



Remote Meeting Instructions for the December 16, 2020, Water & Sewer Board Meeting:

In order to comply with all health orders and State guidelines to stop the spread of the COVID-19 Coronavirus, **no physical location, including the City Council Chambers, will be set up for viewing or participating in this Water & Sewer Board meeting.**

You can view this Meeting by following the instructions below to watch the YouTube live stream. By utilizing this option to view the meeting, you will not be able to provide live input during the meeting. To provide live input, see the "In real time" instructions near the bottom of this page.

- From your laptop or computer, click the following link or enter it manually into your Web Browser: (<https://www.youtube.com/user/CityofGreeley>)
- Clicking the link above will take you to the City of Greeley's YouTube Channel.
- Once there, you will be able to view the meeting!

Citizen input and public comment for items appearing on this agenda as public hearings/quasi-judicial are valuable and welcome!

Anyone interested in participating and sharing public comments have a few of options:

Via email? – Submit to Ettie.arnold@greeleygov.com

All comments submitted this way will be read into the record at the appropriate points during this meeting in real time. Comments can be submitted up to and throughout this meeting.

Via traditional Mail? - Address to the Water & Sewer Department's Office, 1001 11th Avenue, Attn: Shannon Metcalf, Greeley, CO 80631

All written comments must be received no later than the day of the meeting. Again, written comments received by mail will also be read into the record in real time.

In real time? – <https://greeleygov.zoom.us/j/89883755108>

Clicking the link above will give you access to the live meeting where you will become a virtual audience member and be able to speak under Citizen Input on items not already on the agenda or during a scheduled public hearing.

Please visit the City's website at <http://greeleygov.com/government/b-c/boards-and-commissions/water-and-sewer> to view and download the contents of the October 21, Water & Sewer Board Meeting. You are also welcome to call the Water & Sewer Department at 970-350-9801 with any special needs or questions that you may have.

16. Such Other Business That May Be Brought Before the Board and Added to This Agenda by Motion of the Board



If, to effectively and fully participate in this meeting, you require an auxiliary aid or other assistance related to a disability, please contact Shannon Metcalf at 970-415-1307.

**City of Greeley
Water and Sewer Board
Minutes of November 18, 2020
Regular Board Meeting**

Chairman Harold Evans called the Water and Sewer Board meeting to order at 2:00 p.m. on Wednesday, November 18, 2020. Due to City Closures related to COVID-19, this meeting was held remotely and was aired via live stream for public viewing at <https://www.youtube.com/user/CityofGreeley>.

1. Roll Call

The Clerk called the roll and those present included:

Board Members:

Chairman Harold Evans, Vice Chairman Mick Todd, Fred Otis, Bob Ruyle, Tony Miller, Mayor Gates, Roy Otto and John Karner

Water and Sewer Department Staff:

Director Sean Chambers, Deputy Director Water Resources Adam Jokerst, Deputy Director of Operations Nina Cudahy, Utility Finance Manager Erik Dial, Water Resources Manager Jen Petrzelka, Cole Gustafson, Special Projects Engineer Mary Gearhart and Office Manager Shannon Metcalf

Legal Counsel:

Counsel to Water & Sewer Board Attorney Jim Noble, Environmental and Water Resources Attorney Jerrae Swanson, Environmental and Water Resources Attorney Dan Biwer, Environmental and Water Resources Attorney Aaron Goldman

Other Guests:

Kyle Whitaker, Northern Water

2. Approval of Minutes

Mr. Miller Todd moved, seconded by Vice Chairman Todd, to approve the October 21, 2020 Water and Sewer Board meeting minutes. The motion carried 6-0.

3. Approval of and/or Additions to Agenda

There were no changes to the agenda.

4. Public Comments

There were no comments from the Public.

5. Colorado River Demand Management Update

Mr. Kyle Whitaker of the Northern Colorado Water Conservancy District provided an overview river operations, impacts of system shortage and update on Demand Management contingency planning activities.

6. Greeley Water Supply Update

Ms. Petrzelka noted that staff reports to the Water and Sewer Board in April, July, and November of each year on Greeley's water supply status. Projected storage is presently at 21,354 acre-feet exceeding the target storage volume of 20,000 acre-feet. Reservoir accounting water resource calculations show the City's storage volume will likely be greater than the 20,000 acre-feet target.

7. Approve and Recommend to City Council the Transfer of Greeley Customers to Evans with Water Rights

Ms. Petrzelka explained that the City of Greeley issued potable water taps to 17 customer accounts that are now in the Evans service area. It is the interest of both Greeley and Evans to transfer these customers to Evans in exchange for raw water dedication in the amount of 8 units of CBT and 0.5 shares of GLIC to Evans. This will provide large cost and staff time savings to Greeley by no longer being responsible for the repair and maintenance of aging water delivery infrastructure outside the city serving these accounts.

Vice Chairman Todd made motion, seconded by Mr. Miller, to approve the Intergovernmental Agreement Concerning Water Services for Seventeen Customers and recommend the same to City Council, and to authorize the Director, or his designee, to make minor amendments to the documents prior to execution, prior to presenting the Intergovernmental Agreement to City Council for approval. The motion carried 6-0.

8. Approve Rusch Water Rights Purchase

Mr. Gustafson provided an overview of the proposed water rights acquisition and agreement. He explained that this is an agreement for purchase of water rights between the city and the Alexander & Benita Marie Rusch Revocable Trust. The Agreement contemplates Greeley's purchase of one share of stock in the Water Storage and Supply

Company. A dry-up covenant, revegetation covenant, and a leaseback are included in the Purchase and Sale Agreement. The cost per share is in line with other transactions in the market, and the total purchase price is \$2,000,000.

Mr. Miller made motion, seconded by Mr. Ruyle to authorize the proposed acquisition of WSSC water rights from the Rusch Trust, approve the Purchase and Sale Agreement and exhibits enclosed, and delegate authority to the Director of Water and Sewer or his designee (i) to make minor amendments to the documents, including, but not limited to, corrections to property descriptions and contract extensions, and (ii) to undertake all necessary action to close on the purchase. The motion carried 6-0.

9. Approve and Recommend to City Council the Danielson II Farm Divestment

Mr. Gustafson explained that in 2017, the City of Greeley purchased a 40 acre farm in Weld County known internally as the “Danielson II Farm” along with 1.5 shares of the stock in the Water Supply and Storage Company. Only 0.5 of the 1.5 shares historically irrigated this acreage. Since 2017, the City has leased the Danielson II Farm, along with the WSSC Water Rights, to a tenant farmer in order to maintain the use of the WSSC Water Rights on the historically irrigated land. In 2020, the City received an offer to purchase the Danielson II Farm. A dry-up covenant, revegetation covenant, and a leaseback of the 0.5 share of WSSC Water Rights to the buyer for continued irrigation are part of the agreement.

Vice Chairman Todd made motion, seconded by Mr. Ruyle that the Board authorize the proposed divestment of real property to Kindred Properties, approve the Purchase and Sale Agreement and exhibits enclosed, delegate authority to the Director of Water and Sewer or his designee (i) to make minor amendments to the documents, including, but not limited to, corrections to property descriptions and contract extensions, (ii) to amend the existing lease associated with the property, and (iii) to undertake all necessary action to close on the divestment, and recommend that City Council authorize the same. The motion carried 6-0.

10. Non-Potable Development Policy Update

Mr. Dial explained that Greeley has a long history of utilizing non-potable water to irrigate its turfed areas using the extensive ditch systems within the City. The City has expanded non-potable usage and has significant planned capital investments to further use its non-potable water supplies. However, in order to meet the long-term water supply needs of Greeley’s growth, non-potable usage needs to be approximately four times larger than the current annual non-potable volume used. Reaching that goal will require that new development utilize non-potable water to a much greater extent than it has in the past. Current non-potable policies financially discourage non-potable expansion and need to be revised to facilitate the use of this critical water resource supply. Mr. Dial presented the proposal to accelerate the use of non-potable water in new development that Greeley

needs in order to reach its long-term water resource supply goal. The Board members discussed aspects of the proposal and directed staff to further refine the details and investigate how other water providers facilitate the expansion of their non-potable systems.

11. Non-Potable, Water and Sewer Master Plan Update

Mr. Prior provided an update on the Water, Sewer and Non-Potable Master Plans.

12. Terry Ranch Project Diligence Update

Mr. Jokerst explained that in June 2020, Greeley entered into a Master Agreement for acquisition of groundwater rights and associated storage underlying the Terry Grazing Association Ranch in northwest Weld County. Since that time, staff and consultants have undertaken extensive inspection and diligence activities on the ranch. Such diligence is required per the Master Agreement, and will inform the City whether to close on the project.

13. Executive Session

Vice Chairman Todd moved, seconded by Mr. Otis, to hold an executive session to address the following matters, as provided by C.R.S. § 24-6-402(4) (b) and (e) and Greeley Municipal Code § 2.04.020(a) (2) and (5):

1. To receive advice from their attorney and determine positions relative to matters that may be subject to negotiations, developing strategy for negotiations and instructing negotiators on matters related to Case Number 19CW3253.

The motion carried 6-0.

The Board left the public session and moved into a private, executive session. The live feed of the public session on YouTube stopped recording, but was still accessible to the public. While the Board conducted the executive session, the public was provided with a screenshot of the agenda and a message stating the Board was in Executive Session.

Present during the executive session were:

Chairman Harold Evans, Vice Chairman Mick Todd, Manual Sisneros, Joe Murphy, Tony Miller, Fred Otis, Bob Ruyle, Mayor Gates and Robert Miller, Director Sean Chambers, Deputy Director Water Resources Adam Jokerst, Utility Finance Manager Erik Dial, Water Resources Operations Manager Jennifer Petrzelka, Water Resources Planning Manager Kelen Dowdy, Outside Legal Counsel Jim Noble, Environmental and Water Resources Attorney Jerrae Swanson,

Environmental and Water Resources Attorney Dan Biber, Environmental and Water Resources Attorney Aaron Goldman, and Senior Administrative Specialist Ettie Arnold

This executive session was authorized by Subsections (b) and (e) of Section 24-6-402(4) of the Colorado Revised Statutes, and Subsections (2) and (5) of Section 2.04.020 (a) of the Greeley Municipal Code.

The Executive Session ended at 5:30 p.m. The Board then left the private, executive session and moved back into the open, regular session. At that time, the live feed of the meeting resumed on YouTube.

14. Legal Report

Jim Noble of Welborn, Sullivan, Meck & Tooley provided this month's legal report to the Board.

1. **Statements of Opposition:** Based on review of the September, 2020 Water Court Resume, Mr. Noble reported that staff and water counsel recommend that the Board authorize filing statements of opposition in the following cases:
 - a. Case Number: **20CW3142**: Application of Arapahoe County Water & Wastewater Authority ("ACWWA"), for a change of water rights, conditional appropriation of return flows, and a plan for augmentation. This case involves a change of water rights for 7 shares of the Whitney Irrigating Ditch on the Cache la Poudre River and is interrelated with several other water court cases involving these applicants in which Greeley is a party. Applicant proposes to quantify the water rights based on a prior ditch-wide analysis. Mr. Noble recommended that Greeley file a statement of opposition ensure that appropriate terms and conditions are included in the water court decree and that Greeley's water rights are not adversely affected.
 - b. Case Number: **20CW3146** (09CW283): Application of Arapahoe County Water & Wastewater Authority ("ACWWA") for a finding of reasonable diligence and to make conditional exchanges absolute in part. The exchanges involved in this application include supplies from the Cache la Poudre River among others, released to the main stem of the South Platte River in exchange for diversions into the applicant's water system. Greeley was a party to the original proceedings to adjudicate these exchanges. Mr. Noble recommended that Greeley file a statement of opposition to ensure that the applicable legal standards have been satisfied to justify the absolute claim and to protect against any injury to Greeley's water rights on the Cache la Poudre River.
 - c. Case Number: **20CW3147** (11CW285): Application of East Cherry Creek Valley Water and Sanitation District ("ECCV") and United Water and Sanitation District

(“United”) for a finding of reasonable diligence and to make conditional exchanges absolute in part. The exchanges involved in this application include supplies from the Cache la Poudre River among others, released to the main stem of the South Platte River in exchange for diversions into the applicant’s water system. Greeley was a party to the original proceedings to adjudicate these exchanges. Mr. Noble recommended that Greeley file a statement of opposition to ensure that the applicable legal standards have been satisfied to justify the absolute claim and to protect against any injury to Greeley’s water rights on the Cache la Poudre River.

Mr. Miller made a motion, seconded by Mr. Otis, that the Board authorize the filing of statements of opposition in Case No. 20CW3142, Case No. 20CW3146 and Case No. 20CW3147, for staff and legal counsel to seek resolution of issues raised by these cases consistent with Water and Sewer Board Resolution No. 3 (2015). The motion carried 6-0.

15. Director’s Report

Mr. Chambers reported on the following items:

- WG Firming Project and Allotment Contract Status
- Wildfire Recovery, Impact Mitigation, and Efforts to Secure Funding
- Get Outdoors – Overview of Draft Strategic Plan for Natural Areas and Open Lands

16. Such Other Business That May be Brought before the Board and Added to This Agenda by Motion of the Board

There were no additional items brought before the Board and added to the agenda.

Chairman Evans adjourned the meeting at 6:06 p.m.

Harold Evans, Chairman

Shannon Metcalf, Office Manager

WATER & SEWER BOARD AGENDA DECEMBER 16, 2020

ENCLOSURE _____

NO ENCLOSURE X

ITEM NUMBER: 4

TITLE: PUBLIC COMMENTS

RECOMMENDATION:

ADDITIONAL INFORMATION:

WATER & SEWER BOARD AGENDA DECEMBER 16, 2020

ENCLOSURE _____ NO ENCLOSURE X

ITEM NUMBER: 5

TITLE: WELCOME NEW STAFF

RECOMMENDATION:

ADDITIONAL INFORMATION:

WATER & SEWER BOARD AGENDA DECEMBER 16, 2020

ENCLOSURE X NO ENCLOSURE

ITEM NUMBER: 6

TITLE: GET OUTDOORS GREELEY PLAN UPDATE

RECOMMENDATION: INFORMATION ONLY

ADDITIONAL INFORMATION:

Culture, Parks and Recreation staff will provide a presentation.

WATER & SEWER BOARD AGENDA DECEMBER 16, 2020

ENCLOSURE X NO ENCLOSURE

ITEM NUMBER: 7

TITLE: ADOPT RESOLUTION CONCERNING 2021
WATER AND SEWER RATES, FEES, AND
CHARGES

RECOMMENDATION: ADOPT RESOLUTION CONCERNING 2021
WATER AND SEWER RATES, FEES, AND
CHARGES

ADDITIONAL INFORMATION:

The 2021 Rate Resolution and Appendices are included for the Board's review. The water and sewer rates and fees were developed in response to the 2021 budget that the Board recommended to the City Manager at the July 2020 meeting.

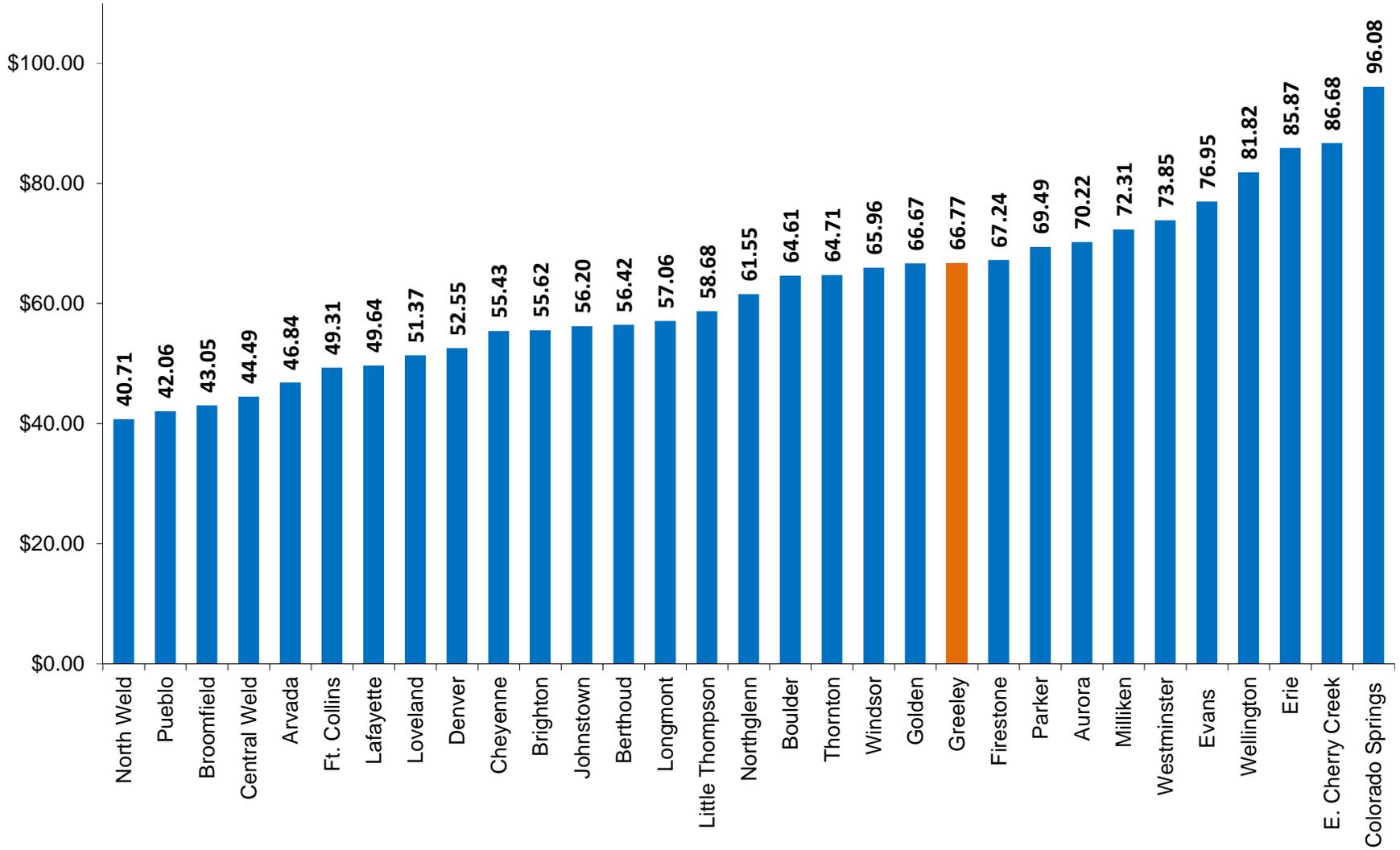
2021 will be the fifth year of the water budget rate structure for residential customers. Residential water rates are increasing 5%, and residential sewer rates are increasing 9.5%.

Plant investment fees are updated annually for water and sewer. The water plant investment fee is increasing \$700 to \$11,200 for a ¾" tap and the sewer plant investment fee is increasing \$800 to \$6,800 for a ¾" tap. The new plant investment fees will take effect on March 1, 2021.

Using the pricing method approved by the Board at the July 2018 meeting, the 2021 cash-in-lieu of raw water fee will increase from \$34,000 to \$36,500 per acre-foot. The new cash-in-lieu price will take effect on March 1, 2021. Water and Sewer Board Resolution 2, 2020 allows the cash-in-lieu fee to be recalculated as necessary, but no less than once per year. Staff will bring forward future adjustments to the cash-in-lieu fee for Board review as necessary in 2021.

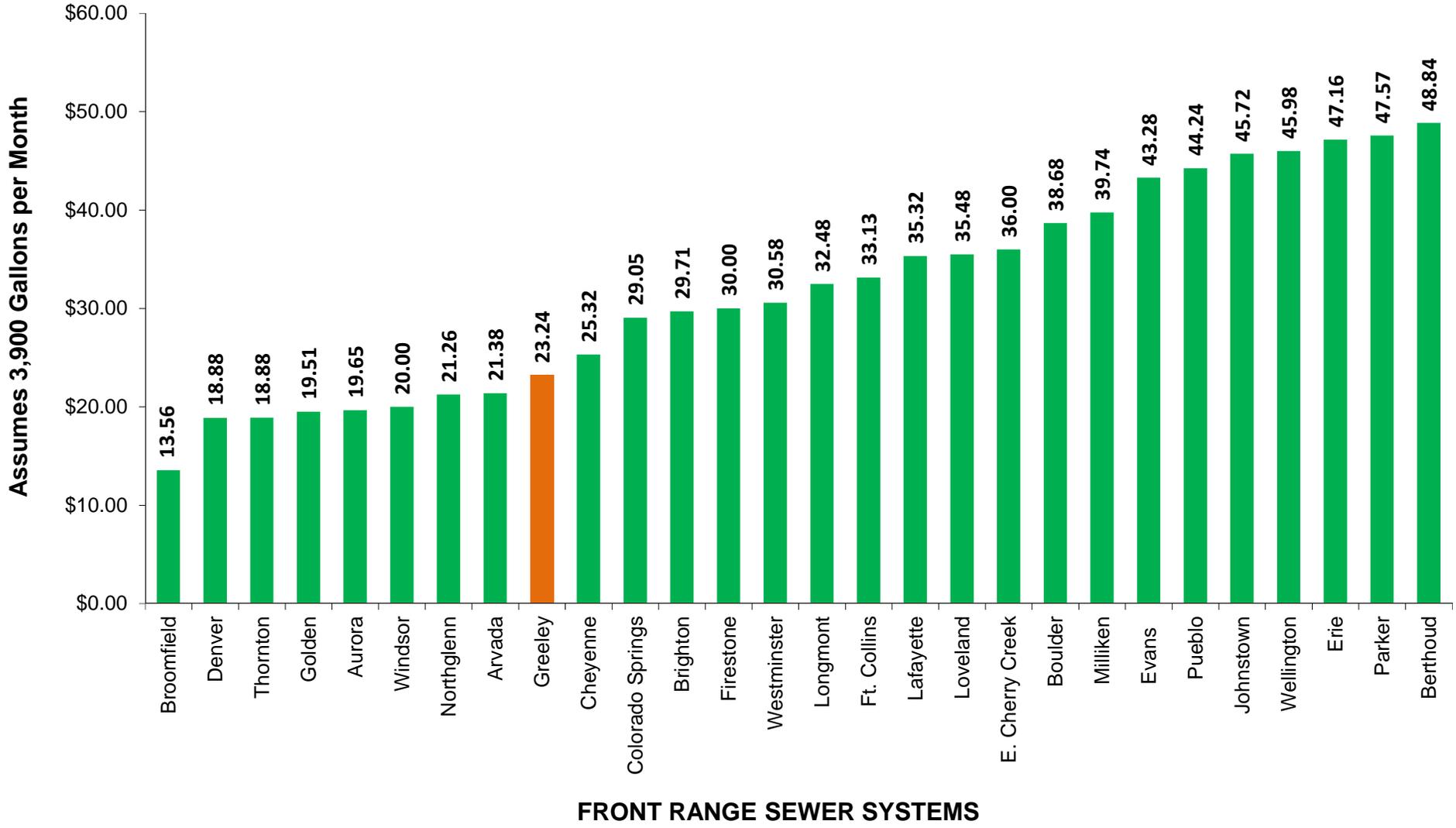
2021 Monthly Water Bill: Single Family Residential

Assumes 10,000 Gallons Per Month

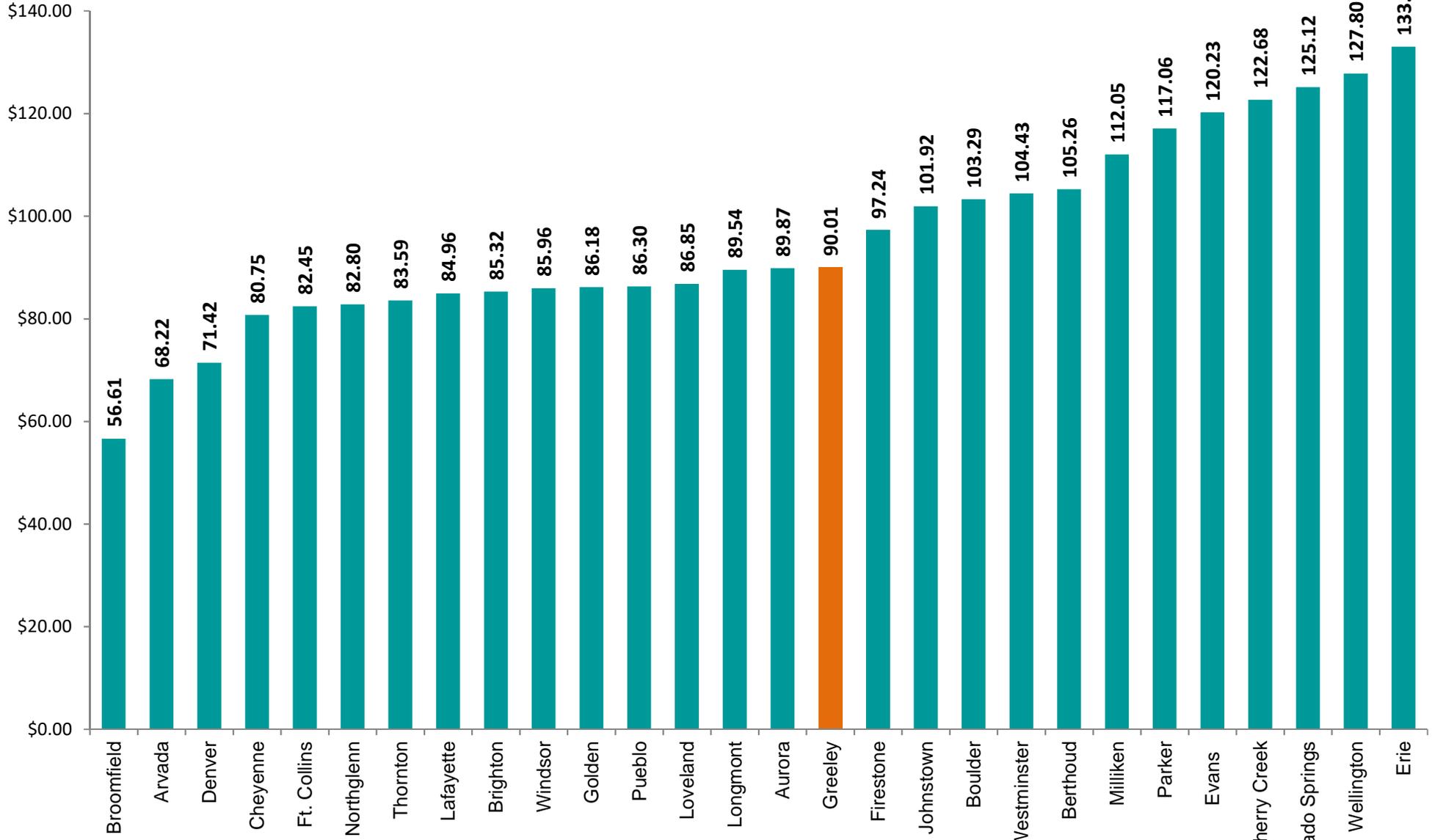


FRONT RANGE WATER SYSTEMS

2021 Monthly Sewer Bill: Single Family Residential



2021 Combined Water and Sewer Bill



Assumes 10,000 gallons monthly water use and 3,900 gallons monthly sewer use

**CITY OF GREELEY, COLORADO
ACTING BY AND THROUGH ITS WATER AND SEWER BOARD**

RESOLUTION _____, 2020

**A RESOLUTION ADOPTING RATES, FEES, AND CHARGES FOR WATER AND SEWER
SERVICES IN 2021**

WHEREAS, the City of Greeley (“City”) is a Colorado home rule municipality empowered pursuant to Sections 1 and 6 of Article XX of the Colorado Constitution to, *inter alia*, construct, purchase, acquire, lease, add to, maintain, conduct, and operate water works and everything required therefor, within or without its territorial limits, for use of the City; and

WHEREAS, Section 17-4 of the City Charter and Sections 14.04.080 and 14.04.110 of the Greeley Municipal Code authorize and require the Water and Sewer Board (“Board”) to, *inter alia*, annually establish minimum water and sewer rates by resolution, which must be sufficient to include expenditures for all operations and maintenance of the water and sewer system, all debt service, and additions to a reserve account in sufficient amounts to offset depreciation to the water and sewer system; and

WHEREAS, Section 17-4 of the City Charter and Section 14.04.110 of the Greeley Municipal Code authorizes and requires the Board to acquire, develop, convey, lease, and protect water and sewer assets, supplies, and facilities; and

WHEREAS, Section 14.04.090 of the Greeley Municipal Code requires the Board to adopt minimum rates, fees and charges the Board deems necessary to cover the costs of inspections, tap installations, operations, maintenance and extensions of the water and sanitary sewer systems; and

WHEREAS, Sections 14.04.080 and 14.04.060 through 14.06.090 of the Greeley Municipal Code requires the Board to set the fair market value of water, upon which value the fee for cash-in-lieu of raw water (i.e., the cash equivalent of raw water required to be dedicated for development within the City) is based; and

WHEREAS, the Board has advised the City Council of its long-term capital improvement plans, pursuant to Section 17-7 of the City Charter; and

WHEREAS, the Board’s long-term capital improvement plan for water contains extensive new construction and rehabilitation within the next five years, including construction of filter plant upgrades; and

WHEREAS, the Board’s long-term water storage and water acquisition plans contemplate the acquisition of new water supplies, as well as the potential acquisition, construction, and expansion of water storage infrastructure;

WHEREAS, the Board recognizes that it is financially prudent to anticipate future capital expenditures with moderate rate increases over several years rather than incur unusually large bond issues at a later time, which would require a large rate increase to fund the debt service; and

WHEREAS, the Board's 10-year Financial Plan for funding operations, construction, water acquisition, and replacement programs calls for rate increases over the next several years to accomplish the programs anticipated;

NOW THEREFORE, BE IT RESOLVED BY THE WATER AND SEWER BOARD OF THE CITY OF GREELEY, COLORADO, AS FOLLOWS.

1. The water rates for 2021 shall be as shown in Appendix A to this resolution.
2. The sewer rates for 2021 shall be as shown in Appendix B to this resolution.
3. The water and sewer fees and charges for 2021 shall be as shown in Appendix C to this resolution.
4. Water and sewer rate increases shall be allocated among the various customer classes in accordance with their service demand as determined by the City's rate model shown in the attached rate appendices.
5. The 2021 cash-in-lieu of raw water fee shall be as shown in Appendix A of this resolution and adjusted thereafter periodically by the Water and Sewer Board by motion.
6. The 2021 plant investment fees for water shall be as shown in Appendix A of this resolution.
7. The 2021 plant investment fees for sewer shall be as shown in Appendix B of this resolution.
8. The new water and sewer rates shall take effect on January 1, 2021.
9. The new plant investment fees and cash-in-lieu of raw water fee shall take effect on March 1, 2021 to provide the public with at least 45 days' notice of the new fees.

PASSED AND ADOPTED, SIGNED AND APPROVED THIS ____ DAY OF DECEMBER 2020.

ATTEST

CITY OF GREELEY
WATER AND SEWER BOARD

Roy Otto
Secretary to the Board

Harold Evans
Chairman, Water and Sewer Board

APPENDIX A

2021 WATER RATES AND FEES

A. WITHIN THE CITY OF GREELEY

Customer Class Rate per 1,000 Gallons

Inside the City Single-Family Residential Water Budget

Tier One (\leq 100% of Water Budget)	\$5.07
Tier Two (101-130% of Water Budget)	\$6.20
Tier Three (131-150% of Water Budget)	\$8.45
Tier Four ($>$ 150% of Water Budget)	\$11.27

Inside the City Residential not on Water Budget \$5.35
Inside the City Commercial \$5.10
Inside the City Industrial \$3.89

In addition, the following service charges shall be billed regardless of the volume of water consumed.

Service Charges for Monthly Billed Period:

<u>Meter Size</u>	<u>Inside City</u>
5/8"	\$14.40
3/4"	\$14.40
1"	\$14.75
1½"	\$19.10
2"	\$20.90
3"	\$57.90
4"	\$67.45
6"	\$84.95
8"	\$108.00
10"	\$138.40
12"	\$178.45

B. OUTSIDE THE CITY OF GREELEY

<u>Customer Class</u>	<u>Rate per 1,000 Gallons</u>
Outside the City Residential	\$12.02
Outside the City Commercial	\$11.92
Sharkstooth Pipeline Company (Contributed Water Rights)	\$4.56
Mountain View Meadows (Not Contributed Water Rights)	\$9.75
Agriculture Special Contract (Greeley-Loveland by Agreement)	\$5.35
Kodak Alaris	\$3.64
Town of Windsor	\$4.72
City of Evans	\$4.56
Town of Milliken	\$6.80

In addition, the following service charges shall be billed regardless of the volume of water consumed.

Service Charges for Monthly Billed Period:

<u>Meter Size</u>	<u>Outside City</u>
5/8"	\$15.25
3/4"	\$15.25
1"	\$15.65
1½"	\$20.25
2"	\$22.15
3"	\$61.35
4"	\$71.45
6"	\$90.00
8"	\$114.45
10"	\$146.70
12"	\$189.15

C. RAW WATER PREREQUISITE

Raw water dedication is a prerequisite to receiving water service pursuant to City of Greeley Municipal Code Section 14.06.050, regardless of whether the service requested is for treated or non-potable water.

D. RAW WATER SURCHARGE FOR CERTAIN TREATED WATER USERS

All non-residential customers, large multi-family residential customers, and large parcel single-family residential customers who use more water in a calendar year (based upon billing records) than their annual allotment, as set forth in Section 14.06.110 of the Greeley Municipal Code, shall be assessed a raw water surcharge of \$10.79 per 1,000 gallons on the volume of water used in excess of the annual allotment. This surcharge is based on the fair market value of water and cash-in-lieu of raw water fee.

E. RAW WATER SURCHARGE FOR NON-POTABLE USERS

All non-potable customers, residential or commercial, who use more water in a calendar year than the amount of raw water contributed (based upon billing records) shall be assessed a raw water surcharge of \$6.47 per 1,000 gallons on the excess usage. This surcharge is based on the market price for Greeley and Loveland Irrigation Company shares.

F. NON-POTABLE SERVICE

The non-potable water usage rate shall be \$3.75 per 1,000 gallons for the volume of water used. A monthly service charge of \$20.90 shall be assessed on every non-potable account during the period of its operation, regardless of the volume of water used. The City reserves the right to decide which customers will be allowed to receive non-potable water, depending on location, cost, and budgetary considerations.

G. TURN-ON CHARGE

The minimum turn-on charge is hereby established at \$45.00. This charge is applicable to all turn-ons, including, but not limited to:

1. Non-payment shut-off and turn-on;
2. Emergency and non-emergency repairs except in the case of a meter failure or meter repair;
3. Lawn taps, except in the case of multiple lawn taps on the same property, only one charge will be required per service call.

No charge will be assessed for the turn-on and turn-off of non-potable service.

H. TAMPERING FEE

\$100 will be assessed when water and sewer assets are damaged by a customer.

I. WATER/SEWER TAPPING CANCELLATION FEE

When less than 24 hours' notice is given to Greeley staff to cancel an appointment to tap a water or sewer line, a fee of \$500 will be assessed.

J. WATER SOLD FROM HYDRANTS

Water sold from City fire hydrants shall be charged as follows:

1. \$12.02 per 1,000 gallons.
2. Deposit fee: \$1,525
3. Meter rentals will be \$17.50 per workday or \$100.00 per week.
4. Replacement of damaged meter: \$1,525

K. PLANT INVESTMENT FEE SCHEDULE FOR WATER

1. Minimum Plant Investment Fees Based on Tap Size: The following are minimum plant investment fees for treated water service.

<u>Tap Size</u>	<u>Water Plant Investment Fee</u>
3/4"	\$11,200
1"	\$18,700
1½"	\$37,300
2"	\$59,700
3"	\$130,600
4"	\$223,900
6"	\$466,500

L. CASH-IN-LIEU OF POTABLE RAW WATER

The cash-in-lieu of raw water fee is a fair market value of water determination based on the cost of the potable water rights portfolio that Greeley has secured to date and the current cost of developing new water storage projects. The cash-in-lieu of raw water fee is \$36,500 per acre-foot of water and shall be adjusted periodically in 2021 by the Water and Sewer Board by motion.

APPENDIX B

2021 SANITARY SEWER RATES AND FEES

A. RESIDENTIAL SANITARY SEWER RATES – WITHIN THE CITY OF GREELEY.

1. a. **Single Family Metered Rate;** applicable to all residential users receiving metered water in which not more than one family unit is housed on the same lot or in the same building: \$12.05 per billing period plus \$2.87 per thousand gallons of water use per billing period, not to exceed winter billing period consumption.

b. All new single family units which receive metered water will be assessed for 3,000 gallons of water at \$2.87 per thousand gallons plus \$12.05 per billing period until the end of their first complete winter billing period. At that time, the winter billing consumption volume will be used to calculate the sewer bill.

c. All single-family units with metered consumption less than 1,000 gallons in their most recent winter billing period shall be billed for actual consumption in subsequent billing periods, not to exceed an amount equal to 3,000 gallons of consumption.
2. a. **Single Family Flat Rate;** applicable to all residential users not receiving City water in which not more than one family unit is housed on the same lot or in the same building: \$12.05 per billing period plus 3,000 gallons at \$2.87 per thousand.
3. a. **Multi-Family Metered Rate;** applicable to all residential users receiving metered water in which two or more family units are housed on the same lot or in the same building: \$12.05 per sewer connection plus \$2.89 per thousand gallons of water use per billing period, not to exceed winter billing period consumption.

b. All new multi-family units which receive metered water will be assessed for 12,000 gallons of water at \$2.89 per thousand gallons plus \$12.05 per billing period until the end of their first complete winter billing period. At that time, the winter billing consumption volume will be used to calculate the sewer bill.
4. a. **Multi-Family Flat Rate;** applicable to all residential users not receiving City water in which two or more family units are housed on the same lot or in the same building: \$12.05 per sewer connection plus 12,000 gallons at \$2.89 per thousand.

B. COMMERCIAL SANITARY SEWER RATES – WITHIN THE CITY OF GREELEY.

1. **Class I Commercial Rate;** applicable to car washes, cleaners, laundromats, schools, colleges, churches, retail stores, offices, beauty shops, financial institutions, membership organizations without dining facilities, service stations (without repair), motels (without dining), and bed and breakfasts which provide a continental breakfast: \$12.05 per sewer connection per billing period plus \$2.91 per thousand gallons of water use per billing period.
2. **Class II Commercial Rate;** applicable to bars and taverns (without dining), service stations (with repair), animal clinics, hospital/convalescent homes, photo finishing, light

manufacturing, retail stores (with dining), convenience stores, and bed and breakfasts which cook a daily breakfast: \$12.05 per sewer connection per billing period plus \$3.94 per thousand gallons of water use per billing period.

3. **Class III Commercial Rate;** applicable to restaurants, hotels (with dining), bars and taverns (with dining), membership organizations (with dining): \$12.05 per sewer connection per billing period plus \$4.99 per thousand gallons of water use per billing period.
4. **Class IV Commercial Rate;** applicable to food markets, butchers, bakers, and food manufacturing: \$12.05 per sewer connection per billing period plus \$6.05 per thousand gallons of water use per billing period.
5. **Class V Commercial Rate;** applicable to mortuaries and miscellaneous heavy commercial manufacturing: \$12.05 per sewer connection per billing period plus \$7.13 per thousand gallons of water user per billing period.

C. RESIDENTIAL SANITARY SEWER RATES – OUTSIDE THE CITY OF GREELEY.

1. a. **Single Family Metered Rate;** applicable to all residential users receiving metered water in which not more than one family unit is housed on the same lot or in the same building: \$15.05 per billing period plus \$4.25 per thousand gallons of water use per billing period, not to exceed winter billing period consumption.

b. All new single family units which receive metered water will be assessed for 3,000 gallons of water at \$4.25 per thousand gallons plus \$15.05 per billing period until the end of their first complete winter billing period. At that time, the winter billing consumption volume will be used to calculate the sewer bill.

c. All single-family units with metered consumption less than 1,000 gallons in their most recent winter billing period shall be billed for actual consumption in subsequent billing periods, not to exceed an amount equal to 3,000 gallons of consumption.
2. a. **Single Family Flat Rate;** applicable to all residential users not receiving City water in which not more than one family unit is housed on the same lot or in the same building: \$15.05 per billing period plus 3,000 gallons at \$4.25 per thousand.
3. a. **Multi-Family Metered Rate;** applicable to all residential users receiving metered water in which two or more family units are housed on the same lot or in the same building: \$15.05 per sewer connection plus \$4.21 per thousand gallons of water use per billing period, not to exceed winter billing period consumption.

b. All new multi-family units which receive metered water will be assessed for 12,000 gallons of water at \$4.21 per thousand gallons plus \$15.05 per billing period until the end of their first complete winter billing period. At that time, the winter billing consumption volume will be used to calculate the sewer bill.
4. a. **Multi-Family Flat Rate;** applicable to all residential users not receiving City water in which two or more family units are housed on the same lot or in the same building: \$15.05 per sewer connection plus 12,000 gallons at \$4.21 per thousand.

D. COMMERCIAL SANITARY SEWER RATES – OUTSIDE THE CITY OF GREELEY.

1. **Class I Commercial Rate;** applicable to car washes, cleaners, laundromats, schools, colleges, churches, retail stores, offices, beauty shops, financial institutions, membership organizations without dining facilities, service stations (without repair), motels (without dining), and bed and breakfasts which provide a continental breakfast: \$15.05 per sewer connection per billing period plus \$4.30 per thousand gallons of water use per billing period.
2. **Class II Commercial Rate;** applicable to bars and taverns (without dining), service stations (with repair), animal clinics, hospital/convalescent homes, photo finishing, light manufacturing, retail stores (with dining), convenience stores, and bed and breakfasts which cook a daily breakfast: \$15.05 per sewer connection per billing period plus \$4.96 per thousand gallons of water use per billing period.
3. **Class III Commercial Rate;** applicable to restaurants, hotels (with dining), bars and taverns (with dining), membership organizations (with dining): \$15.05 per sewer connection per billing period plus \$6.30 per thousand gallons of water use per billing period.
4. **Class IV Commercial Rate;** applicable to food markets, butchers, bakers, and food manufacturing: \$15.05 per sewer connection per billing period plus \$7.30 per thousand gallons of water use per billing period.
5. **Class V Commercial Rate;** applicable to mortuaries and miscellaneous heavy commercial manufacturing: \$15.05 per sewer connection per billing period plus \$8.28 per thousand gallons of water user per billing period.

E. INDUSTRIAL SANITARY SEWER RATES.

1. **SIC 2013 Rate;** applicable to prepared food manufacturers: \$12.05 per sewer connection per billing period plus \$19.46 per thousand gallons of sewer flow per billing period.
2. **SIC 2026 Rate;** applicable to dairy plants: \$12.05 per sewer connection per billing period plus \$28.85 per thousand gallons of sewer flow per billing period.
3. **SIC 2034 Rate;** applicable to dehydrated food producers: \$12.05 per sewer connection per billing period plus \$5.57 per thousand gallons of sewer flow per billing period.
4. **SIC 2047 Rate;** applicable to dog and cat food manufacturers: \$12.05 per sewer connection per billing period plus \$12.47 per thousand gallons of sewer flow per billing period.
5. **SIC 2873 Rate;** applicable to nitrogenous fertilizer producers: \$12.05 per sewer connection per billing period plus \$24.03 per thousand gallons of sewer flow per billing period.

6. **SIC 4212 Rate;** applicable to transportation equipment services providers: \$12.05 per sewer connection per billing period plus \$3.53 per thousand gallons of sewer flow per billing period.
7. **SIC 5169 Rate;** applicable to chemical and allied products manufacturers: \$12.05 per sewer connection per billing period plus \$3.75 per thousand gallons of sewer flow per billing period.
8. **SIC 7218 Rate;** applicable to industrial laundries: \$12.05 per sewer connection per billing period plus \$7.23 per thousand gallons of sewer flow per billing period.
9. **SIC 7542 Rate;** applicable to truck washes: \$12.05 per sewer connection per billing period plus \$5.56 per thousand gallons of sewer flow per billing period.

F. WASTEWATER PLANT INVESTMENT FEE.

The following minimum plant investment fee schedule for sewer taps is hereby established.

<u>Water Tap Size</u>	<u>Wastewater Plant Investment Fee</u>
3/4"	\$6,800
1"	\$11,400
1½"	\$22,800
2"	\$36,400
3"	\$79,700
4"	\$136,700
6"	\$284,800

An individual structure that contains more than one living unit (whether apartment, townhouse, mobile home, or condominium) may be served by a single tap.

APPENDIX C

2021 WATER AND SEWER DEPARTMENT MISCELLANEOUS FEES AND CHARGES

A. Water charges for meter failure or leak adjustments

1. Varies – Water charge will be based on the average consumption for the same period in two prior years and billed at the 2021 rates.

B. Water tap installation fees

1. ¾" = \$205
2. 1" = \$225
3. 1 ½" = \$315
4. 2" = \$420
5. 4"-12" = \$540

C. Sewer tap installation fees

1. 4" = \$280
2. 6" = \$290
3. 4" to 6" on 15" or larger mains = \$425

D. Wastewater acceptance fee (hailed wastewater)

1. \$0.065/gallon

E. Water and sewer line crossing permits

1. Permit fee = \$50 per application
2. Inspection fee = \$100 per crossing

G. Construction cost recovery

1. Cost recovery for water and sewer assets will vary according to the development or site

H. Engineering design review fee

1. Varies – Review fee will be based on the length of the review and the cost of the engineer

I. Water Meter Fees

1. Varies – The meter fees are a pass through cost. The customer will pay the cost the City of Greeley pays to purchase the meters.

J. Publications

1. Printed - \$25
2. Electronic – Free

K. Other fees and charges

1. Fees charged for special circumstances outside the normal fee schedule may vary.

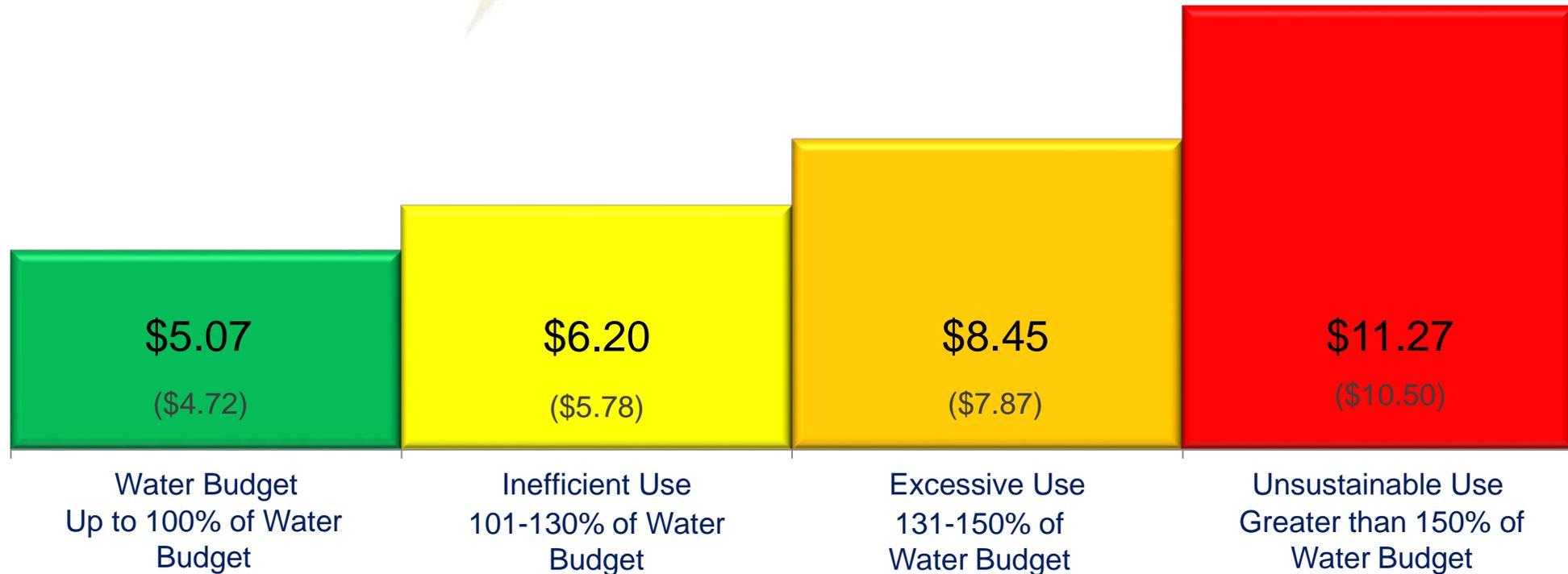
2021 Water and Sewer Rate Adoption

Water & Sewer Board | December 16, 2020



Residential Water Budget Rate Structure

Rate Structure for Greeley SFR customers in 2021 (2020 Rate)



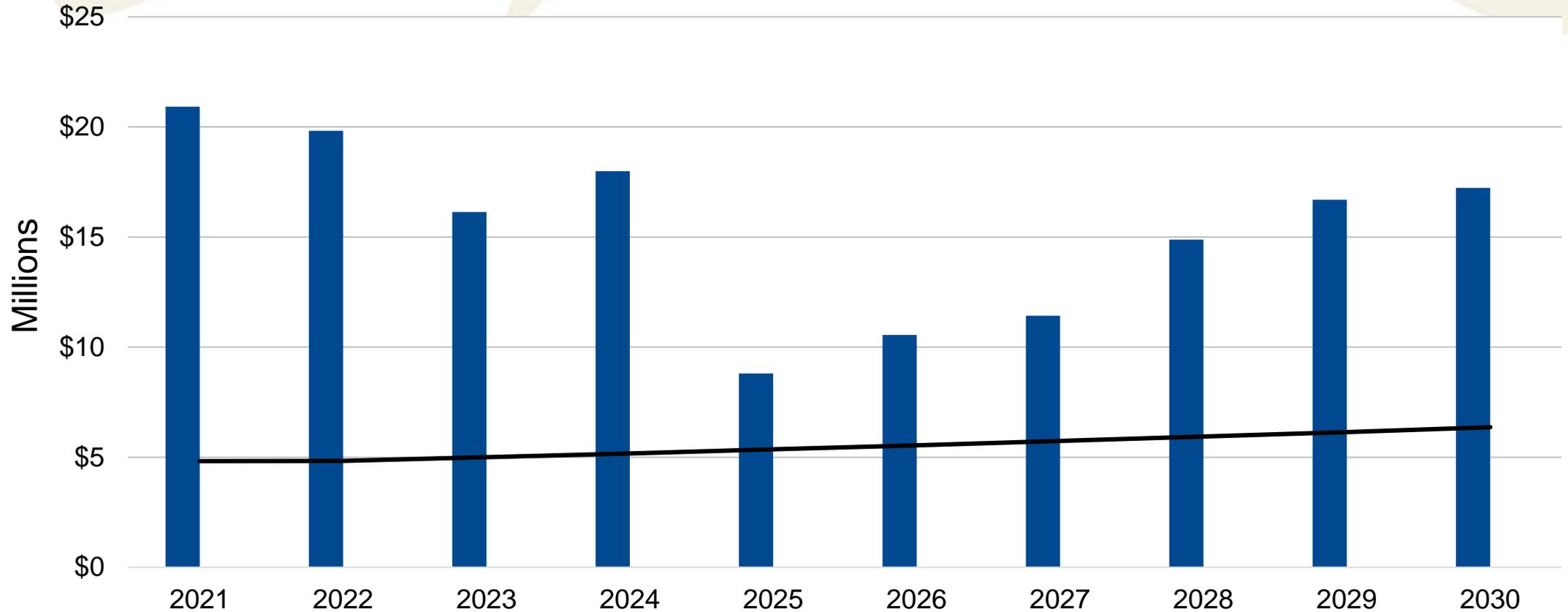
- Uniform rate is \$5.35 for customers not on water budget
- Monthly service charge is \$14.40 (no increase from 2020)

Water Rate Changes

Customer Class	% Increase	2021 Rate/kgal
Inside Residential	5.0%	Varies
Inside Commercial	5.0%	\$5.10
Inside Industrial	10.0%	\$3.89
Outside Residential	1.0%	\$12.02
Outside Commercial	1.0%	\$11.92
Outside Industrial	3.0%	\$3.64
City of Evans	6.0%	\$4.56
Town of Windsor	6.0%	\$4.72
Town of Milliken	16.0%	\$6.80

Projected Water Operating Cash Flow

■ Ending Fund Balance — Minimum Target Reserve



Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Projected Rate Increase	6.0%	6.0%	3.0%	3.0%	3.5%	3.0%	3.0%	3.0%	3.0%	1.0%

Sewer Rate Changes – Inside City

Customer Class	% Increase	2021 Rate/kgal
Single Family	9.5%	\$2.87
Multi-Family	10.0%	\$2.89
Commercial 1	10.5%	\$2.91
Commercial 2	11.0%	\$3.94
Commercial 3	11.5%	\$4.99
Commercial 4	12.0%	\$6.05
Commercial 5	12.5%	\$7.13

- Monthly service charge increase from \$11.55 to \$12.05 (+ \$0.50)

Sewer Rate Changes - Industrial

Customer Class	Existing Rate/kgal	% Increase	Proposed Rate/kgal
Industrial SIC 2026	\$28.85	0.0%	\$28.85
Industrial SIC 2013	\$19.26	1.0%	\$19.46
Industrial SIC 7218	\$7.23	0.0%	\$7.23
Industrial SIC 2034	\$4.75	17.0%	\$5.57
New Industrial SIC 2873	Was SIC 7218 (\$7.23)	226.0%	\$24.03
New Industrial SIC 4212	Was Comm II (\$3.53)	0.0%	\$3.53
New Industrial SIC 2047	Was Comm IV (\$5.39)	131.0%	\$12.47
New Industrial SIC 5169	Was Comm II (\$3.53)	6.0%	\$3.75
New Industrial SIC 7542	Was Comm III (\$4.46)	24.5%	\$5.56

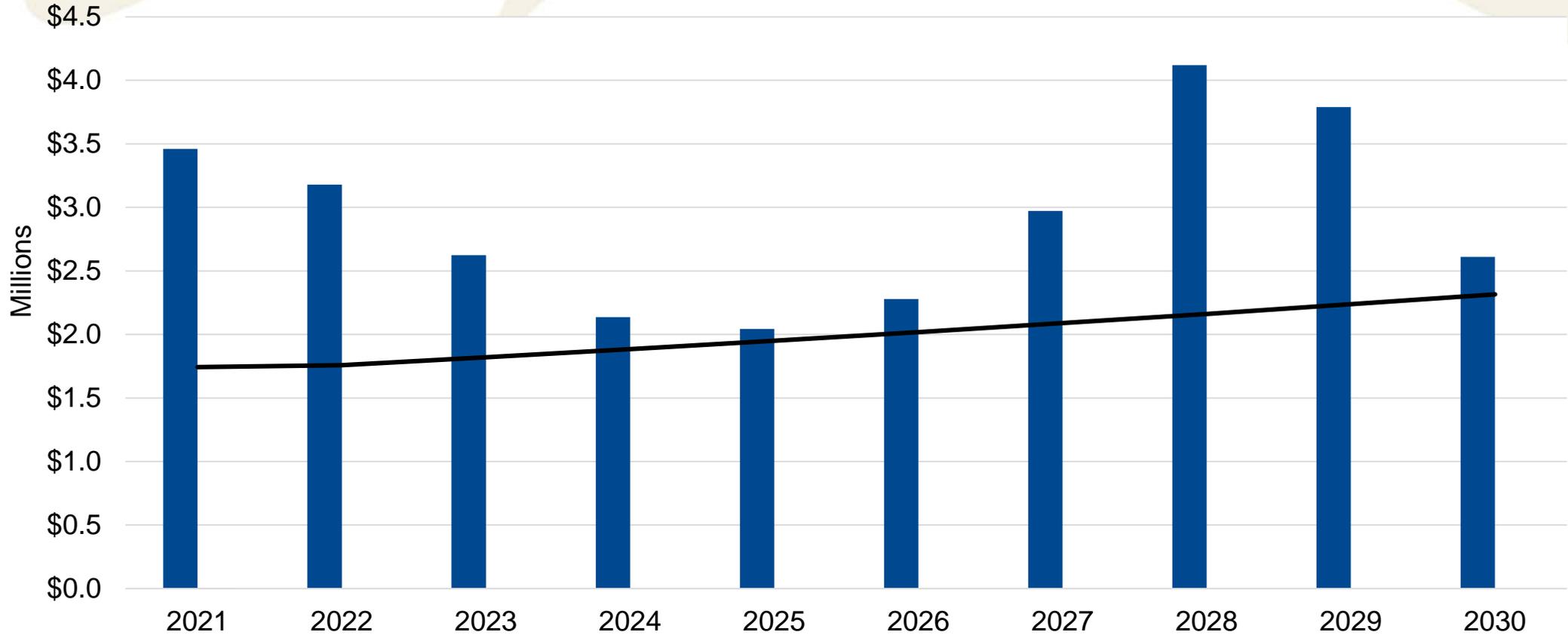
Sewer Rate Changes-Outside City

Customer Class	% Increase	Proposed Rate/kgal
Single Family	7.5%	\$4.25
Multi-Family	8.0%	\$4.21
Commercial 1	8.5%	\$4.30
Commercial 2	8.5%	\$4.96
Commercial 3	11.0%	\$6.30
Commercial 4	12.0%	\$7.30
Commercial 5	12.5%	\$8.28

- Monthly service charge increase from \$14.44 to \$15.05 (+ \$0.61)

Projected Sewer Operating Cash Flow

Ending Fund Balance Minimum Target Reserve



Projected Rate Increase	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	10.0%	14.0%	8.0%	6.0%	4.0%	2.5%	2.5%	3.0%	3.0%	2.5%

Approximate 2021 Residential Bill

	Service Charge	Average Volume (kgal)	Volume Charge	Bill Total
Annual Average Water	\$14.40	10.0	\$52.37	\$66.77
Summer Water (July)	\$14.40	21.5	\$121.13	\$135.53
Winter Water (Feb)	\$14.40	3.9	\$18.23	\$32.63
Sewer	\$12.05	3.9	\$11.19	\$23.24

- 2021 Water Service Charge: \$14.40 (no increase from 2020)
- 2021 Sewer Service Charge: \$12.05 (\$0.50 increase from 2020)

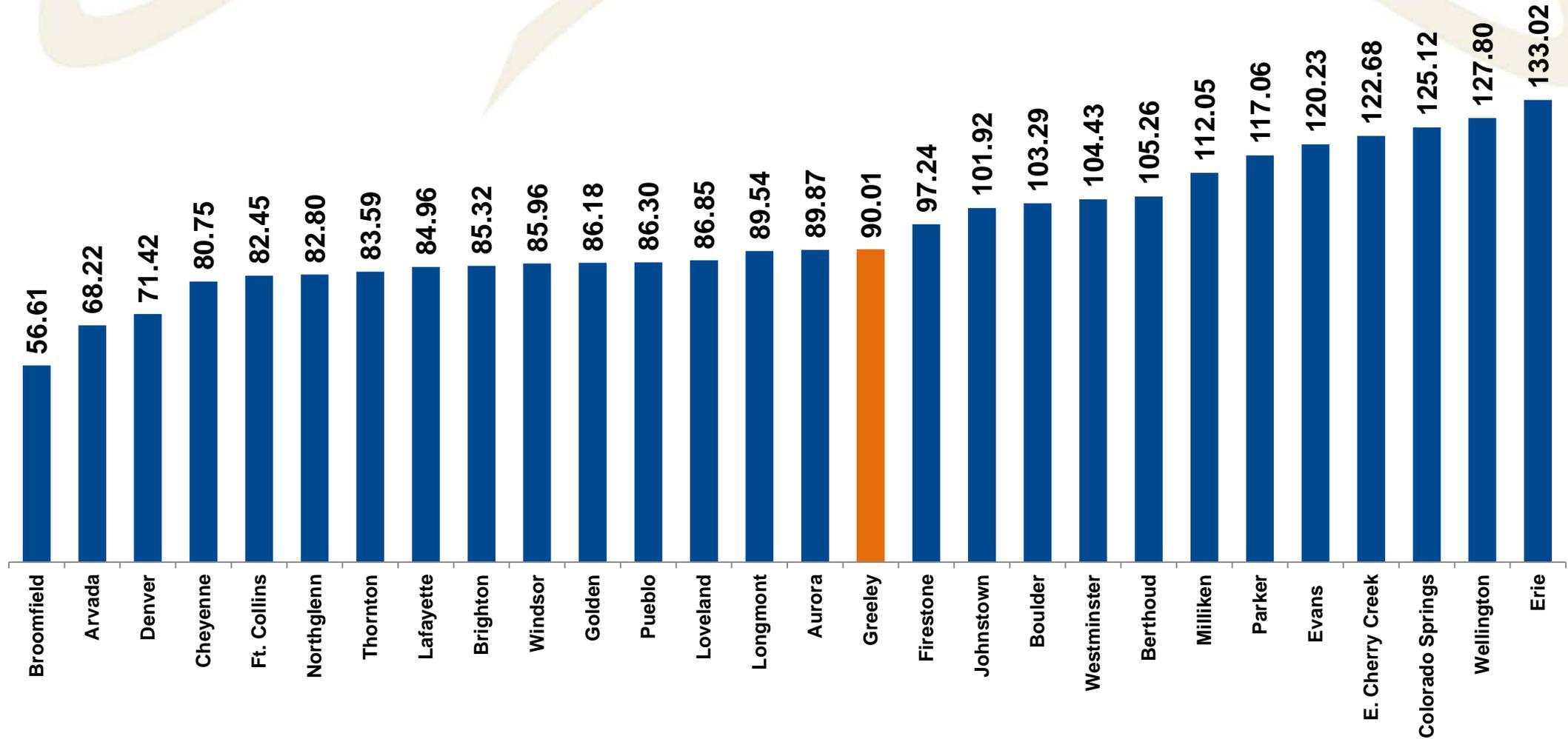


2020 – 2021 Residential Bill Compare

Average Bill	2020	2021	Change
Water	\$65.38	\$66.77	+ \$1.39
Sewer	\$21.31	\$23.24	+ \$1.93
Total	\$86.69	\$90.01	+ \$3.32



Regional Bill Comparison



Combined water and sewer charges

Plant Investment Fees – ¾” Tap

	2020	2021	Change
Water	\$10,500	\$11,200	+ \$700
Sewer	\$6,000	\$6,800	+ \$800
Total	\$16,500	\$18,000	+ \$1,500



Cash-in-Lieu

2020 Summary

- YTD Raw Water Sales: \$722,467
- Taps that paid cash-in-lieu: 14
- Volume of water sold: 22.63 acre feet

2021 Cash-in-lieu Fee		
Water Portfolio Value	Storage Cost	New Fee per Ac-Ft
\$30,000	\$6,500	\$36,500

Thank You
Questions?

Water & Sewer Board | December 16, 2020



WATER & SEWER BOARD AGENDA DECEMBER 16, 2020

ENCLOSURE X NO ENCLOSURE

ITEM NUMBER: 8

TITLE: UTILITY BILL AFFORDABILITY

RECOMMENDATION: INFORMATION ONLY

ADDITIONAL INFORMATION:

At the October Water and Sewer Board meeting, staff presented background material relating to the need for and the potential options for creating a utility bill assistance program. Staff has done additional research into how other utilities have created utility assistance programs and has developed a proposal framework that would build upon the City's existing Food Tax rebate program.

Utility Bill Affordability Program Framework

Water & Sewer Board | December 16, 2020



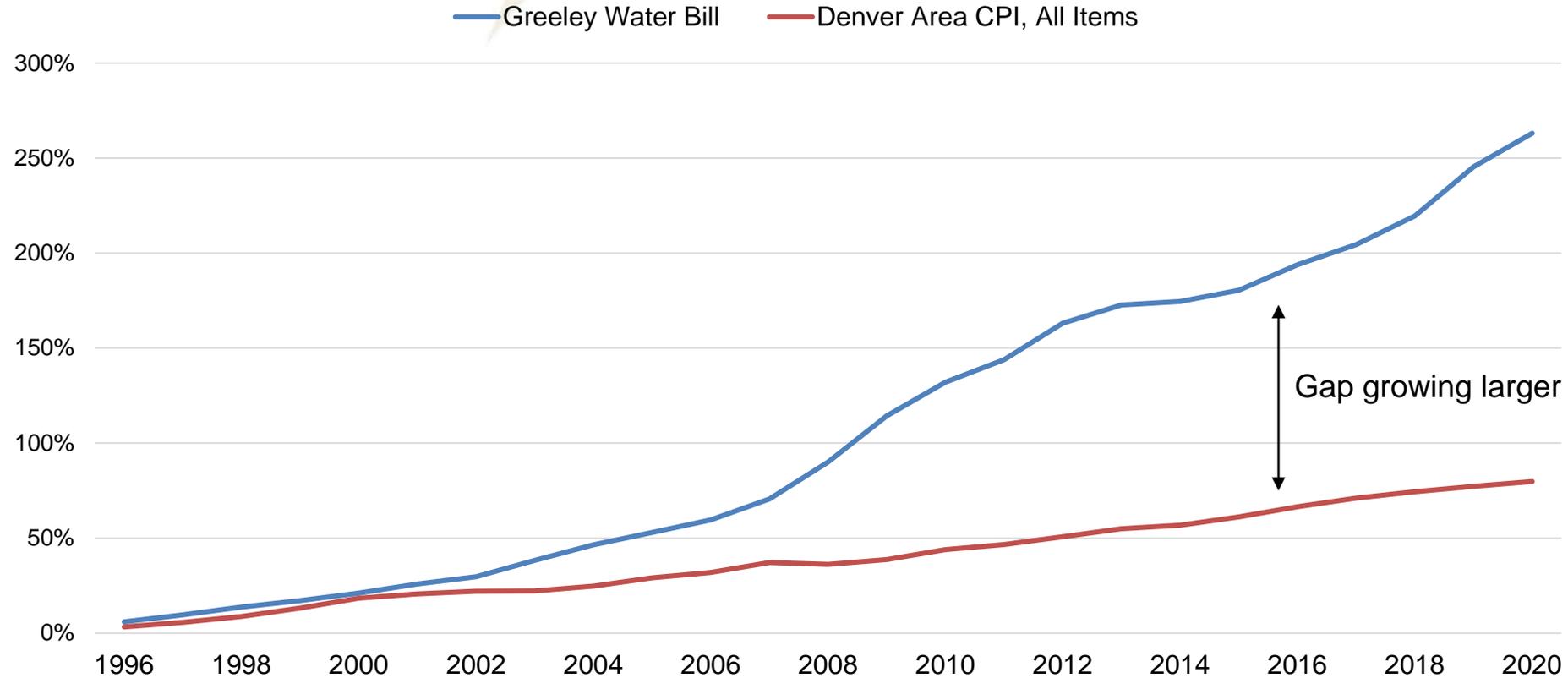
Why Create a Utility Assistance Program?

- Limited lifeline assistance for those most in need
- Ratings agencies (Standard and Poor's, Fitch, and Moody's) qualitatively consider bill affordability when giving bond ratings
 - Assistance programs mitigate customer rate base affordability concerns
 - Lessens delinquencies
 - Good management, cash flow certainty, risk mitigation



Water Rates Increasing Well Above Inflation

Cumulative Annual % Increase in Household Costs



What Do We Do Now?

- Payment extensions
- Payment arrangements
 - Customer must pay half of past-due amount to start the arrangement



Regional Affordability Examples

	Longmont	Westminster	Fort Collins (IQAP)
Credit Amount	\$79.44 lump sum bill credit <i>equal to annual service charge</i>	\$15 monthly bill credit (\$180/year) <i>per local affordability analysis</i>	≈\$9 monthly bill credit (\$105/year) <i>equal to 23% discount on fixed and tier 1, per local affordability analysis</i>
Eligibility	LEAP/Food Stamps/etc.	60% area MHI (LEAP)	60% area MHI (LEAP)
Staffing	Part-time employee	Part-time employee	2 Full-Time staff (multiple programs)
Funding	Dedicated budget	Dedicated budget	Dedicated budget
Utilization	2020 = 500 applications ≈ \$40,000	2019 = 258 customers assisted ≈ \$46,000	2020 = 211 customers assisted ≈ \$22,000

Colorado Springs: administered through the Colorado Springs Utilities Foundation by one full-time employee. Crisis assistance available up to \$500; funded through private donations and matching funds from the utility.

Aurora: administered through Energy Outreach Colorado (pilot program); \$125 lump sum available to LEAP eligible customers, up to 4 times in a lifetime.

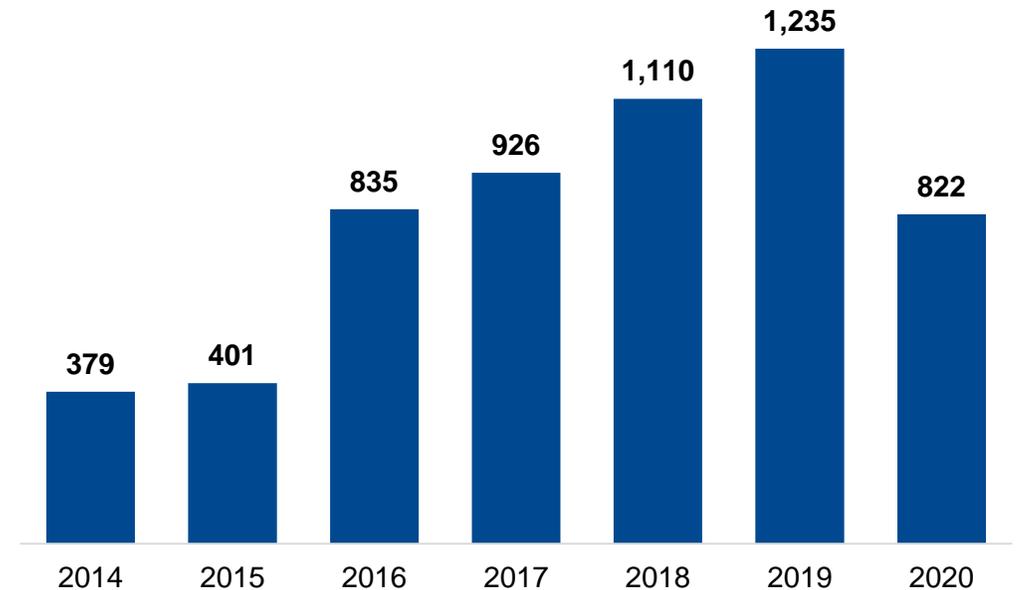
Existing Model: Greeley Food Tax Rebate

- 2020 Rebate = \$65 per family member/year
- Eligibility:
 - Greeley residency at least 10 months
 - Income \leq 50% of HUD's median family income

Family Members	2019 Income Limits
1	\$27,750
4	\$39,600
8	\$52,300

- Applications accepted Feb-May
- Seasonal hired each year to process applications

Rebates Issued by Year



Recommendation: Add to Food Sales Tax Rebate Program

- Pilot a water rebate
- Eligibility:
 - Residency & income = same as food tax rebate
 - Must be named on the utility account
- Same application as the food tax rebate; W&S to help fund existing seasonal position
- Rebate would show as a lump sum credit on the June/July water bill
- First-come, first-served based on funding availability
- First year of offering = 2022
- Target conservation education/programming to rebate participants



Potential Funding Structures

Credit Amount	Customers Assisted	Staffing Cost	Required Budget	Methodology Behind Credit Amount
\$45	1,000	\$3,600	\$48,600	Equal to the current water turn-on charge.
\$86	1,000	\$3,600	\$89,600	Equal to half the annual service charge.
?	1,000	\$3,600	TBD	Develop alternate methods to determine credit amount.
Potential revenue sources: excessive water use tier; turn-on fees; other one-time revenues.				



Next Steps

- Develop program framework
 - 2022 Budget
 - Marketing/outreach
 - Application materials and procedures
 - Utility billing coordination
 - Prepare conservation outreach

- 5th water tier “lifeline rate” coming with new CIS

Thank You
Questions?

Water & Sewer Board | December 16, 2020



WATER & SEWER BOARD AGENDA DECEMBER 16, 2020

ENCLOSURE _____ NO ENCLOSURE X

ITEM NUMBER: 9

TITLE: INTEGRATED WATER RESOURCES PLAN
UPDATE

RECOMMENDATION: INFORMATION ONLY

ADDITIONAL INFORMATION:

The current Greeley Water Supply Master Plan is more than 17 years old. Since the creation of the last master plan in 2003, Greeley’s strategies to continue to provide a robust, resilient water supply have evolved and the water market has transformed. Likewise, widely accepted strategies used to plan for water development have progressed. Consequently, the Water Resources team has started the process of developing a new water master plan, through a process termed Integrated Water Resource Planning (IWRP). The IWRP process includes integration across acquisition, non-potable development, conservation, storage, and land planning while incorporating future risk and uncertainty. Staff will be providing a short briefing on the IWRP process as well as an update on project status.

Integrated Water Resource Plan

Water Board Presentation

December 16, 2020



IWRP

Background:

- 2003 Master Plan
- Opportunity for new planning approach

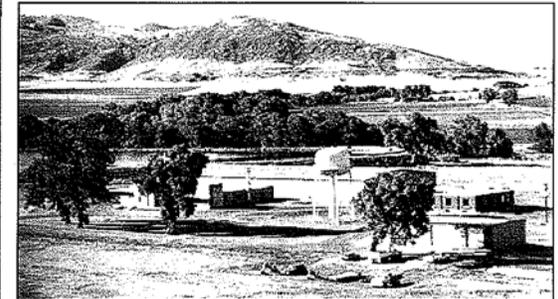
IWRP:

- Integrated approach to planning
 - Ensure robust, reliable water supplies
- What is integration?
 - Across acquisition, conservation, non-potable supplies, storage, and land planning
 - Across stakeholders, internal and external
- Widely adopted and best-practice approach to planning
 - Denver Water, Colorado Springs Utilities



Water Master Plan

City of Greeley



Spring 2003

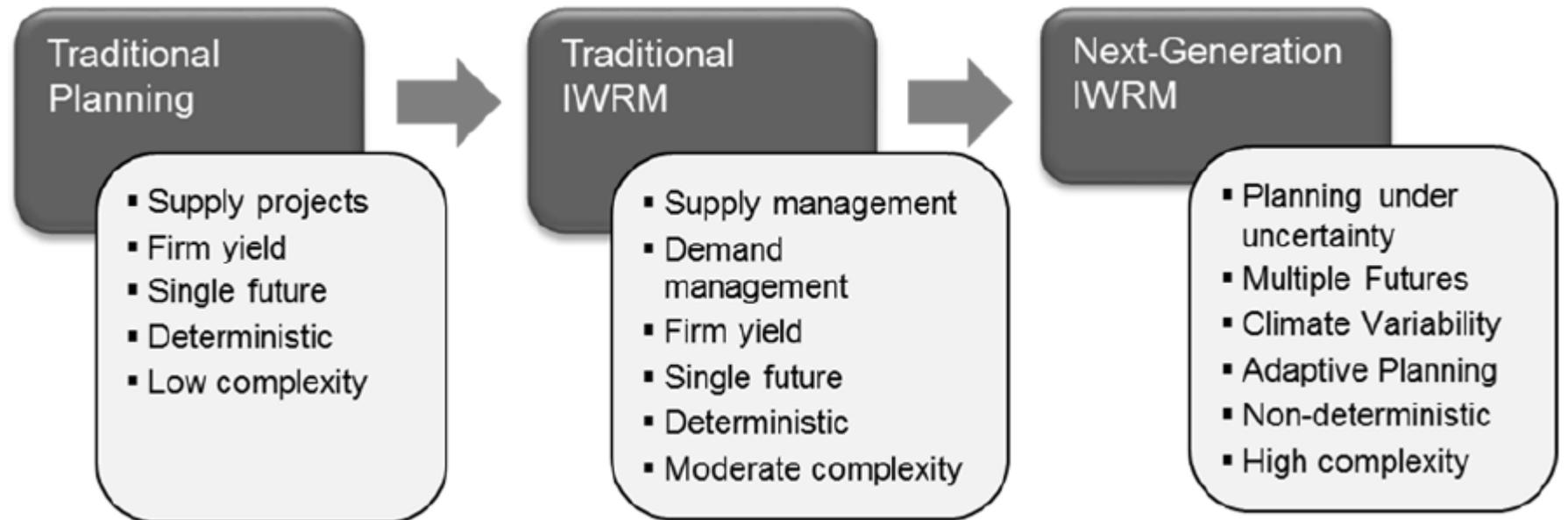
IWRP

Past:

- Focus on predicating a single future demand and firm yield
- Planning based off of a single expected future condition

Future:

- Incorporate risk and uncertainty around key risk drivers, understanding that the future has a wide range of possibilities.





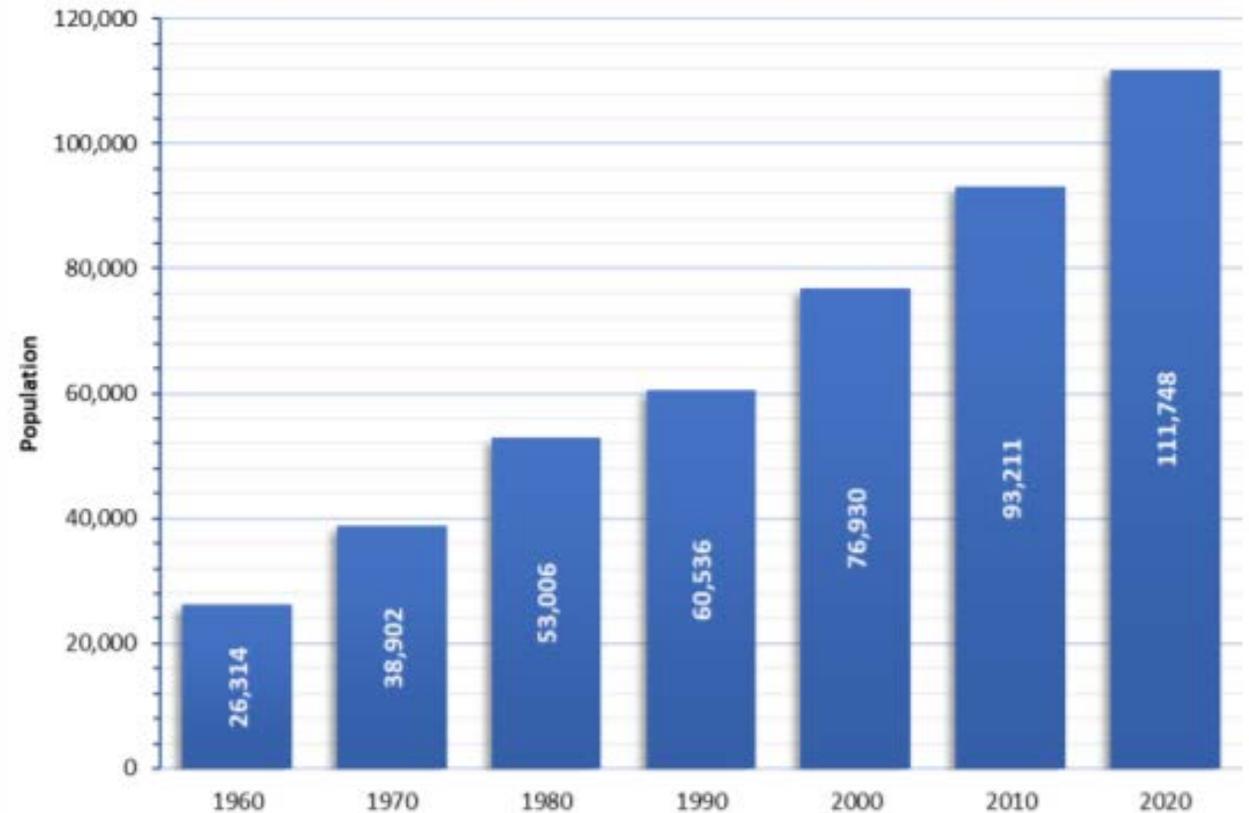
IWRP

- **Outcomes:**
 - Short term (10 year) Capital Improvement Plan
 - Long-range Master Plan
 - Acquisition strategies
 - Terry Ranch/Milton Seaman and alternatives
 - Long term (50 year) planning horizon

Board Input

- Setting goals and standards
 - Level of Service Goals
 - Performance Metrics
- Driving factors
 - Growth
 - Water Prices
 - Drought/Climate

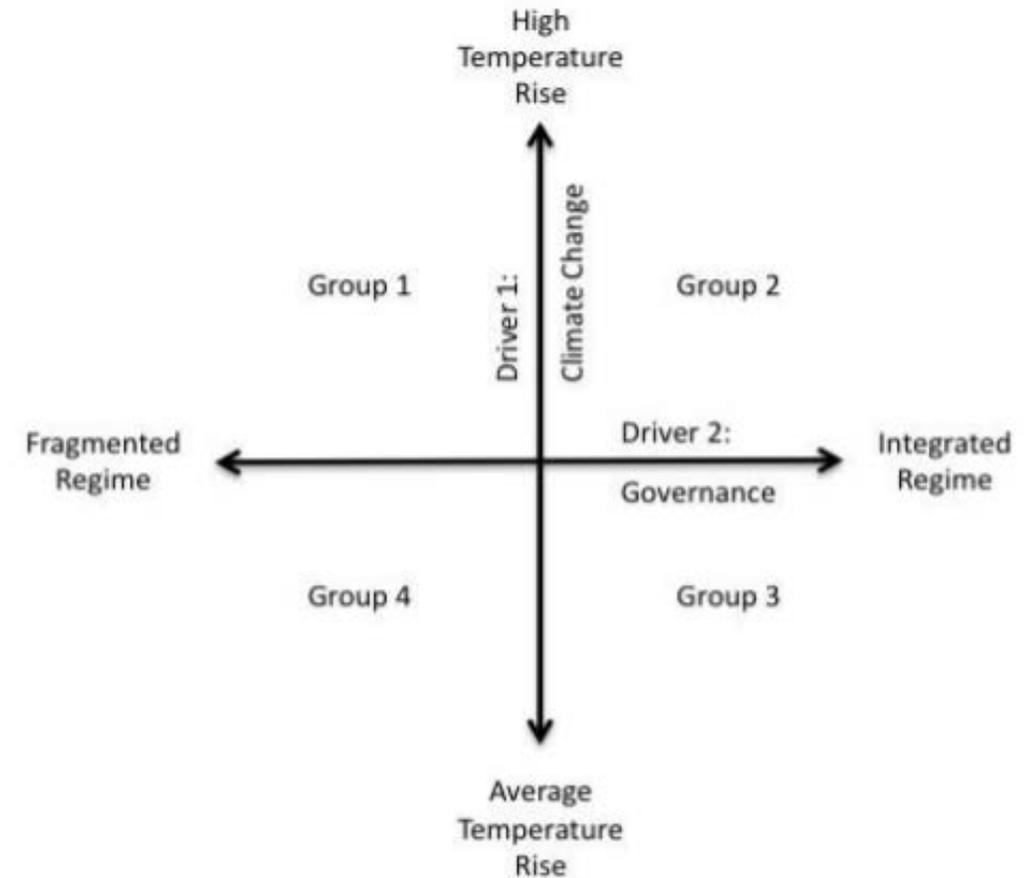
Figure 2.1: Census Population Estimates, Greeley, CO 1960-2010



Selecting Drivers

- **Climate Change:** Temperature, precipitation, snowpack accumulation, extreme events
- **Water:** Differing consumption, source availability, external drivers (e.g. Colorado River Compact Call, change in CBT administration, etc.)
- **Society:** Population increase, density, regionalism

Figure 12.5 Matrix for Generating Scenarios



<https://sustainablecities.usc.edu>



IWRP Proposed Timeline



Background on the Greeley System Model

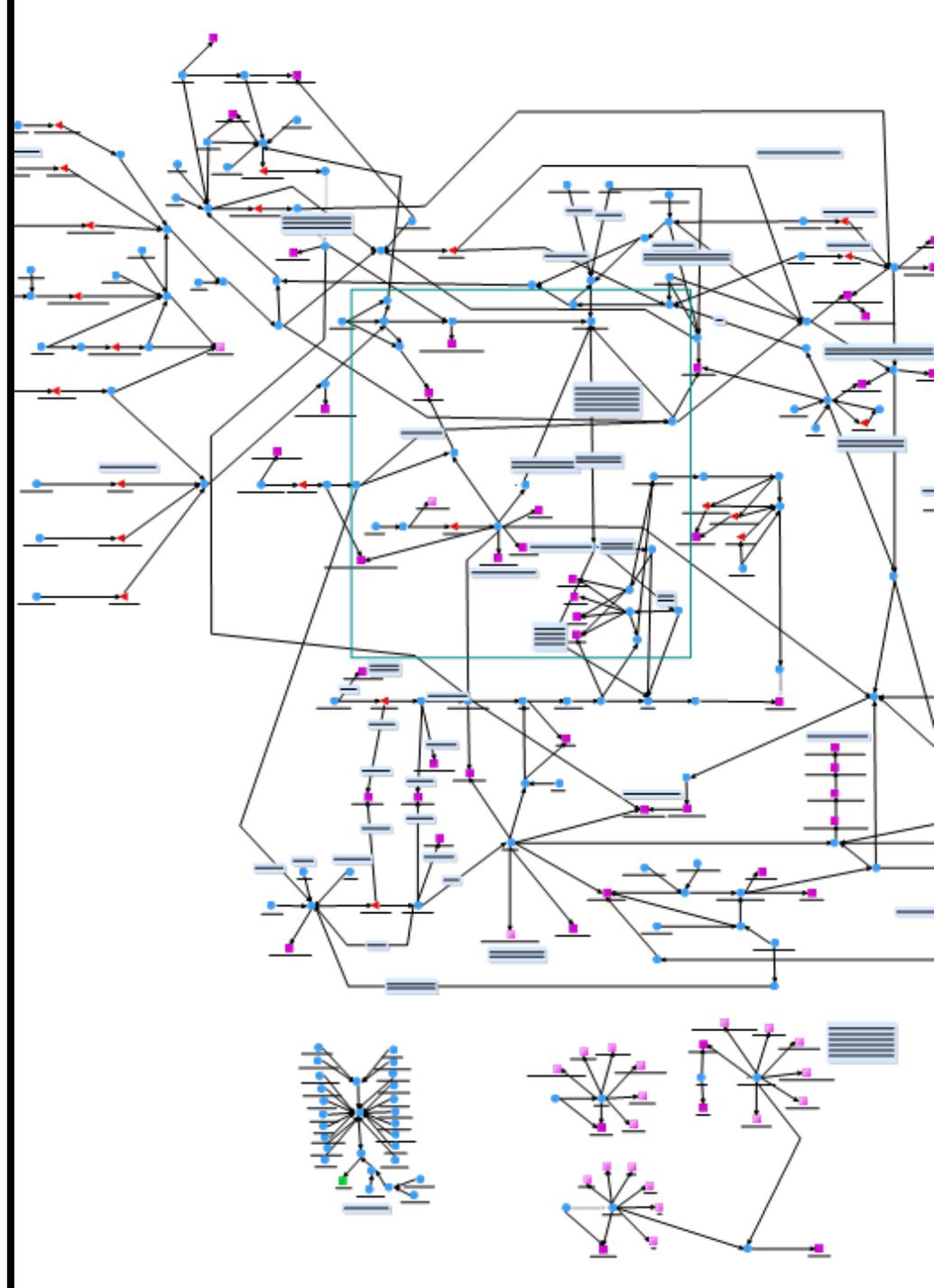
- The GSM is a raw water allocation model that assists in providing analytical support to planning decisions.
- Water Resources utilizes the GSM to analyze:
 - Water acquisitions
 - Exchange potential
 - Firm yield
 - System weaknesses
 - Wholly consumptive effluent



Update the GSM

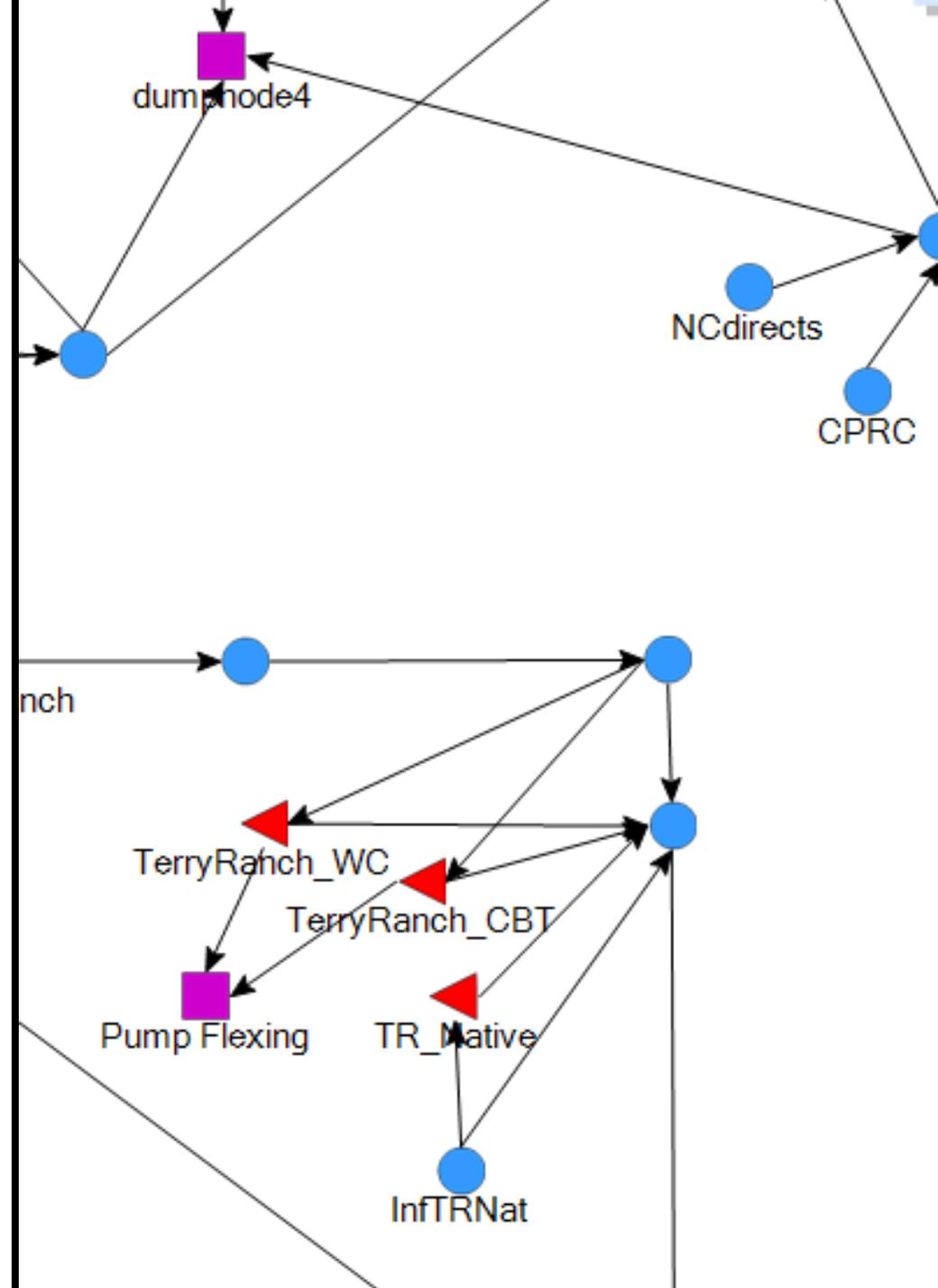
- **Why?**

- The current model has operations that reflect 20 year old assumptions
- Physically incapable of running on new machines
 - Microsoft updates
 - Updated MODSIM-DSS platform
 - Industry standard



Update the GSM

- **What?**
 - Greeley storage plans, plains reservoirs, change cases, acquisitions, exchanges
- **Outcomes**
 - Will affect numbers that have stayed relatively constant over years





Questions?

Thank you.



Integrated Water Resource Planning

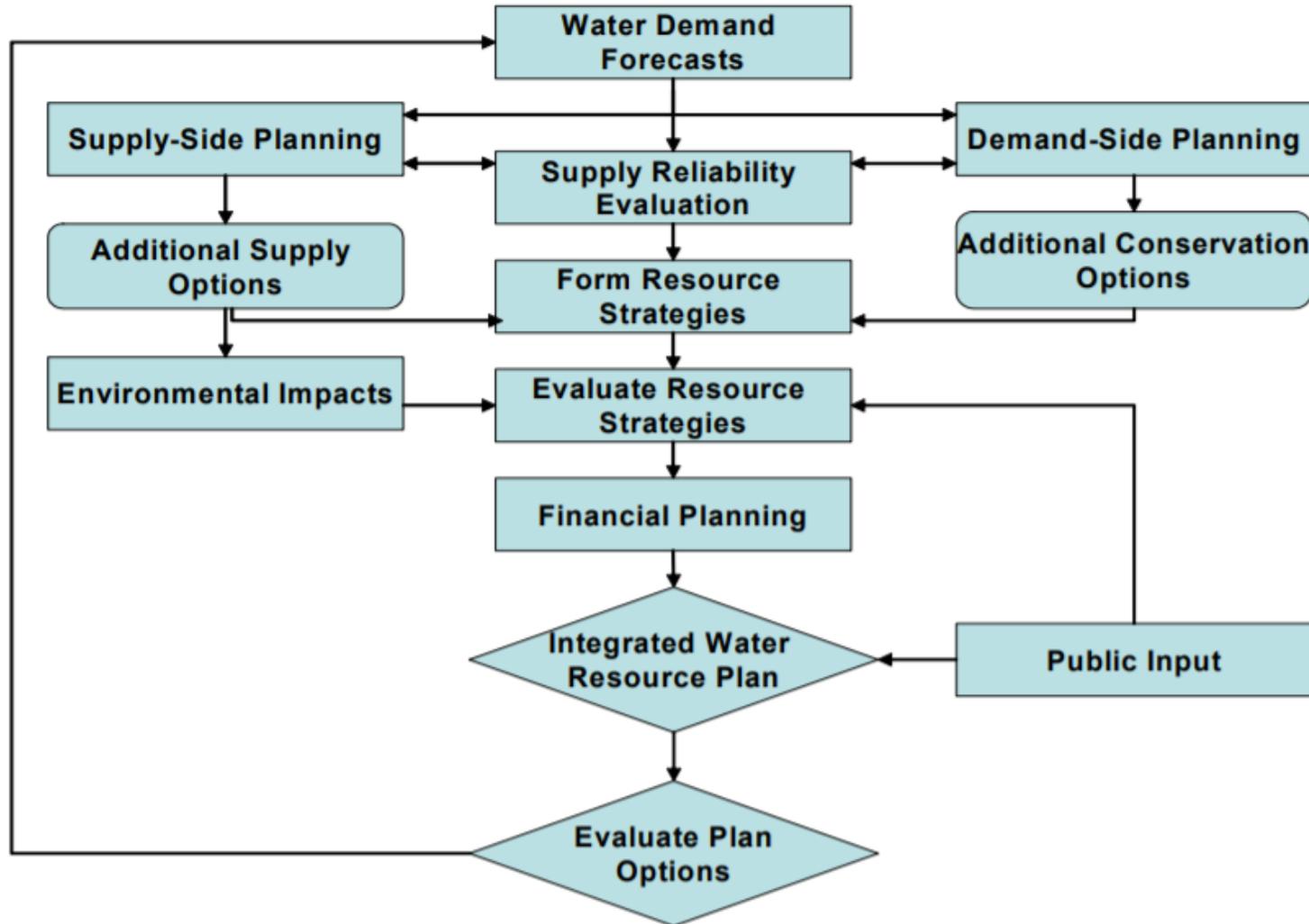


FIGURE 2. INTEGRATED WATER RESOURCES PLANNING (AWWA, 2001)



WATER & SEWER BOARD AGENDA DECEMBER 16, 2020

ENCLOSURE _____ NO ENCLOSURE X

ITEM NUMBER: 10

TITLE: TERRY RANCH PROJECT UPDATE

RECOMMENDATION:

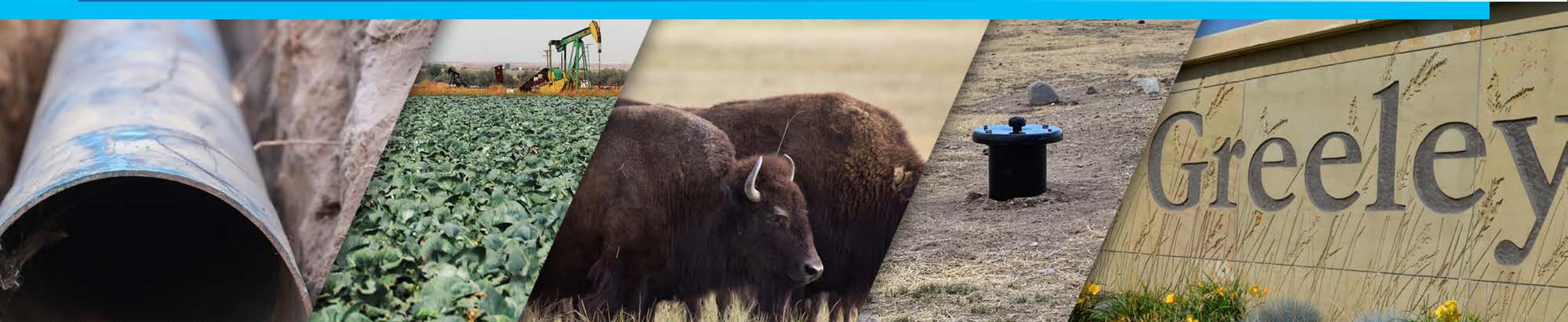
ADDITIONAL INFORMATION:

In June 2020, Greeley entered into a Master Agreement for acquisition of groundwater rights and associated storage underlying the Terry Grazing Association Ranch in northwest Weld County (the “Terry Ranch Project”). Since that time, staff and consultants have undertaken extensive inspection and diligence activities on the ranch. Such diligence is required per the Master Agreement, and will inform the City whether to close on the project. This item presents a summary update of diligence activities conducted to date for the Terry Ranch Project, along with preliminary findings.

Terry Ranch Project



December Water & Sewer Board Meeting



Introduction

Agenda

- Inspection activities update
- Pilot treatment
- Bench scale testing
- Pilot injection
- Source water protection (Meadow Springs Ranch)
- Concept design update
- Cost update
- Community outreach
- Next Steps



Inspection Activities

Ongoing Terry Ranch Due Diligence Activities

Activity	What does this tell us?
Wetlands and Threatened and Endangered species field work (along pipeline)	Identifies potential changes to schedule or project to be considered during construction
Water quality assessment: Review of water quality data	Analyze similarities, differences, and potential conflicts (corrosion, scaling and water quality)
Water quality assessment: Evaluation of 3 scenarios (100% TR well water, blend of water treated by Bellvue and TR wells, blend of water treated by Bellvue, Boyd, and TR wells)	Evaluate potential changes in water quality upon blending of the existing water sources with the new TR well water.
Water quality assessment: Calculation of indices of corrosion and aggressiveness	Estimate of the relative corrosivity of Terry Ranch water to help predict conditions for forming scales or disrupting scales
Corrosion control treatment evaluation	Examine the suitability of the existing corrosion control strategies against the blending scenarios above
Distribution system evaluation	Evaluate distribution system and customer service line pipe materials to better understand influences for corrosion and metal release

Ongoing Terry Ranch Due Diligence Activities

- **Bench-Scale Testing**

- Water-water physical mixing tests complete
- Water-rock column tests ongoing – results not yet available

- **Pilot Treatment Test**

- Completed on December 10 (30-day duration)
- Anticipate all water quality data back by beginning of January

- **Pilot Injection Test**

- Started first injection cycle (24 hours) on December 5
- Recovery pumping started on December 7 and ended on December 8
- Second cycle (3 days) will begin December 9, testing complete by December 19
- Expect all water quality data back early-to-mid January

Pilot Treatment

Terry Ranch Water Quality Snapshot

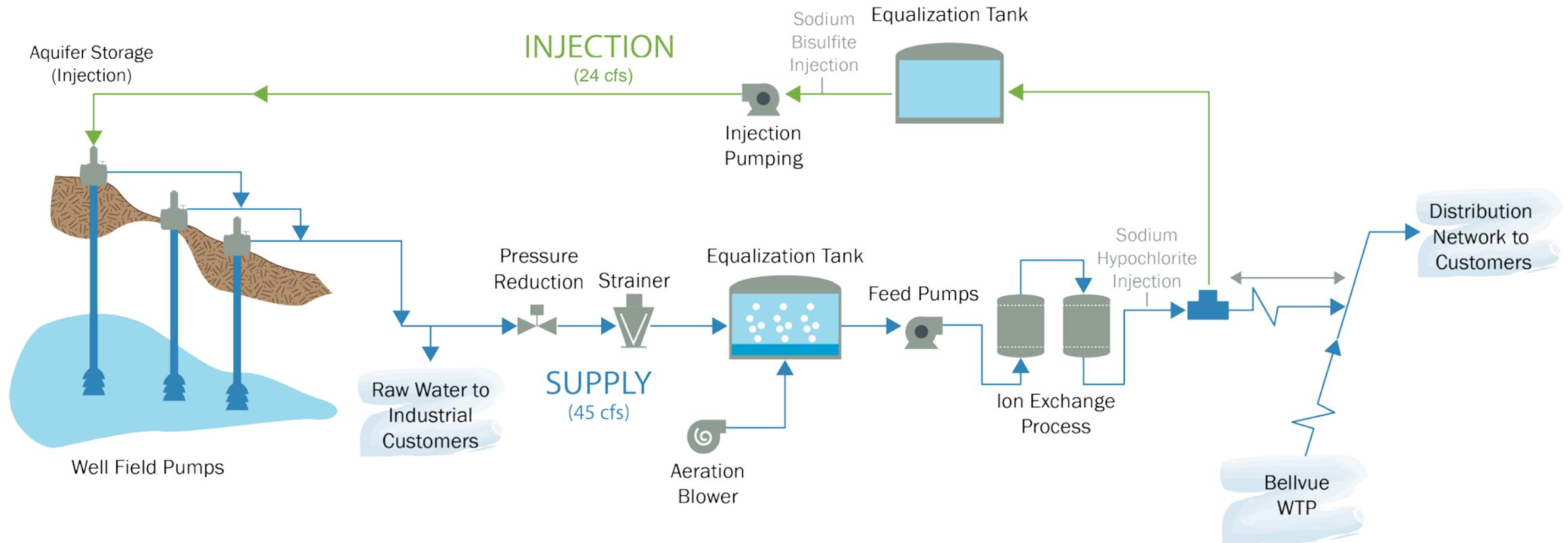
Key Parameter	WWR-1	WWR-2	WWR-3	WWR-4	WWR-5	EB-1	EB-2	Average	Reg 41 Standards
Uranium	40.2	22.7	28.3	19.8	13.6	25.8	20.7	24.4	30 ug/L
Iron	0.009	0.022	0.032	ND	0.027	No data	No data	0.013	0.3 mg/L (SMCL)
Manganese	2.1	8.4	23.4	3.7	16.4	3.4	46.3	14.8	50 ug/L (SMCL)
Arsenic	3.8	2.5	2.5	2.9	1.9	4.8	0.8	2.7	10 ug/L
TDS	260	267	243	284	267	283	259	266.1	500 mg/L
Hardness	123.9	124.9	168.8	171.5	157	113.3	156.1	145.1	---

November 18, 2020

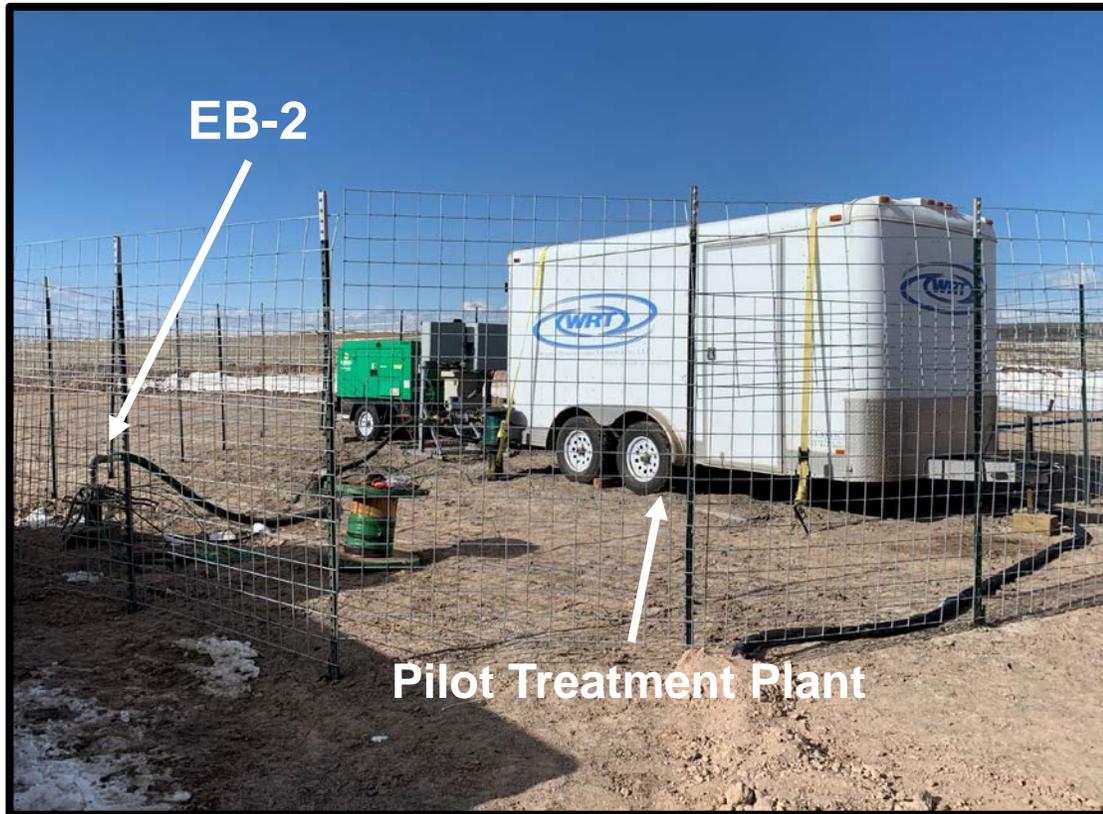
*All data represent composite samples collected at the wellhead

ND = not detected

Terry Ranch Treatment Process Schematic



Pilot Treatment Test



Treatment pilot was operated continuously for 30 days
Collected and analyzed both influent (feed) and effluent (discharge) samples

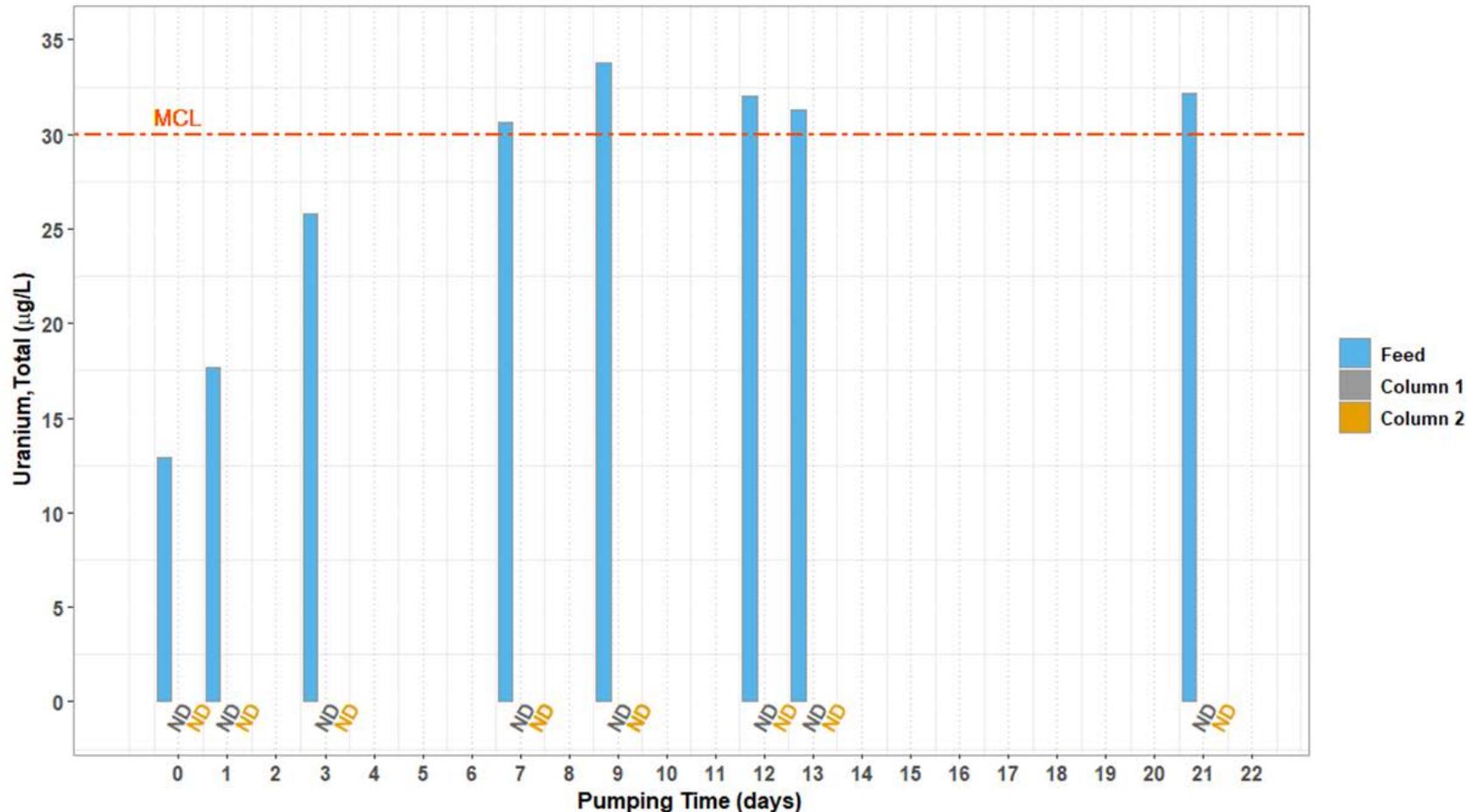
Pilot Testing Overview

- Pilot operating from Nov 10 to Dec 10
 - Source EB-2
- Over 340 samples collected to date
 - Sampling 2x per week
- Pilot operates in same fashion as full-scale plant with two columns in series



Pilot Test Uranium Results

Results

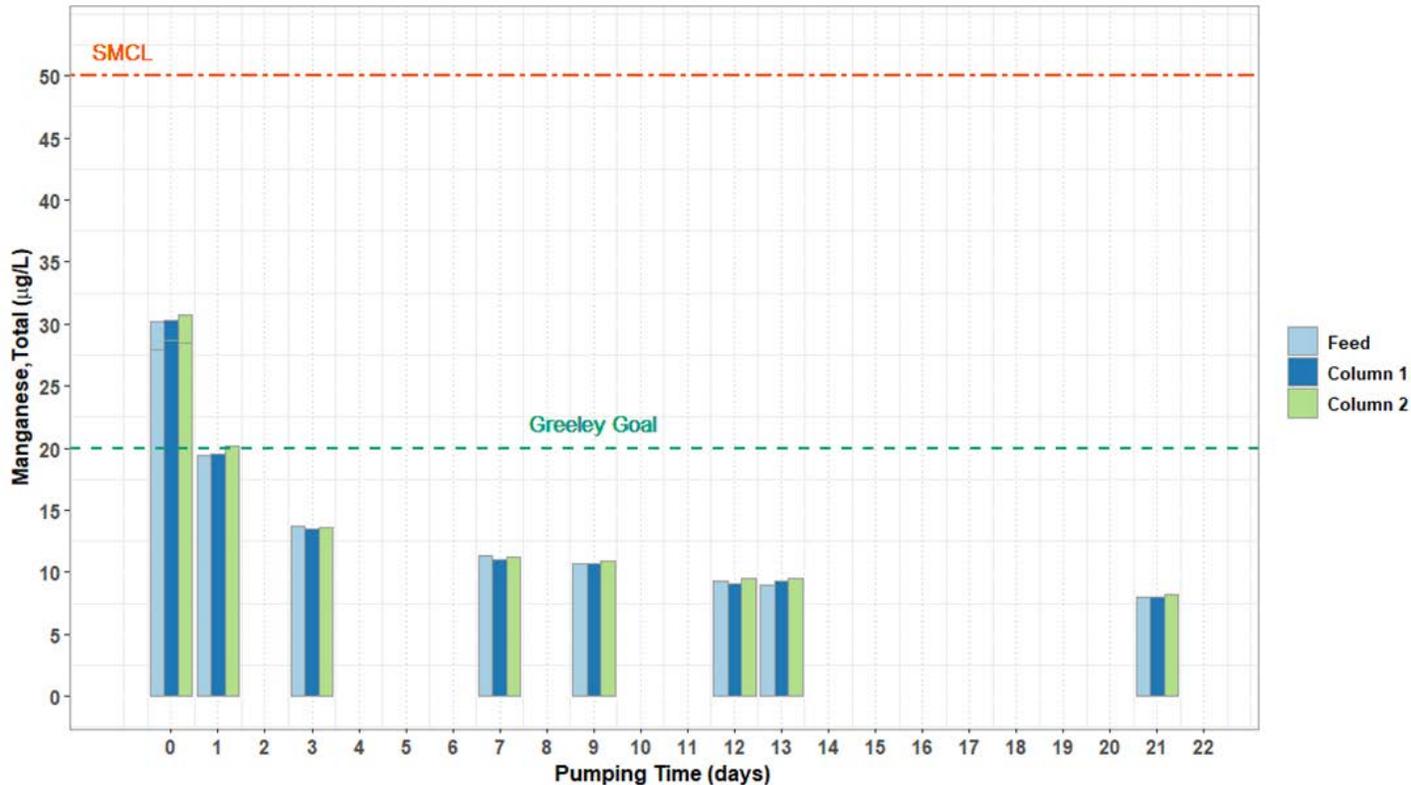


Observations

- Treated samples are all non-detect (< 0.2 ug/L)
- Untreated U concentrations increased above MCL during pilot testing and have since remained consistent

Pilot Test Manganese Results

Results

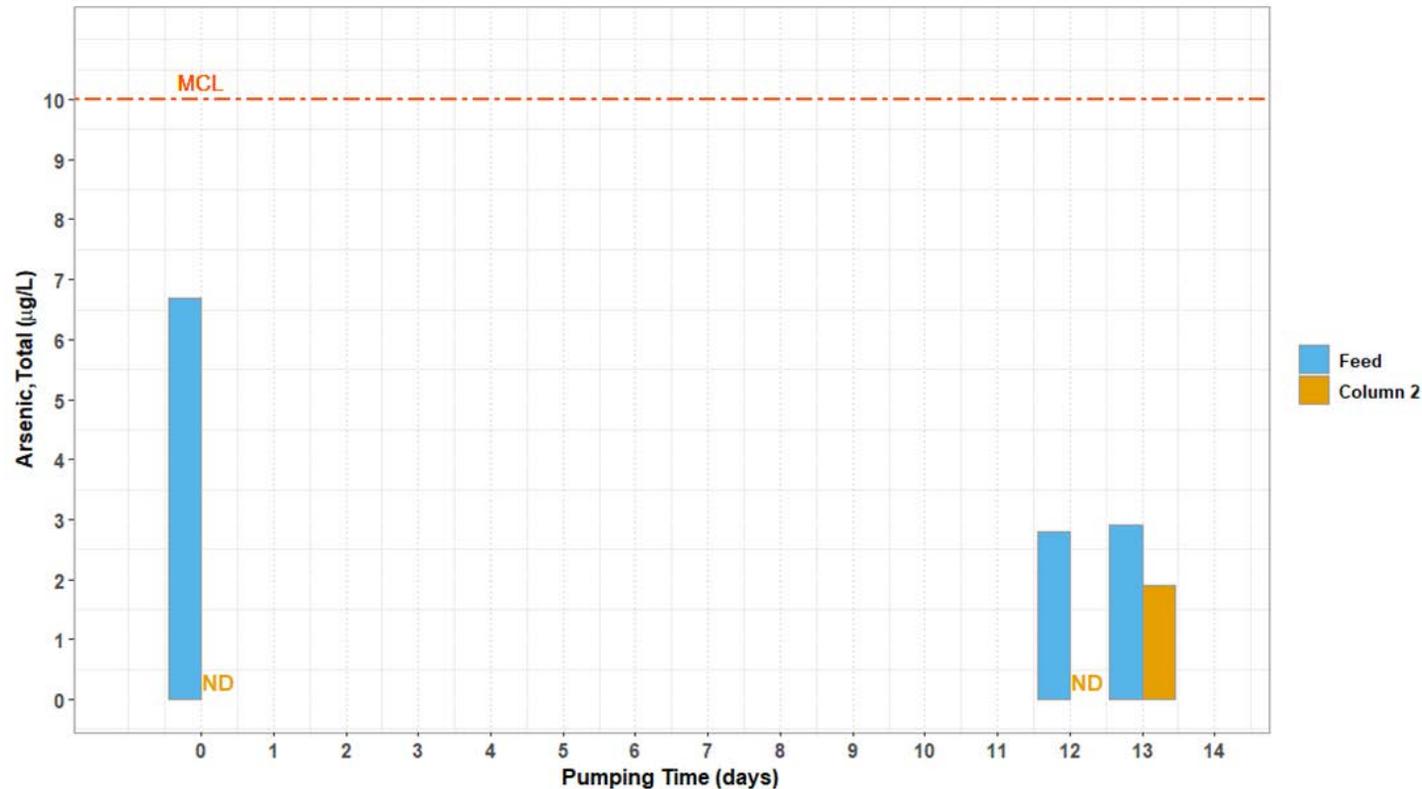


Observations

- Soluble manganese is a cation and therefore is not removed by the anionic resin
- Well feed concentration has decreased during pilot operation
- Greeley's treated water goal is 20 µg/L
- Well feed concentrations measured during piloting is significantly less than the 2020 sampling 83.1 µg/L

Pilot Test Arsenic Results

Results



Observations

- Arsenic removed with uranium-specific media
- For prolonged removal of arsenic, variations in media may be needed

Bench Scale Testing

Water-Water Physical Mixing Test

Observations after 21 days at 68°F after 60 minutes of agitation

Fluid 1	Fluid 2	Fluid Ratio	pH	Color	Clarity	Precipitates	Reactivity	Emulsion	Comments
Bellvue Treatment Plant	Terry Ranch Groundwater	90% : 10%	8.21	colorless	clear	no	no	no	no reaction between fluids no reaction between fluids no reaction between fluids no reaction between fluids no reaction between fluids
Bellvue Treatment Plant	Terry Ranch Groundwater	70% : 30%	8.20	colorless	clear	no	no	no	
Bellvue Treatment Plant	Terry Ranch Groundwater	60% : 40%	8.20	colorless	clear	no	no	no	
Bellvue Treatment Plant	Terry Ranch Groundwater	42% : 58%	8.19	colorless	clear	no	no	no	
Bellvue Treatment Plant	Terry Ranch Groundwater	30% : 70%	8.23	colorless	clear	no	no	no	



90% Bellvue
10% Terry Ranch

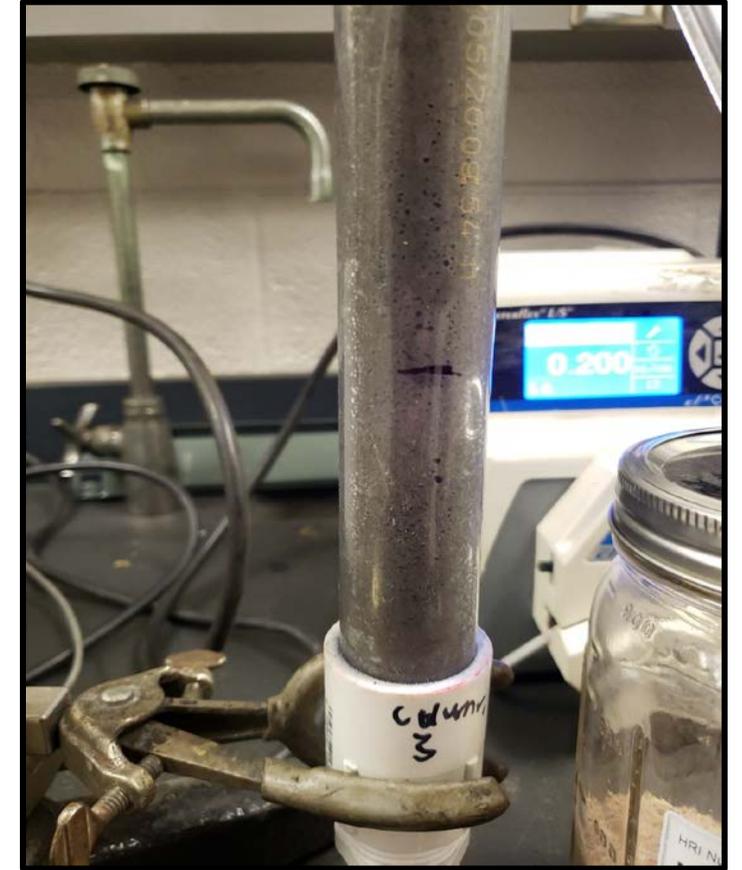
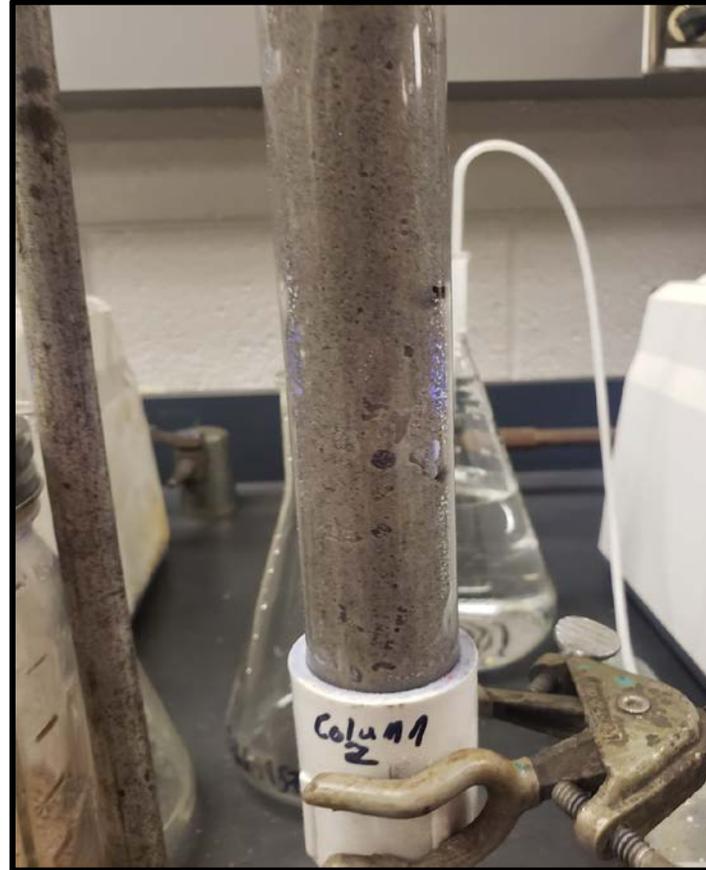
70% Bellvue
30% Terry Ranch

60% Bellvue
40% Terry Ranch

42% Bellvue
58% Terry Ranch

30% Bellvue
70% Terry Ranch

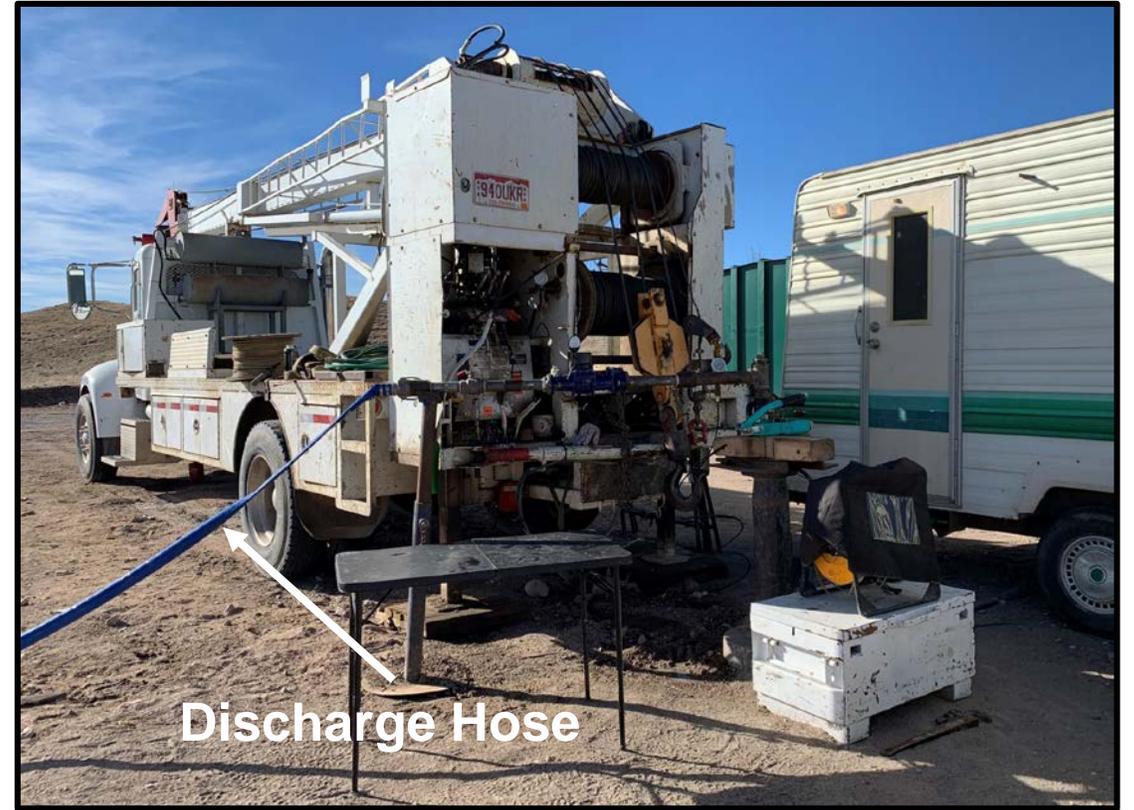
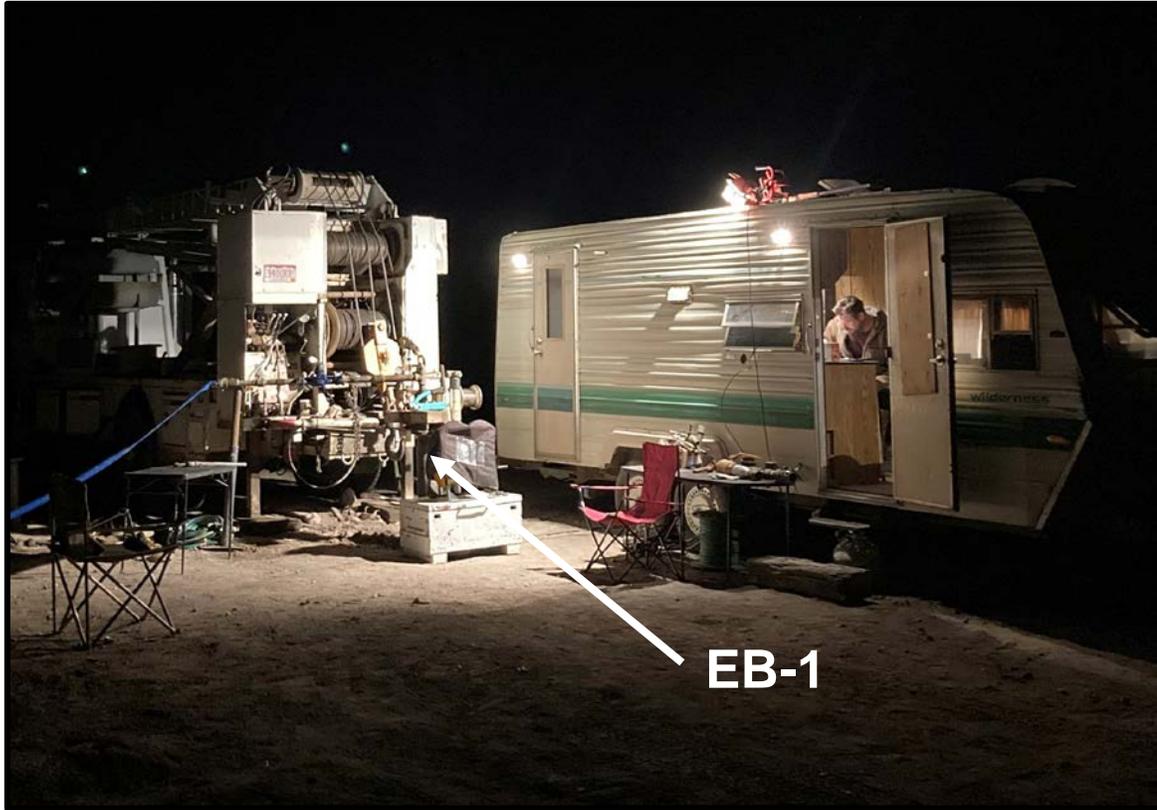
Water-Rock Column Tests



Each column contains aquifer material from a different depth interval (EB-1)
Water sourced from the Bellvue WTP (collected near Dugens)
36-hr dynamic flow test, 24-hr static (storage) test, followed by 72-hr static

Pilot Injection Test

Pilot Injection Test



First Cycle: 24 hrs injection, 24 hrs storage, ~150% recovery

Second Cycle: 3 days injection, 3 to 4 days storage, ~150% recovery

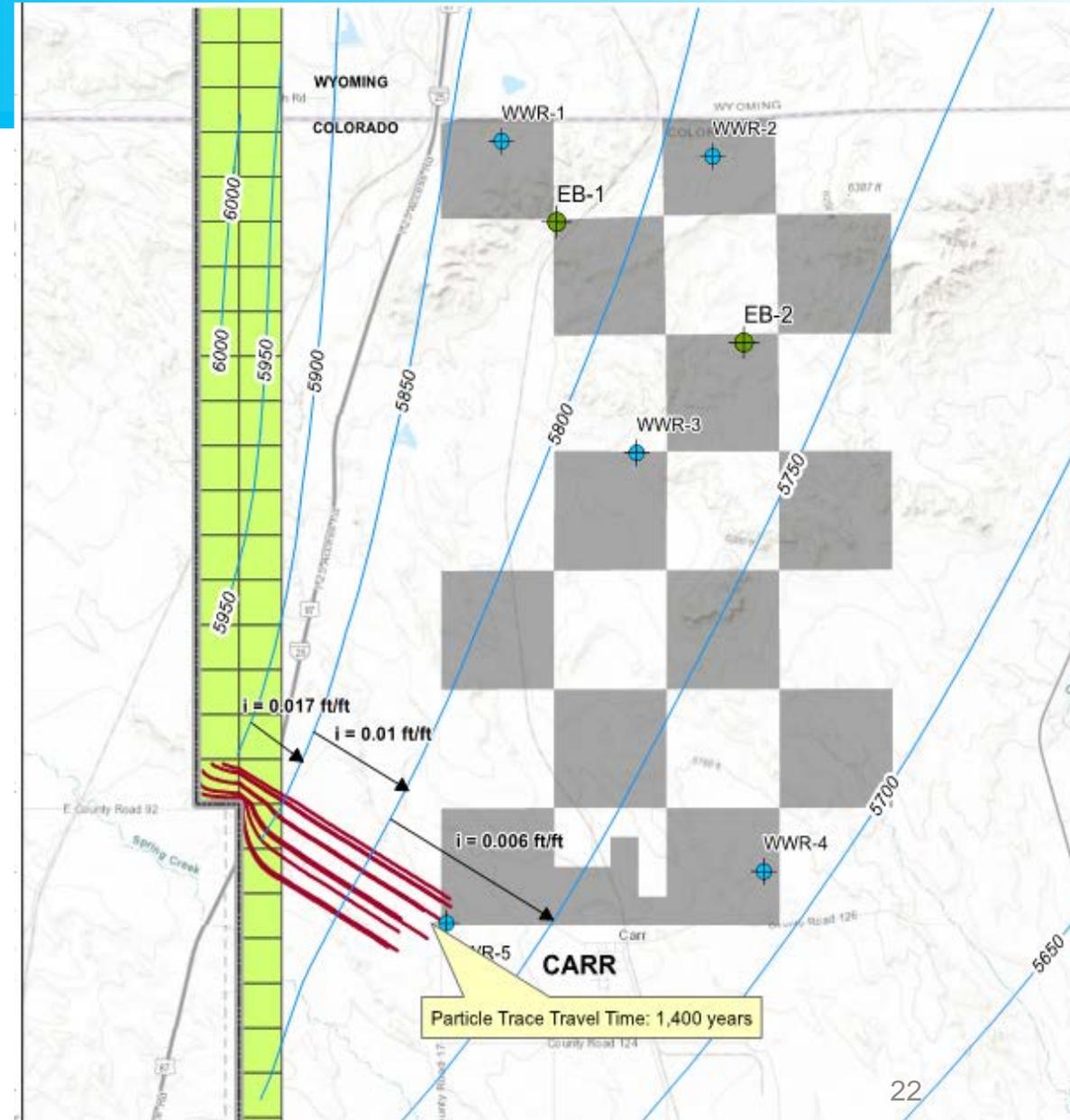
Source Water Protection

Source Water Protection

- Evaluated Fort Collins' biosolids management program in the wellfield recharge area (Meadow Springs Ranch)
- Evaluation included the following elements
 - Particle trace analysis
 - Review of biosolids program and implications to Terry Ranch

Particle Trace Evaluation

- MODFLOW groundwater flow model
 - Conservative model
- Simulated recharge area to the west of Terry Ranch (green)
- Output: ~1,400 years travel time
- Risk to groundwater quality is low



Meadow Springs Ranch Assessment

- Owned/operated by City of Fort Collins – Utilities.
- Part of a national biosolids partnership certified management program
- Regulatory oversight by CDPHE and EPA. Monitoring groundwater, soil, and biosolids
- EPA Enforcement and Compliance History Online (ECHO)
 - 3-year compliance history: no identified violations
 - No enforcement actions in the last 5 years
- Contaminants such as PFOS/PFOA or pharmaceuticals are not expected to impact Terry Ranch
- Recommend a long-term source water protection plan for the wellhead recharge area

Concept Design

Project Phasing & Milestones

- B&C used 10 milestones to define project phasing from 2020 to 2100+
- Most construction is phase-able and scalable
- Timeline for milestones based on water supply modeling and several major assumptions
- Ultimate construction schedule dictated by Greeley's water demands, droughts, watershed disruptions, and prioritization of Terry Ranch construction within Capital Improvement Plans
- Current projection: Greeley will not need Terry Ranch water until around 2040
 - Integrated Water Resource Plan to refine assumptions and projections

Project Phasing & Milestones

- Water supply modeling (staff and Williams & Weiss)

Year	Total City Demand, AFY	Average Annual City Use of Terry Ranch, AFY	Number of Wells & Peak Rate, cfs	Project Operation	Water Rights Assumption
2020	~25,000	0	3	Withdraw Only	2020 Portfolio
2045	>45,000	300	20	Withdraw Only	2020 Portfolio
2065	>60,000	1,000	24	Withdraw Only	2065 Portfolio
2100+ (build-out*)	>75,000	13,200	45	Withdraw & Injection	2065 Portfolio

* Needs beyond 2065 (to build-out) are highly uncertain. Recommend planning to 2065 only

Milestones and Phases

Milestone (No. and Water Supply Goals)	Withdrawal Flowrate (cfs)	Assumed (Target) Date	Original Phasing
1, 2 & 3 – Water supply (Withdrawal) to City (Backbone)	8	2030	Phase I
4 – Withdrawal first expansion	16	2040	
5 & 6 – Hydropower and Gold Hill Booster PS	No added flows	2040 (varies)	
7 – Discharge second expansion	24	2065	Phase II
8 – Injection (reverse flow & storage) capability, and final discharge expansion (Build-out)	45, and 24 cfs injection	2100	Phase III
9 & 10 – Gold Hill Booster PS expansion and operation	No added flows	Post 2100	

Phase I - Milestone 3
 Year 2025
 Withdrawal only
 10 wells, 10 cfs
 Pipeline
 Treatment

Phase II – Milestone 7
 Year 2065
 Withdrawal only
 20 wells
 Treatment

Phase III – Milestone 8
 Year Post 2065
 Injection and Discharge
 40 ASR (storage) wells
 40 cfs withdrawal
 16 cfs return & injection

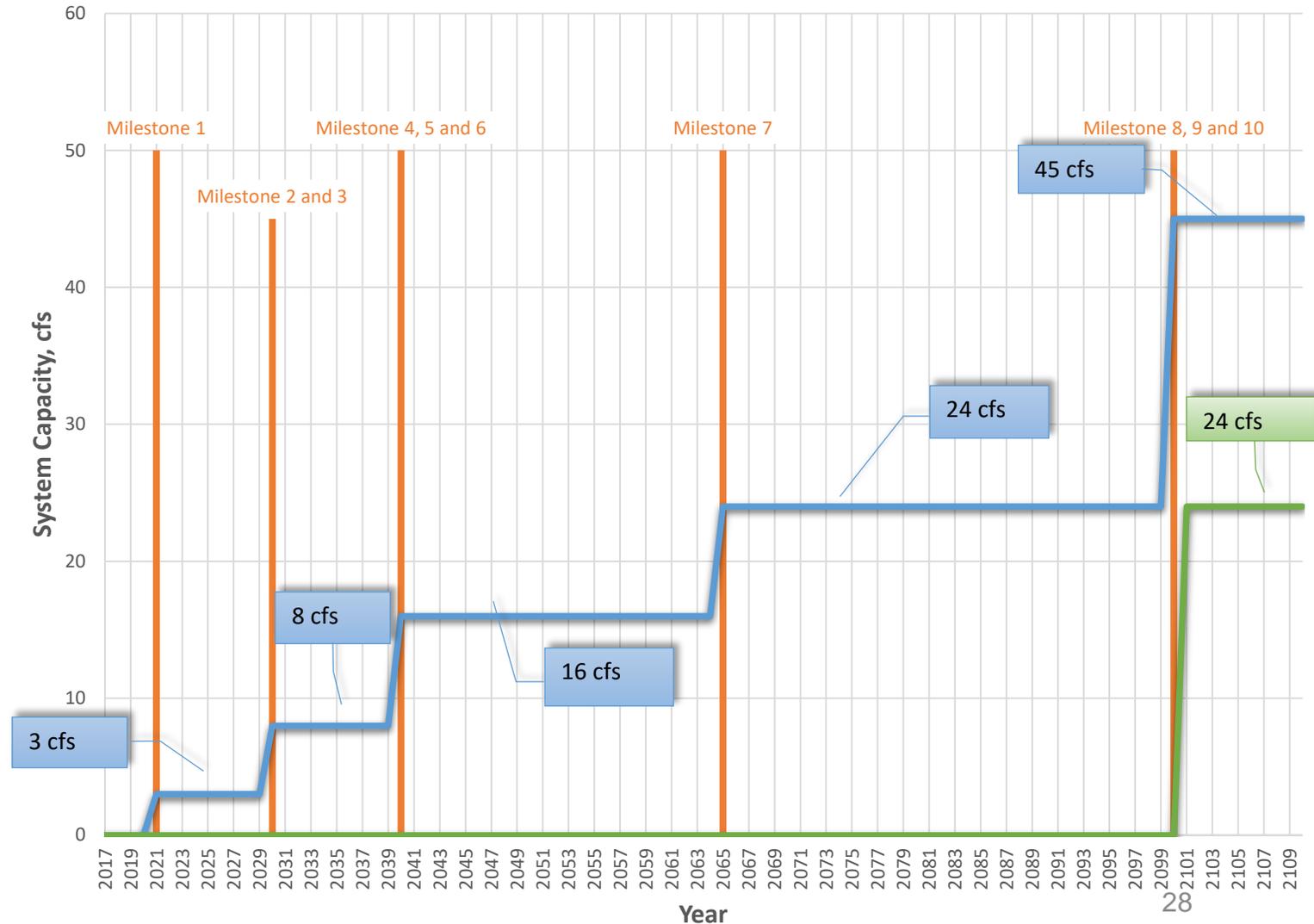
Notes:

- 1) Milestones and phases are not directly comparable. Most equivalent are Phase III and Milestone 8.
- 2) Phase II was used as the basis for previous construction cost comparisons and RAS evaluations.

Milestones and Flows

Overall Project Assumptions

- Total 10 milestones
- 4 primary milestones allow flow increases (3, 4, 7 & 8).
- 45 wells implemented over the next 80 years.
- Backbone items constructed over first 10 years.
- Dates adjusted as needed, depending on Greeley's water demand needs.



Concept Report – Status

Overall Program Components

- 45 wells implemented over the next 80 years
- Water treatment plant (WTP) implemented in scalable milestones
- 42 miles of trunk pipeline (wellhead, sites and transmission)
- 4 greenfield sites: WTP, pumping stations and PRV stations
- Injection flows require pumping from Bellvue pipeline to wells. 3 pumping stations and disinfection.

Update

- Draft concept report submitted Dec 7th
- Environmental, Survey, and Geotech work in progress
- Upcoming workshops to review draft report

Transmission Pipeline

- Pipeline: 29.7 miles
- Pipelines on Greenfield Sites: 1.7 miles
- Easements: 50 ft permanent, 50 ft temporary

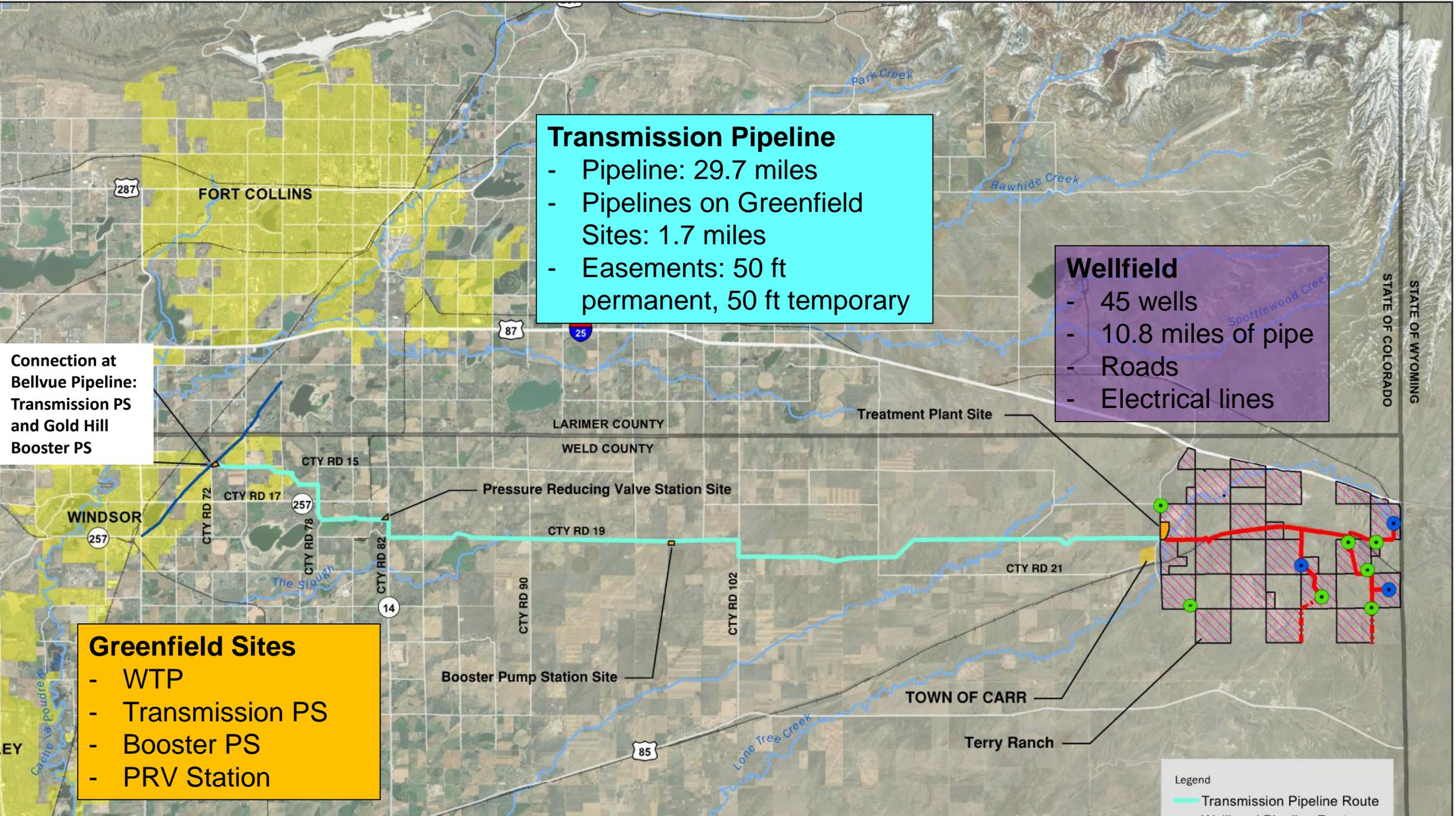
Wellfield

- 45 wells
- 10.8 miles of pipe
- Roads
- Electrical lines

Connection at Bellvue Pipeline: Transmission PS and Gold Hill Booster PS

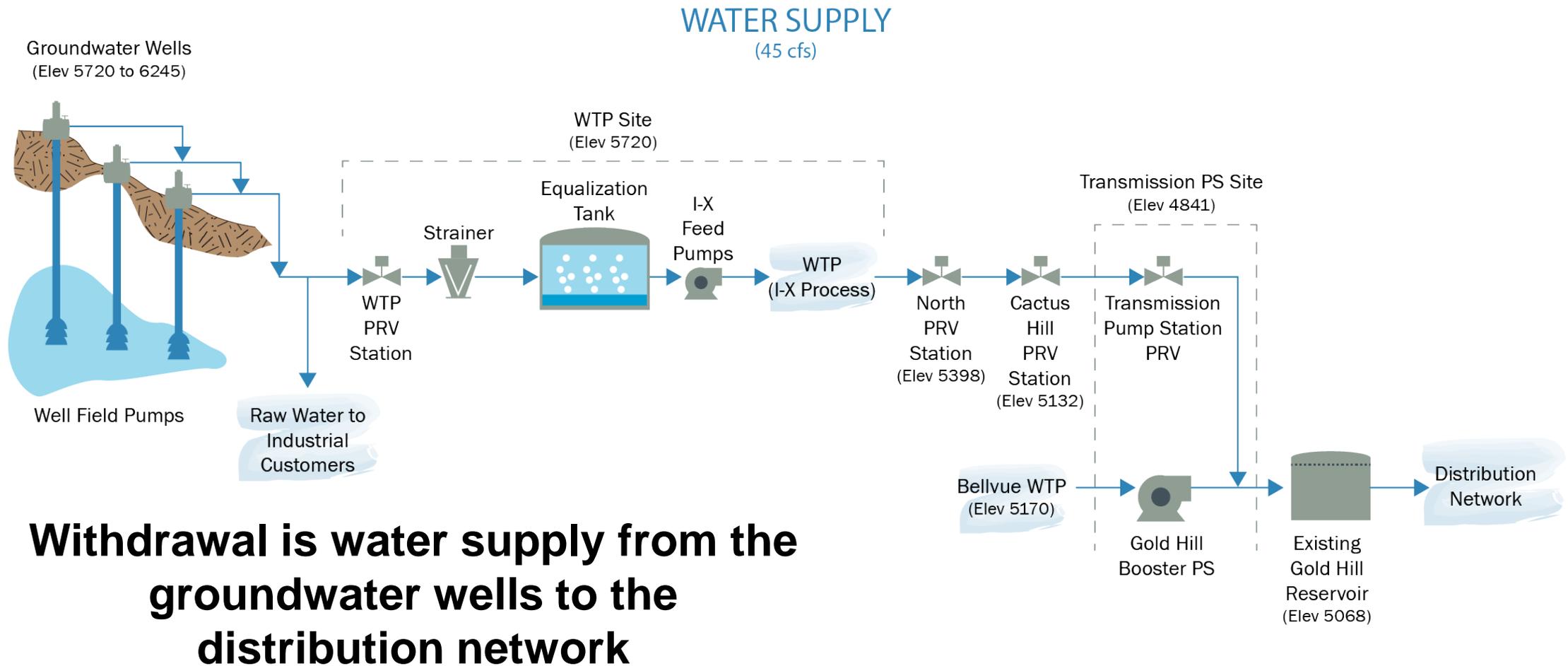
Greenfield Sites

- WTP
- Transmission PS
- Booster PS
- PRV Station

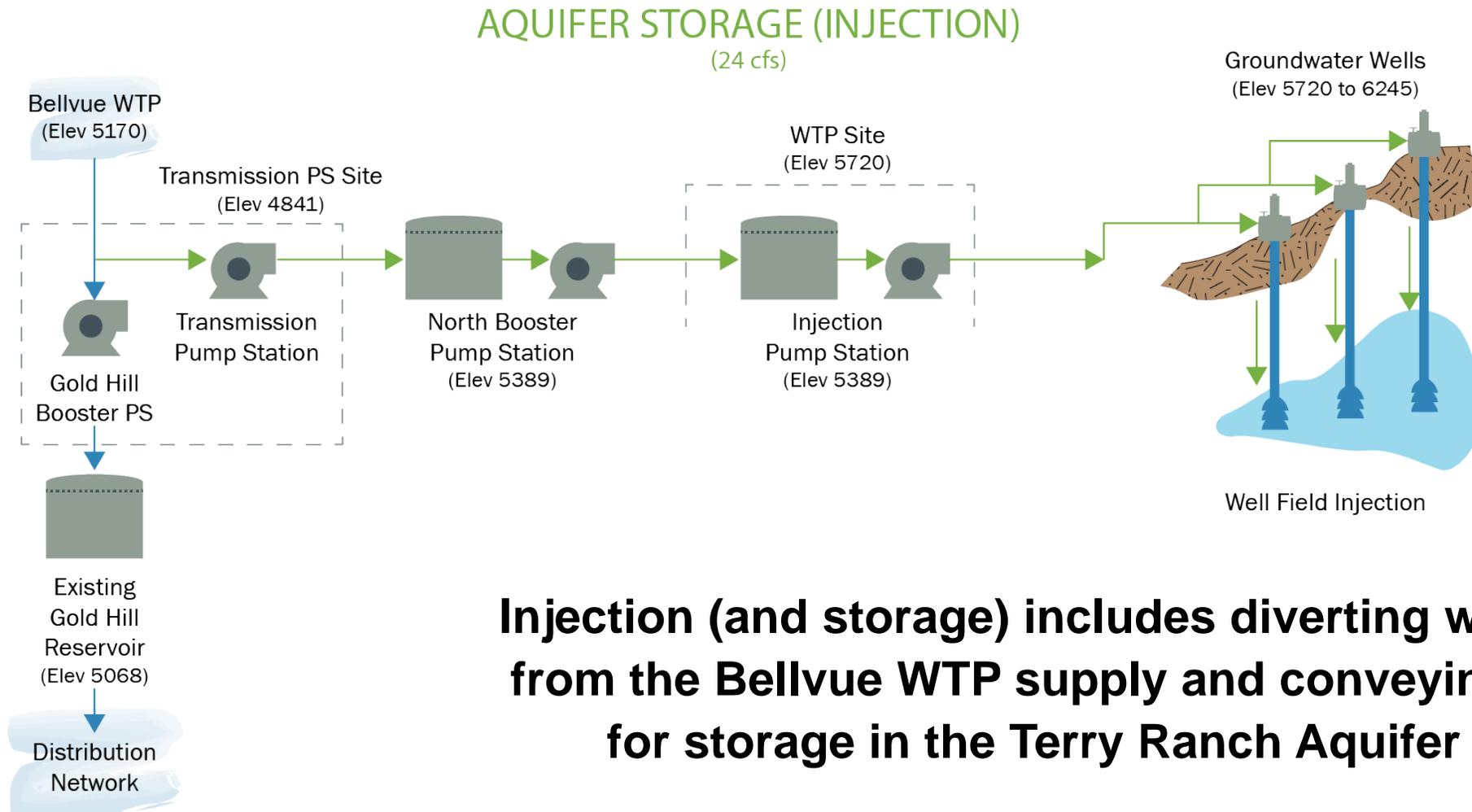


Legend
 — Transmission Pipeline Route

System Operations: Withdrawal

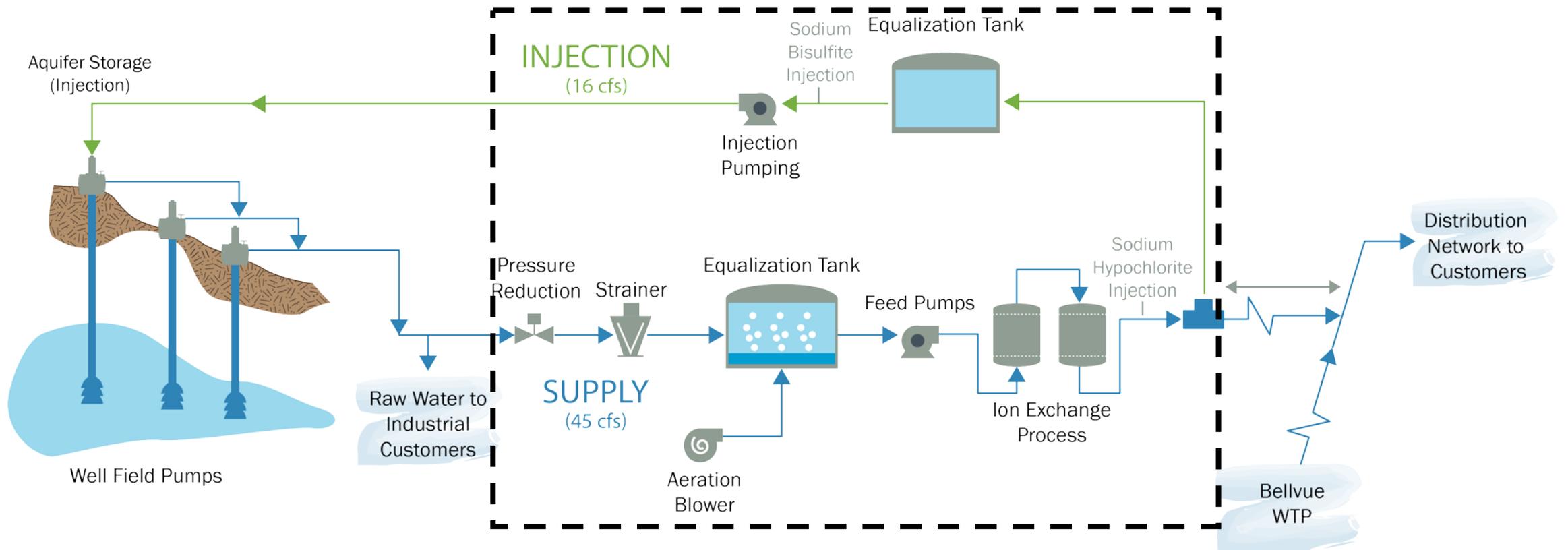


System Operations: Injection (Storage)



Injection (and storage) includes diverting water from the Bellvue WTP supply and conveying it for storage in the Terry Ranch Aquifer

System Operations: Water Treatment Plant



Components located on the water treatment plant site:
Includes both withdrawal and injection items.

Terry Ranch WSP – Site Layout: Booster PS

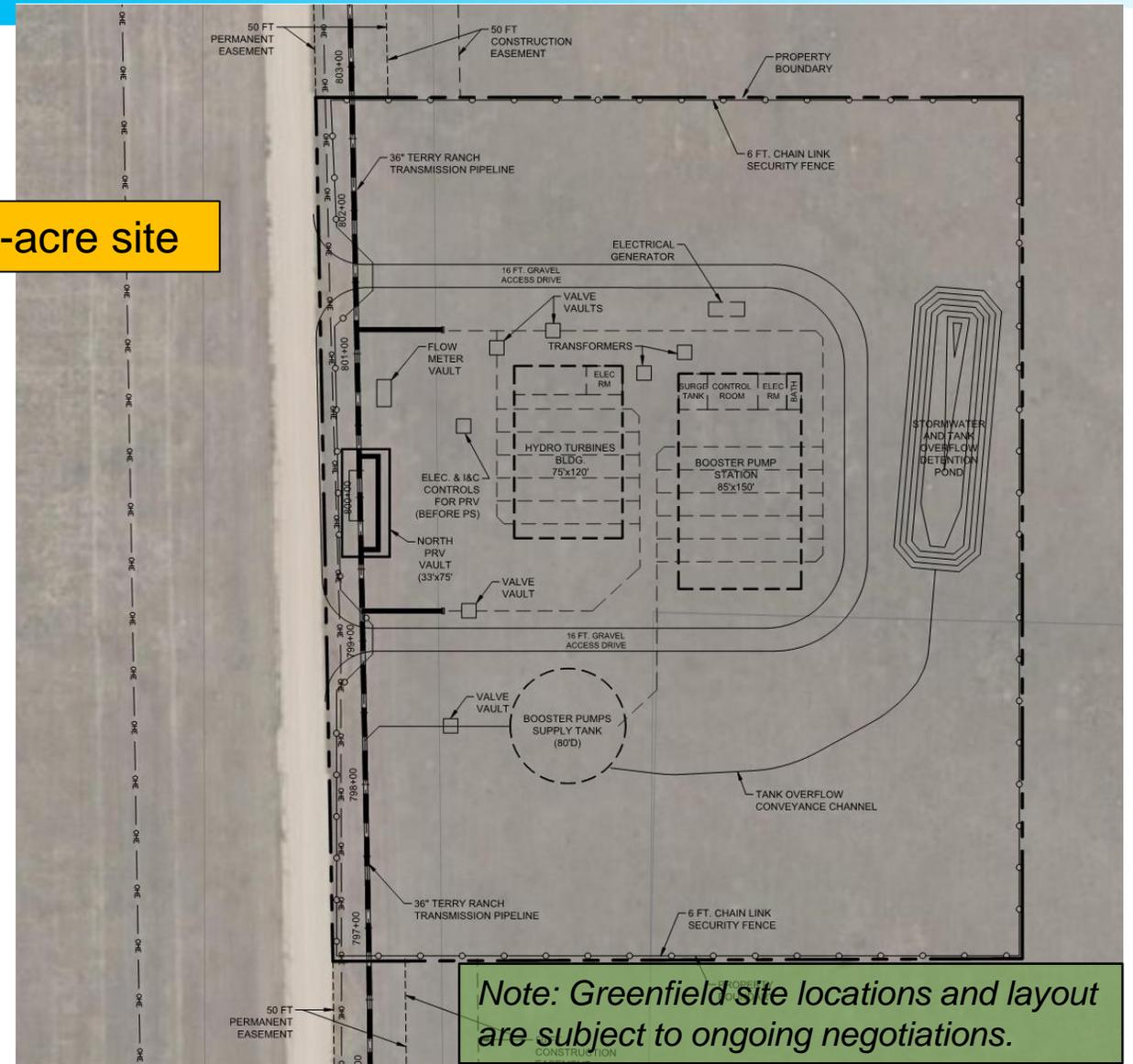
Backbone Components

- Pipeline
- PRV station
- Utilities: power & controls (minor)

Build-out Components

- Hydropower (milestone 5)
- Booster PS
- Storage reservoir

6.5-acre site



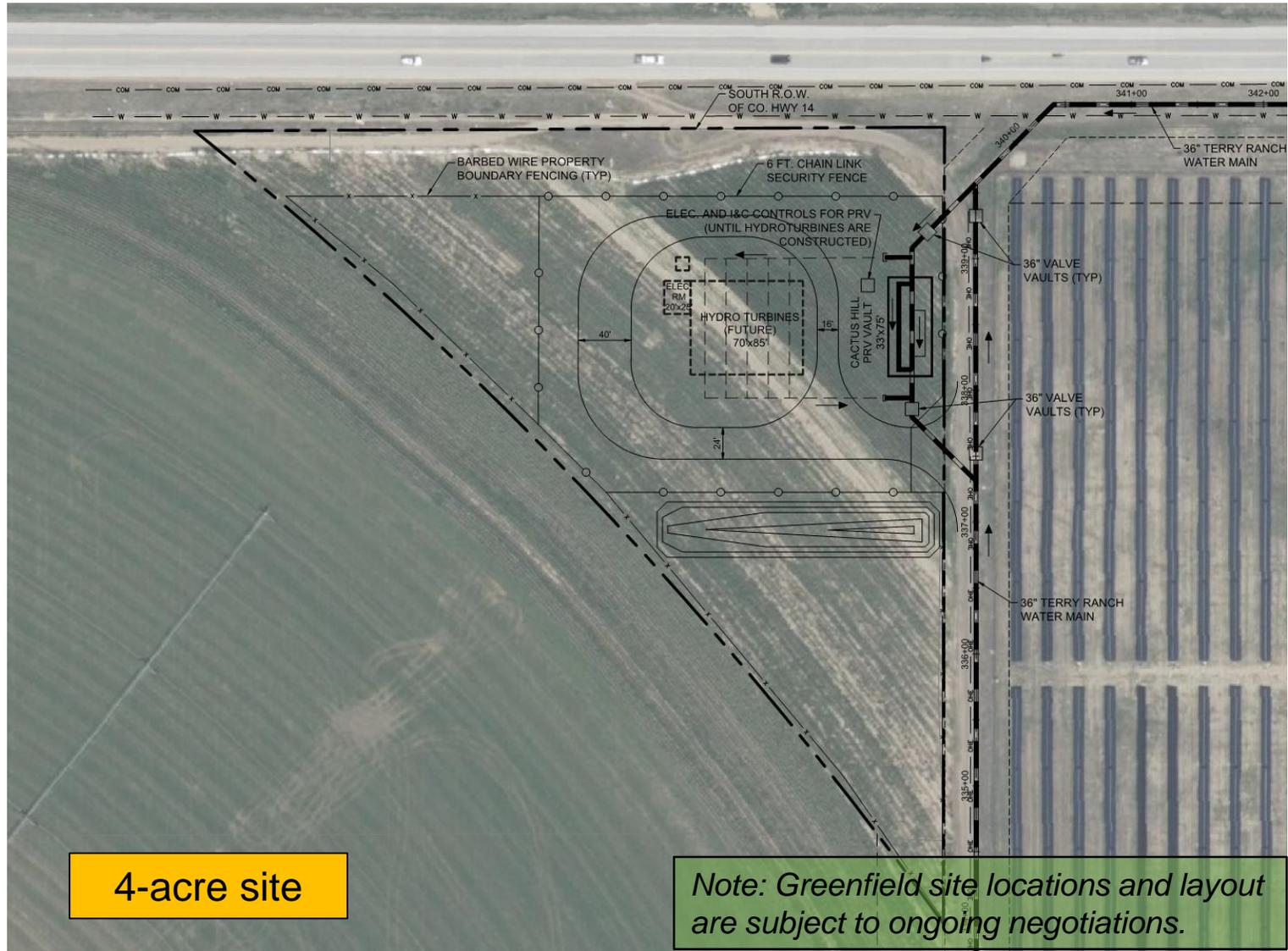
Terry Ranch WSP – Site Layout: Cactus Hill PRV

Backbone Components

- Pipeline
- PRV station
- Utilities: power & controls (minor)

Build-out Components

- Hydropower (milestone 5)



4-acre site

Note: Greenfield site locations and layout are subject to ongoing negotiations.

Site Layout: Transmission PS & Gold Hill Booster PS

Backbone Components

- Pipeline
- PRV station
- Utilities: power & controls (minor)

Build-out Components

- Transmission PS
- Gold Hill Booster PS (milestone 6)
- Utilities: Power, stormwater, controls, elec.

12.5-acre site



December 16, 2020

Note: Greenfield site locations and layout are subject to ongoing negotiations.

Terry Ranch WSP – Site Layout: Wellhead (typical)

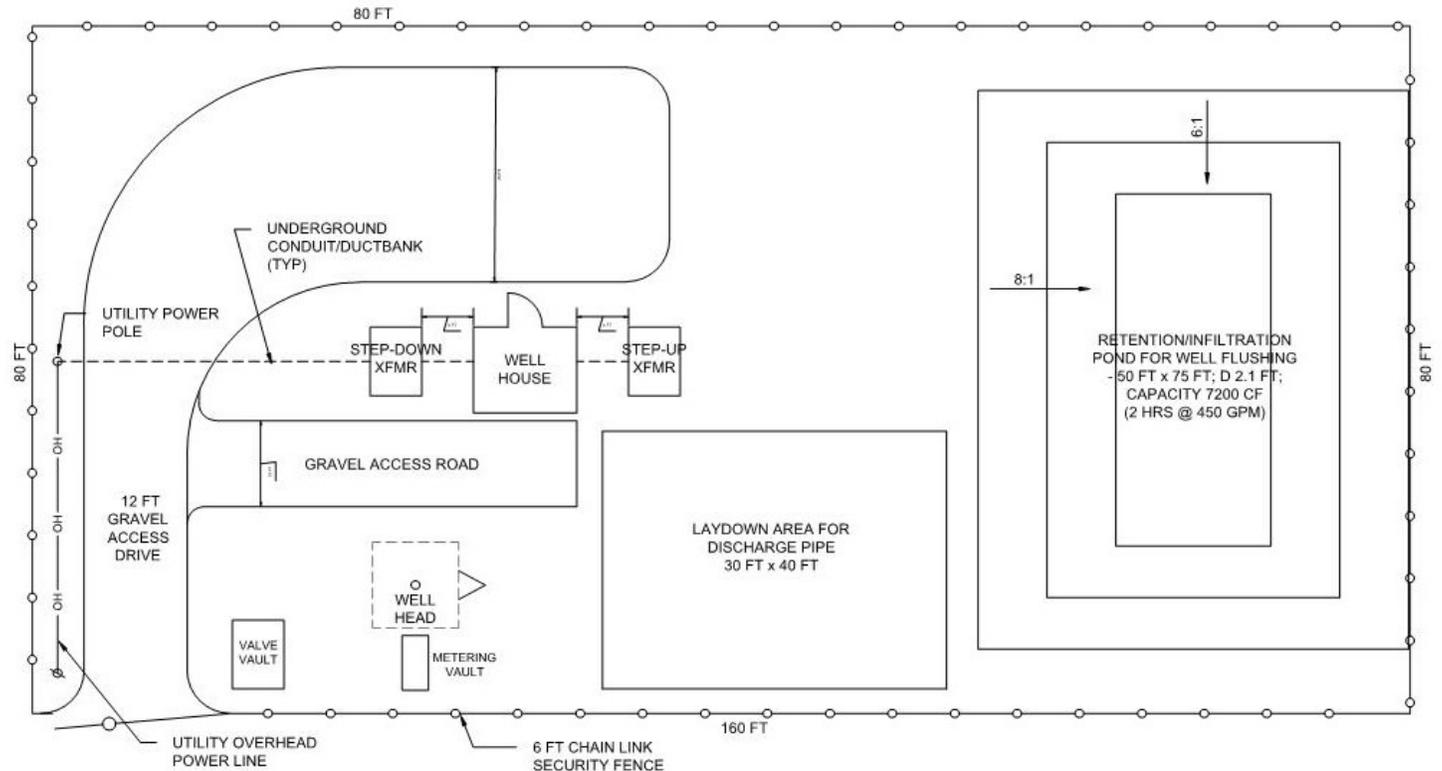
Backbone Components

- 8 total wells
 - Pitless wellhead
 - Wellhouse (elec. & controls)
 - Detention pond (1-hr)
 - Valve/ meter vaults

- Utilities: power & controls

Build-out Components

- 45 total wells
- Retrofit to add aquifer storage and recover systems



Note: Wells are located on the Terry Ranch easement.

TYPICAL WELL SITE PLAN
0 10 20
HORIZ SCALE IN FEET

< 1-acre site

Cost Update

Comparison to Previous Cost Estimates

*Note: Cost comparisons between similar phases and milestones cannot be directly correlated.
The best comparison is at build-out – milestone 8.*

Construction Cost Estimate (2019)

- \$257M
 - Year 2065 – Phase II
 - Withdrawal only (no injection)
 - 20 groundwater wells
 - Flowrate 20 cfs
 - Treatment to remove to a level below the maximum contaminant level
 - Pipeline route in public right-of-way
- Engineering at pre-concept level, used for alternatives comparison. AACE Class 5
- Contingency of 30%

See basis of estimate for a full list of limitations

Current Construction Cost Estimate

- \$352M
 - Year 2065 – Milestones 1, 2, 3, 4, & 7
 - Withdrawal only (no injection)
 - 24 groundwater wells
 - Flowrate 24 cfs
 - Treatment to remove to non-detection
 - Gold hill booster pumping station excluded
 - Hydropower stations excluded
 - Pipeline route in private easement
 - Detail added for components, power needs, valve stations, pigging stations, communications, pipeline backfill materials, property acreage
- Concept-level engineering completed. AACE Class 4, Range (-30% to +50%)
- Contingency reduced to 25%

Construction Cost By Milestone

Primary Milestones

- **Backbone construction (2030)**
 - \$287M
 - Provides water to Greeley distribution network (Withdrawal)
 - Wells-8, Treatment, pipelines, land acquisition, valve stations
 - Milestones 1, 2, 3
- **Planning comparison (2065)**
 - \$65M (total spend \$352M)
 - Expands withdrawal in 2 steps
 - Wells-24, treatment, pipelines
 - Milestones 4 & 7
 - Excludes Milestones 5 & 6
- **Build-out (2100)**
 - \$154M (total spend \$506M)
 - All project components completed

Milestone (No. & Water Supply Goals)	Construction Cost	Approximate Date
1 – Local supply	\$88M	2021/2022
2 – Discharge expansion (3-5 wells)	\$14M	Before 2030
3 – Water supply (Discharge) to City (Backbone)	\$185M	2030
4 – Discharge first expansion	\$30M	2040
5 – Hydropower systems	\$9M	2040 (varies)
6 – Gold Hill booster pumping station	\$27M	2040 (varies)
7 – Discharge second expansion	\$35M	2065
8 – Reverse flow (injection/storage) capability, and final discharge expansion (Build-out)	\$118M	2100
9 & 10 – Gold Hill Booster PS expansion and operation	-	Post 2100

Terry Ranch WSP – Construction Cost: Summary

Opinion of Probable Construction Cost

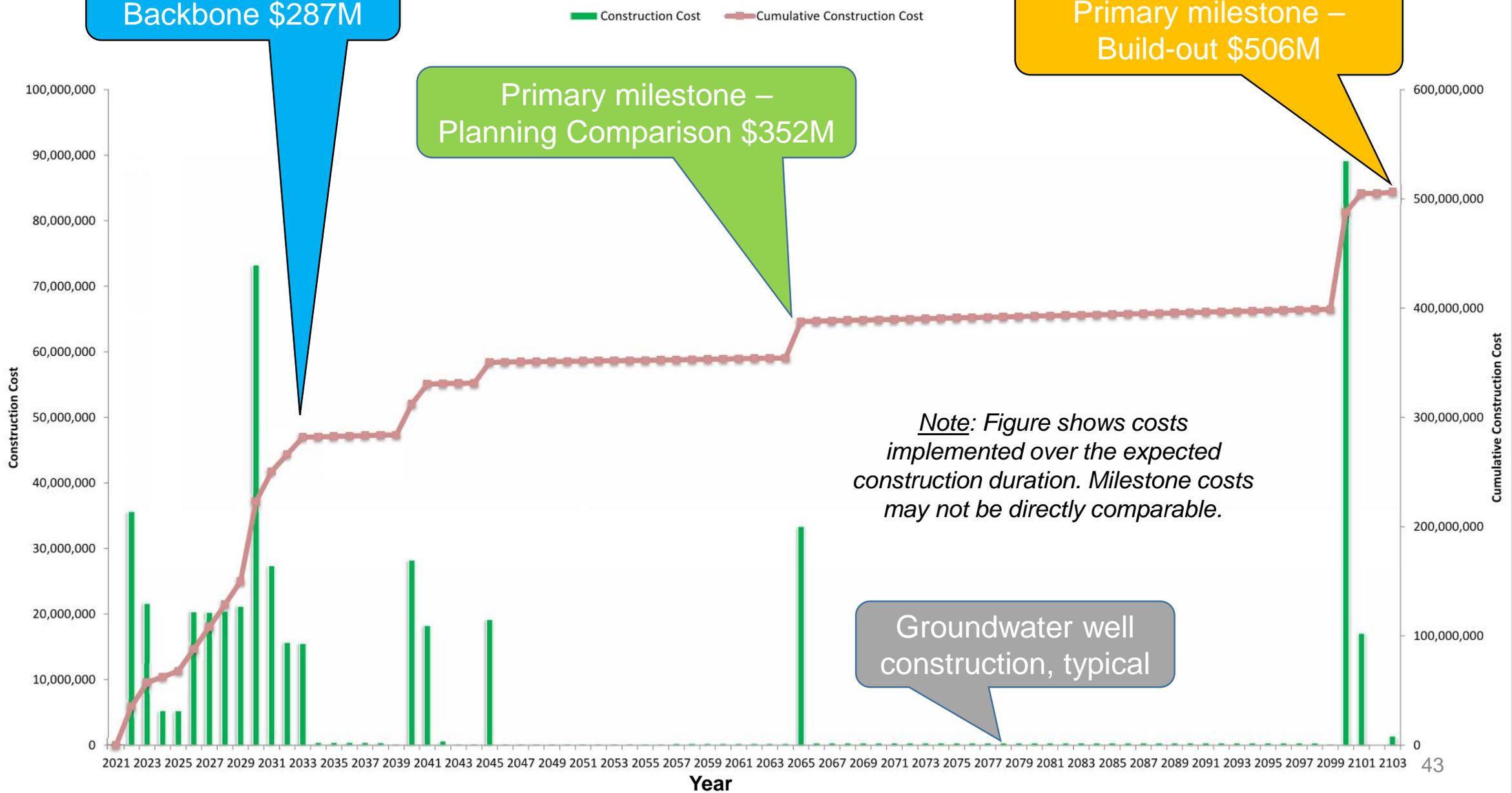
Project Component	Lower Range (-30%)	Construction Cost	Upper Range (+50%)
Pipeline – First 6 miles ^(a)	\$ 26,696,000	\$ 33,370,000	\$ 43,382,000
Hydropower stations	\$ 6,153,000	\$ 8,790,000	\$ 13,185,000
Terry Ranch WSP Subtotal	\$ 335,228,000	\$ 478,896,000	\$ 718,345,000
Gold Hill Booster PS	\$ 19,214,000	\$ 27,448,000	\$ 41,172,000
Totals	\$ 354,442,000	\$ 506,344,000	\$ 759,517,000

(a) – Pipeline costs are provided as a Class 3 estimate, ranges are (-20% to +30%)

Basis of Estimate

- Costs shown include project components as envisioned at full build-out, (milestone 8).
- Costs are in present-day dollars (2020). Work will be constructed by phase over 80 years (8 milestones). No escalation included.
- Class 4 estimate, AACE International.
- For detailed assumptions/ limitations refer to draft concept report, published Dec 7, 2020.
- Contingency 25 percent.

Terry Ranch Water Supply Project - Concept Design Implementation Cash Flow



Other Cost Considerations

- Terry Ranch costs are phase-able and can be adjusted to meet water demands
 - Reduces need for near-term bonding & maintains lower rates
- Terry Ranch reduces Greeley's long-term water acquisition need
 - Evaporation savings alone will reduce water acquisitions >\$12M
 - Use of native groundwater (if desired) can further reduce acquisition
 - Acquisition targets to be finalized in Integrated Water Resources Plan

Other Cost Considerations

Water Right Portfolio	Average Annual City Use of Terry Ranch Native Groundwater, AFY*	Project Operation	Percent of Terry Ranch Decree Used in 100-years**	Water Acquisition Comparison***
Originally Assumed 2065 Portfolio	1,000	Withdraw Only	8%	\$130,000,000
Same WSSC, Other Rights Reduced 33%	2,500	Withdraw Only	21%	\$91,000,000
Same WSSC, Other Rights Reduced 66%	4,500	Withdraw Only	37%	\$53,000,000

*Average over 86 year modeling period

**Assuming average 2065 demand is consistent for 100 years. NOT actual use from 2020 to 2120

***2020 prices; inflation of water prices greatly exceed cost of money. Ultimate saving will be much higher.

Operations Cost

Basis of Operations Cost Estimate

- Costs shown include project components as envisioned at full build-out, (milestone 8) capabilities.
- Costs are in present-day dollars (2020). No inflation included.
- Costs are based on the highest flow operated over the operations period
 - Withdrawal 45 cfs operated for 9 months of the year. Total volume 24,433 acre-feet
 - Injection 24 cfs operated for 3 months of the year. Total volume 4,344 acre-feet
- Class 4 estimate, AACE International. For detailed assumptions/limitations refer to draft concept report, published Dec 7, 2020.
- Includes 6 full time employees (FTEs) for the system.
- Residuals removal will be accomplished by a long-term operations contract for removal and disposal. Includes costs for new resin.
- Electric power based on \$0.10 per kWh. No adjustment for operations during peak rates or primary metering. Greeley staff will operate and maintain the wellhead power downstream of a centralized meter. Includes an allowance for emergency repairs.

Key Items

- Cost have been shown by area, wellfield, water treatment plant and pipeline conveyance
- Power costs are a significant factor in the wellhead and conveyance costs.
- Power costs may be adjusted based on rates for centralized metering. This evaluation is ongoing.
- Treatment costs are comparable to existing Greeley plants
- Gold Hill Booster has been excluded

Exclusions

- Permits
- Capital costs (including payments and interest)
- Costs for easements or other agreements

Operations Cost

Opinion of Probable Operations Cost

Operations Cost – by Area (\$/1000 gallons)	Withdrawal	Injection (aquifer storage)
Wellfield	\$0.94	\$0.02
Water Treatment Plant	\$0.84	\$0.17
Conveyance (Pipelines & Pumping)	\$0.01	\$0.89
Total	\$1.79	\$1.08

Note: Costs are based on preliminary assessment of power costs and operating needs.

Type of Operations

- Costs included by method of operation, either withdrawal from groundwater or injection

Comparisons

- Existing water treatment plants
 - Bellvue - \$0.27 per 1000 gallons
 - Boyd – 0.87 per 1000 gallons
- Cost comparisons are not directly related, but include operations costs for the plant site only, power, chemicals, staffing

Full Cycle Operation

- Includes costs for Bellvue treatment, injection and withdrawal
- Total cost \$3.14 per 1000 gallons

Operations Cost Comparison

Cost per 1,000 gallons*	Terry Ranch	Bellvue WTP	Boyd WTP	Boyd & Bellvue Total
Raw Water Supply	\$0.94	\$0.46		
Treatment & Conveyance	\$0.85	\$0.27	\$0.84	\$0.41
Maintenance & Replacement		\$0.06	\$0.18	\$0.09
Total	\$1.79	\$0.79	\$1.48	\$0.96

Terry Ranch will be operated at a drought supply.

*2016-2019 Boyd & Bellvue Averages

Outreach & Next Steps

Public Outreach Update

Opportunities for Engagement

- Community Open House held on Dec. 2nd. 57 participants
- Monthly W&S Board meetings
- Three upcoming City Council meetings
- Presentations to City Boards & Commissions
- Outreach to service organizations

Communications

- Greeleygov.com/terryranch
- Tribune, BizWest, Complete Colorado, KUNC, & others
- Social Media
- Addition communications under development

Proposed Closing Schedule

Action	Date
Inspection Objection Deadline	January 19, 2021
Last water quality data received (approx.)	Mid-January
Diligence and Peer Review Reports due*	February 10, 2021
Water & Sewer Board Consideration of Closing	February 17, 2021
First City Council Reading	March 2, 2021
Second City Council Reading	March 16, 2021
Current Closing Deadline	March 22, 2021

*Reports are being progressively reviewed by staff and 3rd party peer reviewers

Thank you.



Table 4. Construction Costs for Terry Ranch

Facility	Description	Subtotals by Milestone								Overall Total
		1	2	3	4	5	6	7	8	
Land Acquisition	Water Treatment Plant	\$166,781.00								\$166,781.00
	Booster Pumping Station	\$166,781.00								\$166,781.00
	Cactus Hill PRV Station	\$83,391.00								\$83,391.00
	Transmission PS (& Gold Hill Booster)	\$166,781.00								\$166,781.00
Water Treatment Plant	Sitework			\$770,609.00					\$250,000.00	\$1,020,609.00
	Yard Piping			\$1,183,361.00	\$323,328.00			\$323,328.00	\$1,838,364.00	\$3,668,381.00
	PRV vault			\$663,873.00				\$339,601.00		\$1,003,474.00
	Equalization Tanks			\$1,117,203.00				\$1,117,203.00		\$2,234,406.00
	Blower System(s)			\$449,222.00	\$160,102.00			\$371,035.00	\$160,102.00	\$1,140,461.00
	I-X Treatment System			\$2,069,847.00	\$2,819,324.00			\$2,069,847.00	\$4,382,978.00	\$11,341,996.00
	I-X Feed Pumps			\$717,163.00	\$704,572.00			\$704,572.00	\$704,572.00	\$2,830,879.00
	Electrical and I&C	\$108,655.00		\$4,735,639.00	\$412,526.00			\$,997.00	\$983,656.00	\$6,515,473.00
								\$		
	Chemical Facilities			\$64,209.00	\$64,209.00			\$64,209.00	\$64,209.00	\$256,836.00
	Dechlorination Chemical Feed							\$74,922.00	\$74,922.00	\$74,922.00
	Dechlorination Tank							\$707,535.00	\$707,535.00	\$707,535.00
	Dechlorination Feed Pumps							\$118,687.00	\$118,687.00	\$118,687.00
	Well Injection Pumps							\$3,341,500.00	\$3,341,500.00	\$3,341,500.00
	Building Structures			\$3,884,383.00	\$1,628,023.00			\$1,628,024.00	\$3,193,782.00	\$10,334,212.00
	Subtotal	\$108,655.00	\$-	\$15,655,509.00	\$6,112,084.00	\$-	\$-	\$6,892,816.00	\$15,820,307.00	\$44,589,371.00
	General Construction Markups (Labor, Material, Sub, Equipment)	\$10,866.00		\$1,599,186.00	\$587,629.00			\$684,559.00	\$1,504,553.00	\$4,386,793.00
	Contractor General Conditions - 16.5% (includes 1.5% Bond)	\$19,721.00		\$2,847,025.00	\$1,105,453.00			\$1,250,267.00	\$2,858,602.00	\$8,081,068.00
	Start-up, Training, O&M - 2%	\$2,785.00		\$402,034.00	\$156,103.00			\$176,553.00	\$403,669.00	\$1,141,144.00
	Bidder's Risk & General Liability Ins. - 2%	\$2,841.00		\$410,075.00	\$159,225.00			\$180,084.00	\$411,743.00	\$1,163,968.00
Contingency - 25%	\$36,217.00		\$5,228,457.00	\$2,030,124.00			\$2,296,069.00	\$5,249,719.00	\$14,840,586.00	
WTP TOTAL CONSTRUCTION COST OPINION	\$181,085.00	\$-	\$26,142,286.00	\$10,150,618.00	\$-	\$-	\$11,480,348.00	\$26,248,593.00	\$74,202,930.00	
Wellhead Pumps	Electrical to wells	\$1,472,094.00	\$2,552,613.00	\$6,015,233.00				\$3,875,235.00	\$8,231,822.00	\$22,146,997.00
	Pilot Well Drilling	\$400,000.00								\$400,000.00
	Equip 3 Existing wells	\$1,020,000.00								
	Drill 2 wells and Equip 5 wells		\$3,725,000.00							\$3,725,000.00
	Drill and Equip 12 wells			\$12,180,000.00						\$12,180,000.00
	Drill and Equip 8 wells							\$8,120,000.00		\$8,120,000.00
	Drill and Equip 17 wells								\$17,765,000.00	\$17,765,000.00
	Equip all wells for injection capability								\$4,500,000.00	\$4,500,000.00
	Overhead Main Line	\$3,800,740.00								\$3,800,740.00
	Electrical Power to Wellfield - Substation (PVREA)					\$12,000,000.00				\$12,000,000.00
	Subtotal	\$6,692,834.00	\$6,277,613.00	\$18,195,233.00	\$-	\$12,000,000.00	\$-	\$11,995,235.00	\$30,496,822.00	\$85,657,737.00
	General Construction Markups (Labor, Material, Sub, Equipment)	\$669,283.00	\$627,761.00	\$1,819,523.00		\$1,200,000.00		\$1,199,524.00	\$3,049,682.00	\$8,565,773.00
	Contractor General Conditions - 16.5% (includes 1.5% Bond)	\$1,214,749.00	\$1,139,387.00	\$3,302,435.00		\$2,178,000.00		\$2,177,135.00	\$5,535,173.00	\$15,546,879.00
	Start-up, Training, O&M - 2%	\$171,537.00	\$160,895.00	\$466,344.00		\$307,560.00		\$307,438.00	\$781,634.00	\$2,195,408.00
Bidder's Risk & General Liability Ins. - 2%	\$174,968.00	\$164,113.00	\$475,671.00		\$313,711.00		\$313,587.00	\$797,266.00	\$2,239,316.00	
Contingency - 25%	\$2,230,843.00	\$2,092,442.00	\$6,064,801.00		\$3,999,818.00		\$3,998,230.00	\$10,165,144.00	\$28,551,278.00	
WELLHEAD PUMPS TOTAL CONSTRUCTION COST OPINION	\$11,154,214.00	\$10,462,211.00	\$30,324,007.00	\$-	\$19,999,089.00	\$-	\$19,991,149.00	\$50,825,721.00	\$142,756,391.00	

Table 4. Construction Costs for Terry Ranch (continued)

Facility	Description	Subtotals by Milestone								Overall Total
		1	2	3	4	5	6	7	8	
Wellhead Facilities	Piping - 36-inch (valves, drains, fiber, CARVs)	\$19,343,286.00	\$34,221.00	\$15,766.00				\$8,835.00	\$462,790.00	\$19,864,898.00
	Piping - 24-inch	\$4,209,418.00	\$1,921,696.00	\$1,022,278.00					\$1,197,829.00	\$8,351,221.00
	Piping - 12-inch	\$567,306.00	\$78,433.00	\$380,078.00				\$376,142.00	\$,031,252.00	\$4,433,211.00
	Piping - 6-inch	\$149,303.00	\$68,424.00	\$513,913.00				\$768,701.00	\$2,494,987.00	\$3,995,328.00
	Pressure Reducing Valve Stations	\$7,966.00							\$79,664.00	\$87,630.00
	Wellhead Roads - Primary	\$1,034,045.00								\$1,034,045.00
	Wellhead Roads - Secondary	\$67,969.00	\$106,808.00	\$262,166.00				\$174,777.00	\$359,265.00	\$970,985.00
	Subtotal	\$25,379,293.00	\$2,209,582.00	\$2,194,201.00	\$-	\$-	\$-	\$1,328,455.00	\$7,625,787.00	\$38,737,318.00
	General Construction Markups (Labor, Material, Sub, Equipment)	\$2,791,480.00	\$248,354.00	\$242,607.00				\$143,512.00	\$838,065.00	\$4,264,018.00
	Contractor General Conditions - 16.5% (includes 1.5% Bond)	\$4,648,178.00	\$405,560.00	\$402,073.00				\$242,875.00	\$1,396,535.00	\$7,095,221.00
	Start-up, Training, O&M - 2%	\$656,379.00	\$57,270.00	\$56,778.00				\$34,297.00	\$197,208.00	\$1,001,932.00
	Bidder's Risk & General Liability Ins. - 2%	\$669,507.00	\$58,415.00	\$57,913.00				\$34,983.00	\$201,152.00	\$1,021,970.00
	Contingency - 25%	\$8,536,209.00	\$744,795.00	\$738,393.00				\$446,030.00	\$2,564,687.00	\$13,030,114.00
	WELLHEAD PIPING TOTAL CONSTRUCTION COST OPINION	\$42,681,046.00	\$3,723,976.00	\$3,691,965.00	\$-	\$-	\$-	\$2,230,152.00	\$12,823,434.00	\$65,150,573.00
Transmission Pipeline	Segment 1 - First 6 miles (CLASS 3 estimate)									
	Traffic Control/Construction Entrances	\$129,413.00								\$129,413.00
	Pipe Installation	\$5,743,288.00								\$5,743,288.00
	Pipe zone material (CLSM)	\$4,317,368.00								\$4,317,368.00
	Steel Pipe	\$8,920,430.00								\$8,920,430.00
	Special grading and restoration	\$942,037.00								\$942,037.00
	Fiber optic cables	\$65,625.00		\$306,250.00						\$371,875.00
	Vaults (blowoff, isolation, CARV)	\$38,065.00								\$38,065.00
	Pigging stations	\$215,175.00		\$645,525.00						\$860,700.00
	Cathodic Protection	\$455,260.00								\$455,260.00
	Pipeline testing and commissioning	\$95,654.00								\$95,654.00
	Segment 2 (6.5 miles)			\$18,838,923.75						\$18,838,923.75
	Segment 3 (6.5 miles)			\$18,838,923.75						\$18,838,923.75
	Segment 4 (6.5 miles)			\$18,838,923.75						\$18,838,923.75
	Segment 5 (6.5 miles)			\$18,838,923.75						\$18,838,923.75
	Easement Acquisition - Segment 1	\$39,000.00								\$39,000.00
	Easement Acquisition - Remaining Segments			\$143,000.00						\$143,000.00
	Trenchless Crossings - Roads & Creeks			\$138,108.00						\$138,108.00
	Subtotal	\$20,961,315.00	\$-	\$76,588,578.00	\$-	\$-	\$-	\$-	\$-	\$97,549,893.00
General Construction Markups (Labor, Material, Sub, Equipment)	\$2,324,105.00		\$8,495,958.00						\$10,820,063.00	
Contractor General Conditions - 16.5% (includes 1.5% Bond)	\$3,842,094.00		\$14,038,948.00						\$17,881,042.00	
Start-up, Training, O&M - 0.5%	\$135,638.00		\$495,617.00						\$631,255.00	
Bidder's Risk & General Liability Ins. - 2%	\$545,263.00		\$1,992,382.00						\$2,537,645.00	
Contingency - 20%	\$5,561,683.00		\$20,322,297.00						\$25,883,980.00	
TRANSMISSION PIPING TOTAL CONSTRUCTION COST OPINION	\$33,370,098.00	\$-	\$121,933,780.00	\$-	\$-	\$-	\$-	\$-	\$155,303,878.00	

Table 4. Construction Costs for Terry Ranch (continued)

Facility	Description	Subtotals by Milestone								Overall Total	
		1	2	3	4	5	6	7	8		
Booster Pumping Station											
	Sitework									\$96,329.00	\$96,329.00
	PRV vault			\$720,757.00				\$380,524.00			\$1,101,281.00
	Storage Tank									\$417,000.00	\$417,000.00
	Booster Pumping Station										
	Electrical and I&C									\$4,427,626.00	\$4,427,626.00
	Concrete									\$326,634.00	\$326,634.00
	Superstructure									\$1,173,241.00	\$1,173,241.00
	Equipment (pumps, drivers, AFDs, Surge)									\$490,236.00	\$490,236.00
	Exposed Piping									\$1,857,523.00	\$1,857,523.00
	Exposed Valves									\$235,758.00	\$235,758.00
	Electrical Power to Site (PVREA)							\$691,528.00			\$691,528.00
	Hydropower Station							\$2,080,282.00			\$2,080,282.00
	Subtotal	\$-	\$-	\$720,757.00	\$-	\$2,771,810.00	\$-	\$380,524.00	\$9,024,347.00		\$12,897,438.00
	General Construction Markups (Labor, Material, Sub, Equipment)			\$80,392.00		\$293,537.00		\$42,864.00	\$943,570.00		\$1,360,363.00
	Contractor General Conditions - 16.5% (includes 1.5% Bond)			\$132,190.00		\$505,782.00		\$69,859.00	\$1,644,706.00		\$2,352,537.00
	Start-up, Training, O&M - 2%			\$18,667.00		\$71,423.00		\$9,865.00	\$232,252.00		\$332,207.00
	Bidder's Risk & General Liability Ins. - 2%			\$19,040.00		\$72,851.00		\$10,062.00	\$236,897.00		\$338,850.00
	Contingency - 25%			\$242,762.00		\$928,850.00		\$128,294.00	\$3,020,443.00		\$4,320,349.00
	BOOSTER PS TOTAL CONSTRUCTION COST OPINION	\$-	\$-	\$1,213,808.00	\$-	\$4,644,253.00	\$-	\$641,468.00	\$15,102,215.00		\$21,601,744.00
Cactus Hill PRV Station											
	Sitework			\$86,061.00				\$340,338.00			\$426,399.00
	Process Piping			\$680,677.00				\$7,208.00			\$687,885.00
	PRV vault			\$457,092.00							\$457,092.00
	Electrical Power to Site (PVREA)							\$281,761.00			\$281,761.00
	Hydropower Station							\$2,190,782.00			\$2,190,782.00
	Subtotal	\$-	\$-	\$1,223,830.00	\$-	\$2,472,543.00	\$-	\$347,546.00	\$-		\$4,043,919.00
	General Construction Markups (Labor, Material, Sub, Equipment)			\$137,778.00		\$263,610.00		\$40,436.00			\$441,824.00
	Contractor General Conditions - 16.5% (includes 1.5% Bond)			\$224,665.00		\$451,465.00		\$64,017.00			\$740,147.00
	Start-up, Training, O&M - 2%			\$31,725.00		\$63,752.00		\$9,040.00			\$104,517.00
	Bidder's Risk & General Liability Ins. - 2%			\$32,360.00		\$65,027.00		\$9,221.00			\$106,608.00
	Contingency - 25%			\$412,589.00		\$829,099.00		\$117,565.00			\$1,359,253.00
	CACTUS HILL PRV TOTAL CONSTRUCTION COST OPINION	\$-	\$-	\$2,062,947.00	\$-	\$4,145,496.00	\$-	\$587,825.00	\$-		\$6,796,268.00

Table 4. Construction Costs for Terry Ranch (continued)

Facility	Description	Subtotals by Milestone								Overall Total
		1	2	3	4	5	6	7	8	
Transmission Pumping Station	Sitework						\$299,602.00			\$299,602.00
	Flow Meter vault								\$13,269.00	\$13,269.00
Transmission Pumping Station	Electrical and I&C								\$4,437,802.00	\$4,437,802.00
	Concrete								\$285,340.00	\$285,340.00
	Superstructure								\$859,392.00	\$859,392.00
	Equipment (pumps, drivers, AFDs, Surge, Bridge Crane)								\$481,519.00	\$481,519.00
	Exposed Piping								\$1,288,710.00	\$1,288,710.00
	Exposed Valves								\$117,879.00	\$117,879.00
Gold Hill Pumping Station	Electrical and I&C						\$10,111,695.00			\$10,111,695.00
	Concrete						\$643,742.00			\$643,742.00
	Superstructure						\$1,153,015.00			\$1,153,015.00
	Equipment (pumps, drivers, AFDs, Surge)						\$1,027,366.00			\$1,027,366.00
	Exposed Piping						\$2,700,774.00			\$2,700,774.00
	Exposed Valves						\$485,668.00			\$485,668.00
	Subtotal	\$-	\$-	\$-	\$-	\$-	\$16,421,862.00	\$-	\$7,483,911.00	\$23,905,773.00
	General Construction Markups (Labor, Material, Sub, Equipment)						\$1,694,816.00		\$767,359.00	\$2,462,175.00
	Contractor General Conditions - 16.5% (includes 1.5% Bond)						\$2,989,252.00		\$1,361,459.00	\$4,350,711.00
	Start-up, Training, O&M - 2%						\$422,119.00		\$192,255.00	\$614,374.00
	Bidder's Risk & General Liability Ins. - 2%						\$430,561.00		\$196,100.00	\$626,661.00
	Contingency - 25%						\$5,489,652.00		\$2,500,270.00	\$7,989,922.00
	BOOSTER PS TOTAL CONSTRUCTION COST OPINION	\$-	\$-	\$-	\$-	\$-	\$27,448,262.00	\$-	\$12,501,354.00	\$39,949,616.00
	MILESTONE TOTALS	\$87,970,177.00	\$14,186,187.00	\$185,368,793.00	\$10,150,618.00	\$28,788,838.00	\$27,448,262.00	\$34,930,942.00	\$117,501,317.00	\$506,345,134.00
GRAND TOTAL - TERRY RANCH WATER SUPPLY PROGRAM - CONSTRUCTION COST OPINION										506,345,134.00

WATER & SEWER BOARD AGENDA DECEMBER 16, 2020

ENCLOSURE _____ NO ENCLOSURE X

ITEM NUMBER: 11

TITLE: JOHNSON SUBDIVISION PROPOSED LOCAL
IMPROVEMENT DISTRICT UPDATE

RECOMMENDATION: INFORMATION ONLY

ADDITIONAL INFORMATION:

The Johnson Subdivision was developed in 1963 and 1969 in Weld County and was annexed as an enclave into Greeley in 2005. A majority of the properties within the subdivision have septic systems (37 septic, 3 City sewer, and 3 undeveloped) with some that could be reaching the point of failure. The Colorado State Statute and City policy requires that properties within 400 feet of the municipal sewer system are required to connect when the septic system fails. There are currently 21 septic properties located within 400 feet of the municipal sewer system and would be required to connect. These connections can be very costly with ranges from \$51,280 to over \$200,000 per property (depending on property layout and length of sewer main required). The W&S Department would like to facilitate a more cost effective connection strategy by developing a Local Improvement District (LID) on the subdivision to facility the construction of a new sewer system for all residence. This strategy would include W&S engineering staff designing the new sewer system and then W&S operations staff constructing the sewer system. The residence would be required to pay for the materials (pipe, bedding, asphalt, etc.) through the LID. This strategy allows the City to utilize existing resources reduce the connection cost to between \$23,280 to \$33,280 per property (Estimated LID cost of \$12,000). The LID recovery cost would only be required at time of septic system failure and would allow one-time payment or up to a 60 month payment plan as desired by resident. This strategy helps reduce costs to residence, utilize City resources for the most economical construction, helps with public health by eliminating septic systems as the fail, and still meet State Statutes.

J OHNSON SUBDIVISION

Municipal Sewer Improvements

Water & Sewer Board
December 16, 2020



City of Greeley Project Goals

- Develop strategies to address Septic systems;
 - Vulnerable to failure
 - Required by law to connect to municipal sewer
- Current costs for Johnson Subdivision resident to connect to municipal sewer
 - **\$51,280 up to \$200,000+**
- Reduce resident risk and cost (when septic systems fails)
- Minimize total project costs
- Allow project cost to be reimbursed to W&S
- Evaluate financing alternatives to reduce instantaneous cost to residences
- Educate residents on laws, policies, potential future costs
- Share best management practices for increasing the longevity of the septic systems



Johnson Subdivision

Average life span of a septic system is between 15 and 40 years depending on maintenance. (EPA)

- Total Properties (43)
 - Properties on septic (37)
 - Properties converted to City Sewer (3)
 - Undeveloped Lots (3)
- Homes older than 40 years (33)
- One current failed septic system



Colorado Revised Statute

Summary of CRS 30-20-416 & CRS 31-15-709

- Allows the Municipality to construct sanitary sewer and to assess the cost of the improvements to the adjacent lands
- Prohibits repair of any septic system within 400 feet of municipal sewer
- Whenever available it is necessary for public health to connect to the public sewer

Current Greeley Policy

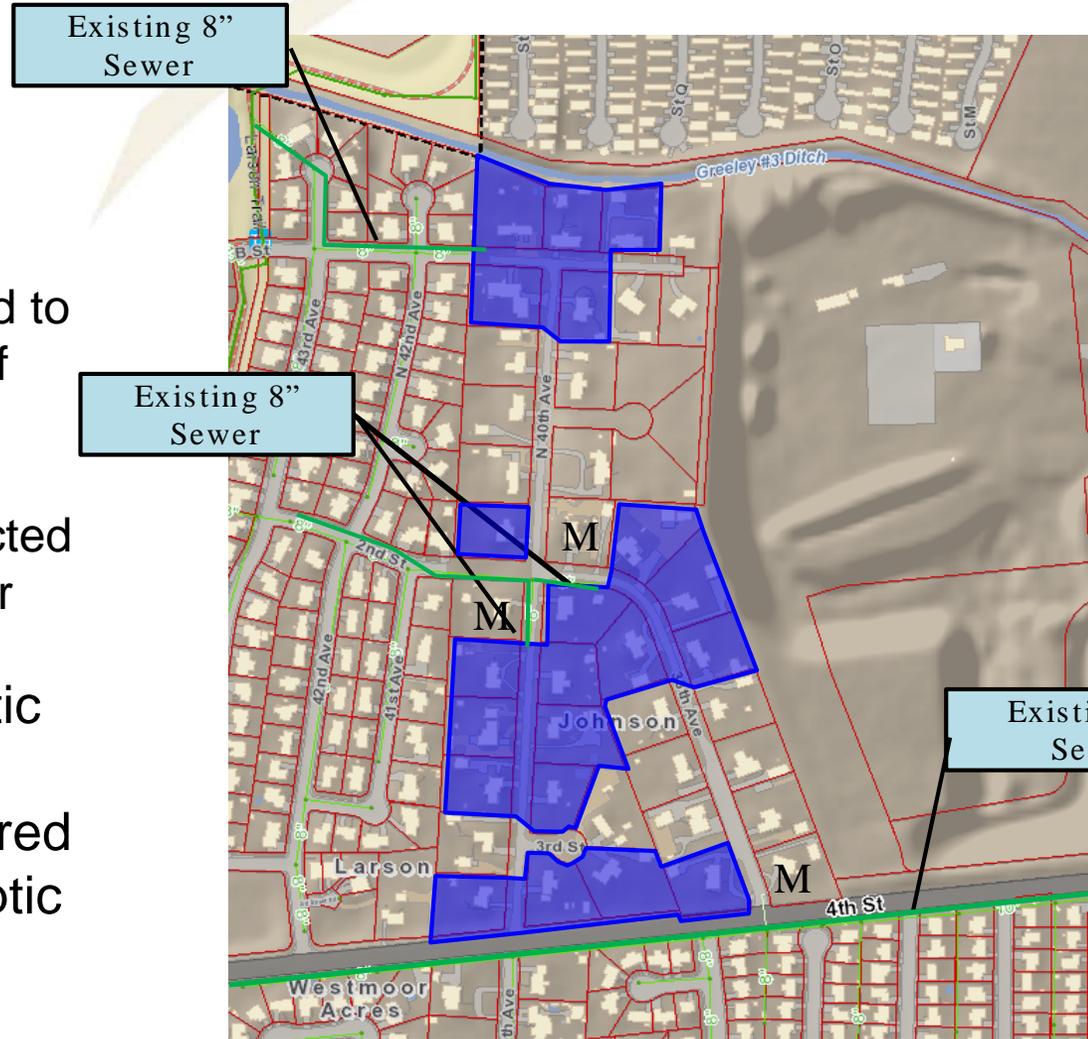
- If municipal sewer is within 400 feet of the property, the owner must connect at owners cost.
- The Owner is required to construct the municipal sewer to the property and along all property frontage.



Properties Required to Connect

-  Existing Sanitary Sewer
-  Properties required to connect to sewer if septic fails (21)
- M Properties Connected to Municipal Sewer

If property with failed septic constructs sewer, 8 more properties would be required connect to sewer with septic failure.



Project Approach

Proposed project approach:

- W&S will front all cost for the improvements
 - W&S Engineering Staff completes design (no design fees)
 - W&S Operations staff to Install the Public Sewer Main
 - Eliminates contractor equipment, labor, overhead, and profit costs.
 - Sewer constructed in the Right of Way
 - Create a Local Improvement District (LID), W&S cost recovery at time of connection
 - Project will not construct private sewer services
-
- ❖ W&S Estimated Project Cost - \$480,000
 - ❖ Estimated Contractor Project Cost - \$720,000



Project Phasing and Schedule

- Existing Sanitary Sewer
- Proposed Sanitary Sewer (Phase 1)
- Proposed Sanitary Sewer (Phase 2)

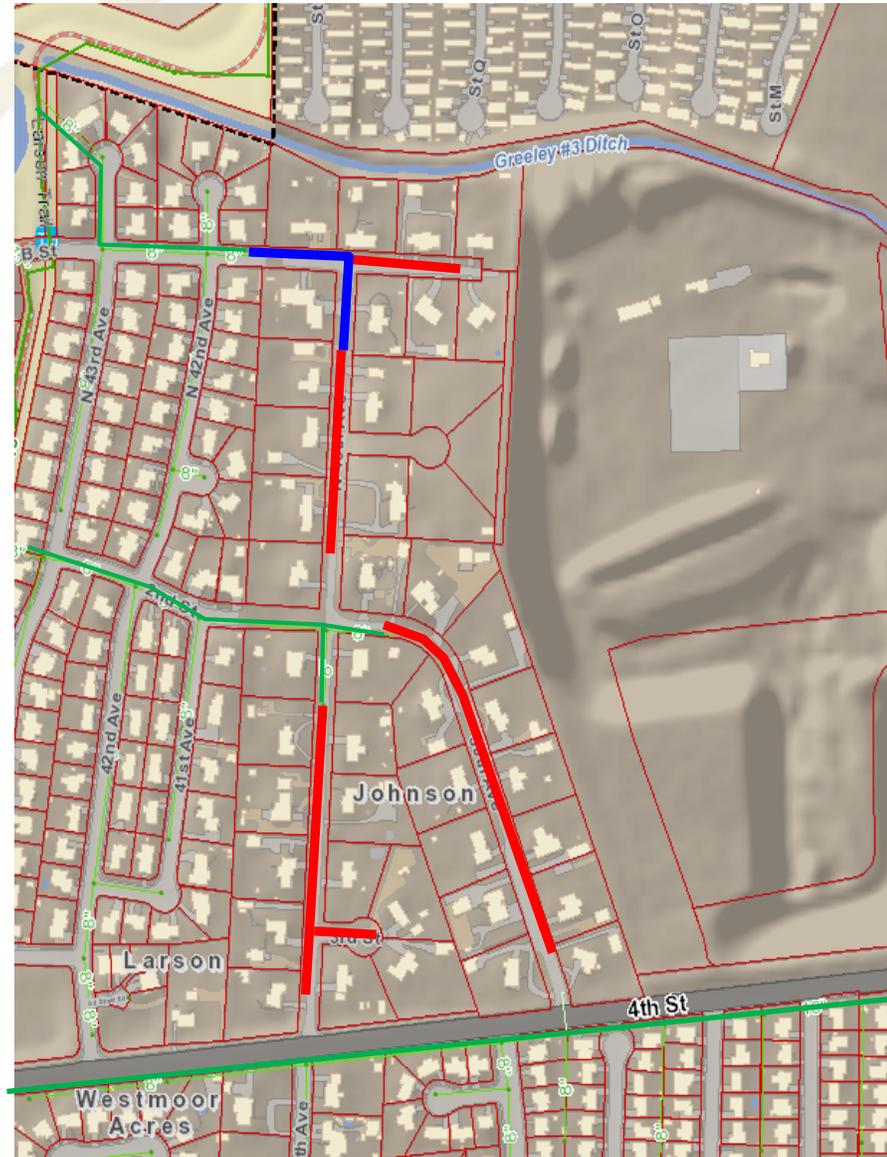
- Total Project 3,270 feet of sewer pipe

Phase 1 –Addresses Failed Septic

- Funded by Sewer Extension BUN
- Construction February 2021
- Construction 1 to 2 weeks

Phase 2

- Requires an Appropriation in 2021
- Construction April 2021
- Construction 6 to 8 weeks



Cost Comparison

Resident Cost - State Statute & City Policies

\$51,280 to \$200,000+

- Owner is responsible for all project cost at the time of septic failure
- Required to hire all consultants and contractors to complete project
- Owner takes all risk and responsibility for project completion

Resident Cost - Proposed W&S Approach

\$23,280 to \$33,280

- Costs due to the City (\$18,280)
 - LID fee (estimated at \$12,000)
 - Sewer Plant Investment fee (currently \$6,000)
 - Tapping fee (\$280)
- Owner cost to install sewer service (\$5,000 to \$15,000)



LID and PIF Reimbursement

LID and PIF Reimbursement to City of Greeley

- Reimbursement could be a one time payment or payment plan (60 months)
- Payment Plan would require a lien be placed on the property
- No Interest will be applied to LID
- Reimbursement Fees could be included with the monthly utility bill



LID Structure and Schedule

The LID consists of two ordinances that go to City Council for approval.

- 1st Ordinance creates the boundary, list all properties, terms and anticipated costs.
 - Residents listed will receive a mailed public hearing notice
 - 1st Ordinance is planned for City Council at end of January 2021
- 2nd Ordinance defines the actual cost and cost per property
 - 2nd Ordinance will go to council when the project is complete.



Johnson Subdivision Municipal Sewer Improvements

Questions?



WATER & SEWER BOARD AGENDA DECEMBER 16, 2020

ENCLOSURE _____

NO ENCLOSURE X

ITEM NUMBER: 12

TITLE: EXECUTIVE SESSION

RECOMMENDATION:

ADDITIONAL INFORMATION:

Water Market Update

WATER & SEWER BOARD AGENDA DECEMBER 16, 2020

ENCLOSURE X NO ENCLOSURE

ITEM NUMBER: 13

TITLE: LEGAL REPORT

RECOMMENDATION:

ADDITIONAL INFORMATION:

WATER & SEWER BOARD AGENDA DECEMBER 16, 2020

ENCLOSURE _____

NO ENCLOSURE X

ITEM NUMBER: 14

TITLE: DIRECTOR'S REPORT

RECOMMENDATION:

ADDITIONAL INFORMATION:

- Tech Enablement Update – Advanced Metering, Asset Management & Utility Billing
- EPA Audit response

Water & Sewer Director's Report

December 16, 2020

The report is contained in the following slides as I am unable to attend the December Board meeting due to a conflict .

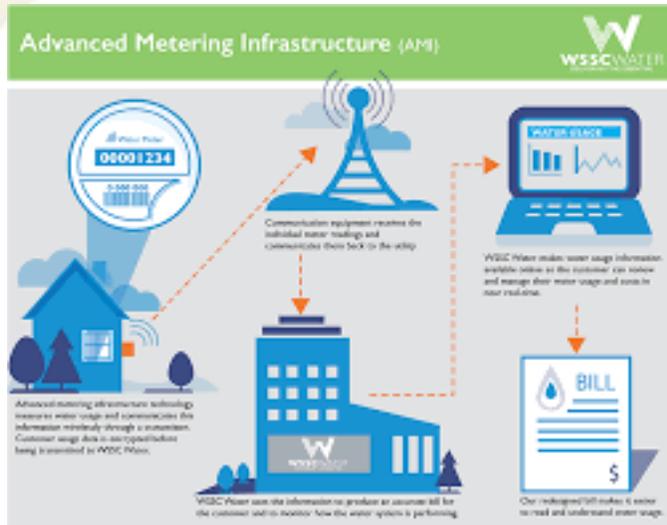
Mr. Otto and I are participating in a Strategic Ops Workshop 12/16 – 12/17 with other NoCO water utility directors and their city managers.

I am available by phone or email for questions on the content here in; and our Deputy Directors are informed on these items and prepared to field any questions during the Board meeting



W&S Dept. Tech Enablement

Update: December 2020



Cityworks and Asset Management

Implementation vendor and for Cityworks project has been selected by city team

Cityworks Project will include:

- Strategic Asset Management Plan for W&S and PW
- Develop Asset Management Policy
- Work Order System for all Water & Sewer Assets

Project will support CIP scoring and selection process



Advanced Metering Infrastructure

- Multi-year work will begin in 2021. Funded in part by a \$1.4M grant.
- W&S is well poised to manage the contract after a number of lessons learned in the commercial pilot program, and recent replacement of zero read meters
- Council Members, Water Board Directors and W&S Leadership team members will have meter installed after January 1, 2021 to help promote the benefits of the smart meters
- Interface with WaterSmart customer dashboard
- 6,250 meters installations will begin early in 2021 and 12,500 meters in 2022
- RFP for AMI installation – Proposal due December 22, 2020
- Outreach will be coordinated with Communications & Engagement



Customer Information System (CIS) (Utility Billing Software)

- Existing CIS is out of date and has limited functionality
 - Current CIS options will enhance customer service, analytical capability, and flexibility
- Multi-year project that paused earlier this year to allow Oracle implementation to be completed
- Additional demonstrations with the two vendor finalists in January
- Implementation will start in early summer
 - Go Live: End of 2022 or Q1 2023



Fleet Management Tool

- Integration with Cityworks
- Proposed planning and contracting in 2021 and implementation in 2022
- Safety and Accountability Features
 - GPS vehicle tracking
 - Speeding notifications
- Not a one time costs; maintenance costs will need to be budgeted
- Hotspot feature for wifi connection (potential cost savings)



INDUSTRIAL PRETREATMENT PROGRAM (IPP): EPA PRETREATMENT COMPLIANCE INSPECTION (PCI) FINDINGS

- EPA mandated program modifications
 - Amend IPP Enforcement Response Plan (ERP)
 - ✓ Internal guidance document for implementing enforcement actions
 - ✓ Amendments will provide more clarity for enforcement actions
 - Amend City Ordinance 14.11 (Pretreatment Chapter)
 - ✓ Amend IPP related definitions to better align with Federal definitions
- Additional changes requested to improve clarity and efficient application of IPP
 - Update IPP Ordinance to achieve the following
 - ✓ Strengthen and better reflect current implementation of the IPP
 - ✓ Allow more flexibility in the type of mail correspondence IPP may use due to previous complications experienced with “Certified Registered USPS Mail”
 - ✓ Modernize requirements to reflect new technology and
 - ✓ Correct minor clerical errors.

EPA PCI RESPONSE TIMELINE

Jan - Mar

- Develop Program Modification Package

Mar - Apr

- W&S Board Presentation
- Notify EPA of future Substantial Program Modification Submittal
- Submit Substantial Program Modification Request to EPA

April

- Submit Substantial Program Modification Request to EPA

May

- EPA 30-Day Notice
- W&S Board approval

June

- EPA approval
- Council Readings (2)