

# WOODS CROSS CITY

## Water Conservation Plan



JULY  
**2023**

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J-U-B Engineers, Inc.  
7/10/2023

**Water Conservation Plan**  
Woods Cross City  
July 2023

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**J·U·B ENGINEERS, INC.**

# 1. WATER SYSTEM PROFILE

Woods Cross City located in Davis County services a population of approximately 11,659 people. The population at the projected build out of residents is estimated to be 14,500. Presently, the Woods Cross City Water System is comprised of infrastructure constructed from its early beginning in 1936. With growth and development, the demands of increased storage capacity, up –sizing of lines, and source development require review and analysis of the Water Master Plan every 5-7 years, most recently completed in 2018. A map of the current service area is included in Appendix A (Figure 3).

All of the buildings and developments in Woods Cross have meters, which are read monthly. Commercial and multi-family units are required to have a mechanical engineer review of the proper meter sizing, and no upsizing of water lines before or after the meter is allowed. The number of meters is broken down by type in Table 1.

Type	Meters	Ratio
Residential	3151	90.68%
Commercial	276	7.94%
Industrial	15	0.43%
Institutional	33	0.95%
<b>Totals:</b>	<b>3475</b>	<b>100%</b>

Table 1 Water Connections

Woods Cross City has been and will continue to see the disappearance of agricultural land that is being developed into residential or commercial areas. This growth will continue within the city. The City Council has adopted an ordinance that requires all residential development to provide pressurized secondary irrigation for all developed lots. Pressurized secondary water for all residential lots and some commercial lots within the city is supplied by Weber Basin Water and Bountiful Irrigation Water Districts.

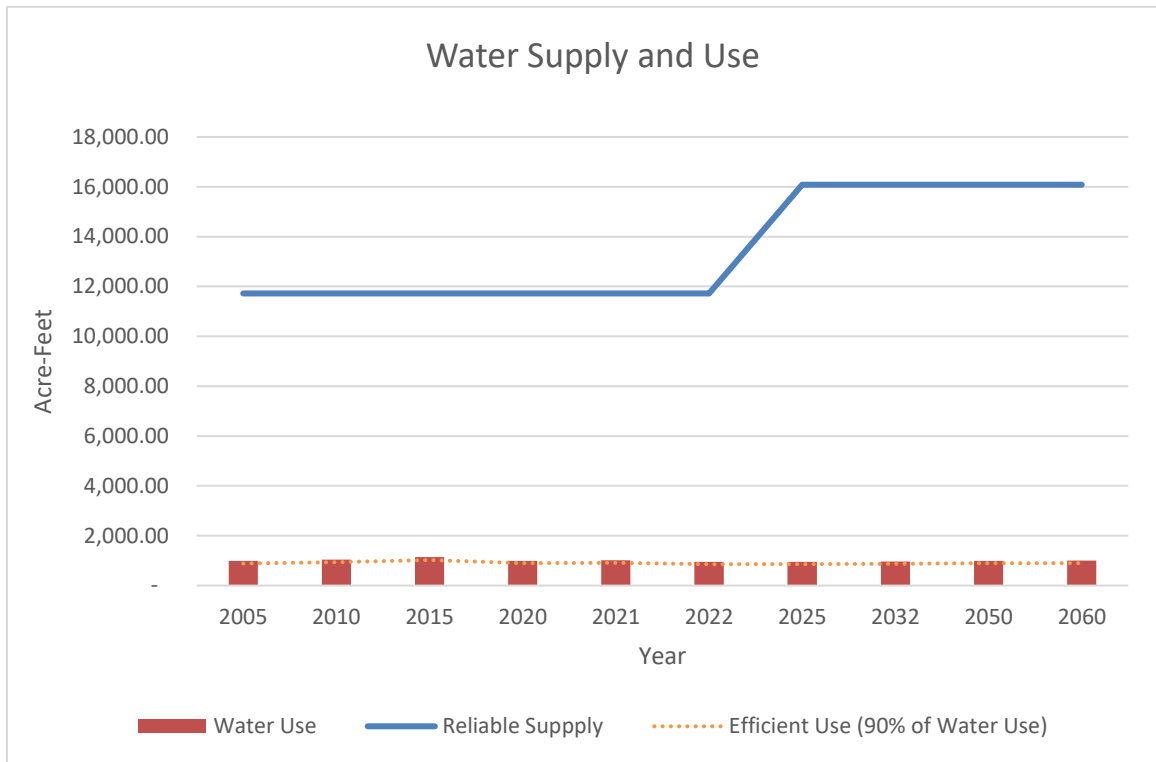
## 2. SUPPLY

Woods Cross City has a water right of over 15,983 acre-feet through wells for all culinary use. (See Table 2).

Right	Water Right #	Ac-Ft	Volume (CFS)	Total (GPM)
1	31-5209	3142.0731	4.34	1948
2	31-4569	4097.7267	5.66	2540
3	31-3849	180.995	0.25	112
4	31-2059	54.68	0.46	206
5	a39404	240.57	2.331	1046
6	31-4600	5067.78	7	3142
7	31-3971	1447.96	2	898
8	31-2068	15.14	0.157	70
9	a33833	240.57	2.331	1046
10	31-2069	33.532	0.352	158
11	31-2070	12.69	0.103	46
12	31-2071	15.42	0.18	81
13	31-2084	30.55	0.303	136
14	31-2091	362	0.5	224
15	31-2145	32.776	0.286	128
16	31-2147	33.532	0.352	158
17	31-2148	12.52	0.125	56
18	31-2149	15.14	0.157	70
19	31-2150	15.14	0.157	70
20	31-2398	484	0.668	300
21	31-2040	2.7	0.033	15
22	31-2041	2.7	0.033	15
23	31-2046	2.37	0.067	30
24	31-2047	2.37	0.111	50
25	31-5255	33.3408	-	-
26	31-5256	5.724	-	-
27	31-5257	138.364	-	-
28	31-5258	15.748	-	-
29	31-5262	8.4476	-	-
30	31-5263	29.6472	-	-
31	31-5264	33.724	-	-
32	31-5265	13.672	-	-
33	31-5266	91.104	-	-
34	31-5267	3.2384	-	-
35	31-5268	14.62	-	-
36	31-5270	23.1184	-	-
37	31-5272	13.7608	-	-
38	31-5273	9.1484	-	-
39	31-5276	2.352	-	-
40	31-5277	2.352	-	-
<b>Total Water Rights</b>		<b>15983.2964</b>	<b>27.956</b>	<b>12545</b>

Table 2 City Owned Water Rights

These water rights are anticipated to meet the present and future needs of the city (see Figure 1). In addition to city water rights, a contract for 100 acre-feet of water through the Weber Basin Water Conservation District is used as an additional emergency source of water.



**Figure 1 Water Supply and Use**

To accommodate the expected growth within the city, additional facilities will be constructed to meet demand. The Master Plan outlines a need for additional 1,000 GPM (nearly 2 CFS) of developed sources. A water treatment facility was constructed in 2015 that utilizes contaminated water from wells that have been impacted by a VOC contaminant. The construction of this facility allows the use of the existing wells delaying the need to develop additional sources. The city plans to increase GAC capacity at the water treatment facility in 2029 to fill the need for additional sources. This is projected to cost approximately \$800,000.00.

Woods Cross City is aware of the issues of groundwater depletion, and the need for aquifer recharge and storage and recovery practices. The city is currently working with state and local agencies on addressing aquifer recharge. There is a link on the city website with more information on groundwater depletion.

### 3. WATER MEASUREMENT, LOSS, AND BILLING

The current meter reading system is a 3 to 5-year-old cellular read system. This new system allows for daily correspondence and notifications of customer-side water leakage and provides the opportunity for customers to log in and review their own usage practices. The city currently has 3475 meters and will replace them every 20 years. This replacement schedule allows for meters to be fixed as needed, if not reading correctly, but they will not need calibration before being replaced.

Water meters and associated reading systems are depreciated and are included within a depreciation cost schedule.

Woods Cross City reviews the monthly usage and production of water within the city by performing a water audit monthly. Water leaks are repaired upon discovery. Investigations are done in system areas with high ground water or by request from customers. These water leaks are logged so the city can pinpoint problem areas and can replace old infrastructure more efficiently.

Woods Cross City averages approximately 137 acre-feet of water loss since 2005, this has accounted for approximately \$70,400 annual revenue loss. Weber Basin and Bountiful irrigation are tracking their own water losses in their conservation plan.

Woods Cross City, by resolution, adopted a consolidated fee schedule (See Table 3). A recent water bill is included in Appendix A (figure 4). This table will be updated after a new utility rate is adopted following a rate study.

WATER USAGE RATES			
METER SIZE	MONTHLY MIN. RATE	MAX. GAL. AT MIN. RATE	RATE PER 1,000 GAL. OVER MAX.
<b>Residential</b>			
¾"	\$21.80	2,000	\$1.10
¾"		8,000	\$1.60
1"	\$58.30	20,000	\$1.60
<b>Commercial</b>			
¾"	\$28.40	8,000	\$1.60
1"	\$58.30	20,000	\$1.60
1 ½"	\$125.80	48,000	\$1.60
2"	\$202.20	80,000	\$1.60
3"	\$444.00	181,000	\$1.60
4"	\$1,336.00	552,500	\$1.60

Table 3 Tiered Pricing Structure

## 4. WATER USE

The following table is based on woods Cross City recorded usage (typically indoor usage with the exception of 73 lots of a mobile home park and 20 lots of typical residential development, this is considered minimal and are not included in tables below) and does not account for outdoor usage through Weber Basin Water and Bountiful Irrigation Water districts.

Type	Connections	ERUs	MGAL	MGAL per Connection
Residential	3151	3151	195.222	0.062
Commercial	276	1536	95.190	0.345
Industrial	15	263	16.271	1.085
Institutional	33	56	3.443	0.104
Wholesale	0	0	0	0
Un-Metered	0	0	0	0

Table 4 Current Water Deliveries

Table 5 outlines the current Water System Usage in gallons per capita per day. Woods Cross City has an overall water use reduction goal to use less than 200 GPCD by the year 2030. The city will measure progress and re-evaluate this goal again once all secondary meters are installed by Weber Basin Water Conservation District and Bountiful Irrigation. Woods Cross City's water efficiency progress since the year 2005 is shown in Figure 2. This figure shows indoor use only, outdoor use will be added when available.

Type	Indoor	Non-Potable (Secondary by others)	Total Water Usage (GPCD)
Residential	45.87	179.90	225.77
Commercial	22.37	0	22.37
Industrial	3.82	0	3.82
Institutional	0.81	0	0.81
<b>Totals:</b>	<b>72.87</b>	<b>179.90</b>	<b>252.77</b>

Table 5 Current Usage (GPCD)

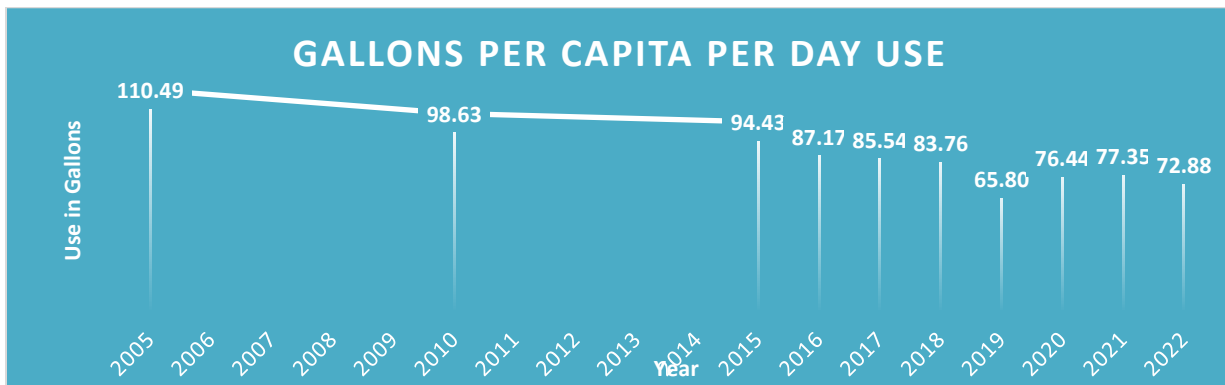


Figure 2 Water Efficiency Progress (City Indoor Use Only)



## 5. CONSERVATION PRACTICES

### Current Practices

We have taken actions that have promoted conservation. These include:

#### Water Conservation Committee

1. Form a Water Conservation Committee to help research, coordinate, create and implement public information campaigns, water conservation programs and incentives, including:

Position	Name	Title	Organization
Water Conservation Coordinator	Greg Seegmiller	City Engineer	J-U-B Engineers, Inc.
Public Works Director	Sam Christiansen	Public Works Director	Woods Cross City
City Council Member	Jessica Kelemen	City Council	Woods Cross City
Local Advocate	Kurtis Anderson	Managing Supervisor/Citizen	Bountiful Irrigation/Citizen

Table 6 Water Conservation Committee

#### Public Involvement and Education

1. Utilize existing messaging from Slow the Flow, Water Resources, CWEL and WaterSense.
2. Providing public education on conservation in water billings and the city newsletter.
3. Offer residential water budgeting programs. (Fall of 2020)
4. Hold or collaborate events, programs and/or presentations. Participate in the annual water fair to teach 5th graders, run by the Davis County Stormwater Coalition.
5. Direct residents to Weber Basin Conservancy District's Conservation Garden for adult efficient water use education.
6. Educate customers about new water-saving technology, such as weather based smart controllers.
7. Promote large efficient landscape training programs.  
<https://www.qwelutah.com/training/>

#### Rebates/Incentives/Rewards

1. To address water waste complaints, the city incentivizes the resident to fix leaks by lowering their water rate to the lower tier on any water used for the month prior to fixing it.
2. Collaborate on Weber Basin's free landscape consultation program.
3. Participating in all applicable regional rebates through <https://utahwatersavers.com>. This includes toilets, E.T. Controllers, flip the strip, and localscape design.

## Ordinances and Standards

1. The city has an ordinance that requires outside irrigation in all new residential developments to be provided by a secondary irrigation system; in order to:
  - a. Preserve culinary water for indoor use.
  - b. Place the responsibility on the irrigation companies to implement conservation measures, with support from the city.
2. Support irrigation system restrictions on watering during the day between the hours of 10 A.M. to 6 P.M.
3. Maintain adoption of most current plumbing codes.
4. Amended current Landscape Ordinance to require all new, non-residential connections to include an automatic E.T. controller. (2021).
5. E.T. controllers have been installed on city properties. Also, E.T. controllers are required on all new developments where city water/secondary water is being used for irrigation.
6. Adopted an ordinance requiring water-efficient landscaping in all new commercial and residential development. (May 2022)
7. Continue monthly high-usage audit. This information is used to produce a usage report per ERC/Connection on a yearly basis.
8. Ensure compliance with City Water ordinances, codes and regulations as land development applications are reviewed and approved by City Staff, Planning Commission and City Council.

## Water Pricing

1. Implemented a tiered residential water rate structure beginning at a base rate of 2,000 gallons of water per month to encourage water conservation. (2019)
2. Review monthly billing to:
  - a. Detect and notify customers of possible leaks.
  - b. Perform water audits on culinary water usages.
3. High water use notifications are sent with monthly water bill and via water use app from new meter.

## Physical System

1. Support Weber Basin Conservancy District and Bountiful Irrigation in their efforts to install secondary meters.
2. Review monthly billing to:
  - a. Detect and notify customers of possible leaks.
  - b. Perform water audits on culinary water usages.
3. Maintain E.T. controllers that have been installed on city properties. Also, E.T. controllers are required on all new developments where city water/secondary water is being used for irrigation.
4. The city has completed a plan to update all meters. These new meters allow customers to log in to review water usage and trends within their own home. (Culinary - fall of 2020, secondary - by 2030).

## Additional, Future Conservation Measures and Procedures

Woods Cross City recognizes the need for water conservation. We will promote and encourage conservation for the next five years by:

### Public Involvement and Education

1. Continue to provide educational information on water conservation.
2. Collaborate with the Davis County Coalition in holding a Water Fair covering water resources. (2023)
3. Offer agency materials and resources to community partners for distribution.
4. Provide new homeowner water-efficient landscape information. (2025)
5. Distribute “how to videos”. (track through “likes” on social media; 2025)

### Ordinances and Standards

1. Adopt a time-of-day water ordinance as established by Weber Basin Water & Bountiful Irrigation. (2025)
2. Continue to update our land use ordinances to encourage landscaping that promotes water conservation as needed and required.
3. Amend our ordinance regulating the waste of water with accompanying enforcement and authority to issue fines. (2025)
4. Amend ordinance to require secondary water for all non-residential developments. (2025)

### Physical System

1. Use available technology to find leaks in old sections of piping and replace those pipes.
2. Encourage proper watering techniques on all city property.
3. Support outside irrigation water providers to find a way to measure outdoor water usage of residents for reporting and measuring conservation effectiveness. (To be completed 2030 by local irrigation companies)
4. Gather records of potable and non-potable water use by sector and service area population from 2005 to the current year.
5. Apply for water reuse intent. (November 2023)

## Conservation Goals

1. Following conservation plan guidelines, water consumption usage will be reduced to 200 GPCD for residential usage and reduced by 2% for all other connections. (2030)

## Completed Goals

1. Amended current Landscape Ordinance to require all new, non-residential connections to include an automatic E.T. controller. (November 2021)
2. Promoted State Water Conservation Rebate Program (<https://utahwatersavers.com>) on the city website for toilet replacement. (January 2023)
3. Encouraged the use of smart controllers for secondary irrigation systems. Rebates for these can also be found <https://utahwatersavers.com>. (January 2023)
4. Offered residential water budgeting programs. (Fall of 2020)

- Adopted an ordinance requiring water-efficient landscaping in all new commercial and residential development. (May 2022)

### Implementation of the Water Conservation Plan.

The implementation of the Water Conservation Plan will be the responsibility primarily of the Public Works Director (Sam Christiansen – [schristiansen@woodscross.com](mailto:schristiansen@woodscross.com)). The Planning Commission shall be responsible to assist with the implementation regarding land development reviews and approvals, with the assistance of the Community Development and Public Works departments and City Engineer (as a Development Review Committee):

- Monitor the implementation of the measures and procedures outlined in the proceeding section to ensure that they are implemented.
- Review the Water Department budget yearly to observe effects from conservation.
- Review and revise the Conservation Plan as needed and present amendments to the City Council for discussion and adoption by resolution.
- Review city code and requirements pertaining to greywater, rainwater, groundwater discharge, construction standards and building codes, new development requirements, and water efficiency standards.

Woods Cross City can be reached at (801) 292-4421. Others involved with meeting efficiency goals can be found in Table 7.

Position	Responsibility
Mayor	Policy Approval
Council	Policy Approval
City Administrator	Suggest Policy
Committee	
Public Works Director	Create Policy
City Engineer	Committee Coordination
Water Superintendent	Water and Storm Drian System
Other Committee Members	Public Coordination and Education

	Name	Email	Responsibility
Other Resource	Weber Basin Water	customerservice@weberbasin.com	Education
	Utah Water Savers	<a href="https://utahwatersavers.com/">https://utahwatersavers.com/</a>	Incentives/Rebates
	Lacey Bartholomew	lbartholomew@woodscross.com	City Social Media
	USU Extension Services	<a href="https://extension.usu.edu/davis/">https://extension.usu.edu/davis/</a>	Education

Table 7 Responsibilities for Efficiency Goals

# Appendix A

Figure 3 Service Area Map

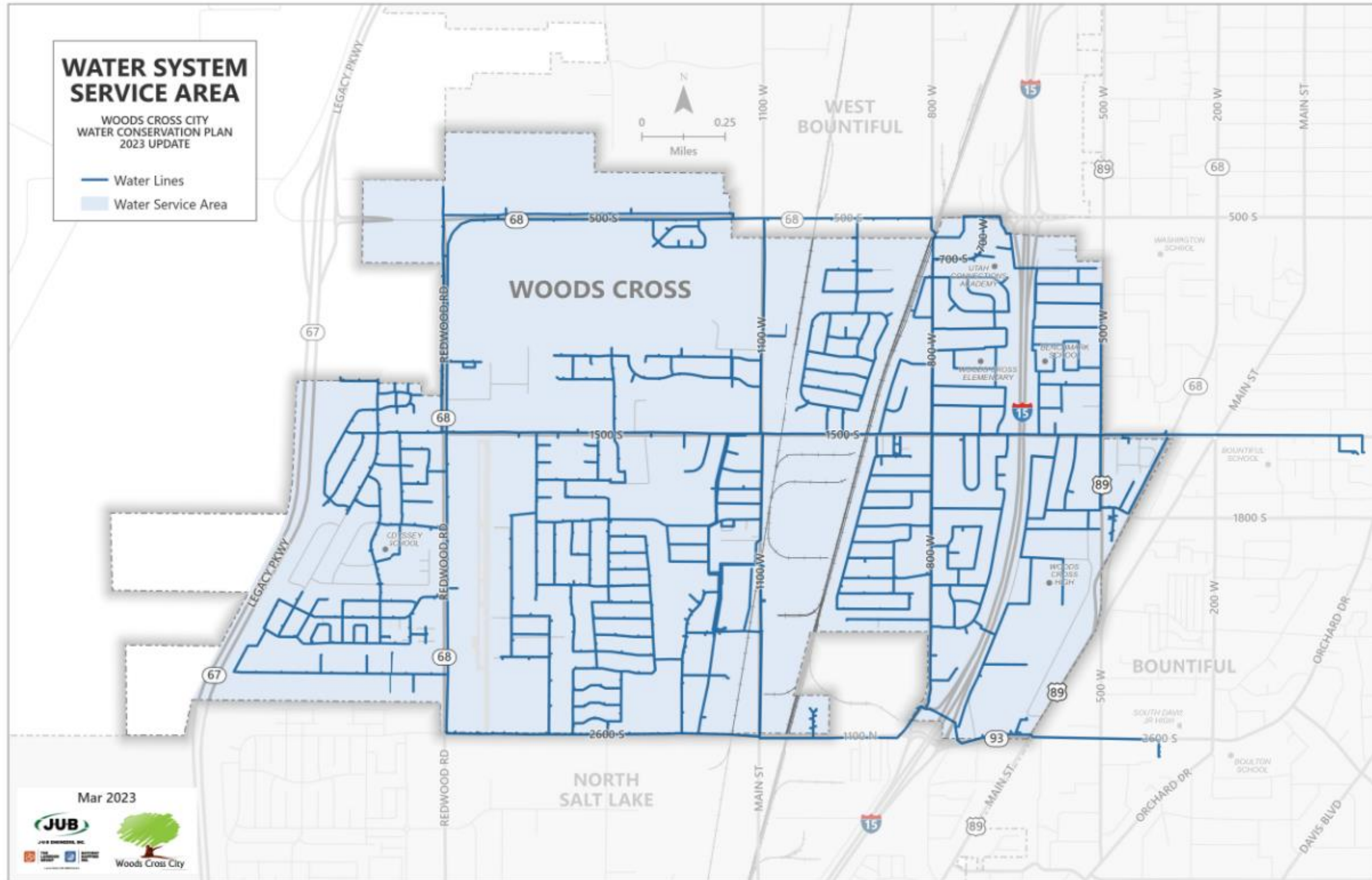


Figure 4 Water Bill



**Woods Cross City**

1555 South 800 West  
 Woods Cross, UT 84087  
 (801) 292-4421  
[utilities@woodscross.com](mailto:utilities@woodscross.com)  
 Monday - Thursday 7:30am - 5:30pm, Friday  
 7:30am - 11:30am, Closed Holidays

[Remove Account](#)

Please pay PAST DUE BALANCE (if applicable) on or before 04/09/2023 to avoid a \$20 delinquency fee. SIGN UP FOR PAPERLESS BILLING AND RECEIVE THE NEWSLETTER VIA EMAIL. SIGN UP FOR OUR CONVENIENT PAY BY TEXT FEATURE - JUST TYPE PAY WHEN YOU GET NOTIFIED THAT YOUR BILL HAS BEEN POSTED. [www.EyeOnWater.com](http://www.EyeOnWater.com) or mobile app to view your water usage and detect leaks. For city information, details on upcoming events, and the water quality report go to [www.woodscross.com](http://www.woodscross.com)

Have your bill paid automatically each month with Xpress Bill Pay's hassle-free Auto Pay feature.

**Billing Address**

[Redacted]  
 WOODS CROSS, UT 84087

**Service Address**

[Redacted]

**Account Information**

Account Number [Redacted]  
 Billing Period End 03/31/2023  
 Account Type Utility  
 Due Date 04/25/2023  
 Select Billing Period 3/31/2023

DESCRIPTION	PREV READ DATE	READ DATE	METER	PREV READING	PRESENT READING	TOTAL USAGE
WA	02/22/2023	03/22/2023	200092563	144	146	2

Previous Payment Date 03/25/2023  
 Previous Payment Amount \$56.71

**Total Charges**

WATER	\$21.80
RECYCLE	\$6.80
GARBAGE	\$14.76
GREEN WASTE	\$7.15
STORM WATER	\$4.00
<b>Statement Charges</b>	<b>\$54.51</b>
<b>Amount Due</b>	<b>\$54.51</b>

The information displayed here is provided by Woods Cross City. If there is a discrepancy, please contact Woods Cross City. Please note that this bill is only displaying payments made on or after 03/31/2023. Payments made directly to Woods Cross may or may not be displayed here.