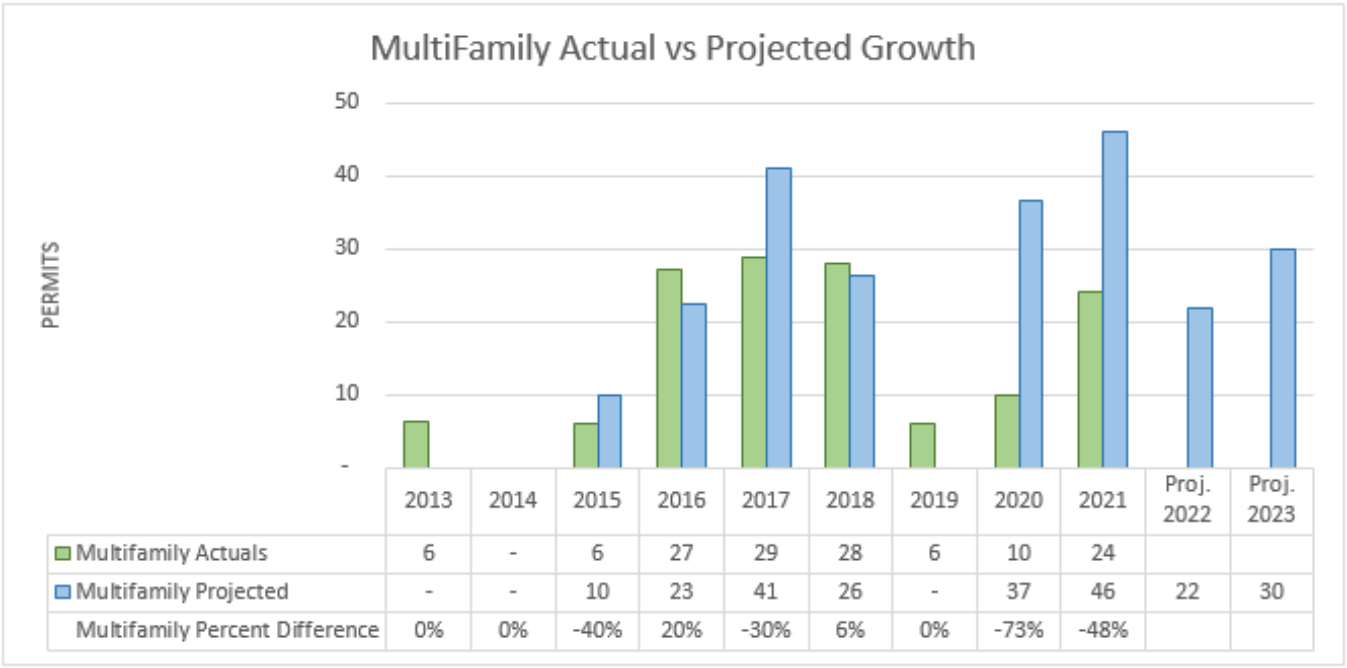
CRW has seen significant growth over the last several years. The projections received each year from the Town's Development Services Department are important components to the rate models and revenue projections when looking at needed rate or fee increases year over year. When looking at future projections it is also important to look at how closely the past projections have compared to the actual results each year. Charts 3-6 below show the actual number of permits compared to the projected number of permits during the same year. Charts 3-6 break out residential, multi-family, commercial and irrigation, whereas Chart 7 shows all customer classes combined. Multi-family permits shown in Chart 4 are typically master meters serving multiple units. For example, projections for 2022 shows 300 permits for multifamily in Chart 4 which equates to approximately 22 new water service accounts shown in Chart 2 above. Based on historical trends, the average number of units served per master metered account is approximately 14.

## CHART 3: RESIDENTIAL GROWTH



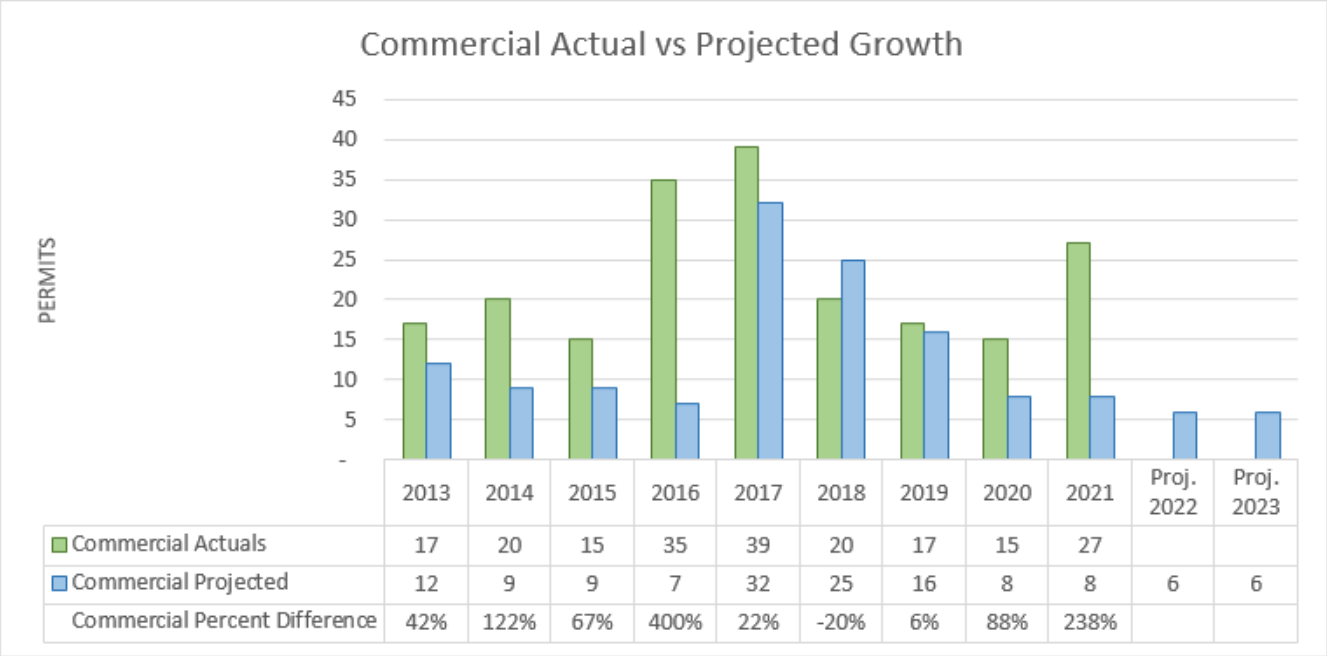

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Proj. 2022 | Proj. 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Residential Actuals | 826 | 805 | 794 | 752 | 862 | 1,079 | 945 | 1,105 | 1,167 | | |
| Residential Projected | 800 | 650 | 700 | 800 | 700 | 900 | 800 | 750 | 1,000 | 1,250 | 900 |
| Residential Percent Difference | 3% | 24% | 13% | -6% | 23% | 20% | 18% | 47% | 17% | | |

## CHART 4: MULTIFAMILY GROWTH



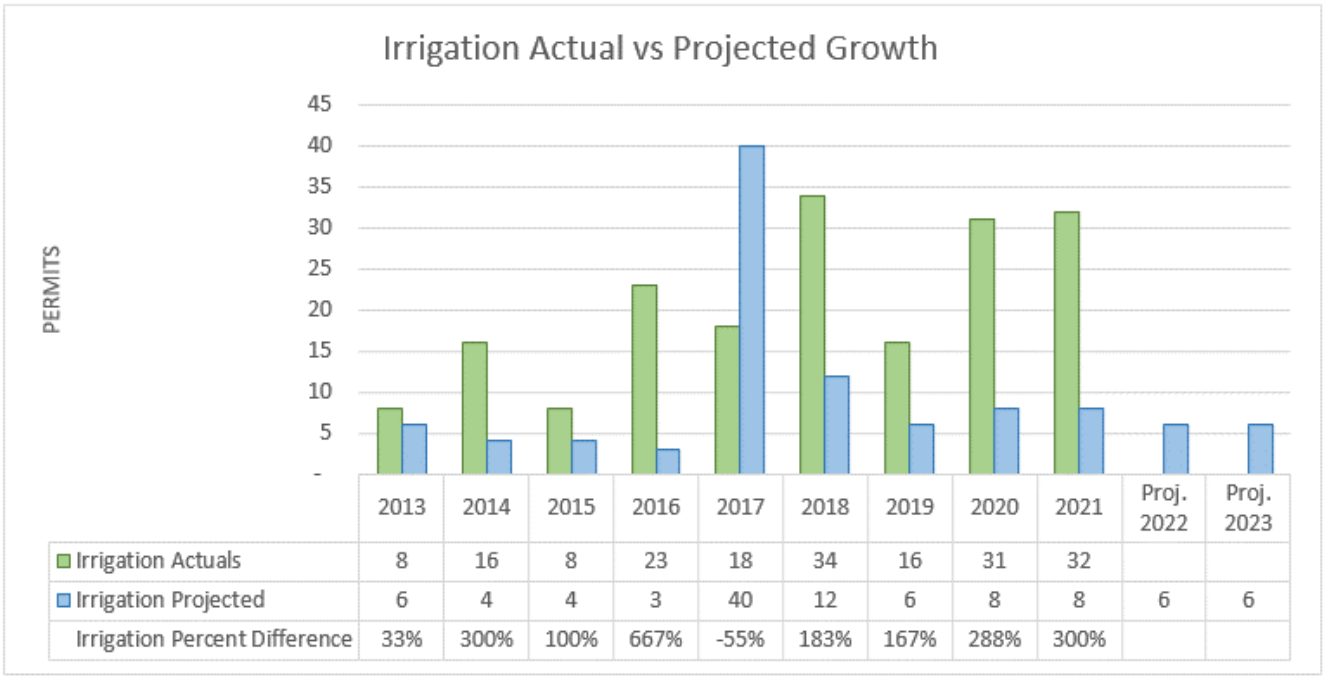

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Proj. 2022 | Proj. 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Multifamily Actuals | 6 | - | 6 | 27 | 29 | 28 | 6 | 10 | 24 | | |
| Multifamily Projected | - | - | 10 | 23 | 41 | 26 | - | 37 | 46 | 22 | 30 |
| Multifamily Percent Difference | 0% | 0% | -40% | 20% | -30% | 6% | 0% | -73% | -48% | | |

## CHART 5: COMMERCIAL GROWTH



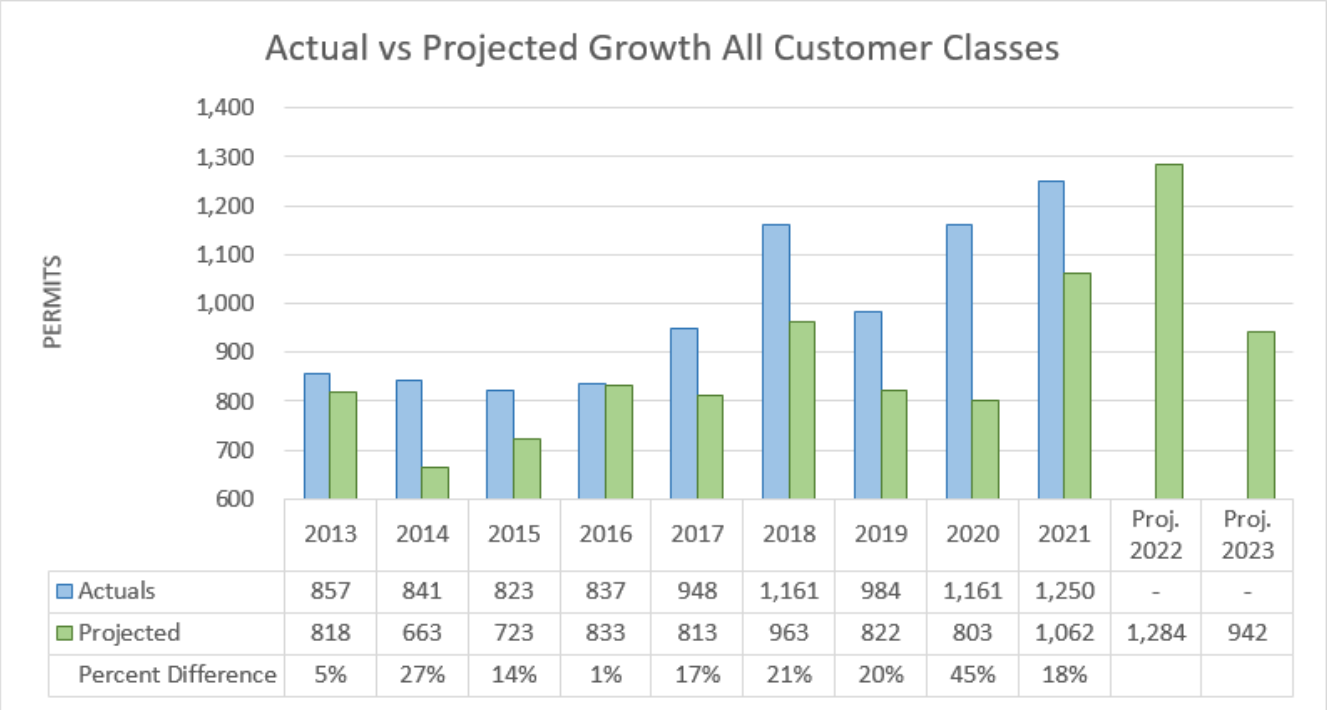

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Proj. 2022 | Proj. 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial Actuals | 17 | 20 | 15 | 35 | 39 | 20 | 17 | 15 | 27 | | |
| Commercial Projected | 12 | 9 | 9 | 7 | 32 | 25 | 16 | 8 | 8 | 6 | 6 |
| Commercial Percent Difference | 42% | 122% | 67% | 400% | 22% | -20% | 6% | 88% | 238% | | |

## CHART 6: IRRIGATION GROWTH




| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Proj. 2022 | Proj. 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Irrigation Actuals | 8 | 16 | 8 | 23 | 18 | 34 | 16 | 31 | 32 | | |
| Irrigation Projected | 6 | 4 | 4 | 3 | 40 | 12 | 6 | 8 | 8 | 6 | 6 |
| Irrigation Percent Difference | 33% | 300% | 100% | 667% | -55% | 183% | 167% | 288% | 300% | | |

## CHART 7: All CUSTOMER CLASSES COMBINED GROWTH




| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Proj. 2022 | Proj. 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Actuals | 857 | 841 | 823 | 837 | 948 | 1,161 | 984 | 1,161 | 1,250 | - | - |
| Projected | 818 | 663 | 723 | 833 | 813 | 963 | 822 | 803 | 1,062 | 1,284 | 942 |
| Percent Difference | 5% | 27% | 14% | 1% | 17% | 21% | 20% | 45% | 18% | | |

## 3-YEAR AVERAGE CONSUMPTION BY CUSTOMER CLASS

Table 2 shows the 3-year average monthly consumption by meter size and customer class for 2019-2021 billing data. Table 2A shows the breakdown of the residential meter sizes shown in Table 2 and their individual applicable 3 year averages. Chart 8 shows the 3-year average monthly consumption for all residential meter sizes, including 5/8" through 1". Although the number of 1" residential meters is very small at 26 accounts, the impact to the overall weighted average is significant.

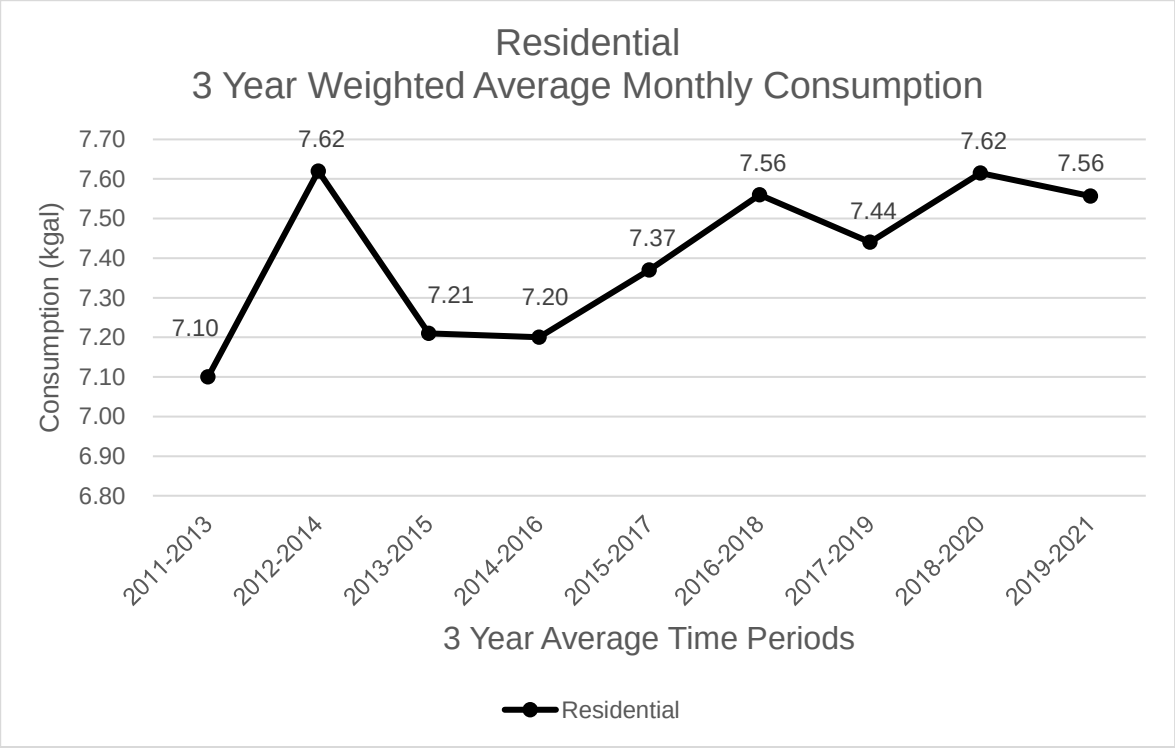
## TABLE 2: 3-YEAR AVG MONTHLY CONSUMPTION BY CUSTOMER CLASS & METER SIZE (2019-2021)

| Meter Size | Residential | Multifamily | Commercial | Irrigation | Multifamily Indoor Use Only | Commercial Indoor Use Only |
|---|---|---|---|---|---|---|
| 5/8" | 5.07 | - | - | 14.71 | 3.94 | 4.72 |
| 3/4" | 7.81 | 21.72 | 8.79 | 30.50 | 3.03 | 10.18 |
| 1" | 15.99 | 29.85 | 29.01 | 63.86 | 17.40 | 21.74 |
| 1.5" | - | 67.93 | 44.61 | 149.44 | 44.06 | 35.73 |
| 2" | - | 96.62 | 82.62 | 248.12 | 70.52 | 58.31 |
| 3" | - | 320.32 | 127.50 | 415.27 | 234.26 | 81.23 |
| 4" | - | 470.25 | - | 842.76 | - | 1,585.19 |
| 6" | - | - | 676.48 | - | - | - |

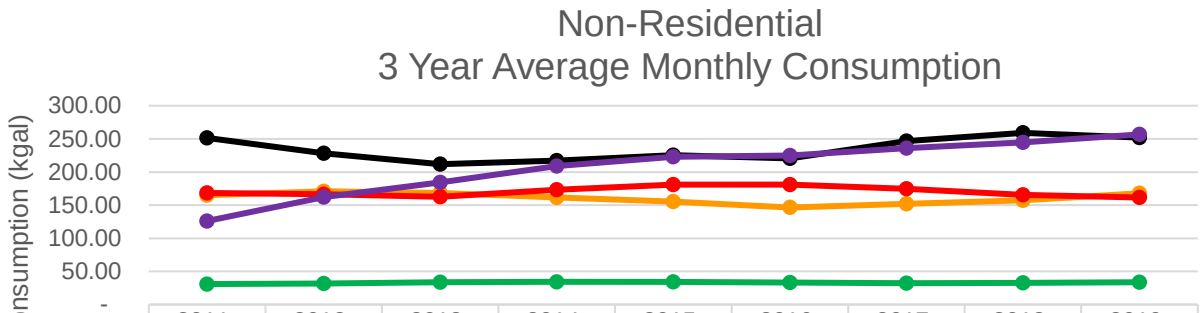
## TABLE 2A: 3-YEAR AVG MONTHLY CONSUMPTION RESIDENTIAL METER SIZES (2019-2021)

| Residential Accounts | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Meter Size | 2011-2013 | 2012-2014 | 2013-2015 | 2014-2016 | 2015-2017 | 2016-2018 | 2017-2019 | 2018-2020 | 2019-2021 |
| 5/8" | 5.35 | 6.19 | 5.70 | 5.44 | 5.37 | 5.44 | 5.26 | 5.23 | 5.07 |
| 3/4" | 7.21 | 7.70 | 7.30 | 7.30 | 7.48 | 7.68 | 7.59 | 7.81 | 7.81 |
| 1" | 11.42 | 13.14 | 14.17 | 21.26 | 17.86 | 18.69 | 17.48 | 16.75 | 15.99 |
| Average | 7.99 | 9.01 | 9.06 | 11.33 | 10.24 | 10.60 | 10.11 | 9.93 | 9.62 |
| Weighted Aver | 7.10 | 7.62 | 7.21 | 7.20 | 7.37 | 7.56 | 7.44 | 7.62 | 7.56 |

## CHART 8: 3-YEAR AVG MONTHLY CONSUMPTION RESIDENTIAL ACCOUNTS



## CHART 9: 3-YEAR AVG MONTHLY CONSUMPTION NON-RESIDENTIAL ACCOUNTS

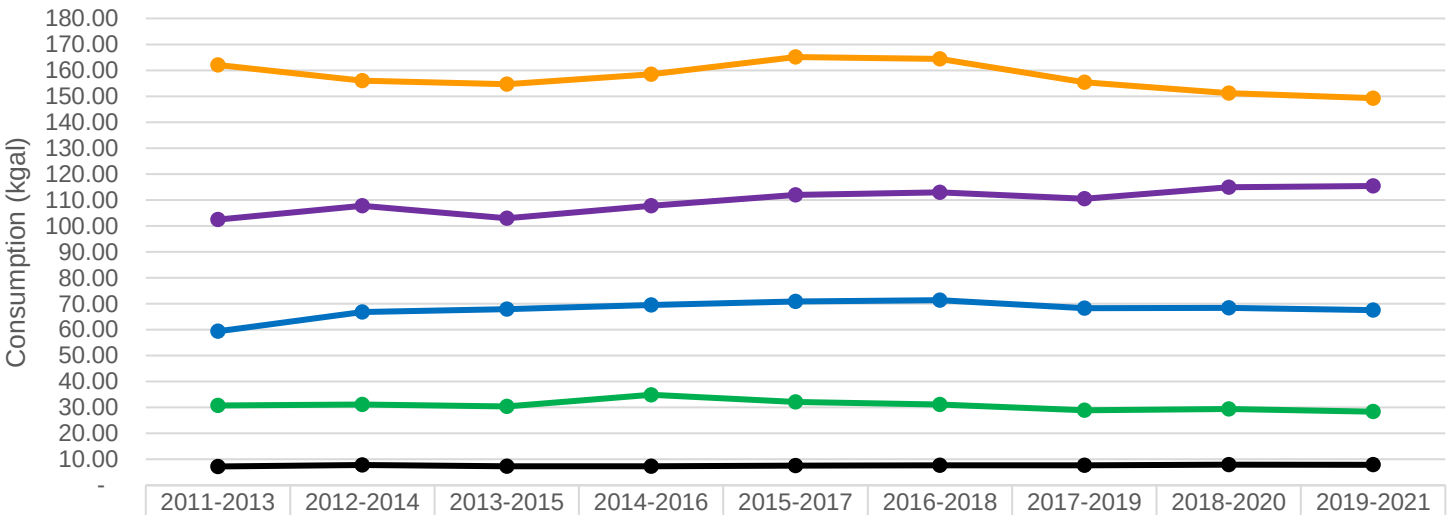



| | 2011-2013 | 2012-2014 | 2013-2015 | 2014-2016 | 2015-2017 | 2016-2018 | 2017-2019 | 2018-2020 | 2019-2021 |
|---|---|---|---|---|---|---|---|---|---|
| MultiFamily w/irrigation | 164.81 | 170.92 | 168.40 | 161.85 | 155.26 | 146.44 | 151.93 | 157.20 | 167.78 |
| Commercial w/irrigation | 168.37 | 166.53 | 162.61 | 173.14 | 180.84 | 181.00 | 174.46 | 165.69 | 161.50 |
| Irrigation | 251.42 | 228.05 | 211.82 | 217.32 | 225.20 | 220.48 | 246.56 | 259.06 | 252.09 |
| MultiFamily Indoor Use Only | 30.97 | 31.86 | 33.74 | 34.35 | 34.26 | 33.19 | 32.37 | 32.67 | 33.75 |
| Commercial Indoor Use Only | 126.13 | 162.07 | 184.18 | 208.88 | 222.75 | 224.86 | 235.88 | 244.77 | 256.73 |

The 3-year average monthly consumption shown above in Chart 9 is for all non-residential meter sizes combined by customer class. While all customer classes have stayed relatively flat, commercial indoor use only accounts 3-year averages have been increasing year over year. We start to see the increase in average consumption in this customer class with the addition of the 4″ meter installed in 2013 at the hospital.

In Chart 10 below the 3-year average monthly consumption for the ¾″ to 3″ size of meters for all customer classes have remained virtually flat over the comparison periods.

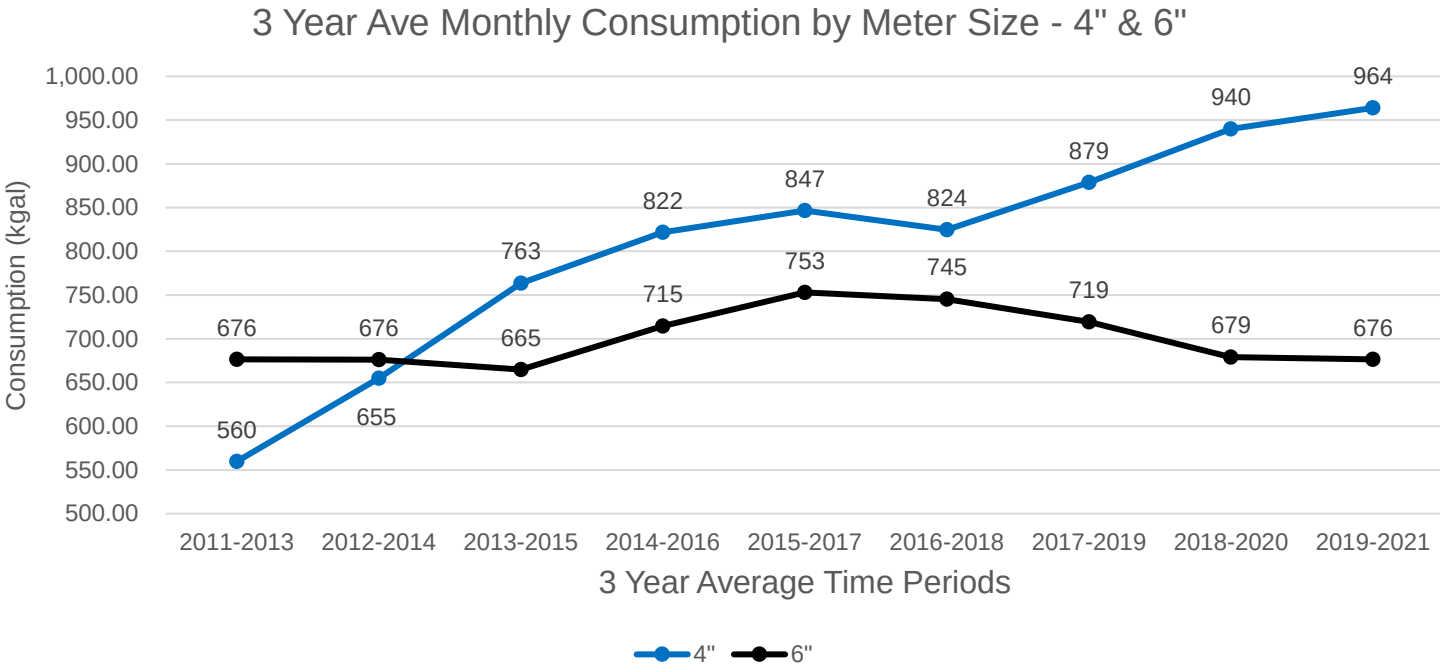
## CHART 10: 3-YEAR AVG MONTHLY CONSUMPTION BY METER SIZE ¾″ to 3″ ALL CUSTOMER CLASSES




| | 2011-2013 | 2012-2014 | 2013-2015 | 2014-2016 | 2015-2017 | 2016-2018 | 2017-2019 | 2018-2020 | 2019-2021 |
|---|---|---|---|---|---|---|---|---|---|
| 3/4" | 7.26 | 7.77 | 7.37 | 7.37 | 7.56 | 7.75 | 7.68 | 7.89 | 7.90 |
| 1" | 30.82 | 31.10 | 30.43 | 34.90 | 32.12 | 31.15 | 28.96 | 29.46 | 28.38 |
| 1.5" | 59.38 | 66.75 | 67.94 | 69.56 | 70.92 | 71.37 | 68.23 | 68.42 | 67.54 |
| 2" | 102.45 | 107.82 | 102.99 | 107.82 | 111.99 | 112.94 | 110.43 | 114.90 | 115.40 |
| 3" | 162.00 | 155.99 | 154.70 | 158.49 | 165.12 | 164.43 | 155.37 | 151.24 | 149.28 |

Chart 11 below shows the average consumption for the two 6″ meters in service is trending downwards slightly over the last two comparison periods. We currently have five 4″ meters in service, four active meters and one redundant meter for medical purposes. The increase in the 2013 and forward consumption pattern is a result of the 4″ medical facility meter that was installed in 2013.

## CHART 11: 3-YEAR AVG MONTHLY CONSUMPTION BY METER SIZE – 4″ and 6″




## 3-YEAR AVERAGE CONSUMPTION WITH & WITHOUT IRRIGATION

The data in Table 3 shows the average monthly consumption by meter size for all customer classes combined. This shows that the monthly consumption in many cases more than doubles between the summer "with irrigation" and the winter "without irrigation" seasons.

### TABLE 3: 3-YEAR AVERAGE MONTHLY CONSUMPTION BY METER SIZE FOR ALL CUSTOMER CLASSES COMBINED (2019-2021)

| Meter Size | With Irrigation | Without Irrigation |
|---|---|---|
| 5/8" | 6.28 | 3.31 |
| 3/4" | 10.39 | 4.34 |
| 1" | 34.36 | 17.50 |
| 1.5" | 82.15 | 38.58 |
| 2" | 141.51 | 58.52 |
| 3" | 181.80 | 96.86 |
| 4" | 960.41 | 972.93 |
| 6" | 731.78 | 594.56 |

## CHART 12: 3-YEAR AVG MONTHLY CONSUMPTION ¾" METERS

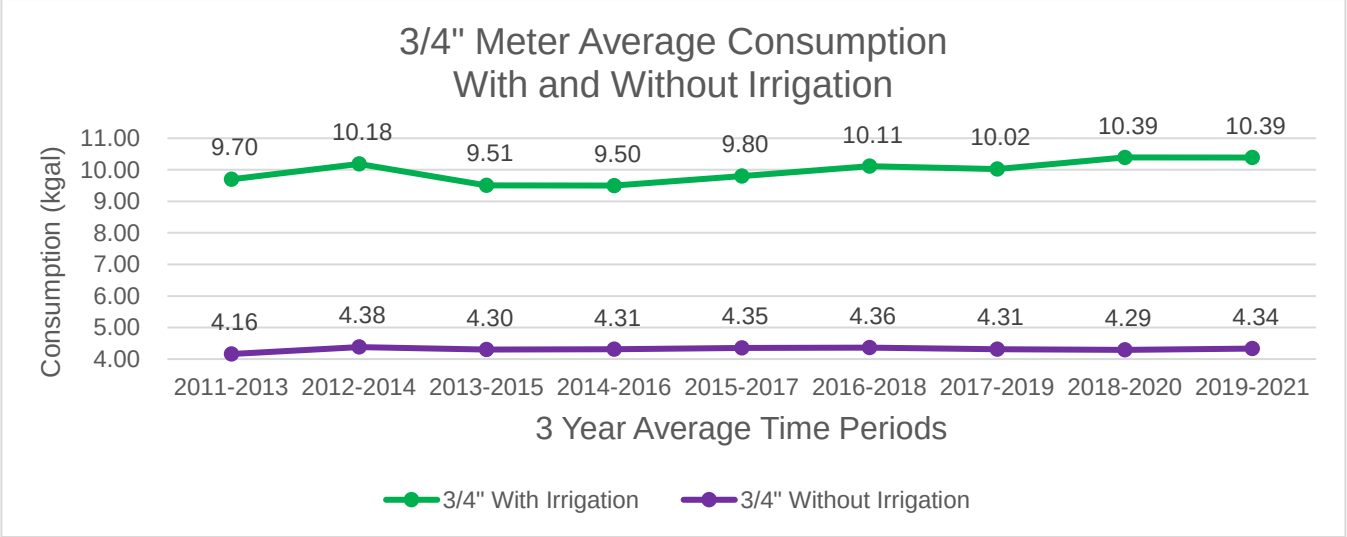



Chart 12 above shows that ¾" meter accounts usage "without irrigation" is very consistent from year-to-year. Approximately 97% of the ¾" meters are residential accounts. This trend indicates indoor water usage from year-to-year for ¾" meters is staying consistent, even with the increase in the number of accounts.

## CHART 13: 3-YEAR AVG MONTHLY CONSUMPTION 1" METERS

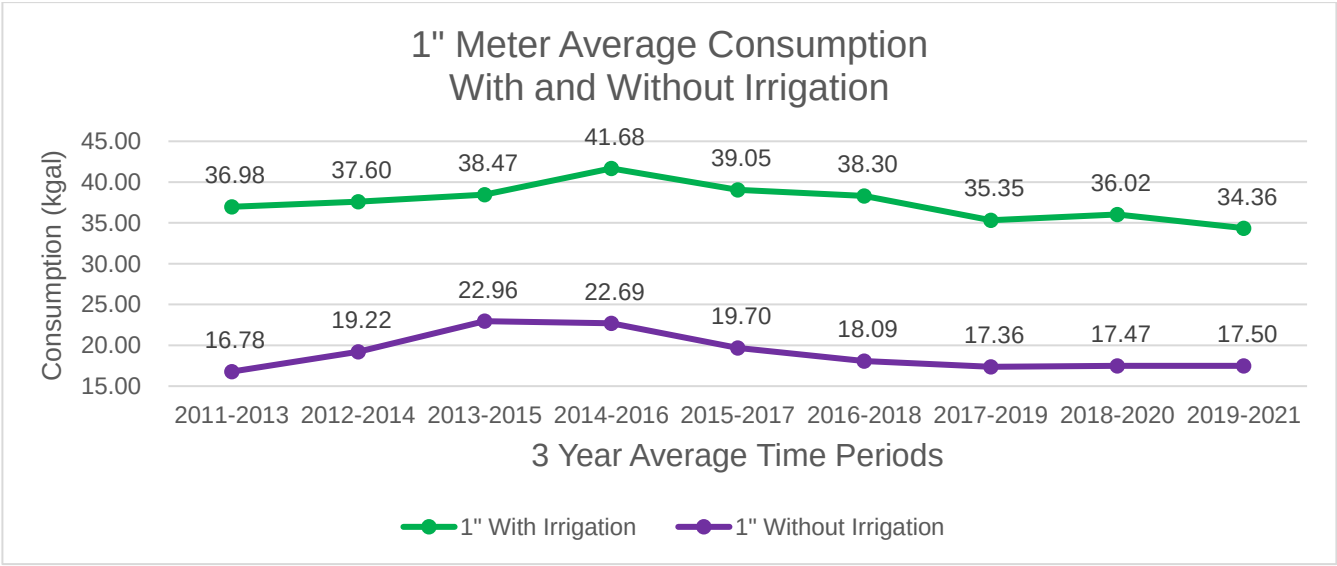
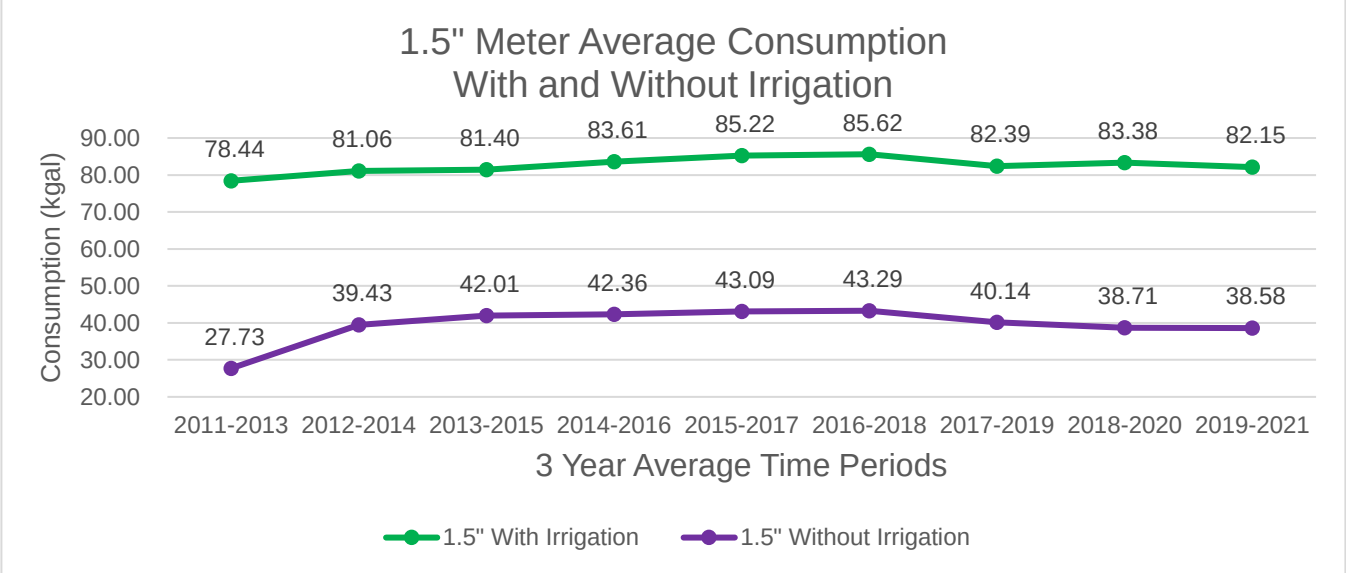



Chart 13 above shows that 1" meter accounts usage both with and without irrigation have relatively flat consumption over the last three comparison periods after showing downward trends beginning in the 2015-2017 comparison period.

Chart 14 below shows the accounts usage "without irrigation" for all 1.5" accounts is relatively flat over the comparison periods until the last three comparison periods where usage trended slightly downward. Despite an increase of 16 accounts over the last year in the 1.5" meter count, this trend indicates indoor water usage from year-to-year for meters this size is steady and, in fact, starting to decrease slightly. We are seeing similar results in 1.5" meter usage "with irrigation" indicating that the outdoor usage for these accounts is trending down even given the number of new accounts.

### CHART 14: 3-YEAR AVG MONTHLY CONSUMPTION 1.5" METERS



## CHART 15: 3-YEAR AVG MONTHLY CONSUMPTION 2″ METERS

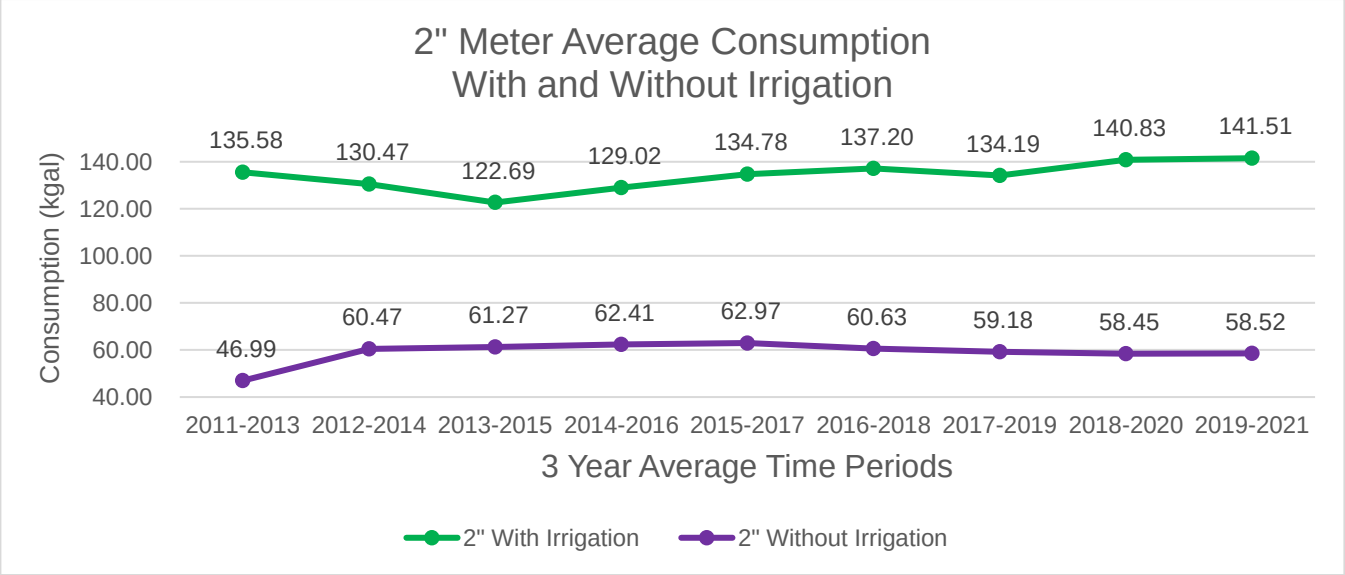
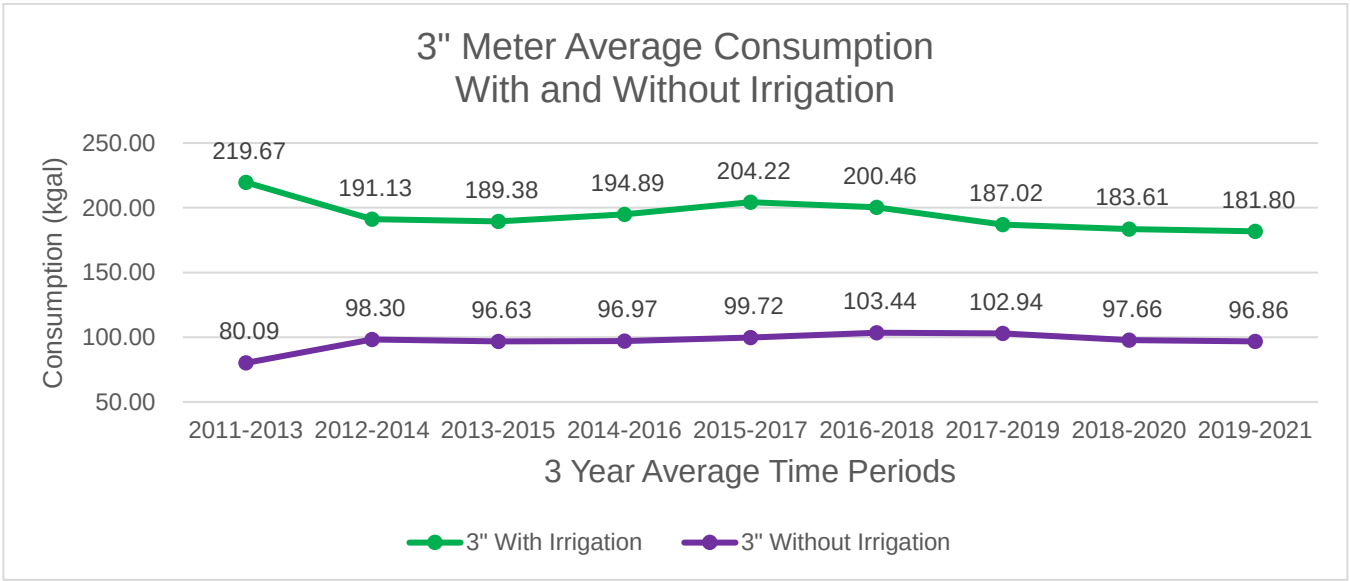
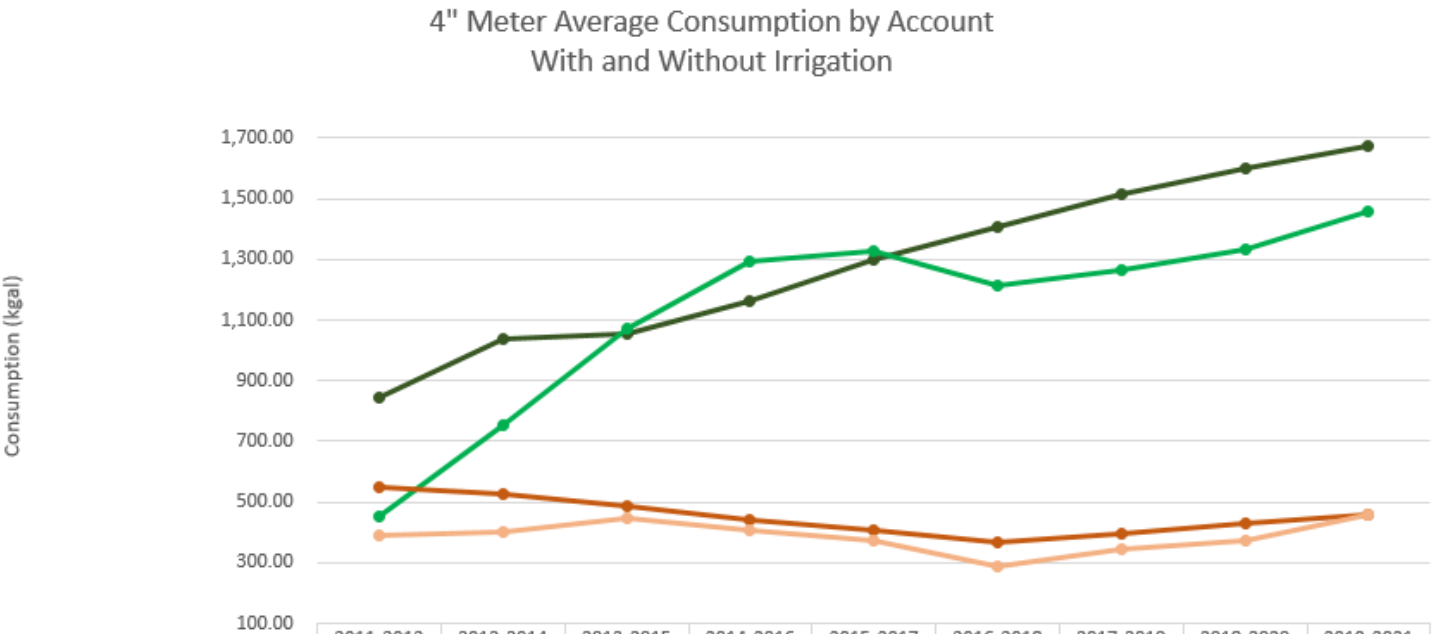



Chart 15 above for 2″ meters shows a relatively flat trend for the meters without irrigation over the past three comparison periods. The meters with irrigation have shown an upward trend over the past two comparison periods. Chart 16 below for 3″ meters shows that for both the meters with and without irrigation both continue on a downward consumption trend over the last few periods.

## CHART 16: 3-YEAR AVG MONTHLY CONSUMPTION 3″ METERS



## CHART 17: 3-YEAR AVG MONTHLY CONSUMPTION 4″ METERS

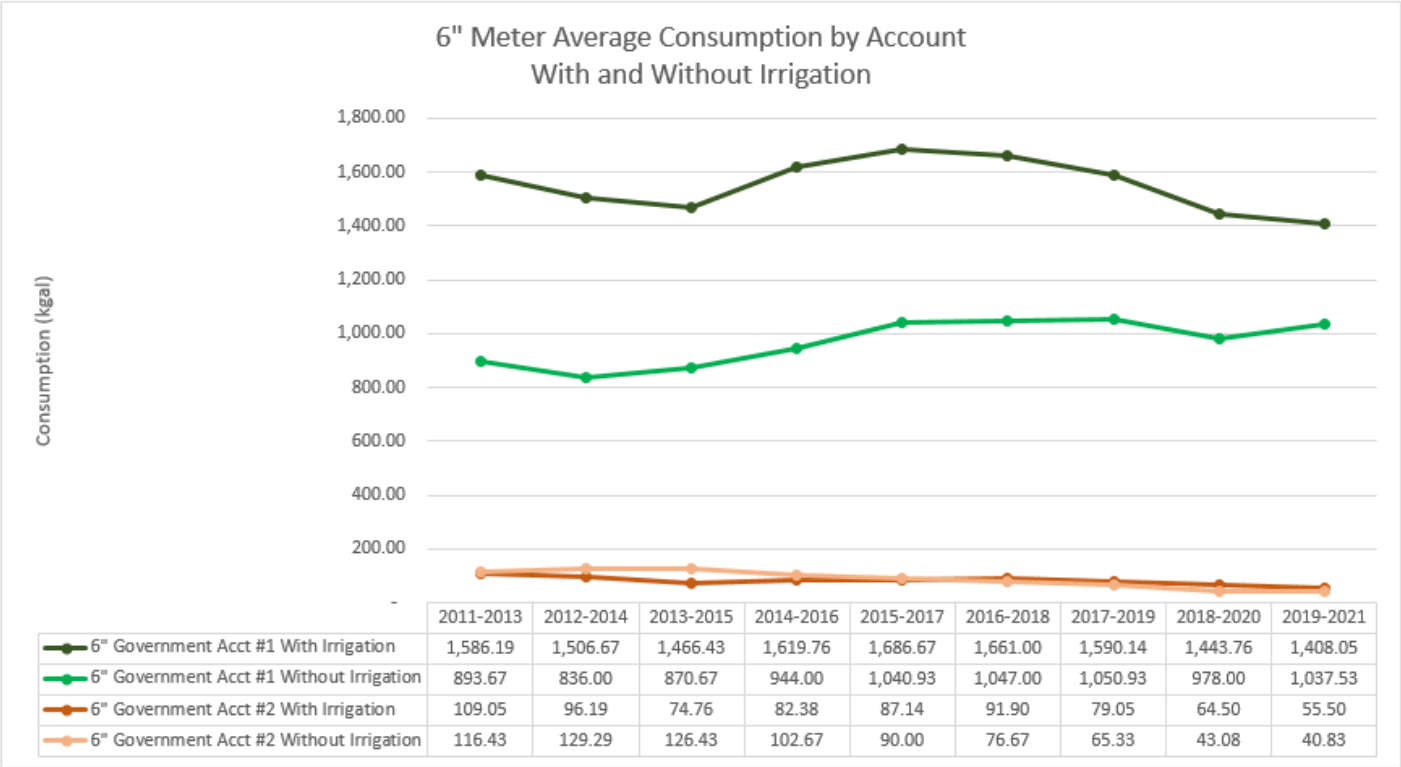



| | 2011-2013 | 2012-2014 | 2013-2015 | 2014-2016 | 2015-2017 | 2016-2018 | 2017-2019 | 2018-2020 | 2019-2021 |
|---|---|---|---|---|---|---|---|---|---|
| 4" Hospital With Irrigation | 846.71 | 1,036.21 | 1,051.81 | 1,160.52 | 1,299.14 | 1,408.00 | 1,513.76 | 1,599.62 | 1,674.95 |
| 4" Hospital Without Irrigation | 451.57 | 754.17 | 1,069.40 | 1,295.13 | 1,329.53 | 1,215.47 | 1,266.80 | 1,331.47 | 1,459.53 |
| 4" HOA With Irrigation | 548.57 | 524.86 | 484.10 | 440.24 | 407.00 | 366.64 | 397.00 | 431.81 | 458.76 |
| 4" HOA Without Irrigation | 391.80 | 400.67 | 444.87 | 407.00 | 375.13 | 287.67 | 344.38 | 374.19 | 455.94 |

Chart 17 above shows an upward trend when comparing the last four comparison periods for both winter and summer seasons. Since there are only 4 active meters in this category, one meter can skew the average consumption for the entire customer class. As can be seen from Chart 17, customer average consumption patterns with the same size meter are very different.

Chart 18 for 6″ meters shows that the average monthly consumption for these two meters in service has remained fairly consistent over the last few comparison periods. Again it shows the varying degree of usage by each of the two customers using the same size 6″ meter.

## CHART 18: 3-YEAR AVG MONTHLY CONSUMPTION 6″ METERS




| | 2011-2013 | 2012-2014 | 2013-2015 | 2014-2016 | 2015-2017 | 2016-2018 | 2017-2019 | 2018-2020 | 2019-2021 |
|---|---|---|---|---|---|---|---|---|---|
| 6" Government Acct #1 With Irrigation | 1,586.19 | 1,506.67 | 1,466.43 | 1,619.76 | 1,686.67 | 1,661.00 | 1,590.14 | 1,443.76 | 1,408.05 |
| 6" Government Acct #1 Without Irrigation | 893.67 | 836.00 | 870.67 | 944.00 | 1,040.93 | 1,047.00 | 1,050.93 | 978.00 | 1,037.53 |
| 6" Government Acct #2 With Irrigation | 109.05 | 96.19 | 74.76 | 82.38 | 87.14 | 91.90 | 79.05 | 64.50 | 55.50 |
| 6" Government Acct #2 Without Irrigation | 116.43 | 129.29 | 126.43 | 102.67 | 90.00 | 76.67 | 65.33 | 43.08 | 40.83 |

## EQUIVALENCY FACTORS

There are two different types of equivalency factors. The first is the hydraulic capacity method which is based on the relative capacity of different meter sizes and meter types utilized to deliver water. The second equivalency factor method takes into consideration the relative potential demands of different customers. Based on the hydraulic demands, a single-family meter size of ¾″ serves as the base for one SFE. The maximum flow rate of water through the meter in gallons per minute (GPM) becomes the unit of comparison. The maximum flow rate demanded by new customers compares to the base demand in order to determine the equivalency ratio. For example, if the base single-family residential customer requires 30 GPM and a commercial customer requires 200 GPM, the equivalency ratio equals 6.67 (200/30). The second method is the actual use equivalency factor based on the relative average monthly water usage of CRW's customers.

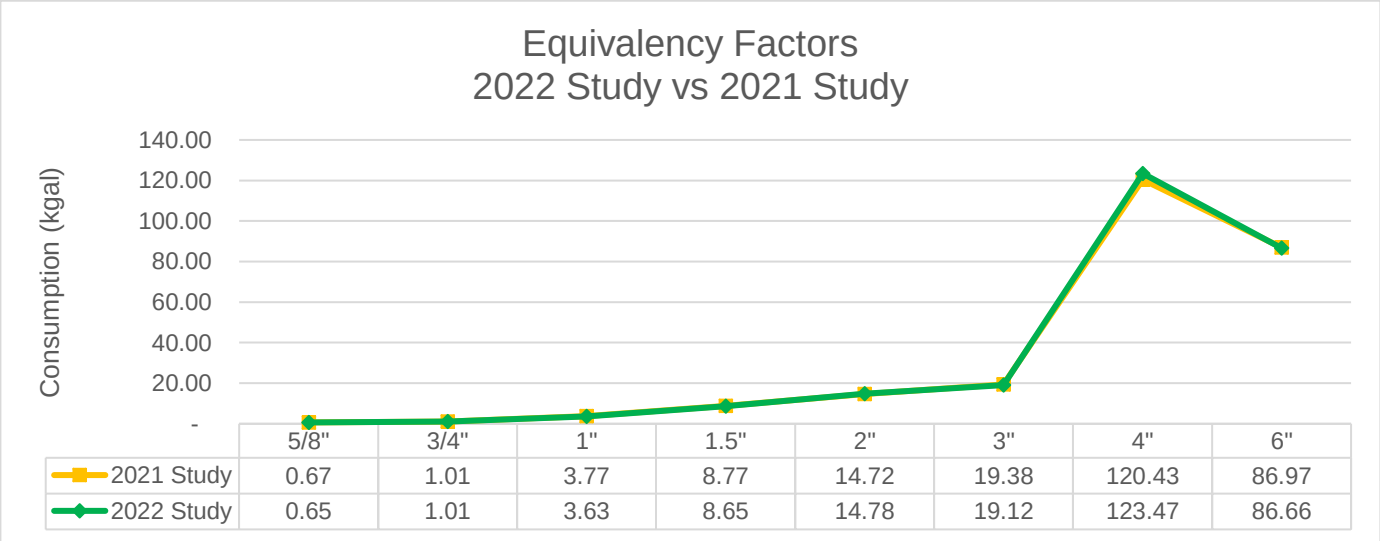
Table 4 calculates equivalency factors by customer class and meter size based on a ¾″ single-family residential customer. The equivalency factor in Table 4 is an input into the system development fees model used to calculate the number of SFE's. This is achieved by multiplying the equivalency factor times the number of meters which then equals to the number of SFE's currently being served by the system.

## TABLE 4: 2022 STUDY ACTUAL USE EQUIVALENCY FACTORS (BASED ON 3-YEAR AVG. 2019-2021)

| Meter Size | Residential | Multifamily | Commercial | Irrigation | Multifamily Indoor Use Only | Commercial Indoor Use Only | Equivalency Factor |
|---|---|---|---|---|---|---|---|
| 5/8" | 0.65 | - | - | 1.88 | 0.50 | 0.60 | 0.65 |
| 3/4" | 1.00 | 2.78 | 1.13 | 3.91 | 0.39 | 1.30 | 1.01 |
| 1" | 2.05 | 3.82 | 3.72 | 8.18 | 2.23 | 2.78 | 3.63 |
| 1.5" | - | 8.70 | 5.72 | 19.14 | 5.64 | 4.58 | 8.65 |
| 2" | - | 12.38 | 10.58 | 31.78 | 9.03 | 7.47 | 14.78 |
| 3" | - | 41.03 | 16.33 | 53.20 | 30.01 | 10.41 | 19.12 |
| 4" | - | 60.24 | - | 107.96 | - | 203.07 | 123.47 |
| 6" | - | - | 86.66 | - | - | - | 86.66 |

Chart 19 compares the equivalency factors calculated from the most current rates and fees study to the prior year rates and fees study. As seen in the chart, no major variances exist from study to study so no methodology change is recommended for the 2022 study.

## CHART 19: EQUIVALENCY FACTORS 2022 STUDY COMPARED TO THE 2021 STUDY




## REPRESENTATIVE CUSTOMER BY CUSTOMER CLASS

Customer data for the last three years (2019-2021) determines an average representative customer for each customer class. One customer from each customer class then represents the class average and their consumption patterns calculate a typical customer's annual bill. The process includes the following steps:

- Calculate the average consumption, total consumption, and consumption for irrigation season and winter season based on the most recent billing data (Jan21-Dec21).
- Select the most common meter size within each customer class and associated average consumption based on customer class and meter size.
- Select one customer per customer class from the data sample with both irrigation and winter period consumption to be a representative customer for each customer class.
- Eliminating customers with atypical consumption from the pool of customers eliminates skewing the average calculation for a representative customer by customer class. See the next section on atypical accounts for more information about the atypical accounts and the consumption patterns of these customers.

Results of the representative customer analysis shown in Table 5 are very similar to those we calculated in the prior year study. Average Winter Monthly Consumption (AWMC) is calculated by averaging the total potable water consumption used by the customer in the months of November-February in accordance with standard operating procedures maintained by Castle Rock Water. This represents the amount of water for indoor use (Tier 1) and the amount of wastewater treated each month. Since new customers do not have an established AWMC, the customer class average for water and wastewater is used.

During this study period, for single-family residential customers, the average AWMC is 4,000 gallons. Irrigation does not typically have winter consumption, however as shown below in Table 5 there is a small amount that is consumed due to leaks and winterization late or early in the season.

## TABLE 5: REPRESENTATIVE CUSTOMER BY CLASS
## 2021 BILLING DATA

| Customer Class | Most Common Meter Size | Total Annual Consumption (kgal) | Average Monthly Consumption (Jan-Dec 2021) (kgal) | Average Winter Monthly Consumption (kgal) | Average Irrigation Monthly Consumption (kgal) |
|---|---|---|---|---|---|
| Residential | 3/4" | 92.69 | 7.72 | 4.36 | 10.10 |
| Multifamily | 1.5" | 815.82 | 67.98 | 46.18 | 83.45 |
| Commerical | 3/4" | 114.13 | 9.51 | 7.58 | 10.80 |
| Irrigation | 3/4" | 349.29 | 29.11 | 6.82 | 30.72 |
| Multifamily Indoor Use Only | 1.5" | 574.58 | 47.88 | 45.95 | 49.26 |
| Commercial Indoor Use Only | 3/4" | 138.43 | 11.54 | 10.94 | 11.94 |

## ATYPICAL ACCOUNTS

In addition to completing the three-year average consumption comparisons, CRW looks at atypical customers. Atypical can be defined as a customer whose consumption patterns are not typical of an average customer in that same meter size and or customer class due to the nature of their business or varying water needs and demands. We eliminate these from the average calculations to avoid skewing the average for a representative customer by meter size and customer class.

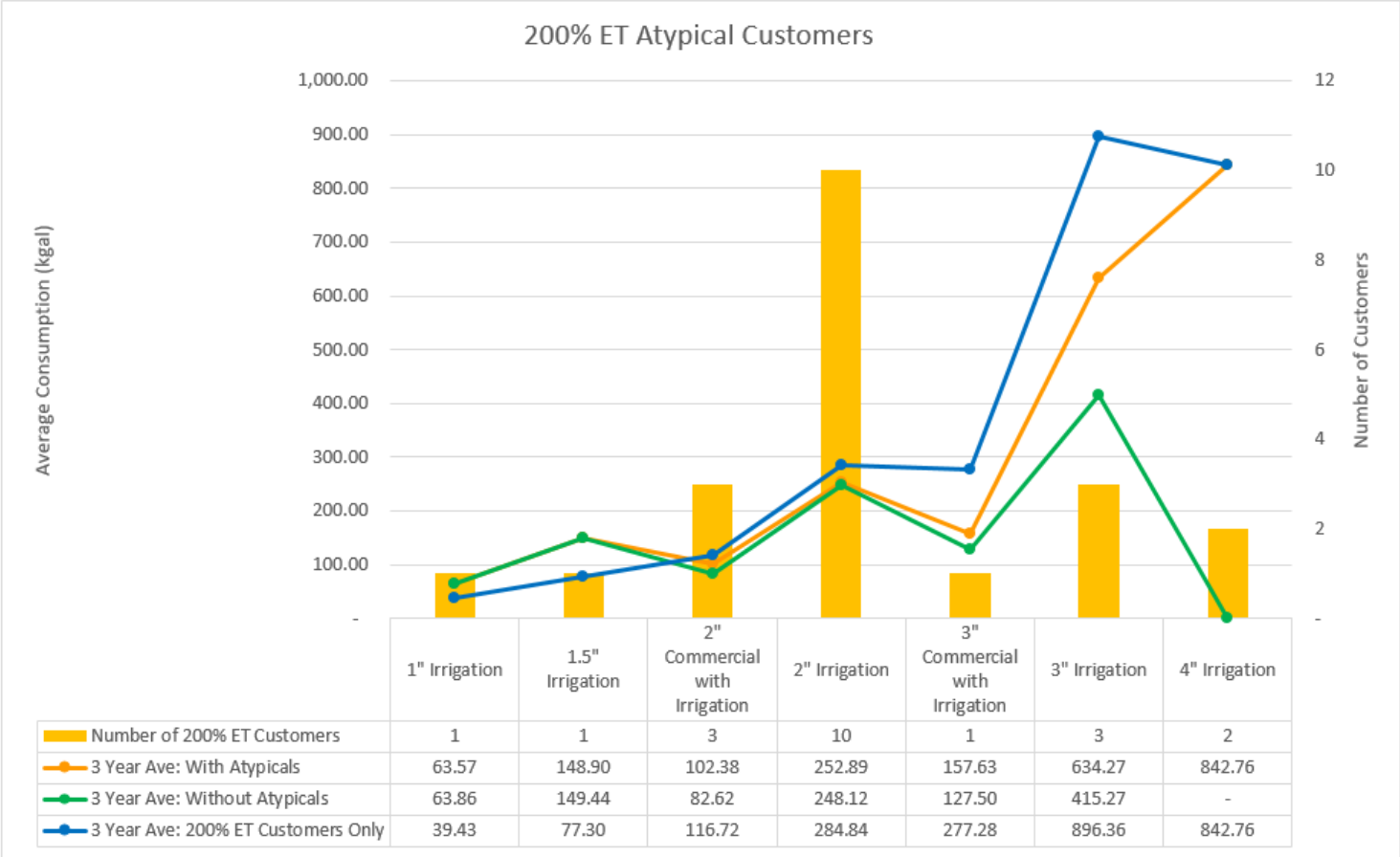
The larger atypical customers that have been removed from the three year averages for the 2022 rates and fees study are 200% ET, carwashes, hotels, outdoor bathrooms, parking garages, sample stations, SFE reservations and swimming pools. Customers designated with a

200% ET are programmed athletic fields. Charts 20 through 23, shown below, are some of those atypical customers with the larger consumption variances.

After further analysis of the consumption patterns of the following accounts, they were deemed to not be considered atypical accounts as their average consumption patterns were much like those of the other customers in the corresponding meter and or customer class. These account types remain in the average calculations which are snowbirds, medical facilities other than the hospital, Castle Rock Water Facilities, and the Fairgrounds.

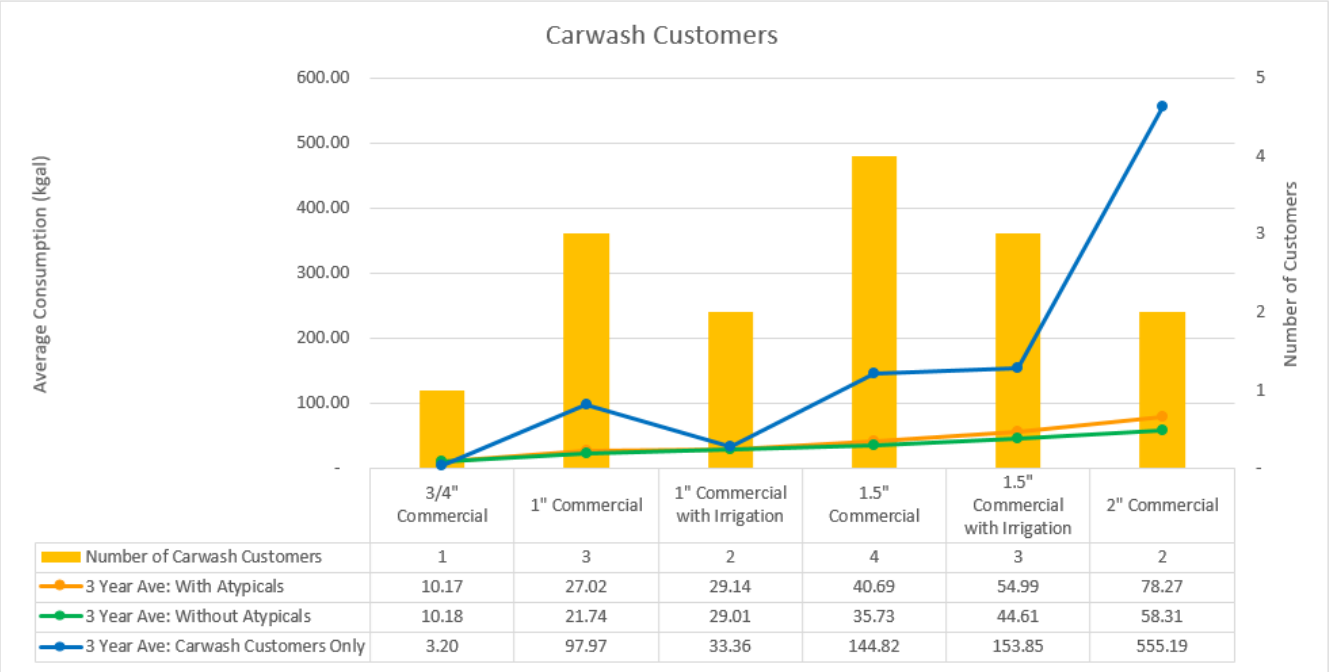
Charts 20 through 23 show the number of customers in each atypical class, the 3-year average with the atypical customers included, the 3-year average without the atypical customers included and the 3-year average of the atypical class by itself.

## CHART 20: 200% ET ATYPICAL CUSTOMERS



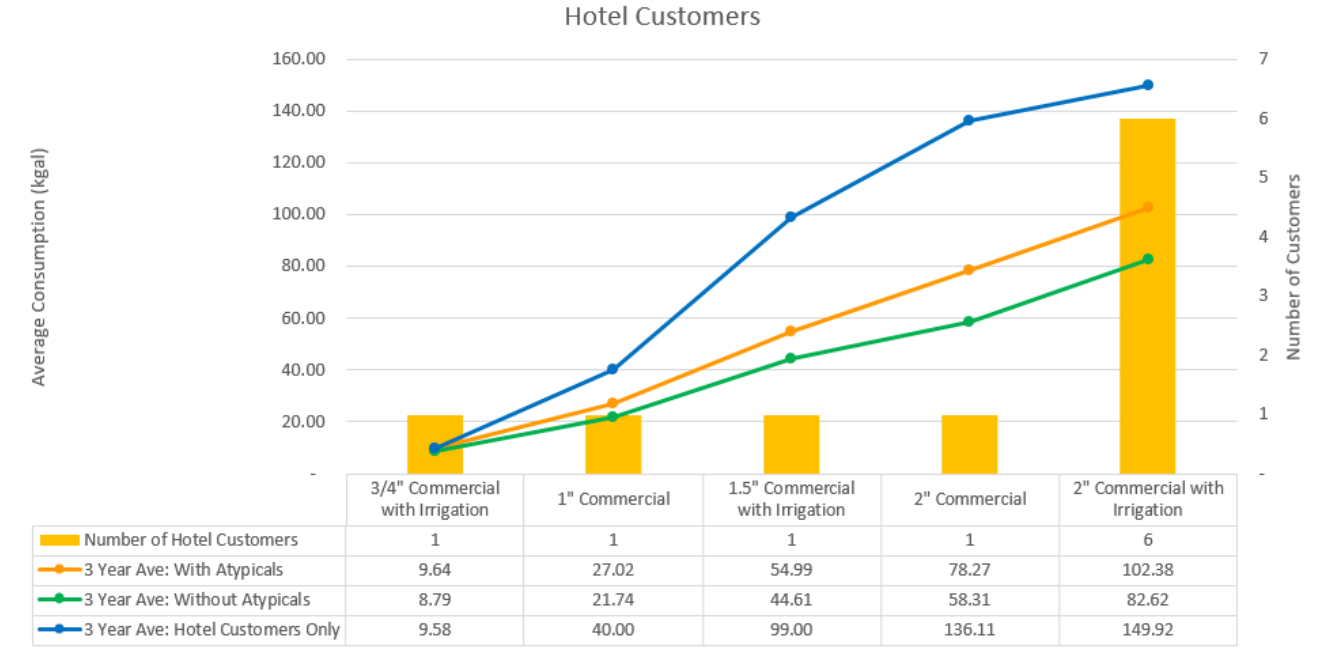

| | 1" Irrigation | 1.5" Irrigation | 2" Commercial with Irrigation | 2" Irrigation | 3" Commercial with Irrigation | 3" Irrigation | 4" Irrigation |
|---|---|---|---|---|---|---|---|
| Number of 200% ET Customers | 1 | 1 | 3 | 10 | 1 | 3 | 2 |
| 3 Year Ave: With Atypicals | 63.57 | 148.90 | 102.38 | 252.89 | 157.63 | 634.27 | 842.76 |
| 3 Year Ave: Without Atypicals | 63.86 | 149.44 | 82.62 | 248.12 | 127.50 | 415.27 | - |
| 3 Year Ave: 200% ET Customers Only | 39.43 | 77.30 | 116.72 | 284.84 | 277.28 | 896.36 | 842.76 |

## CHART 21: CARWASH ATYPICAL CUSTOMERS



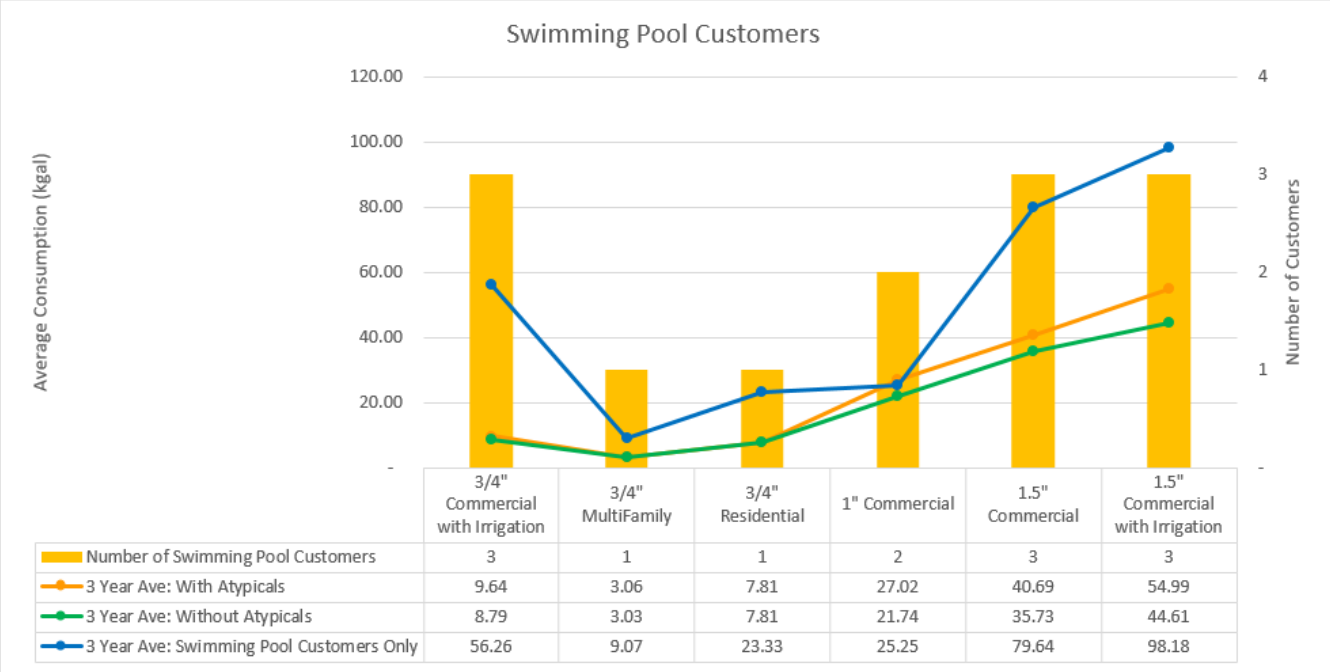

| | 3/4" Commercial | 1" Commercial | 1" Commercial with Irrigation | 1.5" Commercial | 1.5" Commercial with Irrigation | 2" Commercial |
|---|---|---|---|---|---|---|
| Number of Carwash Customers | 1 | 3 | 2 | 4 | 3 | 2 |
| 3 Year Ave: With Atypicals | 10.17 | 27.02 | 29.14 | 40.69 | 54.99 | 78.27 |
| 3 Year Ave: Without Atypicals | 10.18 | 21.74 | 29.01 | 35.73 | 44.61 | 58.31 |
| 3 Year Ave: Carwash Customers Only | 3.20 | 97.97 | 33.36 | 144.82 | 153.85 | 555.19 |

## CHART 22: HOTEL ATYPICAL CUSTOMERS




| | 3/4" Commercial with Irrigation | 1" Commercial | 1.5" Commercial with Irrigation | 2" Commercial | 2" Commercial with Irrigation |
|---|---|---|---|---|---|
| Number of Hotel Customers | 1 | 1 | 1 | 1 | 6 |
| 3 Year Ave: With Atypicals | 9.64 | 27.02 | 54.99 | 78.27 | 102.38 |
| 3 Year Ave: Without Atypicals | 8.79 | 21.74 | 44.61 | 58.31 | 82.62 |
| 3 Year Ave: Hotel Customers Only | 9.58 | 40.00 | 99.00 | 136.11 | 149.92 |

## CHART 23: SWIMMING POOL ATYPICAL CUSTOMERS




| | 3/4" Commercial with Irrigation | 3/4" MultiFamily | 3/4" Residential | 1" Commercial | 1.5" Commercial | 1.5" Commercial with Irrigation |
|---|---|---|---|---|---|---|
| Number of Swimming Pool Customers | 3 | 1 | 1 | 2 | 3 | 3 |
| 3 Year Ave: With Atypicals | 9.64 | 3.06 | 7.81 | 27.02 | 40.69 | 54.99 |
| 3 Year Ave: Without Atypicals | 8.79 | 3.03 | 7.81 | 21.74 | 35.73 | 44.61 |
| 3 Year Ave: Swimming Pool Customers Only | 56.26 | 9.07 | 23.33 | 25.25 | 79.64 | 98.18 |

## CONSUMPTION BY TIER

To compare the total water usage by tier over time, Table 6 and Table 7 were prepared from actual billing data for January 2021 through December 2021. Charts 24-28 compare the total water usage by tier for each customer class for 2012-2021. Surcharge revenue funds the water conservation programs such as the rebate program in the Water Resources Fund.

### TABLE 6: BILLED USAGE BY CUSTOMER CLASS BY TIER JANUARY 2021-DECEMBER 2021

| Class | Tier 1 | Tier 2 | Tier 3 | Total | Surcharge |
|---|---|---|---|---|---|
| Commercial | 109,816 | 38,403 | 16,781 | 165,000 | - |
| Commercial w/ Irrig | 58,186 | 29,524 | 34,729 | 122,439 | - |
| Irrigation | - | 332,507 | 33,465 | 365,971 | - |
| MultiFamily | 111,263 | 15,162 | 8,965 | 135,390 | - |
| MultiFamily w/ Irrig | 54,996 | 15,961 | 15,610 | 86,567 | - |
| Residential | 959,837 | 793,174 | 207,785 | 1,960,795 | 15,533 |
| **Total Kgals** | **1,294,098** | **1,224,730** | **317,334** | **2,836,163** | **15,533** |
| Tier % of Total | 46% | 43% | 11% | 100% | |

## TABLE 7: BILLED USAGE BY SEASON BY CUSTOMER CLASS BY TIER JANUARY 2021-DECEMBER 2021

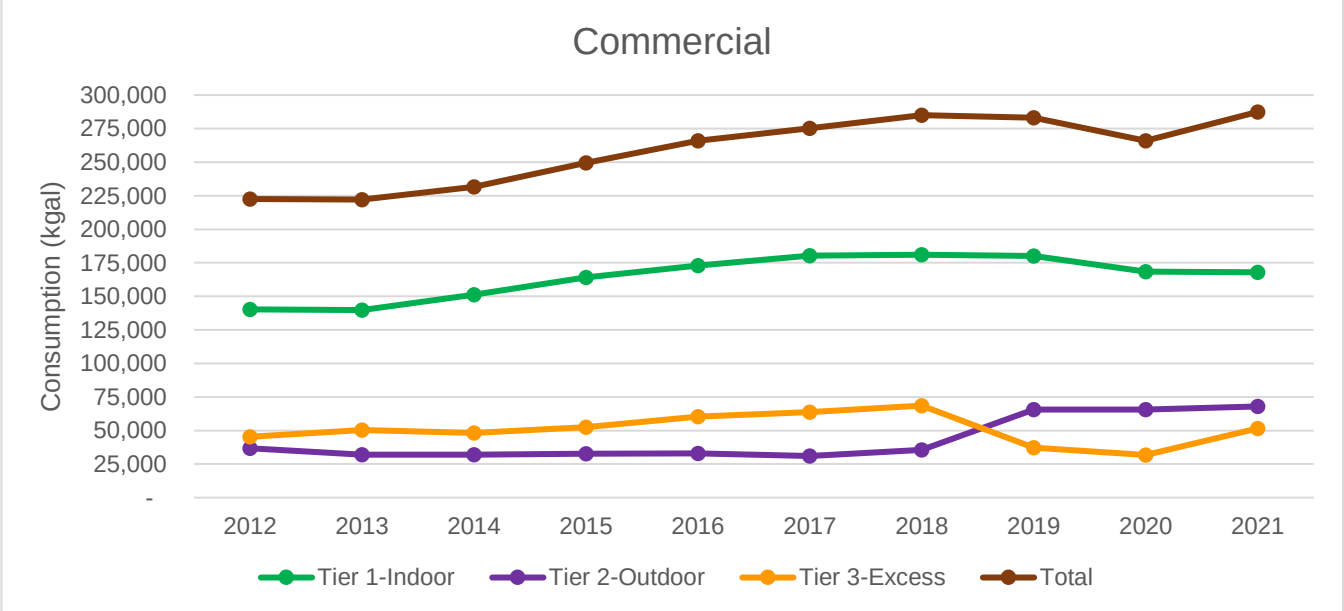
**Winter Season**

| Class | Tier 1 | Tier 2 | Tier 3 | Total | Surcharge |
|---|---|---|---|---|---|
| Commercial | 45,059 | - | 16,756 | 61,815 | - |
| Commercial w/ Irrig | 23,999 | - | 9,157 | 33,156 | - |
| Irrigation | - | - | 2,670 | 2,670 | - |
| MultiFamily | 45,220 | - | 8,965 | 54,185 | - |
| MultiFamily w/ Irrig | 22,041 | - | 3,724 | 25,765 | - |
| Residential | 376,742 | - | 84,419 | 461,162 | 773 |
| **Total Kgals** | **513,061** | **-** | **125,691** | **638,753** | **773** |
| Tier % of Total | 80% | 0% | 20% | 100% | |

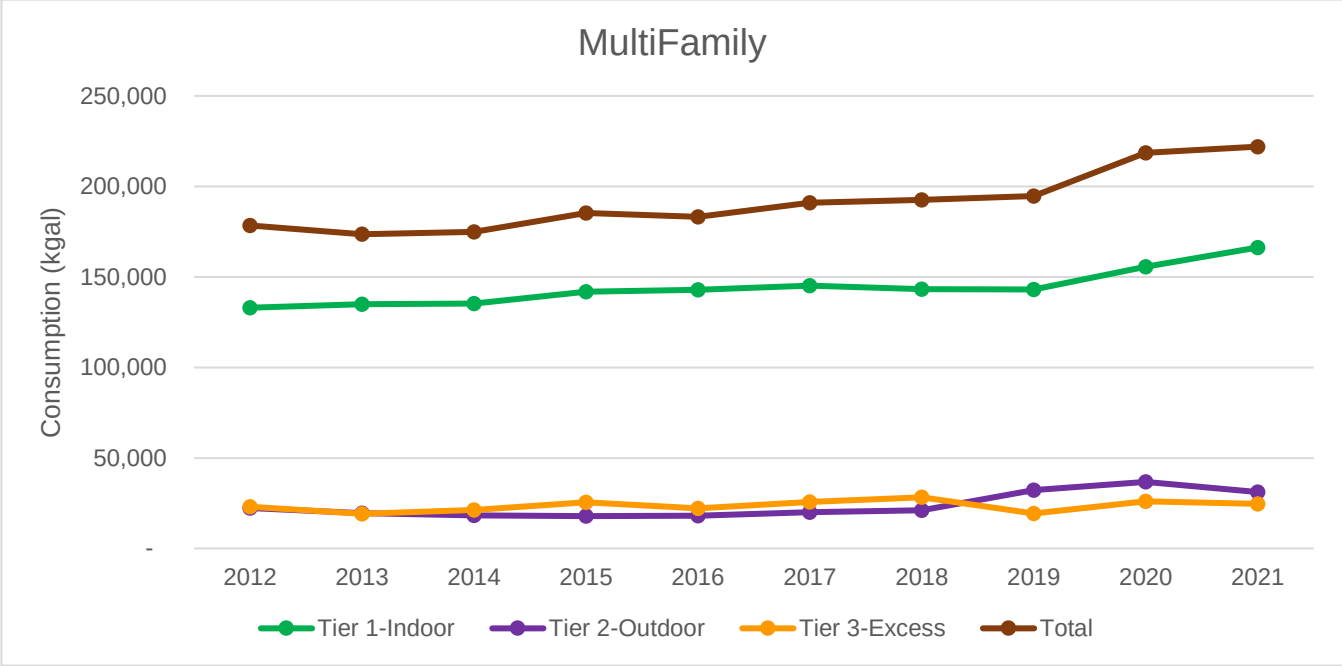
**Irrigation Season**

| Class | Tier 1 | Tier 2 | Tier 3 | Total | Surcharge |
|---|---|---|---|---|---|
| Commercial | 64,757 | 38,403 | 25 | 103,185 | - |
| Commercial w/ Irrig | 34,187 | 29,524 | 25,572 | 89,283 | - |
| Irrigation | - | 332,507 | 30,795 | 363,301 | - |
| MultiFamily | 66,043 | 15,162 | - | 81,205 | - |
| MultiFamily w/ Irrig | 32,955 | 15,961 | 11,886 | 60,802 | - |
| Residential | 583,094 | 793,174 | 123,365 | 1,499,634 | 14,760 |
| **Total Kgals** | **781,036** | **1,224,730** | **191,643** | **2,197,410** | **14,760** |
| Tier % of Total | 36% | 56% | 9% | 100% | |

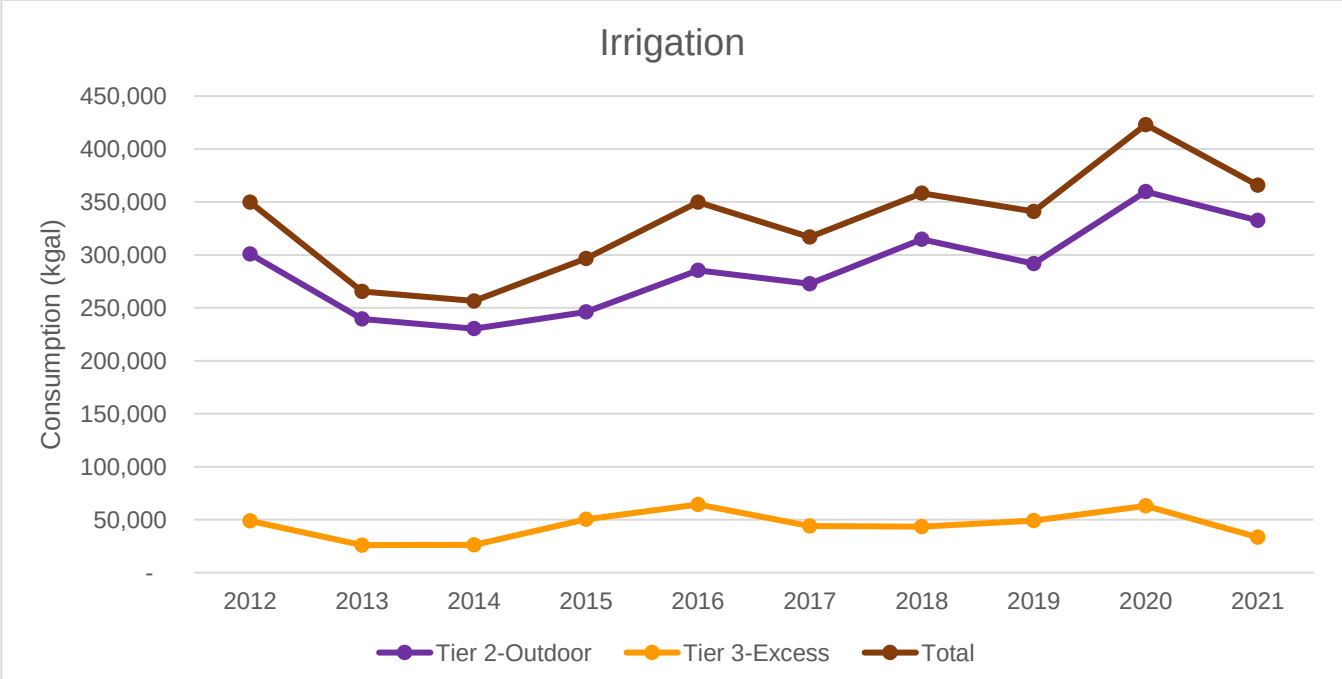
## CHART 24: COMMERCIAL CUSTOMER CLASS ANNUAL BILLED USAGE BY TIER 2012-2021



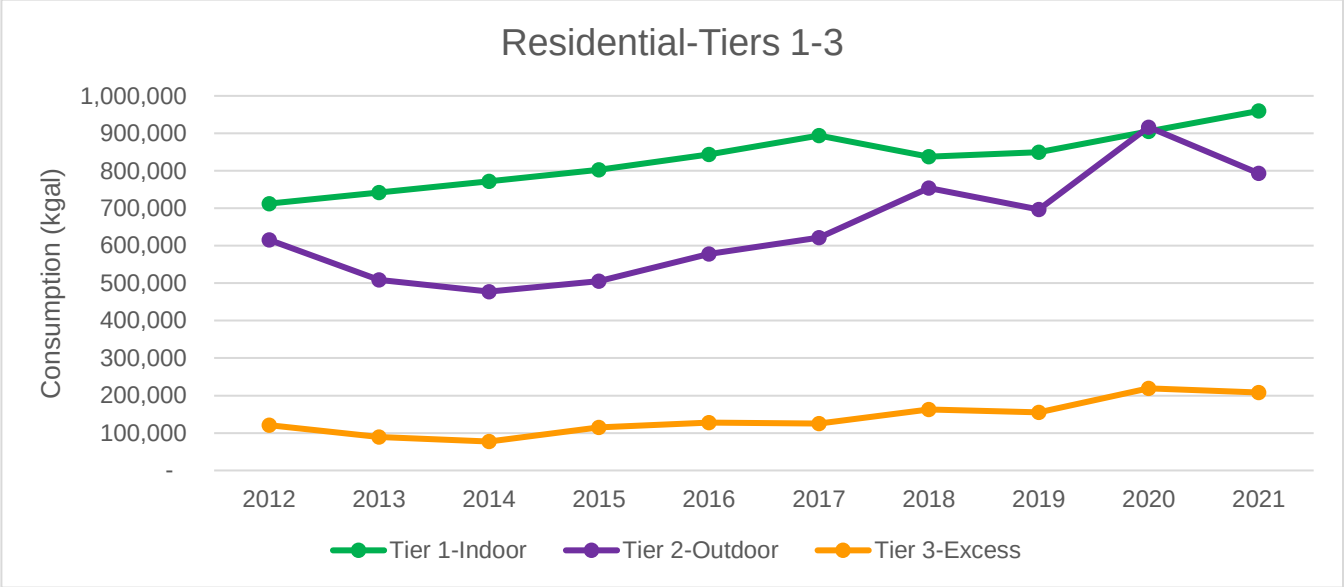
## CHART 25: MULTIFAMILY CUSTOMER CLASS ANNUAL BILLED USAGE BY TIER 2012-2021



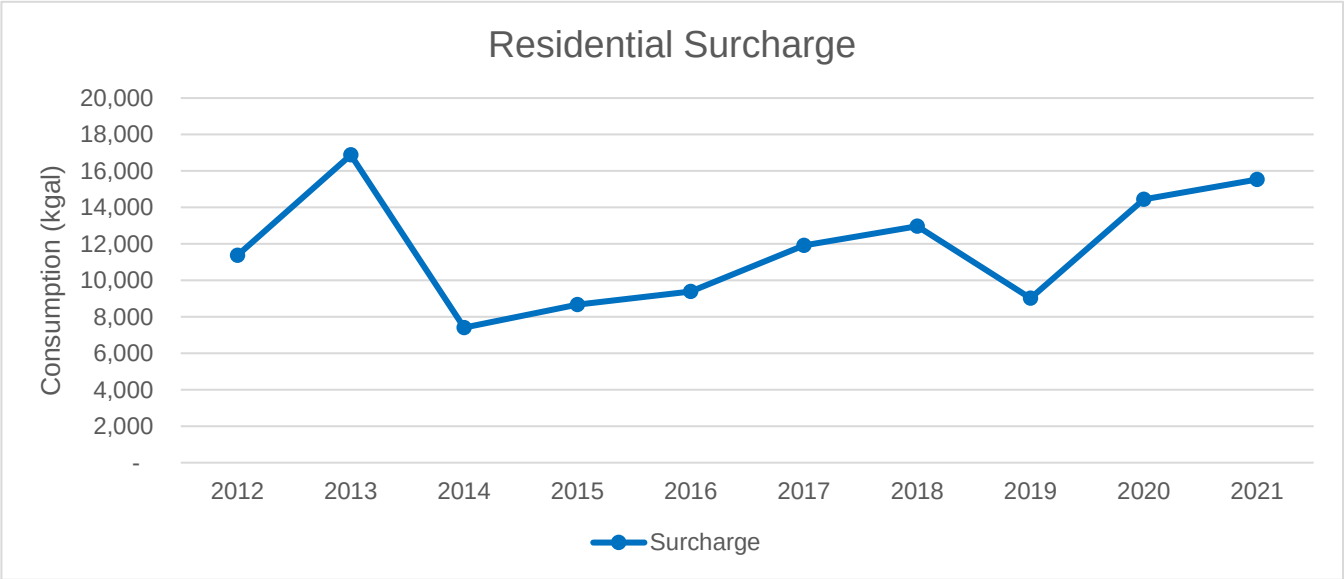

## CHART 26: IRRIGATION CUSTOMER CLASS ANNUAL BILLED USAGE BY TIER 2012-2021



## CHART 27: RESIDENTIAL CUSTOMER CLASS ANNUAL BILLED USAGE BY TIER 2012-2021




## CHART 28: RESIDENTIAL CUSTOMER CLASS ANNUAL BILLED USAGE RESIDENTIAL SURCHARGE 2012-2021




Charts 24-25 show that Commercial and Multifamily customer classes have remained relatively consistent over the years even with the increased growth. There was a slight reduction in consumption in Commercial in 2020, however usage returned to what we were

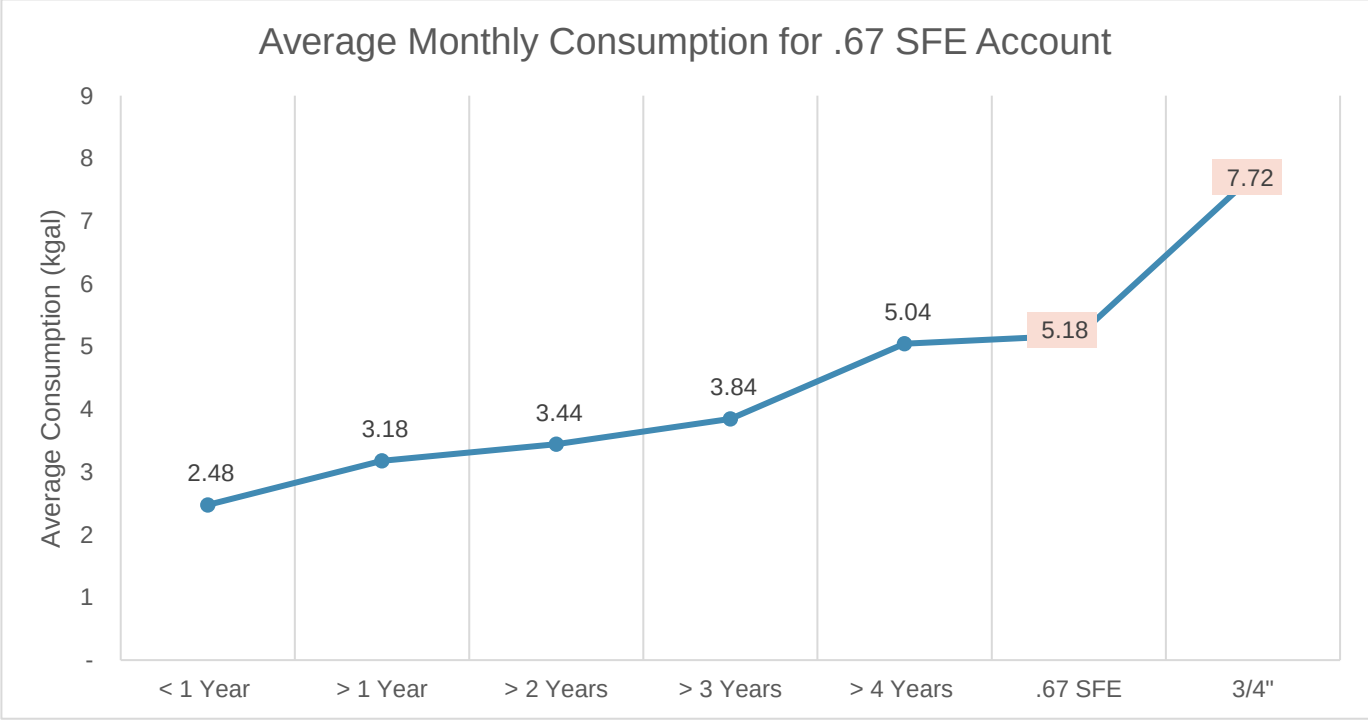
seeing in 2018-2019. 2020 consumption for Multifamily customer class saw an increase, however 2021 consumption remained relatively flat to 2020. Irrigation customers as shown in Chart 26 are trending downward after an increase in 2020 driven primarily by a dry irrigation season in 2020. Residential account usage by tier in Chart 27 and Surcharge usage in Chart 28 show increases in both Tier 1 and Surcharge, however total consumption is down to 2020.

## 5/8" ACCOUNTS - 0.67 SFE

Castle Rock Water continues to evaluate 0.67 SFE accounts to determine performance relative to the goal of 33% less usage than that of the average residential 1 SFE. As of January 1, 2021, the water resources monthly fixed charge for an existing 0.67 SFE account is charged the reduced amount of 67% of a 1 SFE. Those accounts will continue with the reduced monthly fixed amount until they transfer ownership, at which time they will be reset to a 1 SFE going forward. Also, new residential accounts as of January 1, 2021 will all be set up with a 1 SFE, there will no longer be accounts set up going forward with anything less than a 1 SFE due to the fact that the nature of the program is not being met in the long term. This change does not apply to the water resources system development fees as those will remain at 67% of the cost of 1 SFE.

As shown in Chart 29 below, 7.72 is the average monthly consumption for a ¾" residential account, or one SFE, which is lower than last year's study average of 8.33. The same trend exists in the 0.67 SFE accounts average with 5.18 this study and 5.58 in last year's study.

### CHART 29: 0.67 SFE ACCOUNT CONSUMPTION BY YEAR



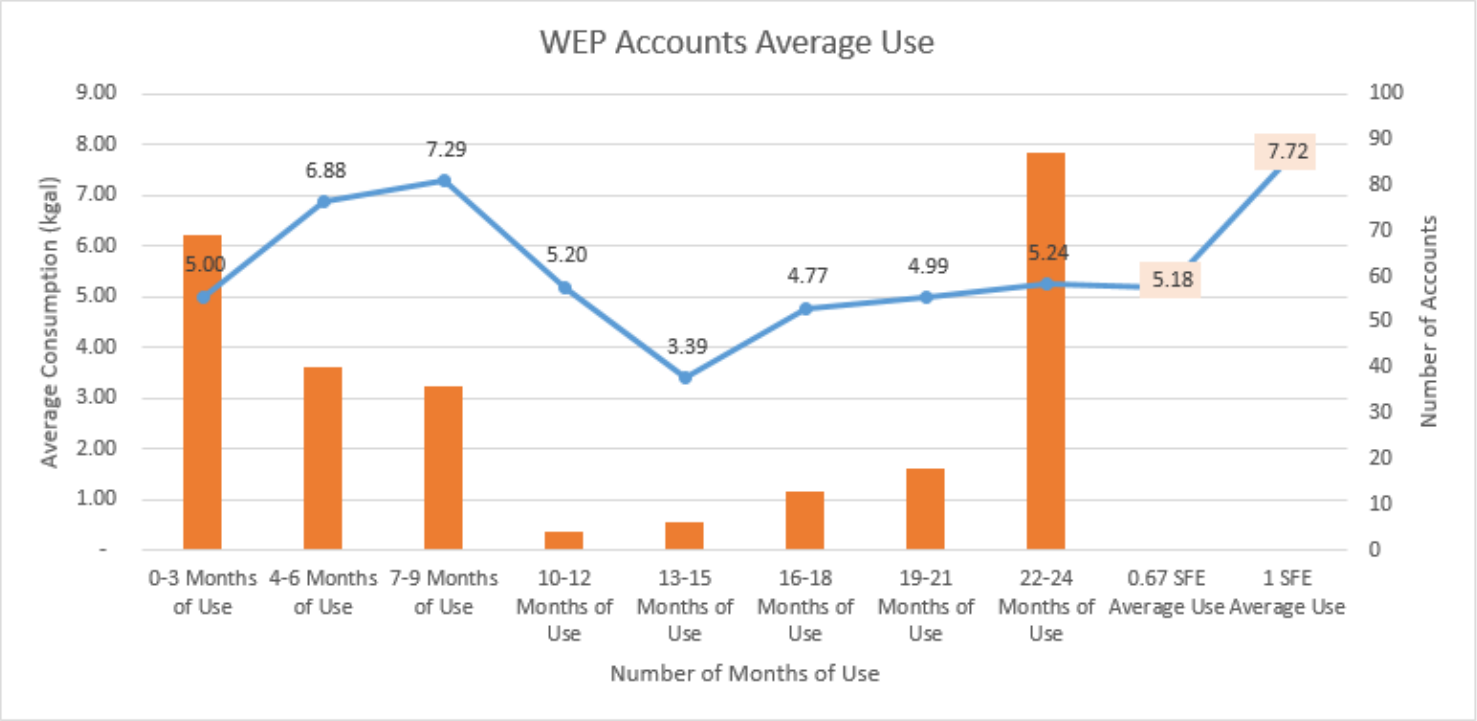
## WATER EFFICIENCY PLAN (WEP) ACCOUNTS

New to Castle Rock Water in 2019 were Water Efficiency Plan (WEP) accounts. These are accounts that must meet the criteria for a water efficiency plan. As of the end of 2021 there were 273 approved accounts that met the criteria. Table 8 below shows 40 customers were over the average usage in 2021 for a 1 SFE and 65 were over the 0.67 SFE. Unlike the 0.67 SFE program these 273 accounts can have varying SFE's below a 1 SFE based on fixture calculations and irrigation requirements.

### TABLE 8: AVERAGE WEP ACCOUNT USAGE

| Average Use | Number of Accounts |
|---|---|
| 7.72 kgals and above | 40 |
| 5.18 - 7.72 kgals | 65 |
| 2.59 - 5.18 kgals | 99 |
| 0.00 - 2.59 kgals | 69 |
| **Total Accounts** | **273** |

### CHART 30: AVERAGE WEP ACCOUNT USAGE VS. 0.67 AND 1.00 SFE USAGE




The data collected for this chart is from January 2020-December 2021

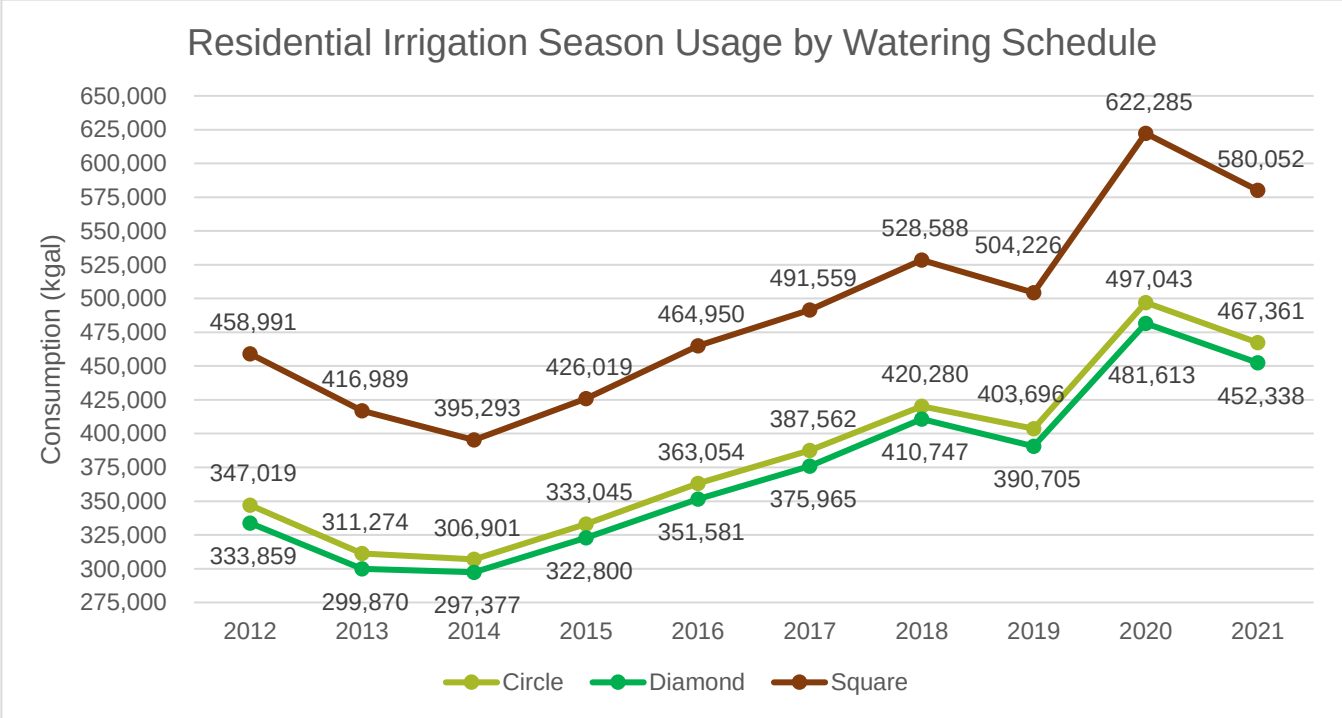
## IRRIGATION USAGE BASED ON WATERING SCHEDULES

Each irrigation season Castle Rock Water puts out a residential watering schedule based on the last digit of their service address representing a circle, diamond or square. Starting in 2018, non-residential customers were assigned watering days based on being on the east or west side of I-25. Given the importance of the watering schedules, CRW has tracked the usage of customers by year by watering schedule.

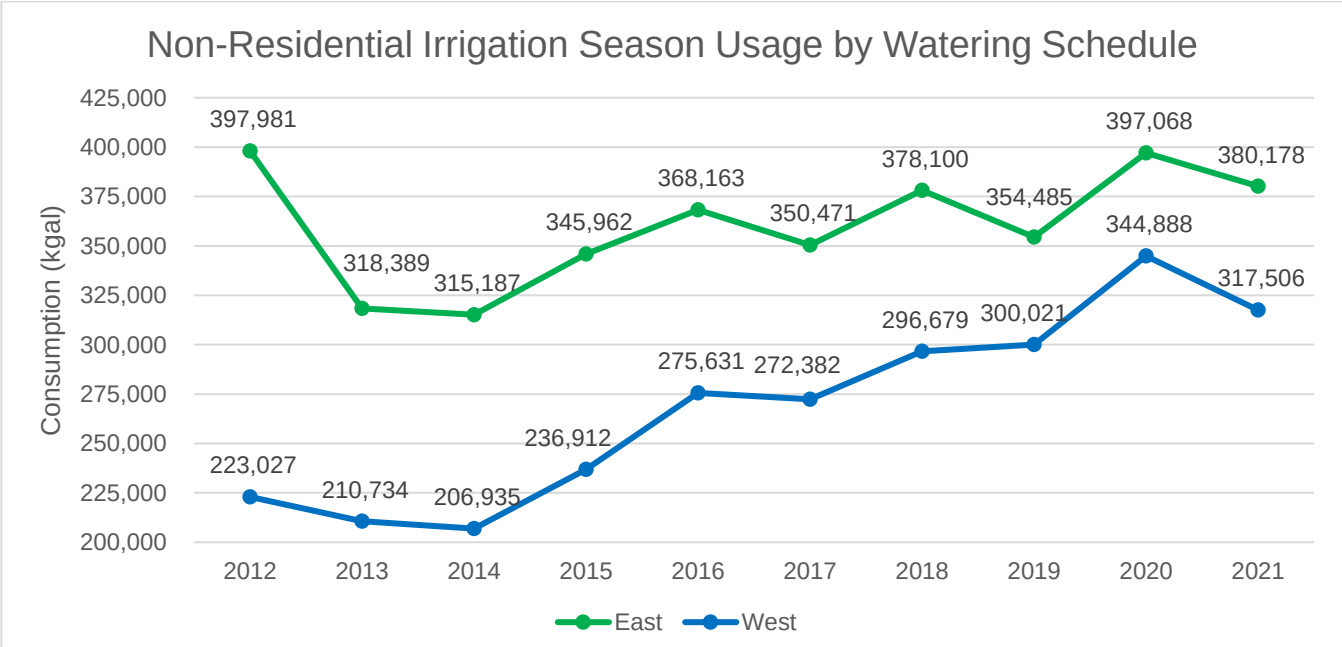
Below are charts that show the residential and non-residential water usage from 2012 to 2021 based on their scheduled watering days. For residential customers, circle and diamond customers have very similar usage for all the years, whereas the square customers have slightly higher usage than the circle and diamond customers. One reason for this is the number of customers for each schedule. Square has the most at 8,702 customers, circle is second with 7,228 customers and diamond has the least with 7,001 customers based on the 2021 billing data.

With the non-residential customers, the west side appears to be smaller or have less usage each year than the east side of I-25 customers. The east side has more customers, 1,059 customers, than the west side, 701 customers, based on the 2021 billing data. Overall this information can help us to track water consumption patterns for each customer group and can help CRW to determine if the schedule breakouts need to be reevaluated in the future or if the water usage patterns are adequate in meeting peak daily demands.

## CHART 31: RESIDENTIAL IRRIGATION SEASON USAGE BY WATERING SCHEDULE



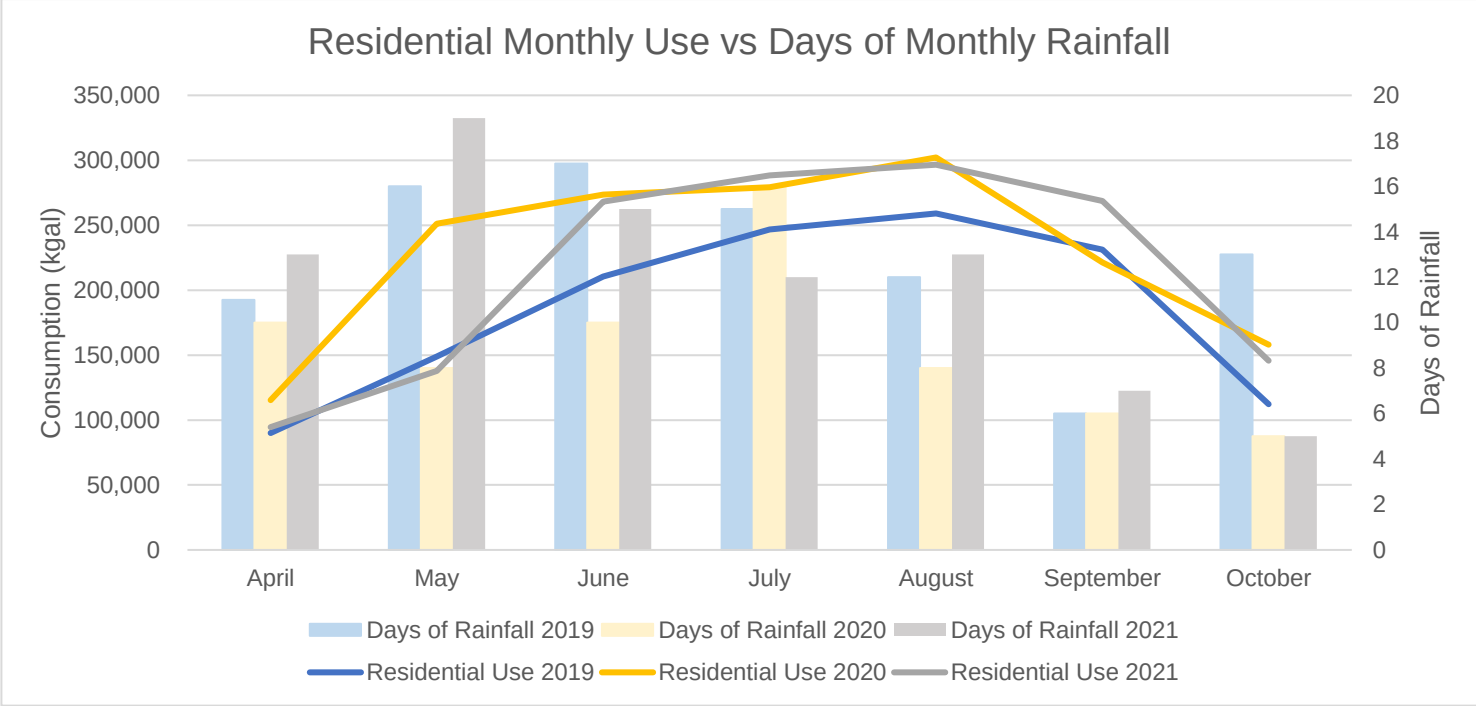

## CHART 32: NON-RESIDENTIAL IRRIGATION SEASON USAGE BY WATERING SCHEDULE



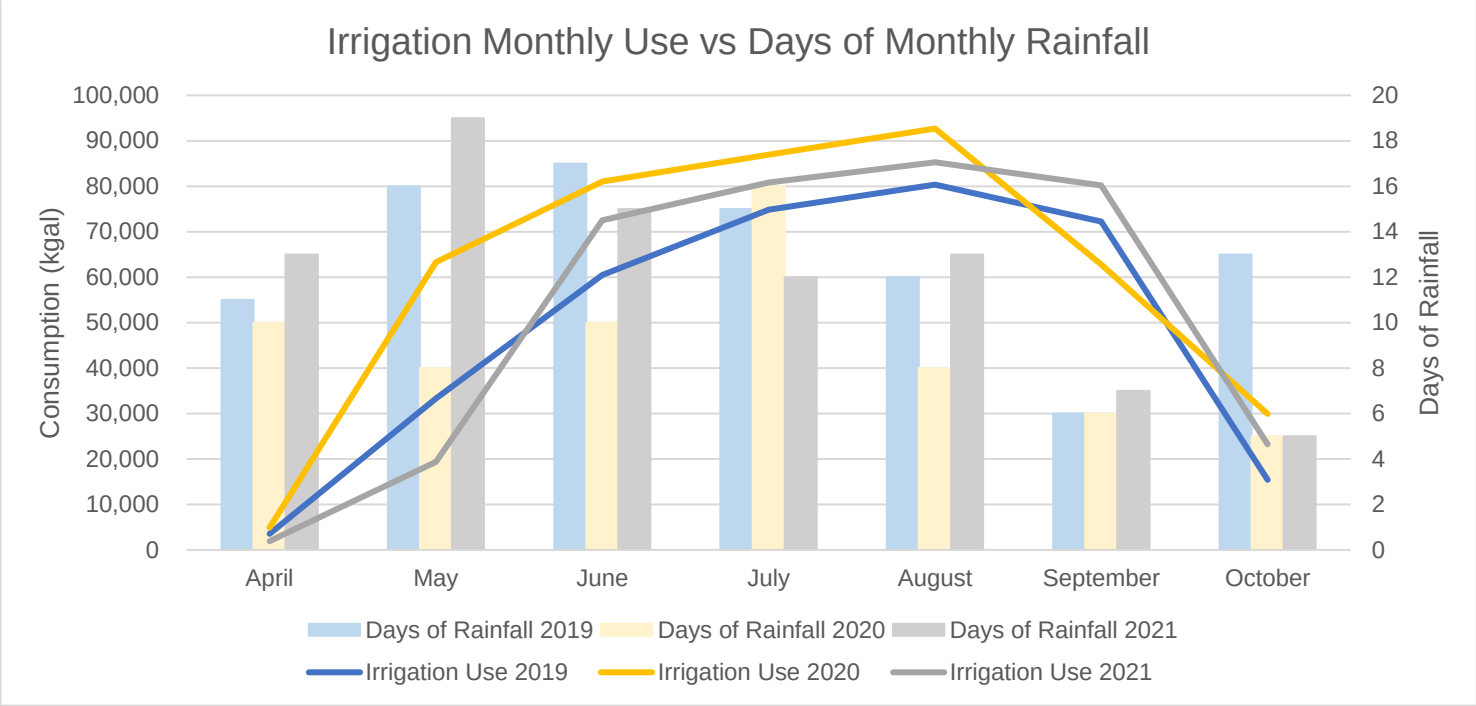
## IRRIGATION SEASON USAGE VERSUS WEATHER PATTERNS

CRW looked into whether a dry versus a wet irrigation season would make a difference on usage patterns across the different customer classes. The four charts below show the number of days of rainfall for each month for a three-year time period compared to the actual usage for the customer class for that same time period. In looking at Charts 33-36 for the different customer classes, it is up and down as to whether or not the rainfall and weather patterns affect the use for each customer class. CRW is working with Stantec Consulting, Inc. to further analyze these statistics.

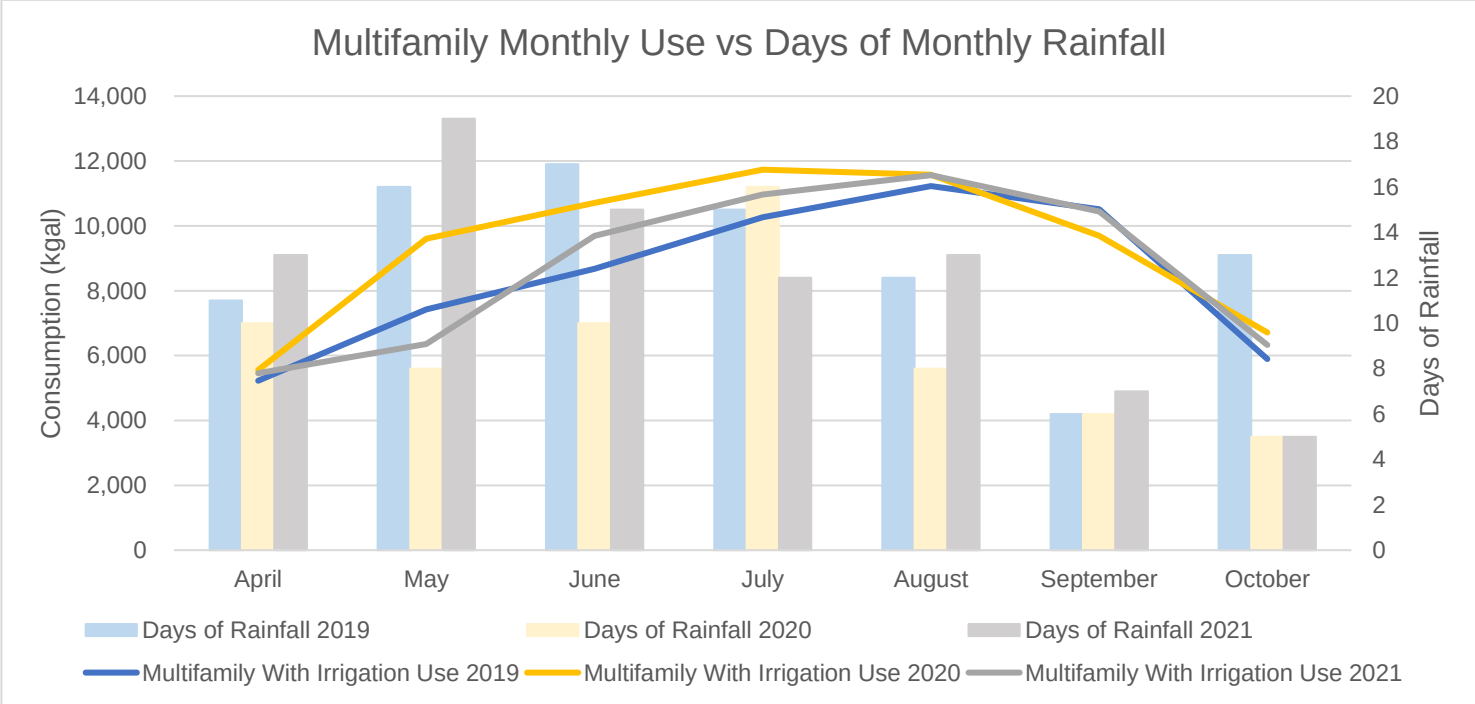
### CHART 33: RESIDENTIAL MONTHLY USAGE VS. DAYS OF MONTHLY RAINFALL



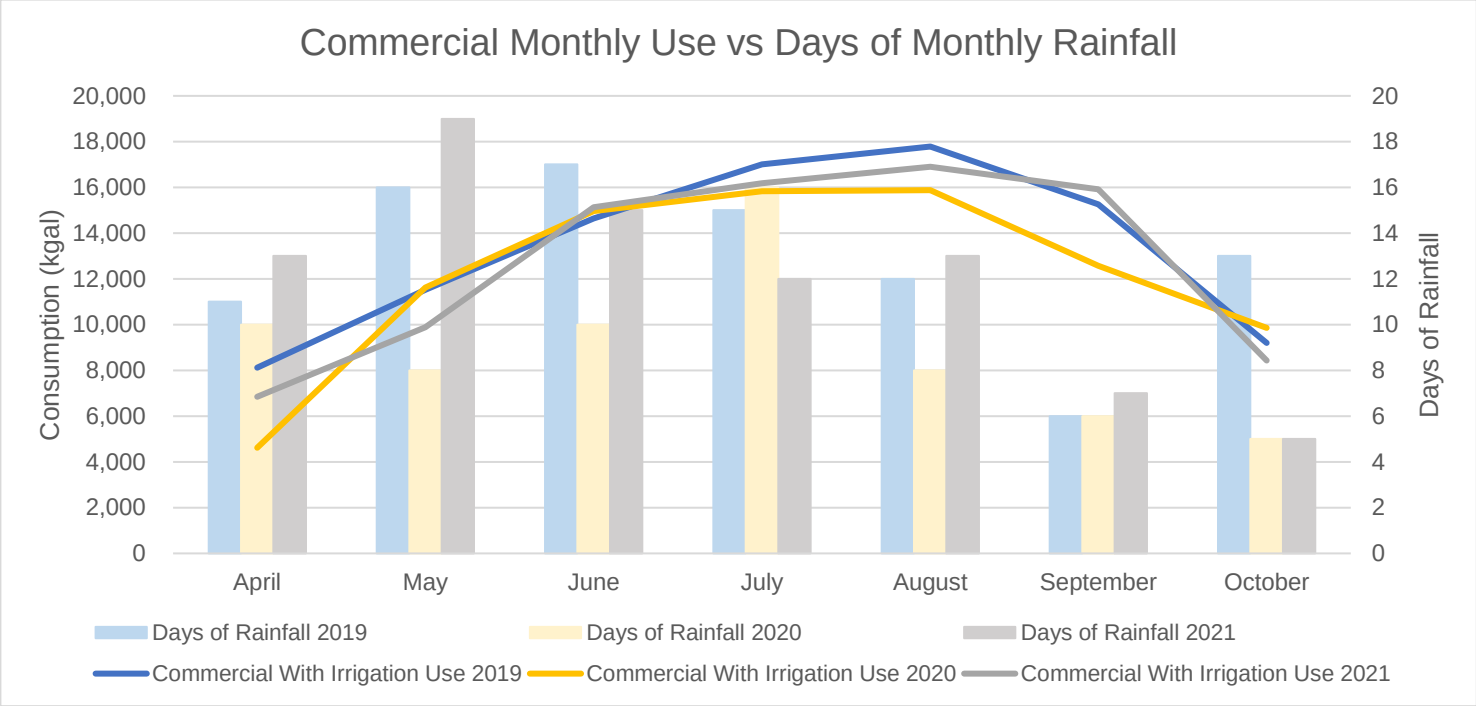
## CHART 34: IRRIGATION MONTHLY USAGE VS. DAYS OF MONTHLY RAINFALL




## CHART 35: MULTIFAMILY WITH IRRIGATION MONTHLY USAGE VS. DAYS OF MONTHLY RAINFALL



## CHART 36: COMMERCIAL WITH IRRIGATION MONTHLY USAGE VS. DAYS OF MONTHLY RAINFALL




## WATER WISER CUSTOMERS

Each year CRW offers Water Wiser classes for customers. The purpose of the class is to help educate customers about watering more efficiently. It also helps to educate customers on water conservation and more efficient landscaping ideas. As a water wiser customer, you can water any day versus following every third day watering schedule. However, residential customers must still water between the hours of 8:00 p.m. and 8:00 a.m.

In order to see the success of the program, CRW completed some analysis on the water wiser accounts consumption patterns before and after taking the water wiser class. In order to analyze these customers, CRW looked at three different data sets. These three data sets were customers who had water usage for 12 months before they obtained their water wiser status and 12 months of usage after they became a water wiser. The other two data sets were for customers with 24 months and 36 months of data before and after completing the water wiser program. The table below shows the before and after water wiser average usage.

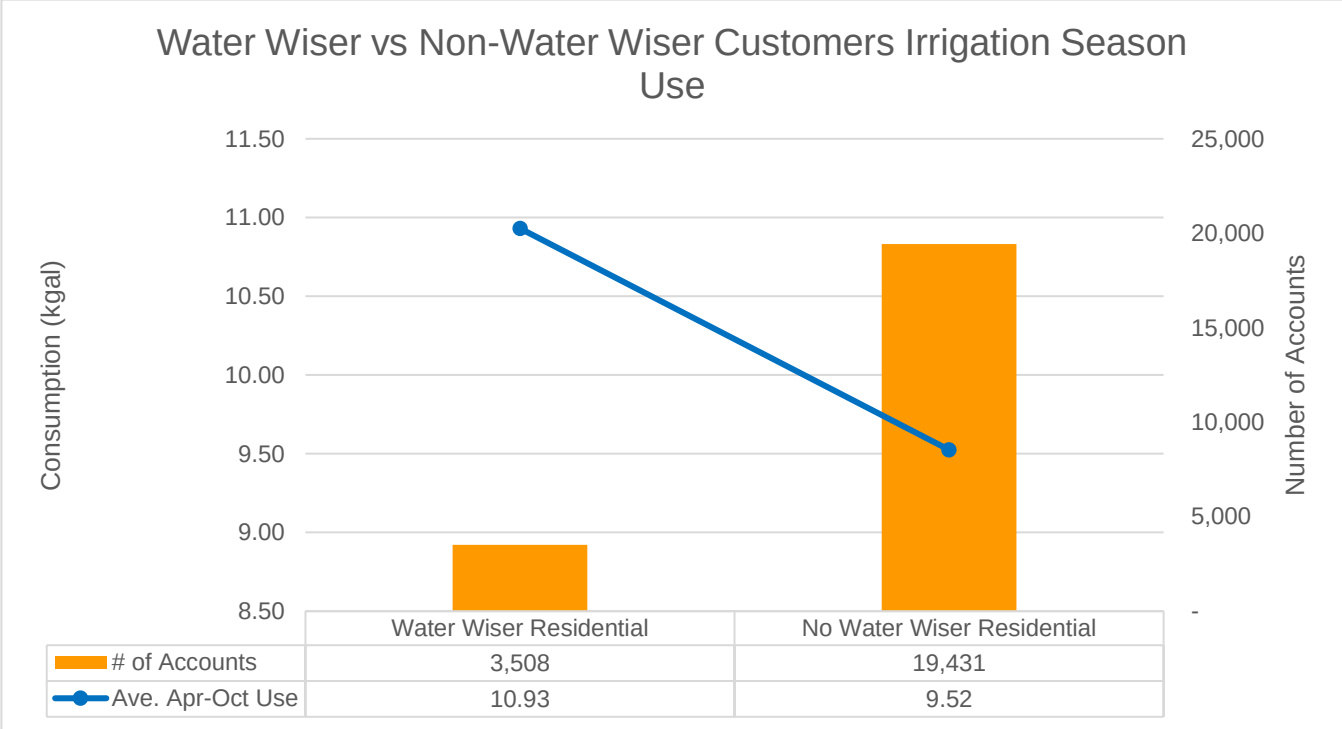
## TABLE 9: BEFORE AND AFTER WATER WISER AVERAGE USAGE

| # of Months Before and After Water Wiser | Average Usage Before Water Wiser Class | Average Usage After Water Wiser Class | % of Customers to Decrease Usage After Water Wiser Class |
|---|---|---|---|
| 36 Months | 9.6 | 8.5 | 62% |
| 24 Months | 8.8 | 8.4 | 58% |
| 12 Months | 8.5 | 8.3 | 55% |

Table 9 shows that overall the average consumption has been decreasing for customers after taking the water wiser class. In general, when looking at the individual accounts for the 36 months of data, 62% of people have decreased their average usage, which means that 38% of users have maintained or increased their average usage despite attending a water wiser workshop. This data shows that as we add more months the data is improving. At 12 months of consumption, it shows that only 55% of users decreased their usage and at 24 months of consumption this increased to 58%. Overall, there is room for improvement for roughly 38% of the water wiser customers.

One other comparison completed was to see how the water wiser customers compare to the non-water wiser customers average irrigation usage (April through October). When looking at the residential customers for the average irrigation season usage the water wiser customers have a higher average at 10.93 kgals versus 9.52 kgals for the customers who have not taken the water wiser classes, which is a concerning statistic.

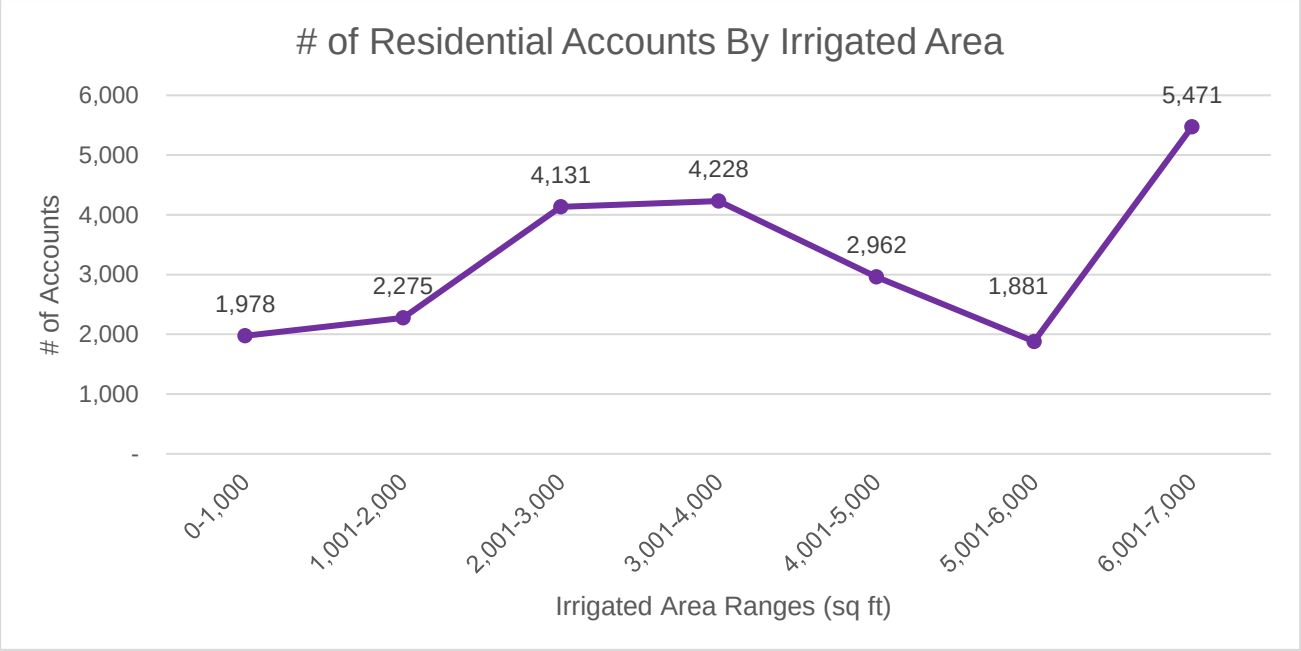
## CHART 37: WATER WISER VS. NON-WATER WISER CUSTOMERS IRRIGATION SEASON USE (APRIL TO OCTOBER)



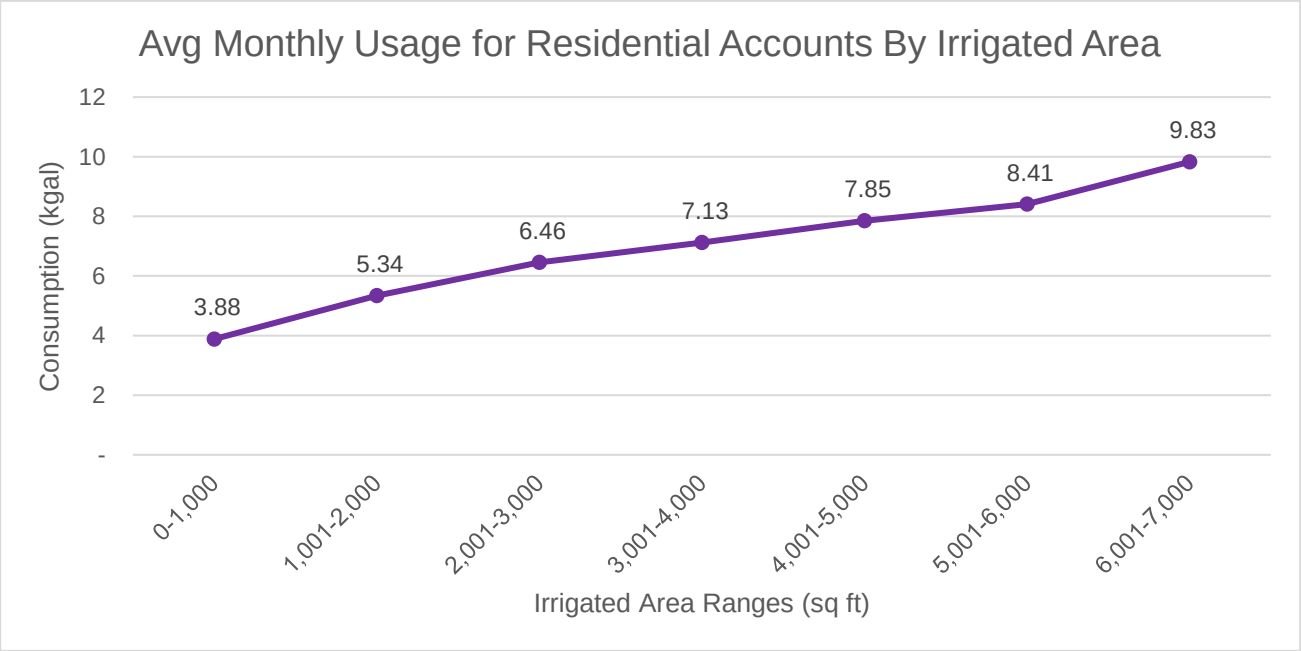

## IMPACT OF IRRIGATED AREAS (SQUARE FEET)

Chart 38 shows the number of residential accounts by irrigated area. Chart 39 shows the average monthly consumption by irrigated area for residential customers. As expected, the more irrigated area, the more the average consumption per month. Chart 40 shows total usage by irrigated area for commercial accounts. Chart 41 shows average monthly consumption for commercial accounts by irrigated area.

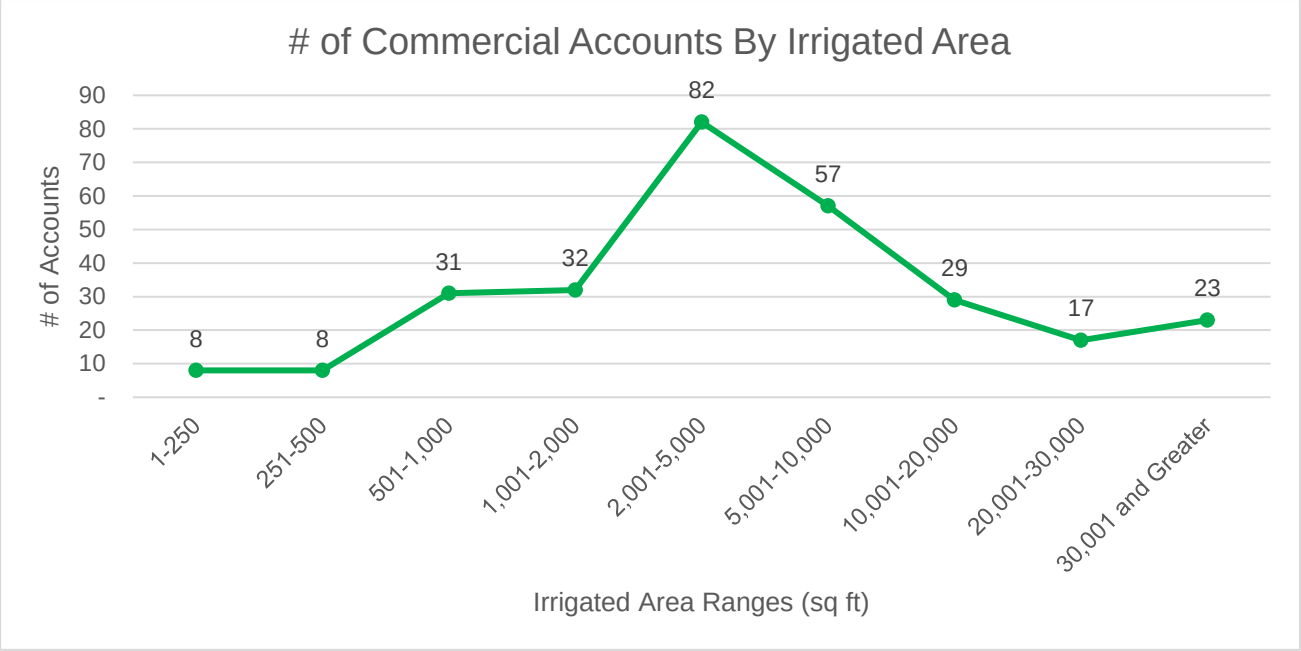
## CHART 38: RESIDENTIAL ACCOUNTS BY IRRIGATED AREA



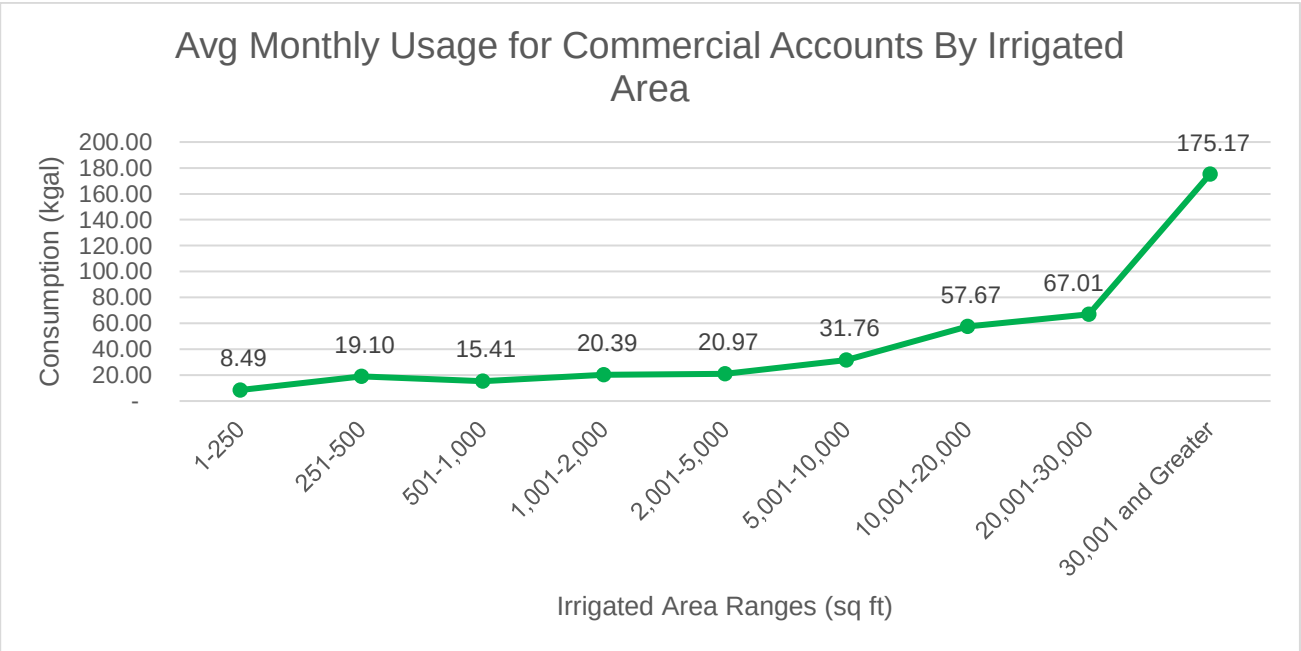

## CHART 39: RESIDENTIAL AVERAGE MONTHLY CONSUMPTION BY IRRIGATED AREA



## CHART 40: COMMERCIAL ACCOUNTS BY IRRIGATED AREA




## CHART 41: COMMERCIAL AVERAGE MONTHLY CONSUMPTION BY IRRIGATED AREA



## HOA'S AVERAGE MONTHLY CONSUMPTION

### CHART 42: AVERAGE MONTHLY CONSUMPTION FOR ALL HOAS (98) COMBINED

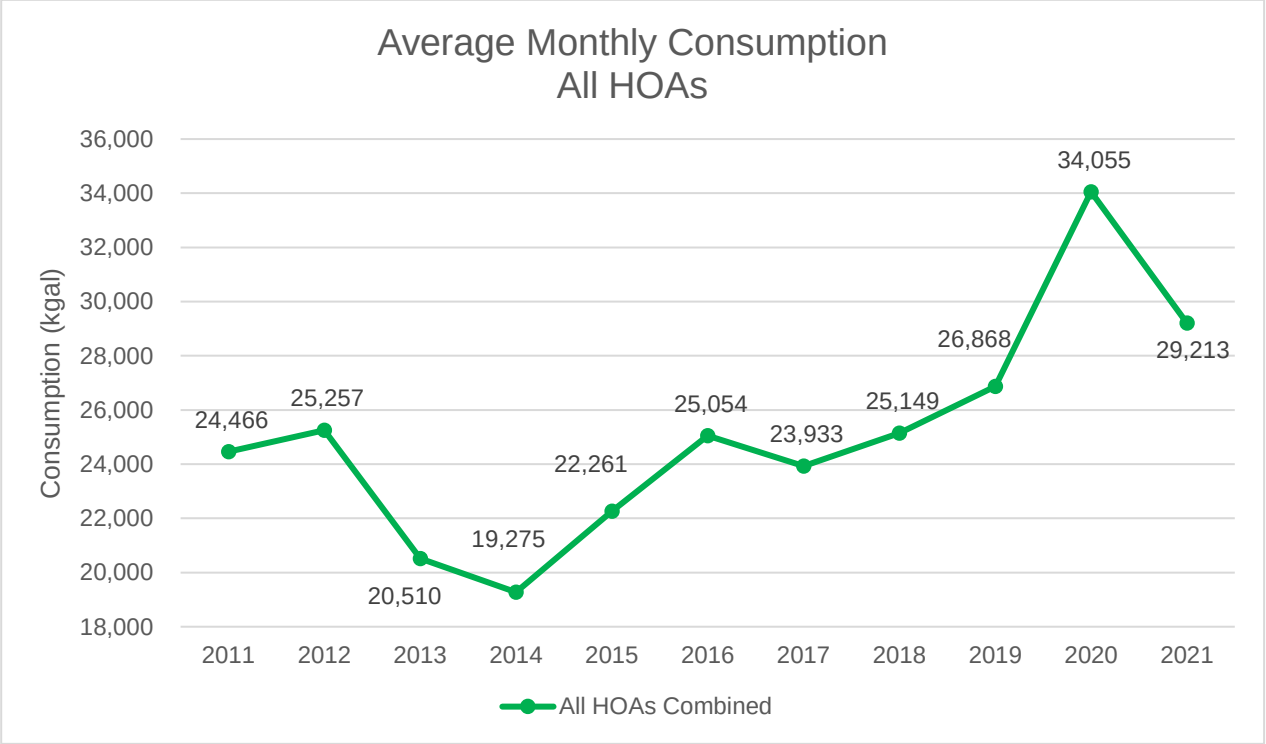
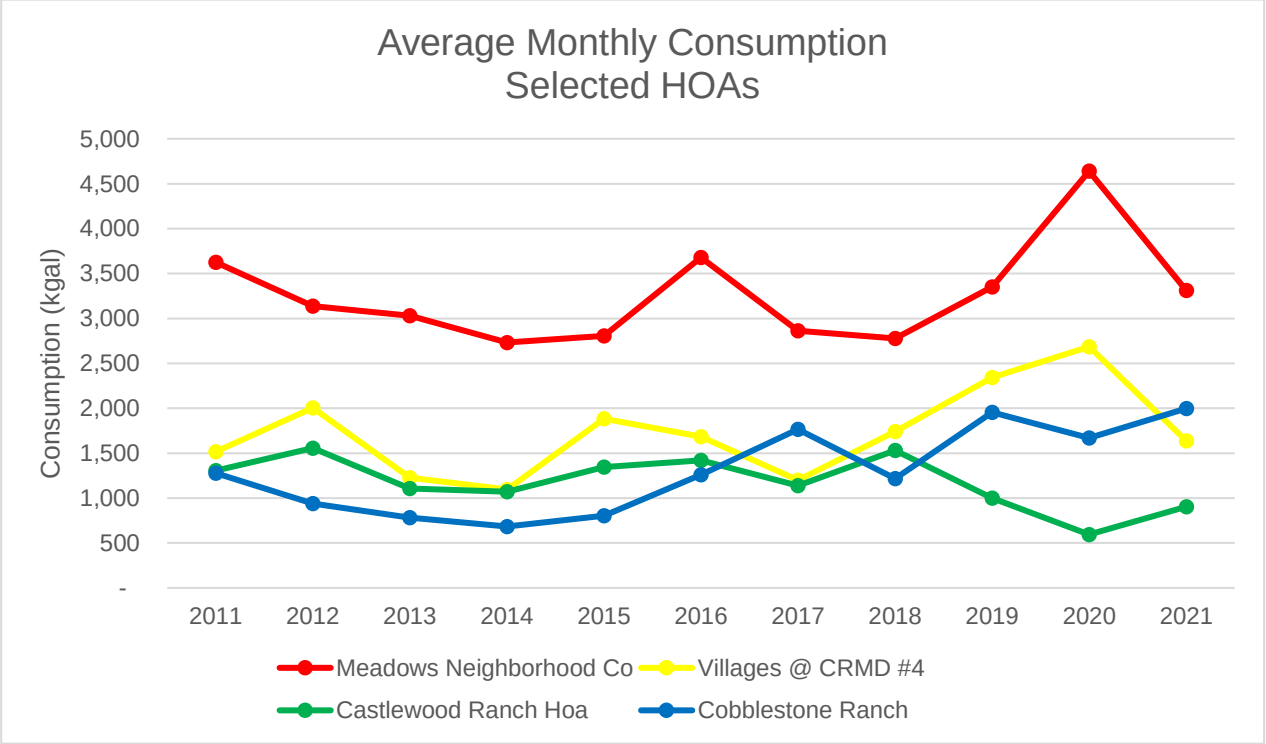


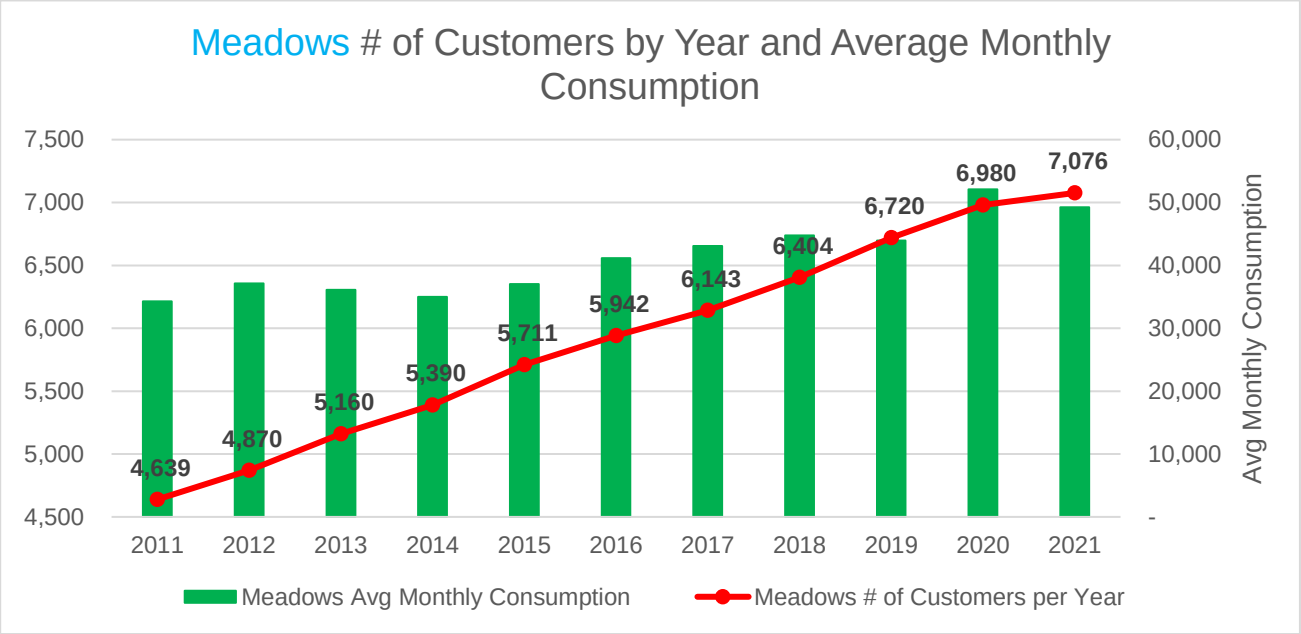

Chart 43 shows four HOAs that were selected at random out of the 98 in total to show the average monthly consumption patterns for these user types. There was large growth in the Meadows and Founders neighborhoods in 2020. This along with dry weather has caused increased consumption in these areas of Town.

## CHART 43: SELECTED FOUR HOA'S AVERAGE MONTHLY CONSUMPTION

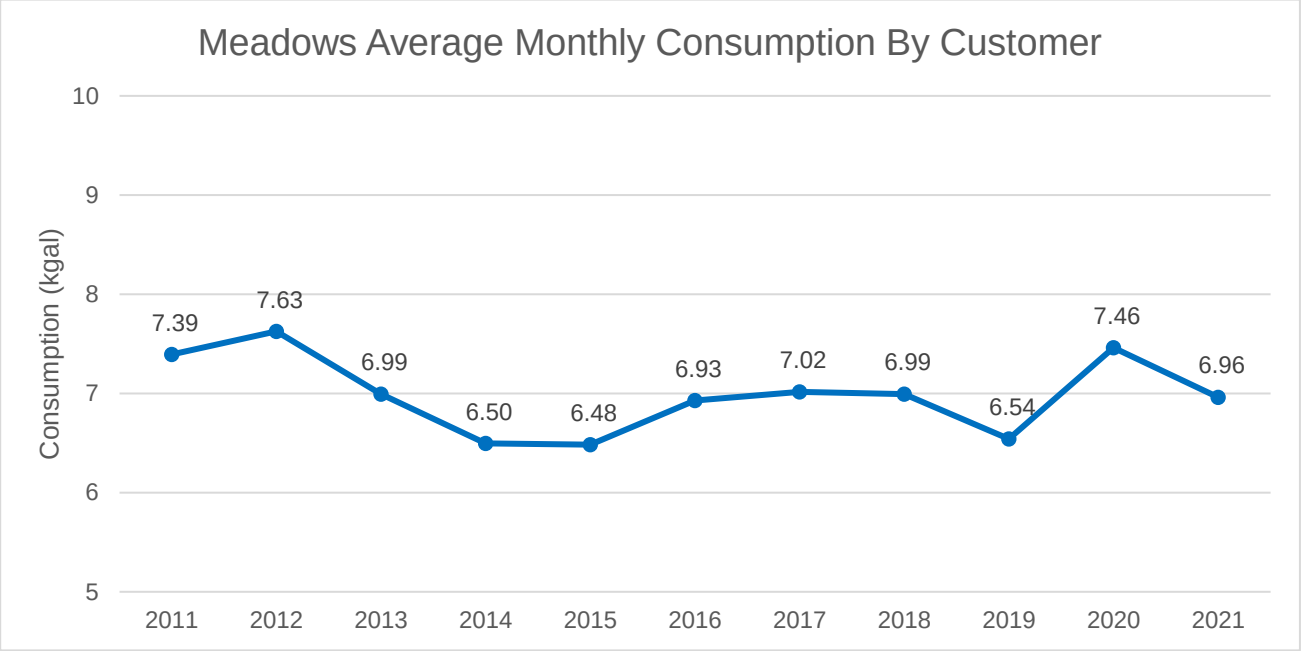


## MONTHLY CONSUMPTION BY SUBDIVISION

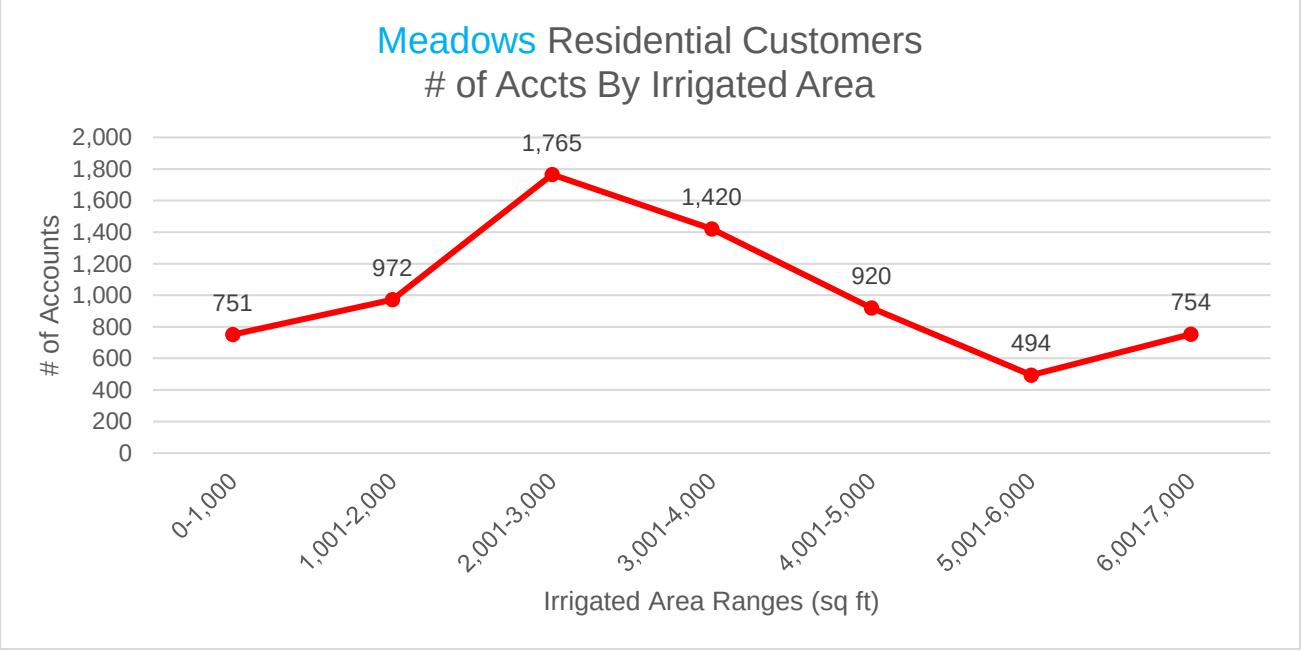
### CHART 44: MEADOWS AVERAGE MONTHLY CONSUMPTION



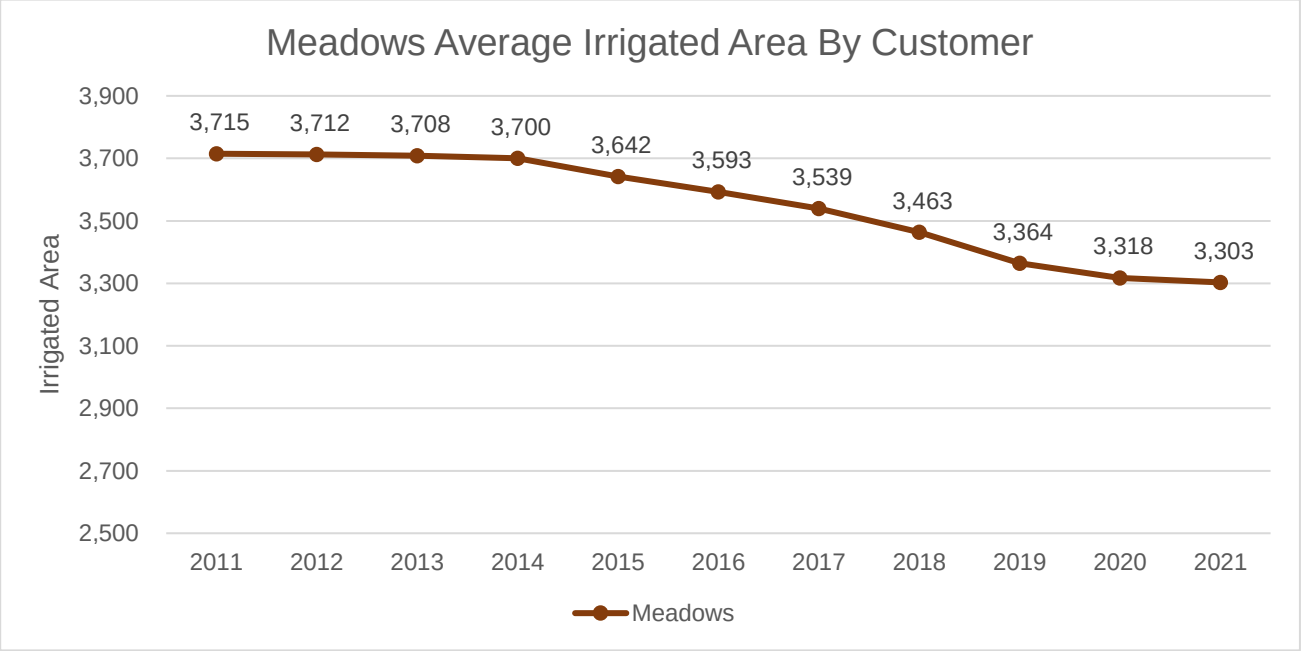
## CHART 45: MEADOWS AVERAGE MONTHLY CONSUMPTION BY CUSTOMER



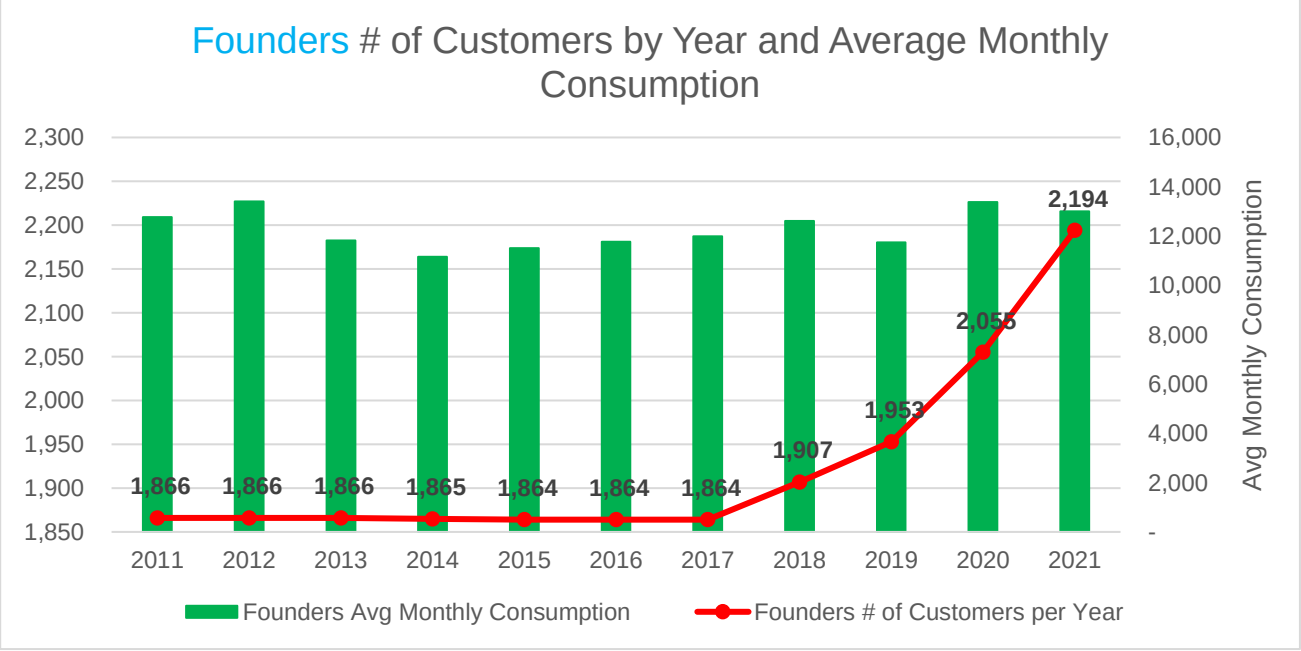

## CHART 46: MEADOWS RESIDENTIAL ACCOUNTS BY IRRIGATED AREA



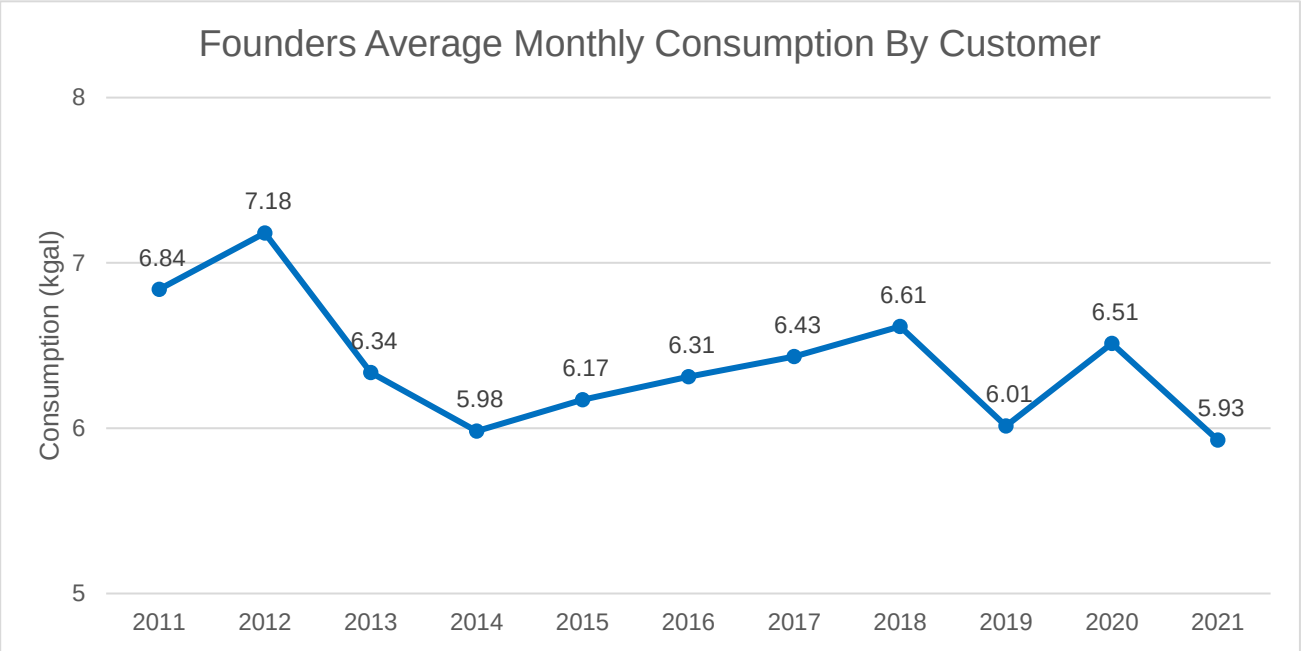
## CHART 47: MEADOWS RESIDENTIAL ACCOUNTS IRRIGATED AREA BY CUSTOMER



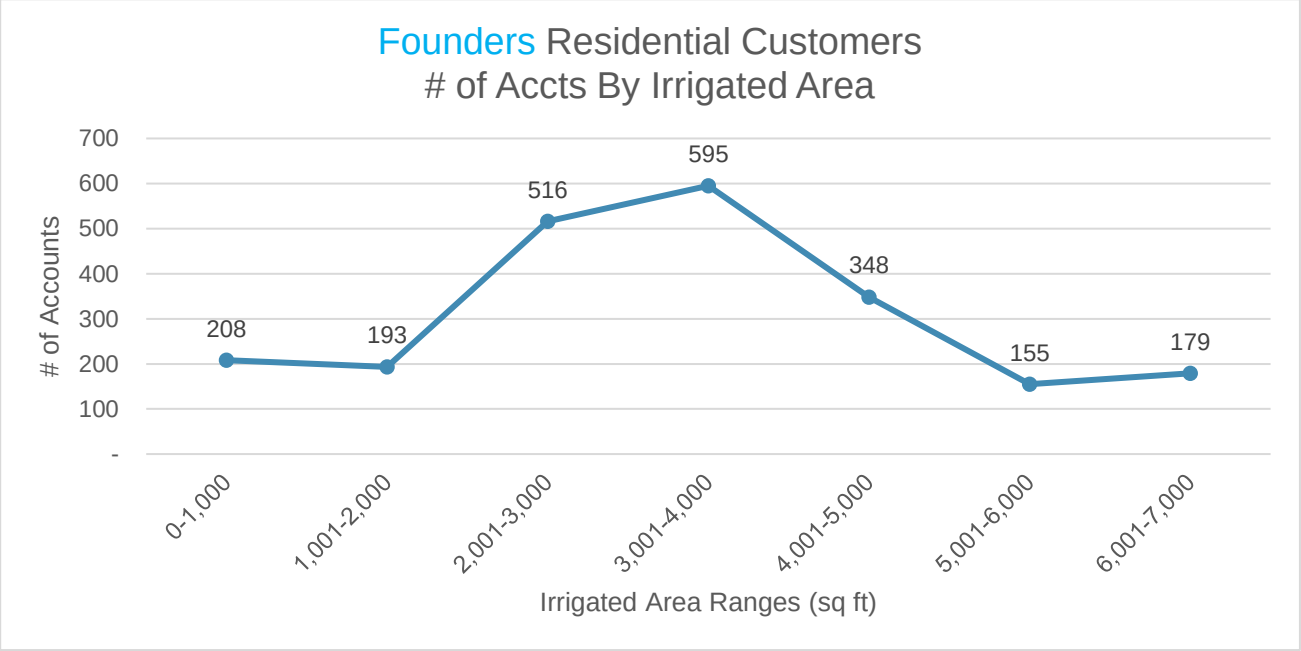

## CHART 48: FOUNDERS AVERAGE MONTHLY CONSUMPTION



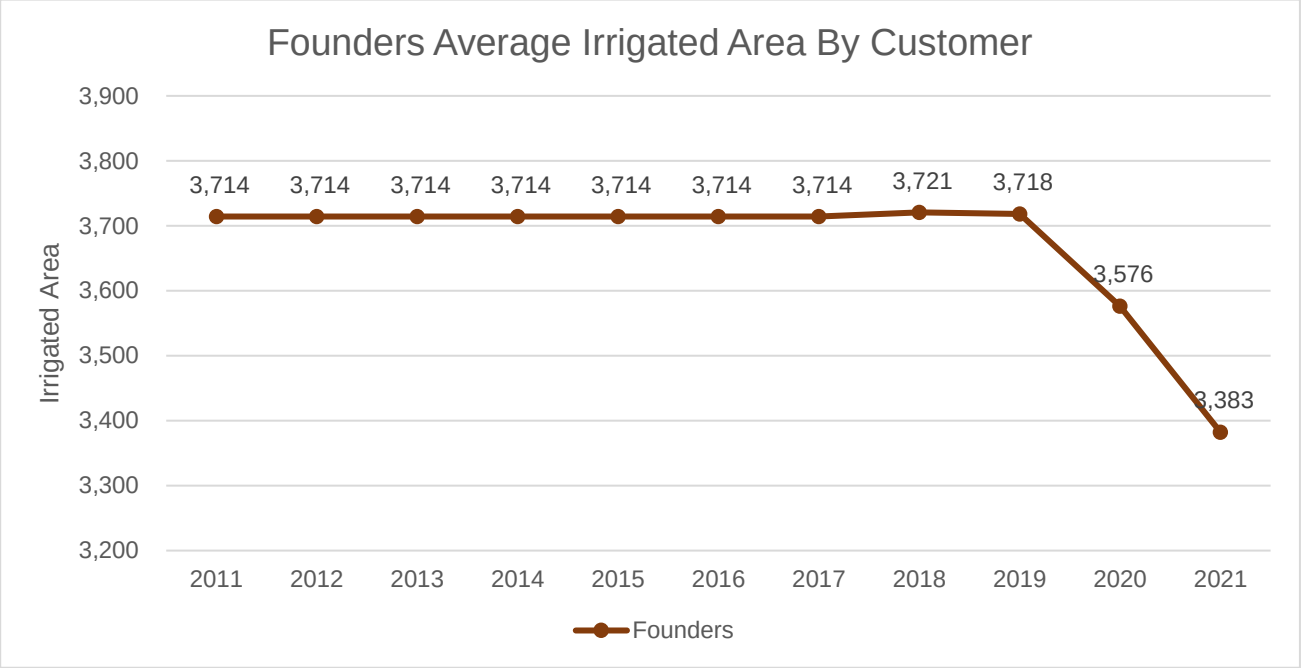
## CHART 49: FOUNDERS AVERAGE MONTHLY CONSUMPTION BY CUSTOMER




## CHART 50: FOUNDERS RESIDENTIAL ACCOUNTS BY IRRIGATED AREA

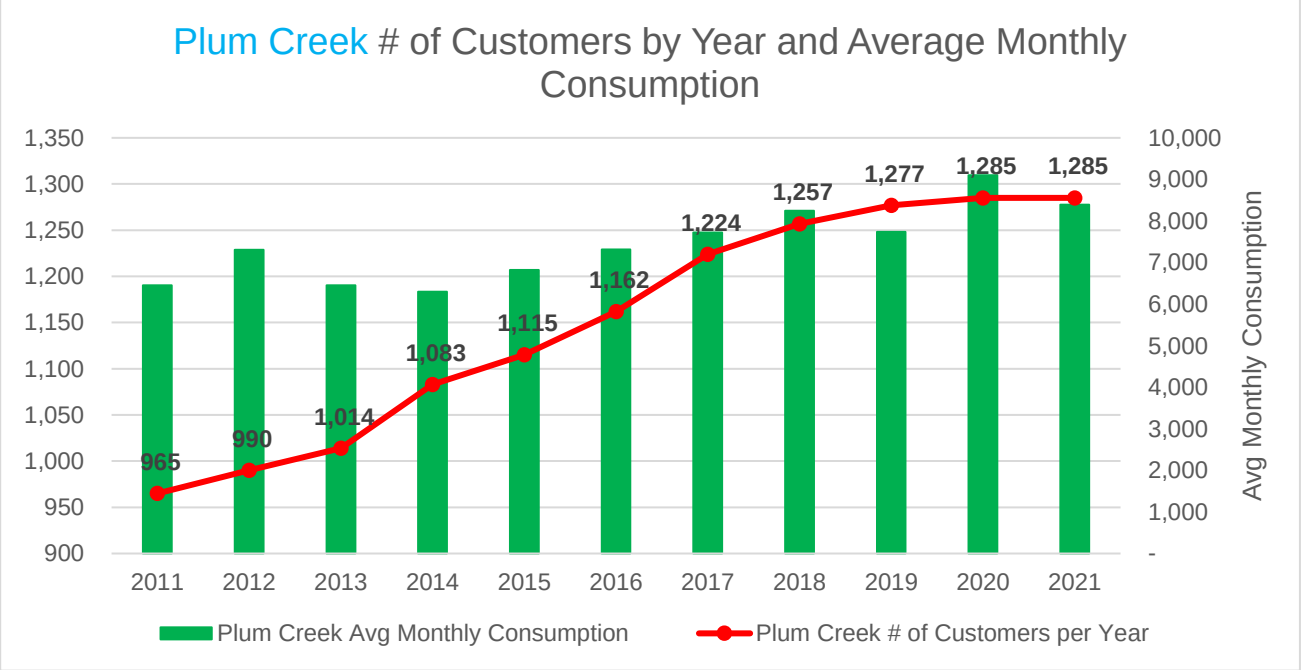


## CHART 51: FOUNDERS RESIDENTIAL ACCOUNTS IRRIGATED AREA BY CUSTOMER

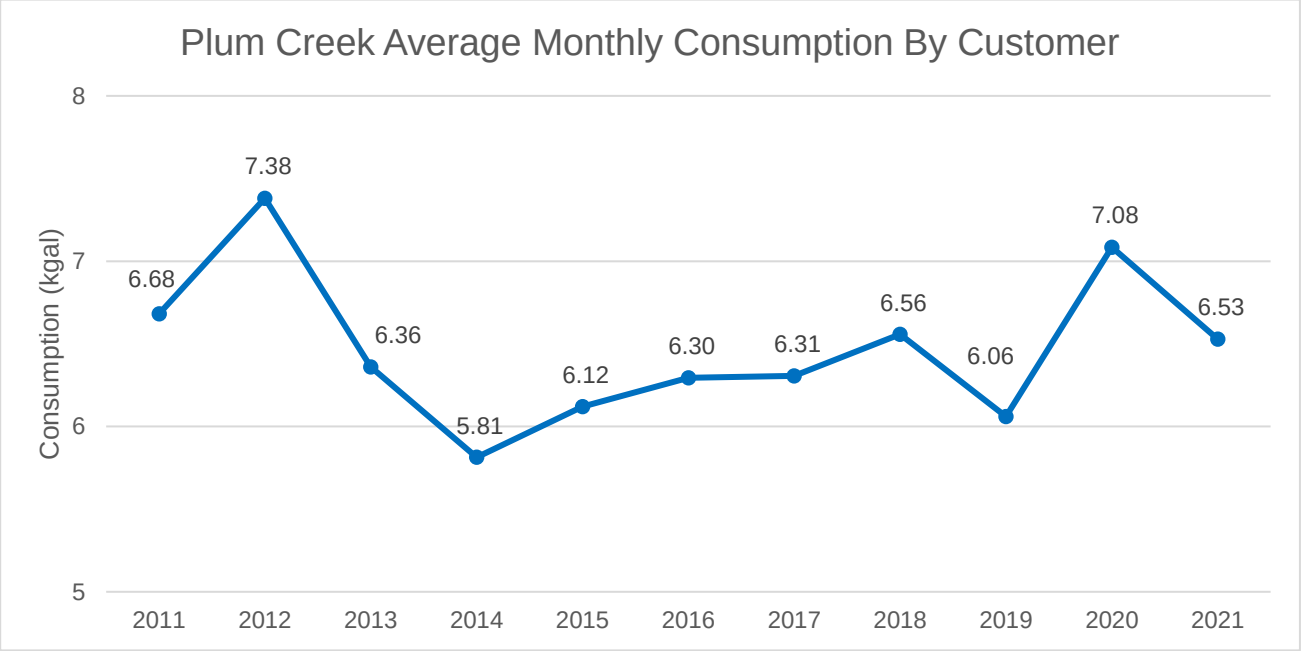



*Drop in average irrigated area due to new builds in 2021 only averaging 820 sq. ft. In irrigated area

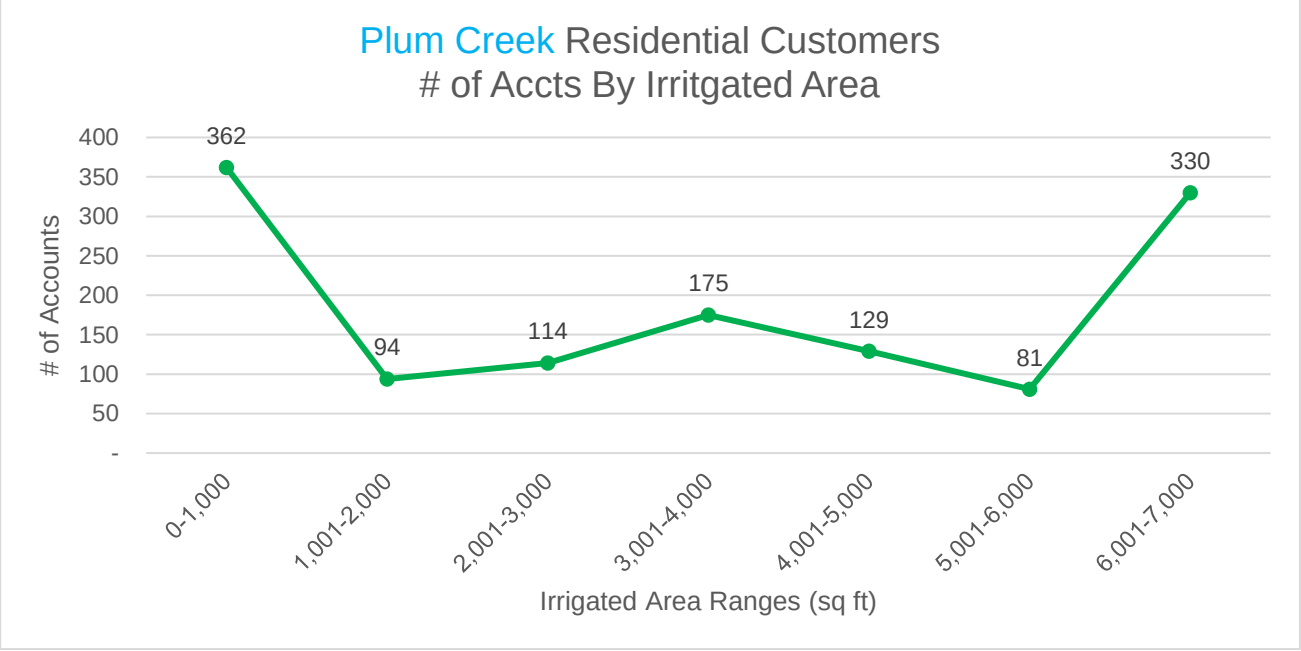
## CHART 52: PLUM CREEK AVERAGE MONTHLY CONSUMPTION



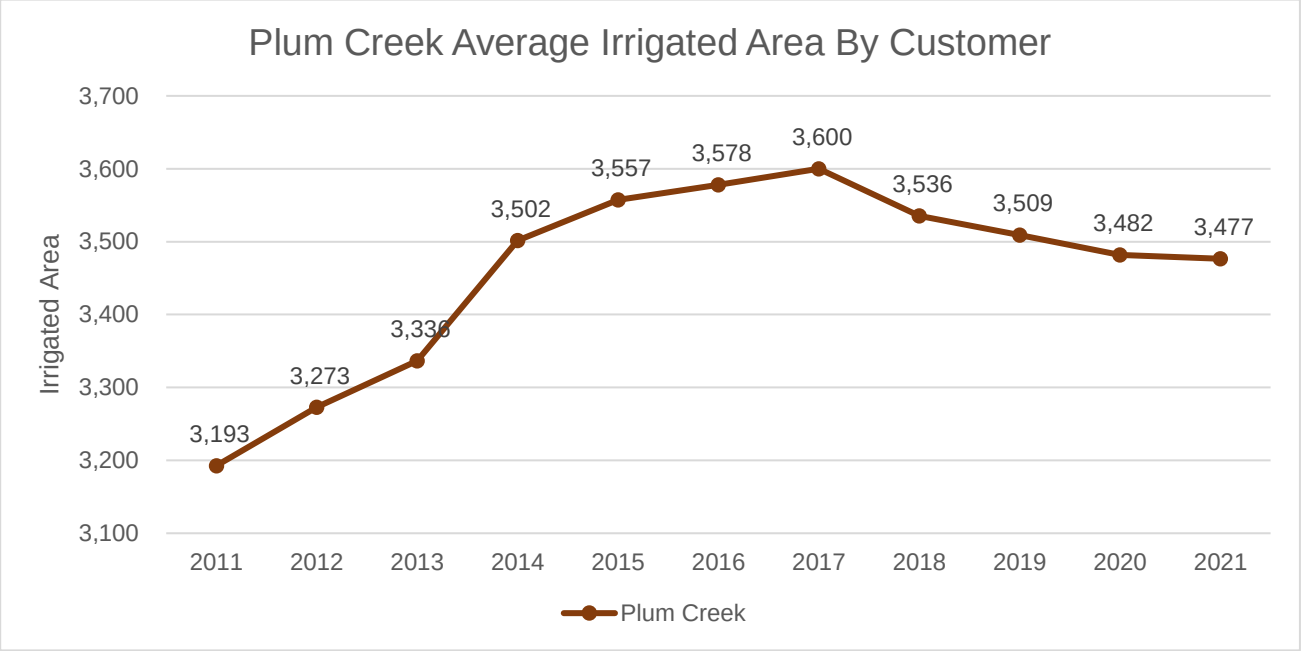
## CHART 53: PLUM CREEK AVERAGE MONTHLY CONSUMPTION BY CUSTOMER




## CHART 54: PLUM CREEK RESIDENTIAL ACCOUNTS BY IRRIGATED AREA



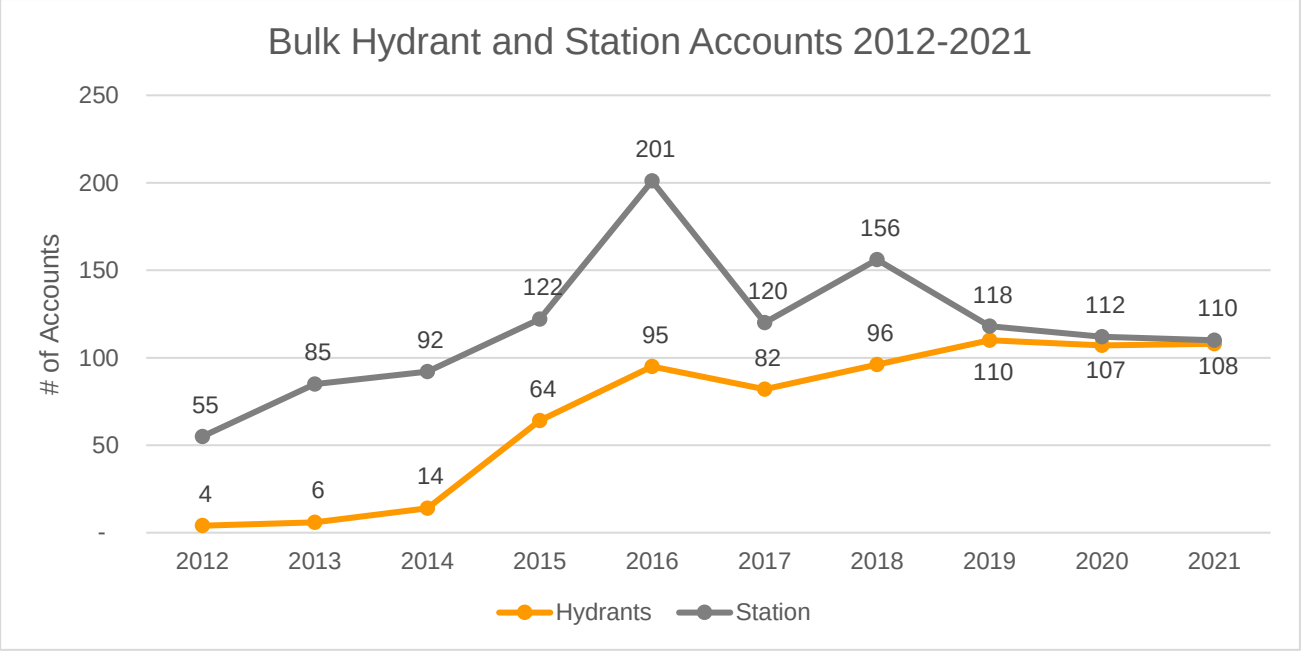
## CHART 55: PLUM CREEK RESIDENTIAL ACCOUNTS IRRIGATED AREA BY CUSTOMER



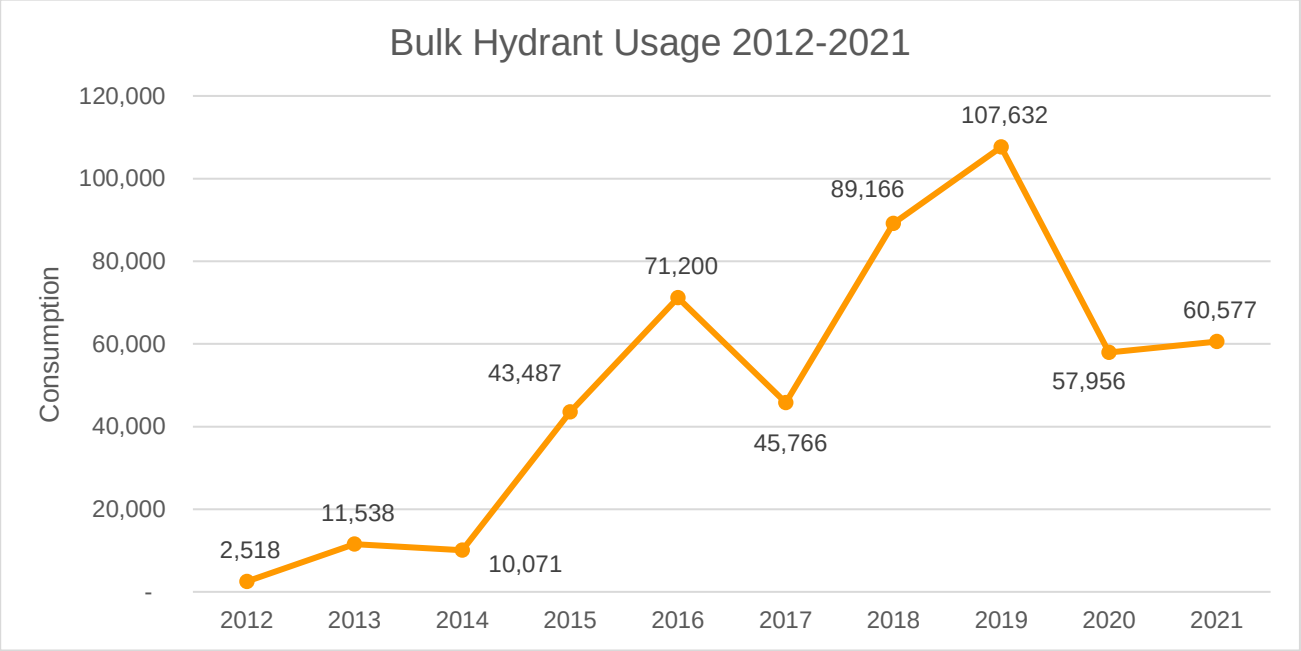

## BULK WATER ACCOUNTS

CRW has both bulk hydrant accounts and bulk station accounts. CRW tracks the number of accounts and annual usage for these account types each year. The charts below show the bulk hydrant and bulk station accounts and usage from 2012 to 2021. These accounts vary from year-to-year based on the need and demand of the customers using the program.

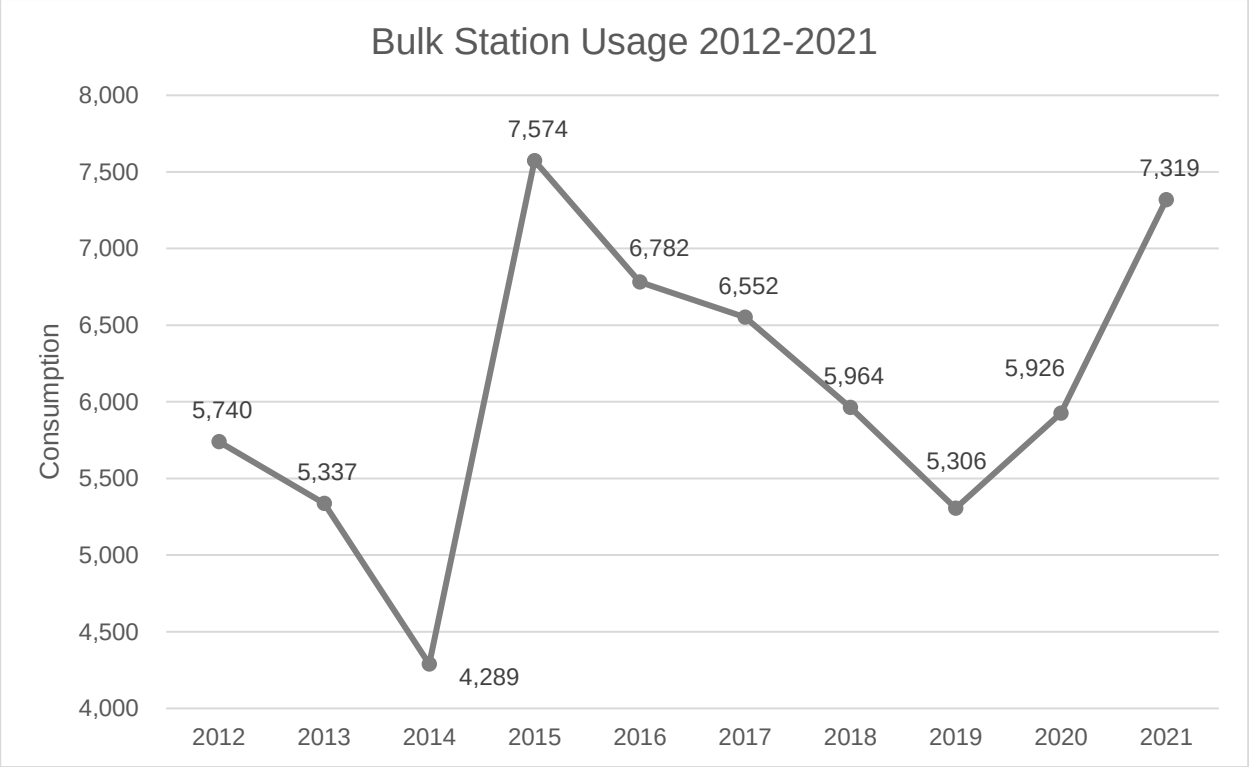
## CHART 56: BULK HYDRANT AND BULK STATION ACCOUNTS




## CHART 57: BULK HYDRANT USAGE



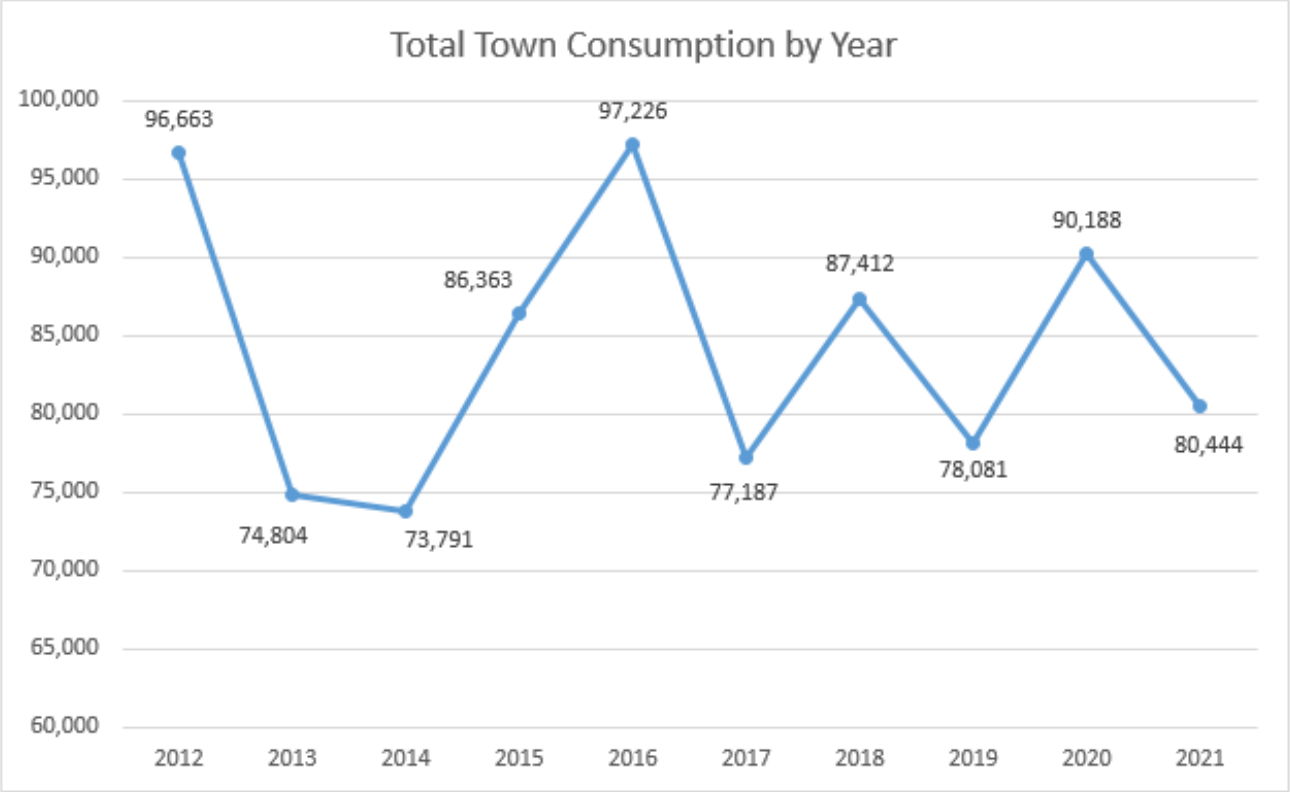
## CHART 58: BULK STATION USAGE




## TOWN ACCOUNT CONSUMPTION

Chart 59 shows the overall Town consumption from 2012 to 2021. From 2020 to 2021 consumption decreased, which was mainly due to the Parks Department.

## CHART 59: TOWN CONSUMPTION




## TABLE 10: TOWN CONSUMPTION BY YEAR AND DEPARTMENT (Kgal)

| Department | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| CRW | 918 | 1,087 | 2,078 | 2,238 | 1,544 | 693 | 757 | 856 | 1,043 | 2,545 |
| Facility Maintenance | 0 | 0 | 0 | 0 | 0 | 22 | 25 | 7 | 0 | 0 |
| Fire | 937 | 1,209 | 1,164 | 1,274 | 1,117 | 861 | 1,152 | 1,302 | 1,281 | 1,166 |
| Golf Course | 365 | 342 | 340 | 379 | 385 | 325 | 326 | 310 | 255 | 291 |
| Parks | 85,461 | 63,324 | 63,467 | 75,079 | 87,041 | 66,867 | 76,539 | 68,934 | 82,663 | 71,357 |
| Police | 340 | 258 | 326 | 340 | 231 | 210 | 264 | 188 | 169 | 177 |
| Rec Center | 7,431 | 7,243 | 5,299 | 5,308 | 5,586 | 6,246 | 5,890 | 4,679 | 3,336 | 3,685 |
| Service Centers | 1,051 | 698 | 830 | 898 | 789 | 771 | 689 | 188 | 521 | 404 |
| Streets | 0 | 0 | 0 | 0 | 0 | 416 | 430 | 444 | 430 | 372 |
| Town Hall | 160 | 147 | 154 | 165 | 172 | 172 | 335 | 338 | 124 | 110 |
| Treatment Plants | 0 | 496 | 133 | 682 | 361 | 604 | 1,005 | 835 | 366 | 337 |
| **Total Consumption** | **96,663** | **74,804** | **73,791** | **86,363** | **97,226** | **77,187** | **87,412** | **78,081** | **90,188** | **80,444** |

# *WASTEWATER ENTERPRISE FUND*

## NUMBER OF ACCOUNTS BY METER SIZE & CUSTOMER CLASS

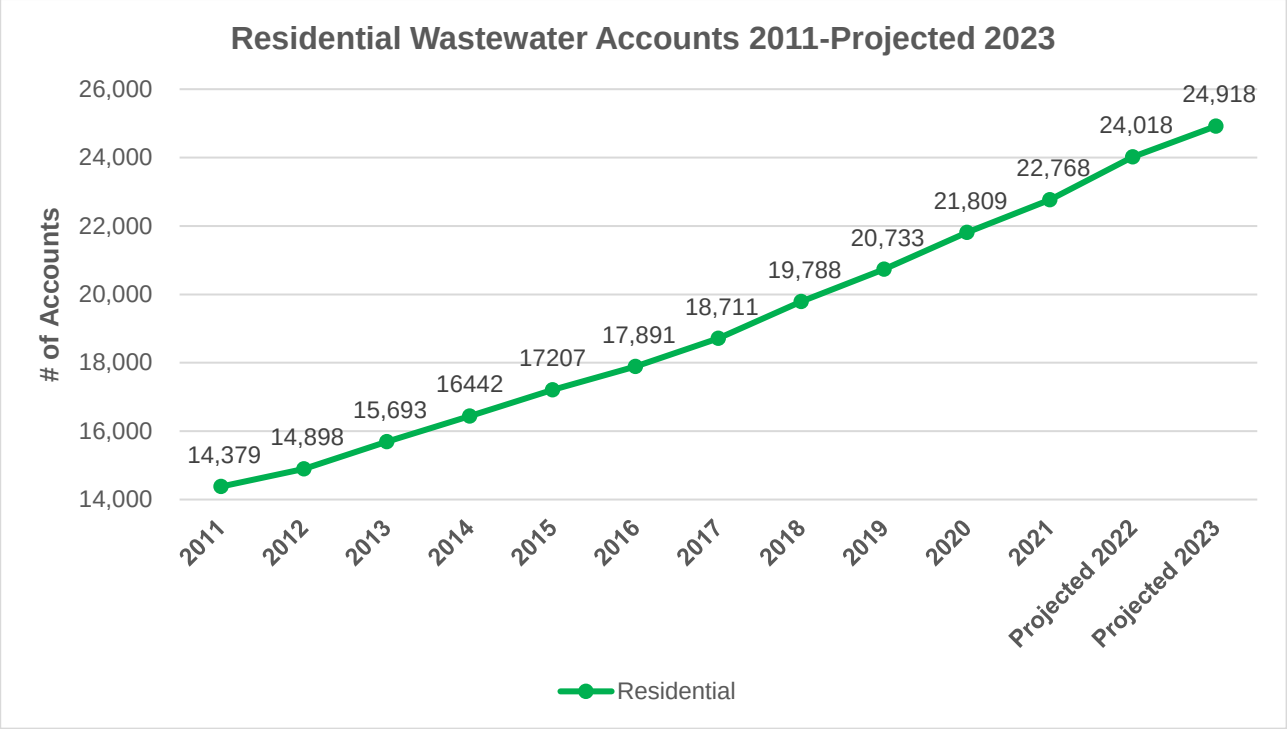
Table 11 shows the number of accounts by meter size and customer class using 12 months of billing data (Jan21-Dec21). This shows that 23,914 customers were receiving wastewater service during this capture period. The FY2020 accounts based on 12 months of billing data (Jan20-Dec20) showed that 22,935 accounts were receiving wastewater service. There are 979 more accounts in FY2021 than FY2020.

There are 865 less customers receiving wastewater service than water service due to irrigation customers who don't have wastewater and a few customers who have their own septic tanks thus not utilizing Castle Rock Water's wastewater services.

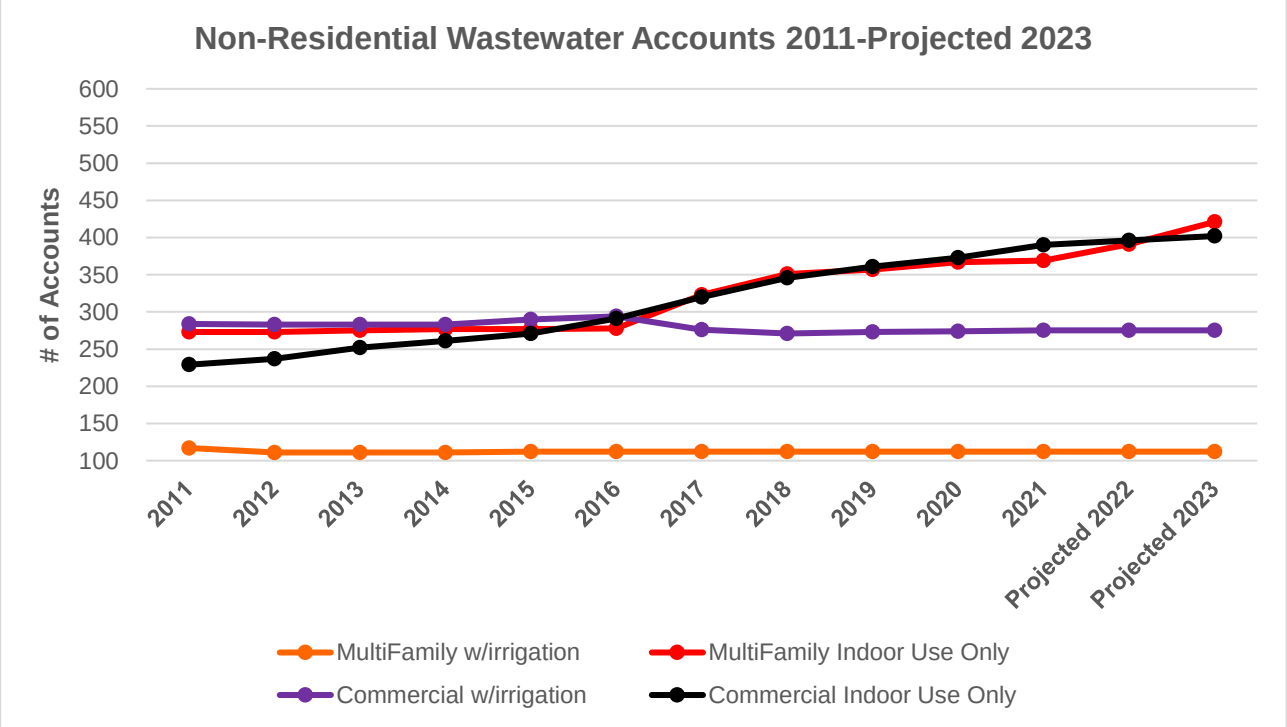
### TABLE 11: ACCOUNTS BY METER SIZE & CUSTOMER CLASS (FY2021)

| Meter Size | Residential | Multifamily | Commercial | MultiFamily Indoor Use Only | Commercial Indoor Use Only | Total |
|---|---|---|---|---|---|---|
| **5/8"** | 2,170 | - | - | 4 | 7 | 2,181 |
| **3/4"** | 20,573 | 14 | 123 | 101 | 126 | 20,937 |
| **1"** | 25 | 25 | 69 | 100 | 99 | 318 |
| **1.5"** | - | 55 | 49 | 119 | 94 | 317 |
| **2"** | - | 15 | 27 | 41 | 49 | 132 |
| **3"** | - | 2 | 5 | 4 | 14 | 25 |
| **4"** | - | 1 | - | - | 1 | 2 |
| **6"** | - | - | 2 | - | - | 2 |
| **Total** | 22,768 | 112 | 275 | 369 | 390 | 23,914 |

## CHART 60: RESIDENTIAL WASTEWATER ACCOUNTS




## CHART 61: NON-RESIDENTIAL WASTEWATER ACCOUNTS



Castle Rock Water projects FY2023 wastewater accounts by using 2021 billing data plus projected growth for FY2022 and FY2023. The FY2023 wastewater accounts are projected to equal 26,128 (24,918 for residential and 1,210 for non-residential).

**2022 Projected New Accounts by Customer Class:**

| | |
|---|---|
| 1,250 | Residential (1 SFE) |
| 22 | Multi-Family |
| 6 | Commercial |
| 1,278 | Total |

**2023 Projected New Accounts by Customer Class:**

| | |
|---|---|
| 900 | Residential (1 SFE) |
| 30 | Multi-Family |
| 6 | Commercial |
| 936 | Total |

Total growth of 1,278 accounts is projected for FY2022 and 942 for FY2023 for a total of 2,214 projected for the wastewater fund thru FY2023.

# *WATER RESOURCES ENTERPRISE FUND*

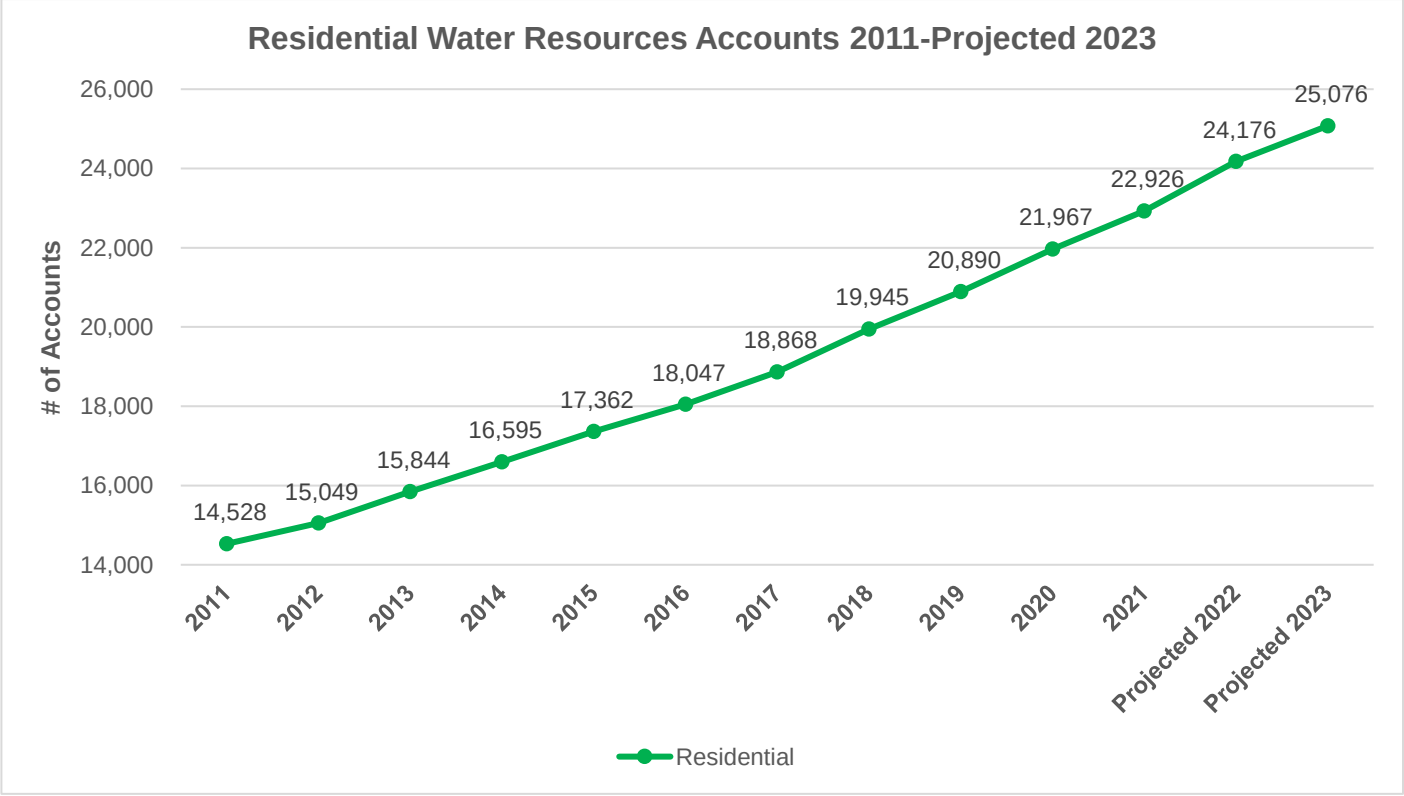
## NUMBER OF ACCOUNTS BY METER SIZE & CUSTOMER CLASS

Table 12 shows the number of accounts by meter size and customer class using 12 months of billing data (Jan21-Dec21). This shows 24,766 accounts served by the water resources enterprise fund. The FY2020 accounts based on 12 months of billing data (Jan20-Dec20) showed 23,760 water resources accounts. There are 1,006 more accounts in FY2021 than in FY2020.

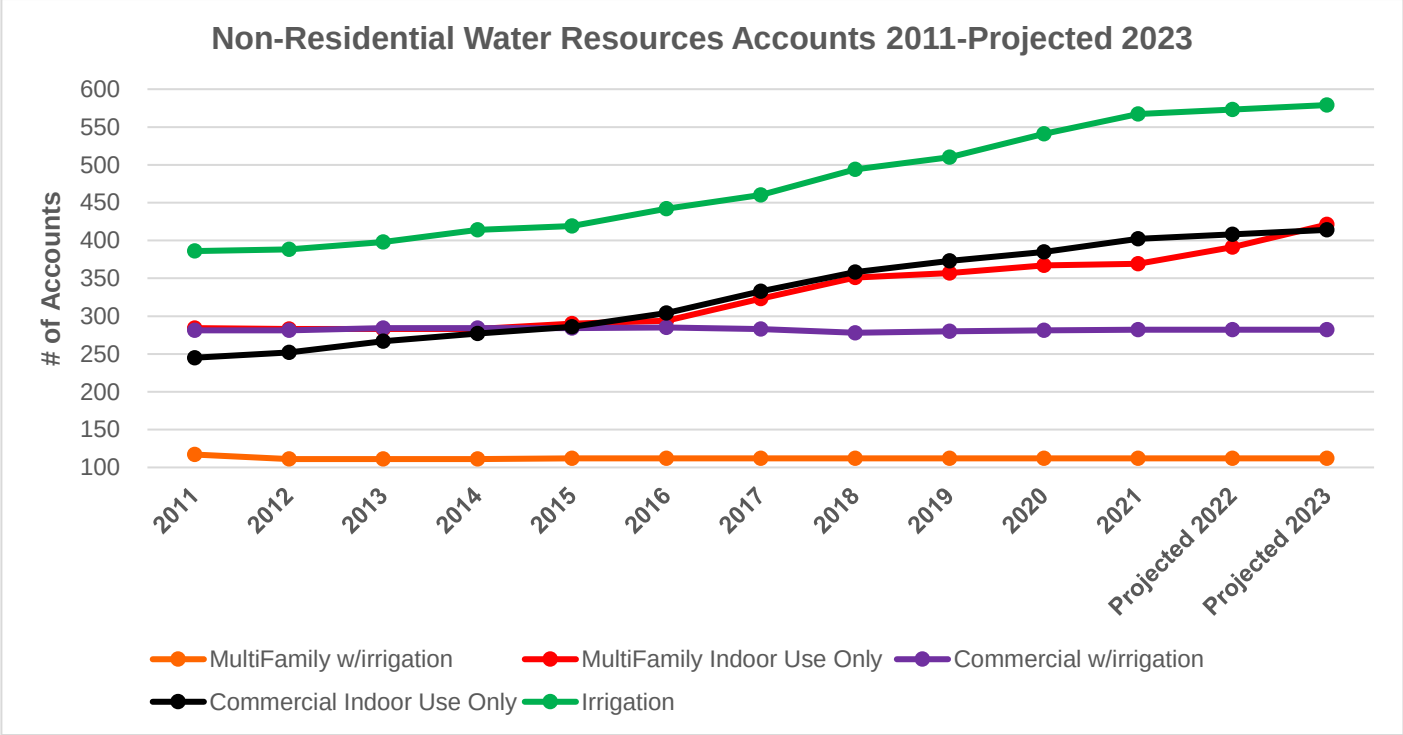
## TABLE 12: ACCOUNTS BY METER SIZE AND CUSTOMER CLASS (FY2021)

| Meter Size | Residential | Multifamily | Commercial | Bulk | Irrigation | MultiFamily Indoor Use Only | Commercial Indoor Use Only | Total |
|---|---|---|---|---|---|---|---|---|
| 5/8" | 2,170 | - | - | - | 2 | 4 | 7 | 2,183 |
| 3/4" | 20,730 | 14 | 126 | 108 | 208 | 101 | 132 | 21,419 |
| 1" | 26 | 25 | 71 | - | 112 | 100 | 103 | 437 |
| 1.5" | - | 55 | 51 | - | 153 | 119 | 94 | 472 |
| 2" | - | 15 | 27 | - | 84 | 41 | 50 | 217 |
| 3" | - | 2 | 5 | - | 6 | 4 | 15 | 32 |
| 4" | - | 1 | - | - | 2 | - | 1 | 4 |
| 6" | - | - | 2 | - | - | - | - | 2 |
| Total | 22,926 | 112 | 282 | 108 | 567 | 369 | 402 | 24,766 |

## CHART 62: RESIDENTIAL WATER RESOURCES ACCOUNTS



## CHART 63: NON-RESIDENTIAL WATER RESOURCES ACCOUNTS




Castle Rock Water projects FY2023 water resources accounts by using 2021 billing data plus projected growth for FY2022 and FY2023. The FY2023 water resources accounts are projected to equal 26, (25,276 for residential and 1,808 for non-residential).

**2022 Projected New Accounts by Customer Class:**

1,250 Residential (1 SFE)
22 Multi-Family
6 Commercial
6 Irrigation
1,284 Total

**2023 Projected New Accounts by Customer Class:**

900 Residential (1 SFE)
30 Multi-Family
6 Commercial
6 Irrigation
942 Total

Total growth of 1,284 accounts is projected for FY2022 and 942 for FY2023 for a total of 2,226 projected for the water resources fund thru FY2023.

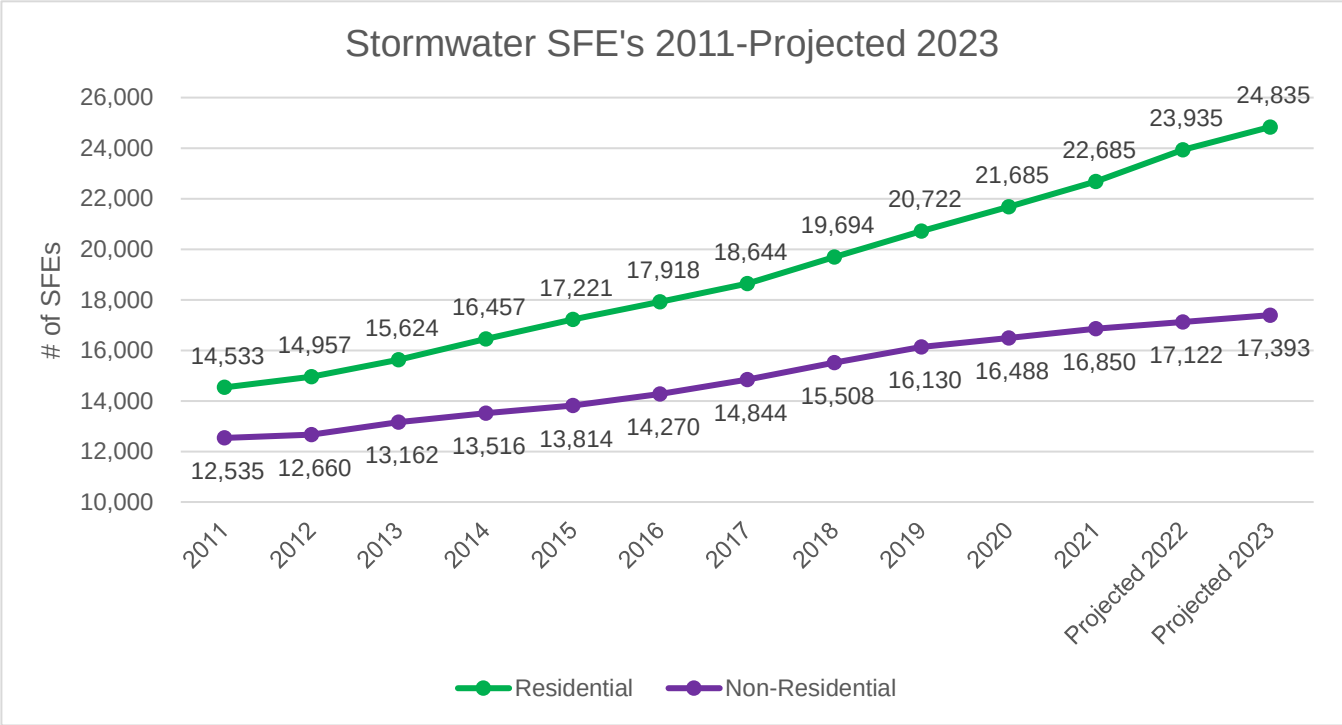
# *STORMWATER ENTERPRISE FUND*

Table 13 shows stormwater average monthly SFE's based on 12 months of billing data (Jan21-Dec21). This shows that 39,336 SFE's were receiving stormwater services during this capture period. The FY2020 billing data (Jan20-Dec20) showed 38,173 SFE's receiving stormwater services. There are 1,163 more SFE's in FY2021 than FY2020.

**TABLE 13: STORMWATER SFE'S (JAN 21-DEC 21)**

| Total Monthly SFE's | |
|---|---|
| Residential | 22,686 |
| Non-Residential | 16,650 |
| Stormwater SFE's | 39,336 |

## CHART 64: STORMWATER SFE'S




Castle Rock Water shows FY2023 projected stormwater SFE's based on 12 months of billing data (Jan21-Dec21) plus projected growth for FY2022 and FY2023. The FY2023 stormwater SFE's are projected to equal 42,228 (24,835 for residential and 17,393 for non-residential).

**2022 Projected New (SFE's)**

1,250 Residential
- 50 Detached in Cherry Creek Basin
- 1,200 Detached in Plum Creek Basin

272 Commercial in the Plum Creek Basin

1,522 Total

**2023 Projected New (SFE's)**

900 Residential
- 36 Detached in Cherry Creek Basin
- 864 Detached in Plum Creek Basin

272 Commercial in the Plum Creek Basin

1,172 Total

Total growth projected for the stormwater fund is 1,522 SFE's in FY2022 and 1,172 SFE's for FY2023.