



The Weekly Update – April 6, 2023

Attachments:

1. Journal of Special City Commission Work Session, March 21, 2023
2. 2022 Consumer Confidence Report on Drinking Water Utilities in compliance with US Environmental Protection Agency (EPA) and the Montana Department of Environmental Quality (DEQ)

JOURNAL OF SPECIAL COMMISSION WORK SESSION
March 21, 2023

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City Commission Special Work Session
Civic Center, Gibson Room 212

Mayor Kelly presiding

CALL TO ORDER: 4:45 PM

CITY COMMISSION MEMBERS PRESENT: Bob Kelly, Joe McKenney, Susan Wolff and Eric Hinebauch. Commissioner Rick Tryon was excused.

STAFF PRESENT: Deputy City Manager Chuck Anderson; City Attorney David Dennis and Deputy City Attorney Rachel Taylor; Finance Director Melissa Kinzler; Public Works Director Chris Gaub, City Engineer Jesse Patton, Engineer Amanda Brownlee and Sanitation Manager Ross Bartell; Library Director Susie McIntyre; Police Chief Jeff Newton; Fire Chief Jeremy Jones; and, Deputy City Clerk Darcy Dea.

PUBLIC COMMENT

Brian Cayko, City resident, submitted written comments, via March 20, 2023 correspondence, expressed concern about a public library director exposing children to a drag queen story hour and being dishonest about having done so. He further expressed concern that the financial information with regard to the library and possible levy were misleading and demonstrated to be utilized for inappropriate purposes, such as hiring social workers. He requested that the Commission consider these things carefully and no longer allow this kind of disgraceful, untrustworthy, and manipulative behavior to continue in the leadership of the public library.

Jeni Dodd, City resident, commented that lying is one of the most detrimental human behaviors and when government officials and employees lie, it is disingenuous and destroys public trust. Ms. Dodd expressed concern that Library Director Susie McIntyre lied about several aspects of a drag queen story hour and was misleading about a certain book being in the adult section when it was classified as a comic book. Ms. Dodd commented that it is very disturbing and inappropriate that Library Director McIntyre would equate death threats to concerns expressed by a Great Falls Pachyderm club member over a drag queen story hour and obscene material accessible to children. Ms. Dodd further commented that the consideration of a Library Mill Levy during a recession shows how out of touch Library Director McIntyre and the Library Board are with the public. Ms. Dodd concluded that Library Director McIntyre lacks awareness of the financial stress of the working class, has misrepresented the current spending per capita of the library and should be removed from her position as library director.

1. LIBRARY UPDATE

Mayor Kelly read from a prepared list of questions from Commissioner Tryon and Library Director Susie McIntyre read her prepared responses.

2. FIBER AND 5 G TELECOMMUNICATION PRESENTATION


Public Works Engineer Amanda Brownlee reviewed and discussed the following PowerPoint:

03/21/23

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Fiber and 5G




WHAT IS FIBER

- Aerial or Underground Cable
 - Long-Distance and High-Performance Data Networking
- Future
 - Promises faster internet and data sharing
 - More companies – Faster internet – More competition



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WHAT IS 5G

- Latest Iteration of Cellular Technology
 - Increase in speed and responsiveness of wireless networks when outside
- Not fiber
 - Fiber is for in the house
- 5G is for your phone

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WHO IS KNOCKING

- WANRack
 - Fiber To The Schools
 - Fiber to Benefits
- TDS
 - Fiber To The Homes
- KDS
- Zayo
- Zply
- Charter/Spectrum
- Dish Network
- Verizon
- Lumen



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WHAT IS ENTAILED



- Public Works
 - Engineering
 - Permitting
 - Route Review
 - Utility Conflicts
 - Utilities
 - Locating City Utilities
 - Mediating Conflicts
 - Streets
 - Street Repair from potholing/street openings
- PCD
 - Permitting
 - All permits other than Linear Underground Development



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WHAT IS ENTAILED - FIBER continued

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CITY OF GREAT FALLS **WHAT IS ENTAILED - FIBER**

- Engineering
 - Creation of Linear Underground Development permit and process
 - Meeting with interested parties both in the field and in the office
 - Review of applications and submittals
 - Inspection

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CITY OF GREAT FALLS **WHAT IS ENTAILED - FIBER**
continued

ALLEY CROSS SECTION

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CITY OF GREAT FALLS **WHAT IS ENTAILED - FIBER**
continued

STREET CROSS SECTION

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CITY OF GREAT FALLS **WHAT IS ENTAILED - FIBER**
continued

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CITY OF GREAT FALLS **WHAT IS ENTAILED - FIBER**
continued

- Utilities
- Streets
- PCD

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CITY OF GREAT FALLS **WHAT IS ENTAILED - TOWER LEASING**

- Engineering/Water Plant
 - Contractor contacts either Engineering or the Water Plant
 - Contacted party works with the other party to discuss logistics
 - Looks up requested locations drawings and any current leases at that location
 - Contacts Contractor to set up meeting for walk through of location and requirements of being at that location
 - Reviews submittals and applications

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WHAT HAS BEEN PERMITTED

- Charter/Spectrum (Franchise)
 - 5 Approved Linear Underground Development Applications
 - 1 more in the works
- KDS (Non-franchise, Non-Utility)
 - 2 Approved Applications
- TDS (Franchise)
 - Approximately 40 applications will be submitted
- WANRack (Non-franchise, Non-Utility)
 - 11 Approved Applications
 - 3 Pending Applications
- Zayo (Non-franchise, Non-Utility)
 - 2 Approved Applications
- Lumen (Non-franchise, Non-Utility)
 - 2 Pending Application


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WHAT HAS BEEN INSTALLED

- Charter/Spectrum
 - 1714 ft of Underground
- WANRack
 - Approximately 60,000 ft of underground installation
- KDS
 - 1200 ft installed underneath the 10th St walking bridge
 - 485 ft installed for Johnson Madison Lumber
- Zayo
 - 650 ft installed for Library installation
 - 600 ft installed for fiber to Great Falls North Apartments


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WHAT WILL BE INSTALLED


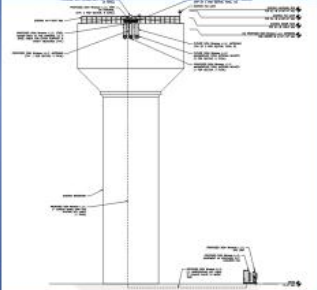
- Charter/Spectrum
 - More applications submitted every quarter
- TDS
 - Projected to start 1st or 2nd ¼ 2023
- WANRack
 - Benefis build out started

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WHAT WILL BE INSTALLED CONTINUED

- Dish Network
 - Requesting to place antennas on Gore Hill Water Tower

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TIME

- Engineering
- Utilities
- Streets
- Water Plant
- PCD
- City Attorney's Office
- City Manager's Office



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FEES

- \$50 Application Fee
 - \$1/inch diameter/ft installed per year, for non-utility, non-city fiber.
- Lease fees for on Water Towers
 - Depends on location of tower and location of antenna on the tower
- Administration Review Fees
 - \$108/Hour
- Inspection Fees
 - \$66/Hour
 - \$80/Hour Overtime

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CITY OF GREAT FALLS

FEES: WHO PAYS WHAT

- Application Fee
 - Every Application pays the fee
 - Each node/area is an application
- Yearly Fee
 - Non-franchise, non-utility
- Lease fees
 - Anyone who leases City owned land.
- Administration Review Fees
 - Those not paying yearly fee
- Inspection Fees
 - Those not paying yearly fee

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CITY OF GREAT FALLS

INSPECTIONS



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CITY OF GREAT FALLS

INSPECTIONS



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CITY OF GREAT FALLS

INSPECTIONS



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CITY OF GREAT FALLS


INSPECTIONS



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CITY OF GREAT FALLS

QUESTIONS



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Mayor Kelly received clarification that the Engineering fees are standard across the board. He suggested

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that Public Works Engineers be mindful of all the businesses wanting to install fiber and make sure that it is charging appropriately.

Public Works Engineer Jesse Patton explained that because WANRack was school related, it was billed per hour and the City was able to recoup all costs. TDS will be a Franchise Agreement and will be billed per hour for its costs. He added that there has not been any yearly fees to compare to hourly; however, that information will be provided to the Commission when it is available.

Mayor Kelly suggested that Public Works Engineers look at this demand across the board with other engineering products that are billed out on a regular basis. Mayor Kelly added that the demand is high for applicants wanting to put cable in, there is money available for infrastructure and applicants should not be sent away. He suggested that a company hired to place antennas on the Gore Hill Water Tower would also consider sponsoring the mural.

Mayor Kelly requested that Public Works Engineer Brownlee look into a damaged Americans with Disabilities Act (ADA) access south of the Great Falls Public Library.

Commissioner Wolff received clarification that the preferred place for installation of fiber would be under the sidewalk on both sides with regard to the Alley Cross Section PowerPoint slide.

Commissioner McKenney inquired about the sudden interest in fiber and if the businesses involved are competing against each other.

Public Works Engineer Brownlee responded that federal money has been provided to companies for fiber installation and some of the businesses are competitors.


Deputy City Manager Chuck Anderson added that this is timely because construction season is approaching soon. With the number of applications, companies such as TDS might be the first competitor that Charter/Spectrum has had in the community. The companies will be looking to go across the community and it will be a multi-year project doing fiber layout. He explained that there is also federal guidelines regarding 5G and federal law has been passed that if the City delays telecommunication providers past a certain date, they do not have to follow any local rules.

3. 2023 RATE ANALYSIS FOR SANITATION DIVISION

Public Works Director Chris Gaub reviewed and discussed the following PowerPoint:

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**City of Great Falls
Sanitation Division**

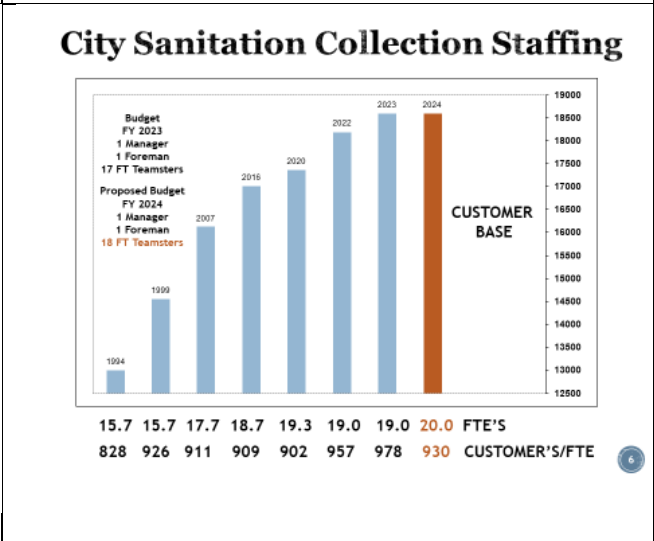
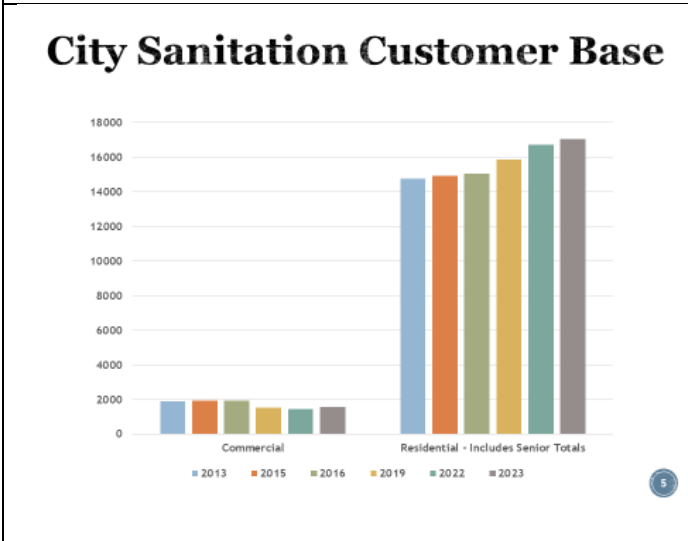
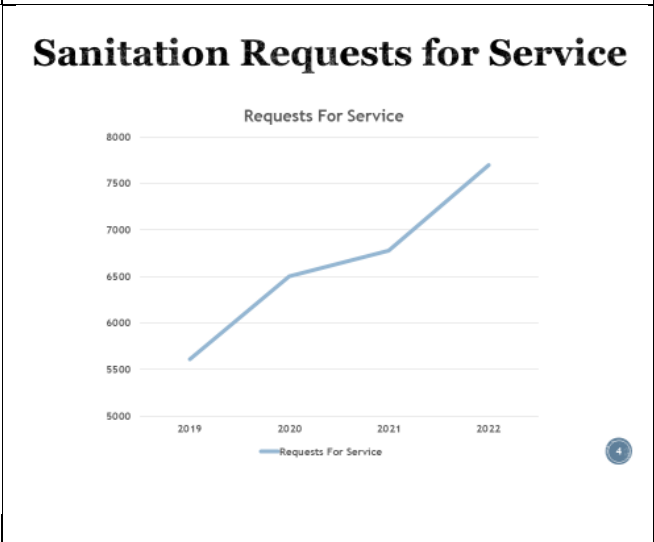


**2023 RATE ANALYSIS
City Commission
Work Session
March 21, 2023**

City Sanitation Customer Base

City Utility Customer Base FY 2023 January	21,924	100%
City SN Residential Customers	17,040	
City SN Commercial Customers	1,551	
Total City of Great Falls Customers	18,591	84.8%
Total Republic Services Customers <small>Republic could not provide an accurate split between residential and commercial customers without including customers outside city limits.</small>	3,333	15.2%

- ### Trends: More Customers Because...
- **City of Great Falls is growing:**
 - New businesses, housing and apartment complexes
 - **City Sanitation Customer Service:**
 - When someone calls they talk to someone local
 - City Utility Customer Service team goes above & beyond
 - Garbage charges are on same utility bill with water
 - City Sanitation drivers are top notch
 - **No long term contracts required for businesses**
 - **No Miscellaneous Fuel Surcharges**



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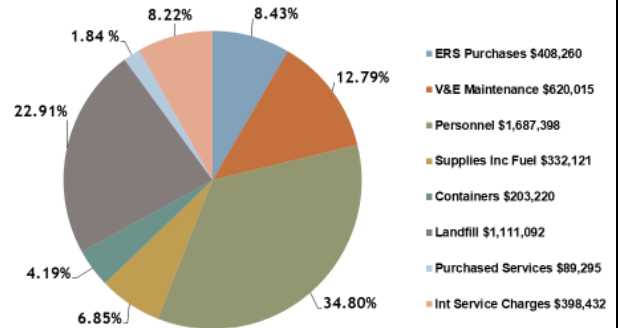
March 21, 2023

MAJOR RATE DRIVERS

- **Landfill Costs:** 22.91% of Budget (Approx. \$1,111,092 per year)
 - 1.40% CPI increase 2021
 - 6.85% CPI increase 2022
 - 7.15% CPI increase 2023 (max agreement 7.00%)
- **Personnel Costs:** 34.80% of Budget
 - 4.5% average increase last 4 years (Includes salaries, health insurance, life insurance, unemployment, workers compensation, FICA, Medicare, PERS, and pensions)
- **Vehicle Replacement:** 8.43% of Budget (Updating Fleet)
 - Budgeted FY23 \$408,260 (Foreman Truck / Sideloader)
 - Projected FY24 \$607,248 10 year plan (Roll-Off / Rearloader)
- **Vehicle Maintenance:** 12.79% of Budget
 - Budgeted FY23 \$620,015
 - Projected FY24 \$651,016

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Sanitation Operating Costs Adopted FY 2023-2024



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SANITATION LANDFILL

FY YEAR	REPUBLIC LANDFILL RATE	CPI RATE INCREASE PER YEAR	TONNAGE	TOTAL FEES PAID TO REPUBLIC
2002	\$18.88	2.30%	35,975	\$ 722,468
2007	\$20.98	2.00%	33,634	\$ 705,644
2012	\$23.05	3.35%	36,852	\$ 870,109
2017	\$25.61	3.00%	35,138	\$ 885,484
2018	\$26.64	4.00%	33,704	\$ 787,782
2019	\$27.35	2.65%	33,422	\$1,001,077
2020	\$27.98	2.30%	36,873	\$1,018,742
2021	\$28.37	1.40%	36,121	\$1,015,358
2022	\$30.31	6.85%	35,185	\$1,025,642
2023	\$32.43	7.00%	Estimated 36,234	Estimated \$1,103,722

Average Landfill Rate Increase Per Year since 2017: 3.89%

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Sanitation Fleet Residential

YEAR	MANUFACTURER	HOURS	MODEL
2016	Peterbilt	9,125	320
2016	Peterbilt	13,752	PB 320
2017	Auto Car	10,758	ACX 64
2017	Auto Car	11,073	ACX 64
2018	Auto Car	8,284	Expiditor
2018	Auto Car	6,881	Expiditor
2019	Peterbilt	5,335	520
2021	Peterbilt	2,480	PB 520 Side Loader
2023	Auto Car	New Truck	ACX64

Average Residential Fleet Age 5 years - Industry Target: 6-8 years

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Residential Truck



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Sanitation Fleet Commercial

YEAR	MANUFACTURER	HOURS	MODEL
2003	Volvo (Cardboard Collection)	10,304	WX64
2003	Sterling (Backup Roll-Off)	13,391	LT9500
2007	Sterling (Backup Commercial/Brush)	18,981	LT9500
2007	American LaFrance	15,263	Condor
2010	Kenworth	12,260	T800
2013	Peterbilt	10,941	320
2016	Kenworth	10,970	T440
2016	Kenworth	10,300	T800
2017	Kenworth	11,194	T440
2017	Kenworth	11,233	T440

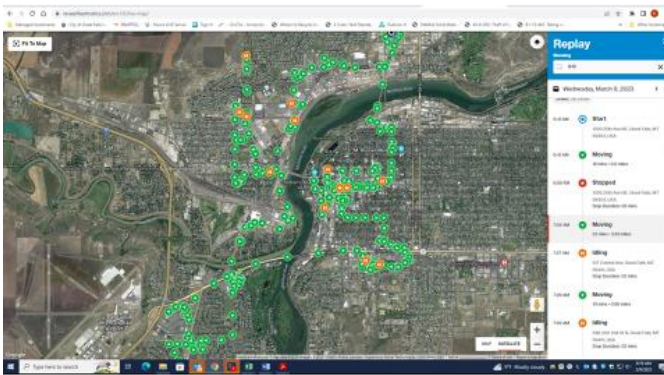
Average Commercial Fleet Age 12 Years - Industry Target: 10 years

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GPS – Truck 918 Wednesday Route



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Internal Maintenance Charges

Fiscal Year	Actual/Projected	Plan with no changes 7% increase per year	Intercep Loan purchased 6 new trucks in 2016 Not replacing 6 in 2023 10 Year Plan 5%
2020	Actual	\$ 566,958.60	* \$ 406,661.00
2021	Actual	\$ 606,645.70	* \$ 442,284.00
2022	Actual	\$ 649,110.90	\$ 463,933.00
2023	Actual	\$ 694,548.66	\$ 620,015.75
2024	Projected	\$ 743,167.07	\$ 651,016.00
2025	Projected	\$ 795,188.76	\$ 683,566.54
2026	Projected	\$ 850,851.97	\$ 717,744.86
2027	Projected	\$ 910,411.61	\$ 753,632.11
2028	Projected	\$ 974,140.42	\$ 791,313.71
Total Cost		\$6,791,023.69	\$5,530,166.97

*With Public Works Building Improvements \$22,500
Expected Savings 10 Year Plan \$1,260,856.72
Cost of 6 Trucks 10 Year Plan \$2,170,458

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Cash Flow with Capital Outlay 10 Year Replacement of Trucks

	FY22 Actual	FY23 Budgeted Revenue Increase 0%	FY24 Projected Revenue Increase 10%	FY25 Projected Revenue Increase 10%	FY26 Projected Revenue Increase 5%	FY27 Projected Revenue Increase 5%	FY28 Projected Revenue Increase 5%
Beginning Cash Balance	\$ 513,524	\$1,141,284	\$ 935,925	\$ 664,911	\$ 451,512	\$ 614,117	\$ 418,206
Revenues	\$4,680,607	\$4,646,874	\$5,110,861	\$5,621,248	\$5,894,960	\$6,189,708	\$6,499,193
Expenses	\$4,230,835	\$4,852,233	\$5,381,875	\$5,834,646	\$5,732,355	\$6,385,619	\$6,790,417
Over/Under	\$ 449,772	\$ (205,359)	\$ (271,014)	\$ (213,399)	\$ 162,605	\$ (195,911)	\$ (291,223)
Ending Unrestricted Cash Balance	\$1,141,284	\$ 935,925	\$ 664,911	\$ 451,512	\$ 614,117	\$ 418,206	\$ 126,983

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COMMERCIAL RATES

	MONTHLY	CURRENT	10% PROPOSED
96 Gallon		\$ 25.10	\$ 27.60
300 Gallon		\$ 30.00	\$ 33.00
1.5 yard		\$ 42.45	\$ 46.70
2 yard		\$ 60.70	\$ 65.80
3 yard		\$ 72.80	\$ 80.00
4 yard		\$ 97.00	\$ 106.70
6 yard		\$ 144.30	\$ 158.70
8 yard		\$ 191.60	\$ 210.80
Cardboard Recycling		\$ 22.00	\$ 24.00
Vacant Business—Once a month pick up		\$ 5.00	\$ 6.00
DROP BOX (PER PICK-UP)			
3 yard construction dumpster		\$ 58.00	\$ 64.00
10 yard concrete dumpster (plus rental & disposal)		\$ 185.00	\$ 203.00
20 yard construction dumpster		\$ 329.00	\$ 362.00
30 yard construction dumpster		\$ 370.00	\$ 407.00
40 yard construction dumpster		\$ 407.00	\$ 447.00
30 yard compacted (plus disposal charge)		\$ 234.00	\$ 257.00
40 yard compacted (plus disposal charge)		\$ 234.00	\$ 257.00
Flat Rate Surcharge (overweight containers)		\$ 115.00	\$ 126.00
Dry Run Fee		\$ 55.00	\$ 60.00
Per Day Rental Fees		\$ 2.00	\$ N/A

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RESIDENTIAL RATES

	MONTHLY	CURRENT	10% PROPOSED
Regular 96 Gallon		\$ 15.00	\$ 16.50
Duplex (\$15.00 per unit)		\$ 30.00	\$ 33.00
Triplex (\$15.00 per unit)		\$ 45.00	\$ 49.50
Additional 96 Gallon		\$ 8.50	\$ 9.35
Senior Citizen		\$ 10.50	\$ 11.55
Extra PU 96 Gallon		\$ 15.00	\$ 16.50
Extra PU 300 Gallon		\$ 21.00	\$ 23.00
Plus Extra's – per minute		\$ 7.00	\$ 8.00
Large Appliances		\$ 20.00	\$ 22.00
Large Appliances with Freon		\$ 60.00	\$ 66.00
Special Services – Dumpster Cleaning			
Residential Dumpster		\$ 15.00	\$ 16.50
Commercial Dumpster		\$ 50.00	\$ 55.00
Compactors/Receiver Box		\$ 100.00	\$ 110.00

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Previous Residential 96 Gallon Rate Increases

Year	Residential Rate	Residential Increase
2014	\$10.96/mo.	\$1.00/mo.
2015	\$11.51/mo.	\$0.55/mo.
2016	\$11.51/mo.	\$0
2017	\$12.09/mo.	\$0.58/mo.
2018	\$12.09/mo.	\$0
2019	\$12.70/mo.	\$0.61/mo.
2020	\$13.65/mo.	\$0.95/mo.
2021	\$13.65/mo.	\$0
2022	\$15.00/mo.	\$1.35/mo.
2023	\$16.50/mo. proposed	\$1.50/mo. proposed

10 year average annual increase: \$.65

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PUBLIC	MONTHLY RESIDENTIAL RATE	COMPETITION	LANDFILL FEE PER TON	OWN LANDFILL
Bozeman	\$26.73	YES	\$27.00 Regular \$48.00 Construction Material	NO
Kalispell	\$17.48	YES	\$31.05	NO
Havre	\$16.33	NO	\$30.00	NO
Great Falls	\$15.00	YES	\$32.43	NO
Helena	\$14.68	NO	\$36.75 Transfer Stn \$26.00 Landfill City Only	NO
Billings	\$12.45	NO	\$23.50 Other Towns/County \$35.25	YES

PRIVATE	MONTHLY RESIDENTIAL RATE	COMPETITION	LANDFILL FEE PER TON	OWN LANDFILL
Republic Services Missoula (2023)	\$34.06 + fuel sc \$39.74	YES	\$62.96	YES
Republic Services Bozeman (2019)	\$25.68	YES	\$27.00	NO
Republic Services Outside GF 2023	\$29.53 + fuel sc \$33.20	NO	\$37.62	YES
Evergreen Kalispell (2019)	\$15.95	YES	\$31.05	NO
Republic Services Great Falls 2023	\$14.28 + fuel sc \$17.61	YES	\$37.62	YES

**RECOMMENDATION
NEXT STEPS**

- 3/21 City Commission - Set Public Hearing
- 4/04 City Commission - Public Hearing
- 5/01 Proposed Rates Effective

Any Questions?

Finance Director Melissa Kinzler provided a Total Sanitation Fund Cash Flow with Capital Outlay 10 Year Replacement handout.

Mayor Kelly commented that the 10-year average annual increase of \$.65 is excellent fiscal management with regard to the Previous Residential 96 Gallon Rate Increases PowerPoint slide. Mayor Kelly added that residents have the option of choosing another provider if they do not want to pay the rate increase for sanitation services. Mayor Kelly pointed out that several citizens have indicated to him how kind and considerate the sanitation drivers are and the Public Works Department has received several compliments.

DISCUSSION OF POTENTIAL UPCOMING WORK SESSION TOPICS

Deputy City Manager Chuck Anderson reported that the City Manager’s Annual Performance Evaluation and Contract Review will be a topic for the April 4, 2023 Special Commission Meeting. The April 4, 2023 work session will consist of a Utility Rate review, as well as a Court remodel/relocation update.

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Topics for the April 18, 2023 work session will consist of a Collective Bargaining preparation and GO Bond Infrastructure related to Safety Levy.

Mayor Kelly explained that the April 4, 2023 Special City Commission Meeting will begin at 4:00 p.m. and regardless of whether it is finished early, the regular work session will start at its regular time at 5:30 p.m.

ADJOURN

There being no further discussion, Mayor Kelly adjourned the informal special work session of March 21, 2023 at 5:54 p.m.

The United States Environmental Protection Agency (EPA) and the Montana Department of Environmental Quality (DEQ) require drinking water utilities to provide an annual Consumer Confidence Report (CCR). The purpose of the CCR is to help customers understand and make informed decisions about their drinking water. This report includes information about the source of the drinking water for the City of Great Falls and its consecutive systems, the treatment process, results of compliance and regulation testing, information about the EPA's Lead and Copper Rule, and other miscellaneous educational information.

The water treated at the Great Falls Water Treatment Plant supplies residences in the City of Great Falls, Malmstrom Air Force Base (MAFB), and Black Eagle. Additionally, people who employ the use of cisterns and live within Cascade County can purchase water for use in their homes from three public water stations located throughout the City of Great Falls.

The water treated at the Great Falls Water Treatment Plant comes from the Missouri River just south of its confluence with the Sun River. It is classified as a surface water source.

As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, salts, nutrients from animal or human activities, and in some cases radioactive material. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at 800-426-4791. Oftentimes the most common issues associated with

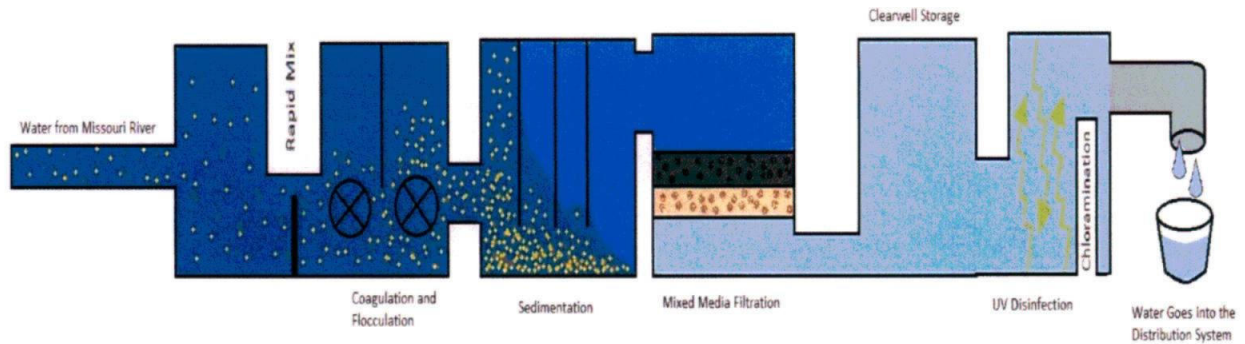
contaminants in the water are the taste, color, and odor. While undesirable, those characteristics do not necessarily pose any danger to consumers.

Common contaminants include:

- Viruses, bacteria and other microbes that can come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, like salts and metals. These can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides that may come from sources like agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants that can be the by-products of industrial processes and petroleum production, but may also come from gas stations, urban storm water runoff, and septic systems.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as person with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

The Water Treatment Process



The Great Falls Water Treatment Plant employs a conventional water treatment process. The diagram above shows the steps the water goes through during the treatment process.

Coagulation and Flocculation: Water from the Missouri River is pumped to the plant where it is mixed with chlorine, alum (an aluminum sulfate solution) and polymer. The chlorine provides disinfection of the water and the alum and polymer help facilitate the coagulation and flocculation process. Coagulation and flocculation is a process that causes the fine particulate and dissolved contaminants to be pulled from solution and bound together to form larger particulate called floc. The larger size of the floc makes it settle more readily as the process continues.

Sedimentation: In this step the water moves to large basins causing it to slow it down. This allows all of the large floc particles and heavier sediments to settle out of the water and collect at the bottom of the basins.

Mixed Media Filtration: In this step of the process the water that has passed through the settling basins travels through a mixed media filter. The plant employs the use of 16 mixed media filters that are comprised of a layer of

anthracite (coal) and a layer of fine sand. This step further removes any fine sediments and materials that may have made it through the coagulation, flocculation, and sedimentation processes.

UV Disinfection: Ultraviolet disinfection (UV disinfection) follows filtration. The water is passed through UV light so that any bacteria or viruses that may still be present in the water are sterilized and no longer pose a threat. This step is especially effective at treating organisms such as Cryptosporidium, which are very hardy and can survive the chlorination process.

Chloramination: Lastly, an ammonia solution is added to the drinking water to react with the available chlorine to form chloramines. Chloramine is a more stable compound than chlorine and will remain in the drinking water as a solution much longer than chlorine. This ensures that the drinking water retains its disinfection properties as it travels from the treatment plant to the consumers. Another advantage of chloramine is that it does not impart as strong of a flavor or smell as chlorine which benefits people sensitive to those characteristics.

Water Quality Information

Great Falls Water Treatment Plant operators and staff monitor the treatment process continually. In-line analyzers coupled with electronic data collection software provide real-time information for the entire treatment process. Additionally operators and staff collect a variety of samples during the process as well as finished water samples from throughout the distribution system. These samples are analyzed at the Treatment Plant laboratory and by commercial laboratories to ensure the effectiveness of the treatment process and safety of the finished drinking water.

The EPA has established regulations regarding the allowable limits for contaminants in drinking water. Detailed EPA/CDC guidelines to reduce the risk of infection or illness by the various contaminants including microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791) or website (<https://www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-information>). Below is a list of definitions that will assist you in understanding the following tables of data. These tables outline the concentration of all detected contaminants found in the drinking water and source water for The City of Great Falls. Unless otherwise specified in the table, all analytical data was collected during 2022.

Definitions	
Maximum Contaminant Level (MCL):	The highest level of a contaminant that is allowed in drinking water.
Maximum Contaminant Level Goal (MCLG):	The level of a contaminant in drinking water below which there is no known or expected risk to health.
Secondary Maximum Contaminant Level (SMCL):	The level of a secondary contaminant which when exceeded may adversely affect the aesthetic quality of the drinking water.
Variations or Exceptions:	State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
Treatment Technique:	A required process intended to reduce the level of a contaminant in drinking water.
Action Level (AL):	The concentration of a contaminant which, if exceeded, triggers treatment of other requirements which a water system must follow.
Maximum Residual Disinfection Level Goal (MRDLG):	The level of a drinking water disinfection below which there is no known or expected risk to health. The MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
Maximum Residual Disinfection Level (MRDL):	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Parts per million (ppm or mg/L):	A common concentration measurement for analytes. This concentration is the equivalent of four drops of ink in a 55-gallon barrel of water or one minute in the span of two years of time.
Parts per billion (ppb or µg/L):	A very small concentration measurement. This concentration is the equivalent to one second in 32 years of time.
Reporting Limit (RL):	The lowest concentration that can be reliably measured within a specified range of precision and accuracy limits during routine laboratory operations.
Primary Drinking Water Contaminants:	Contaminants that can be harmful to human health at low levels. This is divided into six categories: microorganisms, disinfectants, disinfectant by-products, organics, inorganics, and radionuclides.
Secondary Drinking Water Contaminants:	Contaminants that are not harmful to human health but may impart unpleasant characteristics to the water, such as poor taste, color, or bad smell.

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Regulated at Consumer Water Taps					
Samples were analyzed during triannual lead and copper testing in June 2020.					
Constituent	Results	AL	MCGL	Regulation Met?	Possible Sources of Contaminant
Lead	0.003 mg/L at 90th Percentile	0.015 mg/L	0	Yes; 0 samples exceeded the AL	Corrosion of service lines and household plumbing systems. Erosion of natural deposits.
Copper	0.505 mg/L at 90th Percentile	1.3 mg/L	0	Yes; 0 samples exceeded the AL	Corrosion of service lines and household plumbing systems. Erosion of natural deposits.

Finished water from the treatment plant was analyzed on 02/09/2022 for copper and lead. Both were non-detect (ND).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Great Falls is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. If you have a lead service line and your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using the water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing materials, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

In December of 2021 the EPA announced plans to adopt changes to the Lead and Copper Rule, though finalization of the changes are not expected to be announced until October of 2024. As part of the changes, the City of Great Falls is working diligently to determine the service line materials for the entire distribution system. To satisfy EPA triannual testing requirements, Great Falls Water Plant staff will be collecting samples from targeted homes throughout The City during the summer of 2023, which will be analyzed for lead and copper concentrations. Testing will occur again in 2024 per the rule change. More information and regular updates about the Lead and Copper Rule can be found on the EPA’s website (<https://www.epa.gov/dwreginfo/lead-and-copper-rule>).

Table of Unregulated Contaminants					
Contaminant	Concentration	MCL	MCGL	Monitoring Location	Possible Source/s of contamination
Manganese (mg/L)	Not detected – 0.001	0.3	0	Finished Water (post-treatment)	Erosion of natural contaminants

The EPA has developed a health advisory for the manganese in drinking water. While it is an essential nutrient for humans and animals at low concentrations, high concentrations of manganese could have adverse neurological effects. The health advisory limit has been set at 0.3 mg/L. The concentration of manganese in the finished drinking water for the City of Great Falls is below the health advisory limit for manganese.

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Regulated in the Distribution System					
Constituent	Concentration	MCL	MCGL	Regulation Met?	Possible Sources of Contaminant
Total Coliform Bacteria (TC)	0	<5% positive for TC	0	Yes	Naturally occurring bacteria in the environment.
Total Residual Chlorine (mg/L)	0.1 - 2.00	4.0	4.0	Yes	Disinfection additive that limits bacterial growth.
Haloacetic Acids (HAA5)(ppb)	19 - 32	60	--	Yes	Byproducts of drinking water disinfection process.
	Annual ave. = 25.2				
Total Trihalomethanes (TTHM) (ppb)	25 - 57	80	--	Yes	
	Annual ave. = 38.4				

70 samples are collected from throughout the distribution system and analyzed monthly for total coliform bacteria and total residual chlorine. No samples had a positive result for TC bacteria for the year and all samples fell below the EPA limit for the total residual chlorine concentrations (4.0 mg/L).

Regulated at the Treatment Plant					
Constituent	Concentration	MCL	MCGL	Regulation Met?	Possible Sources of Contaminant
Turbidity (NTU)	0.028-1.009	≤0.30 NTU, 95% of the time	0	Yes	Runoff.
	Ave. = <0.08 NTU				
Chlorine (mg/L)	1.78-2.15	4.0	4.0	Yes	Disinfection additive.
Chloramines (mg/L)	0.29-1.78	4.0	4.0	Yes	Disinfection additive.
Total Organic Carbon (TOC)	1.5 - 2.2 mg/L	15% removal required	--	Yes 20% removal achieved	Decaying organic matter.
Arsenic (As) (mg/L)	0.002 mg/L	0.01	0.0	Yes	Erosion of natural contaminants, mining wastes.
Fluoride (F) (mg/L)	0.9 mg/L	2.0 (SMCL)	2.0	Yes	Erosion of natural contaminants.
Nitrate (NO ₃) (mg/L)	0.14	10.0	10.0	Finished Water (post treatment)	Runoff, fertilizers, septic leachates, industrial wastes

Miscellaneous Constituents of Interest					
Constituent	Concentration	MCL / SMCL	MCGL	Monitoring Location	Possible Source/s of Contaminant and Possible Effect on the Water
pH (pH units)	6.90 - 7.39	6.5 - 8.5 (SMCL)	6.5 - 8.5	Finished Water (post treatment)	Erosion of natural contaminants, runoff, human actions.
Arsenic (As) (mg/L)	0.024 mg/L	--	--	Source Water	Erosion of natural contaminants, mining wastes.
Arsenic (As) (mg/L)	0.002 mg/L	0.01	0.0	Finished Water (post treatment)	Erosion of natural contaminants, mining wastes.

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Miscellaneous Constituents of Interest continued					
Constituent	Concentration	MCL / SMCL	MCGL	Monitoring Location	Possible Source/s of Contaminant and Possible Effect on the Water
Hardness (CaCO ₃) (mg/L)	136	--	--	Finished Water (post treatment)	Erosion of natural contaminants. Can cause water spots and deposits on fixtures.
Alkalinity (mg/L as Calcium Carbonate)	92-130	--	--	Finished Water (post treatment)	Runoff. Can impart a salty or soda flavor, may contribute to dry skin
Chloride (mg/L)	14	250 (SMCL)	--	Finished Water (post treatment)	Runoff. Can cause a salty taste.
Sulfate (mg/L)	57	250 (SMCL)	--	Finished Water (post treatment)	Runoff. Can cause a medicinal or metallic taste. May contribute to a sulfur smell.
Total Dissolved Solids (TDS) (mg/L)	237	500 (SMCL)	--	Finished Water (post treatment)	Runoff. Can contribute to hardness and cause colored water, staining, and deposits.
Aluminum (Al) (mg/L)	0.06	0.05-0.2mg/L (SMCL)	--	Finished Water (post treatment)	Runoff
Calcium (Ca) (mg/L)	36	--	--	Finished Water (post treatment)	Runoff

Summary and Upcoming Projects

The City of Great Falls Water Treatment Plant treated nearly 4 billion gallons of water to provide drinking water for the citizens of Great Falls in 2022. The plant operated the entire year with no violations and met or exceeded all EPA and DEQ water quality requirements. As part of the commitment to providing the residents of Great Falls with safe, quality drinking water the Water Treatment Plant is regularly undergoing routine maintenance and upgrades. During the fall of 2022 the second stage of a two stage filter upgrade project was started. This project includes updating the second half of the mixed media filters with air scour systems and replacing drains, hardware, and media from within the filters. This project will conclude in 2023.

Additionally, the City of Great Falls will continue to collect information about the composition of the water services lines to maintain a comprehensive service line inventory, as required by the EPA in the new Lead and Copper Rule. If there are questions about service lines to your home or business or you would like to contribute the most up-to-date information about the lines in your home, you can call the City of Great Falls lead service line hotline at 406-455-8401.

If there are any questions about this report or the quality of the drinking water in your home please contact laboratory personnel or the Treatment Plant Manager, Jason Fladland at (406) 727-1325. The 2022 Consumer Confidence Report is also available online at <https://greatfallsmt.net/ccr2022>.