



# Water Treatment Plant Update

October 8, 2024

# Agenda



- Overview of Why at Water Treatment Plant is needed
- Update on Federal Funding and Water Rates
- Water Treatment Plant Projects
- Alternative Routing for WTP Sewer Discharge
- Project Timing and Next Steps
- Next Steps

# Why do we need a water treatment plant?



- City has manganese in drinking water above a health-based guidance from the Minnesota Department of Health for infants under 1 year old
- Infants should not drink City of Northfield tap water

# What else will the water treatment plant treat?



- Lower manganese below the Minnesota Department of Health, health-based guidance and also below Environmental Protection Agencies (EPA) secondary standard
- Lower hardness in drinking water below EPA's secondary standard
- Provides a high quality water to all residents
- Protects Northfield water from any future or unknown contaminants such as PFOS or forever chemicals. (Note: All 5 of Northfield's wells have small amount of PFBA in them which water treatment plant removes)

# Update on Federal Funding



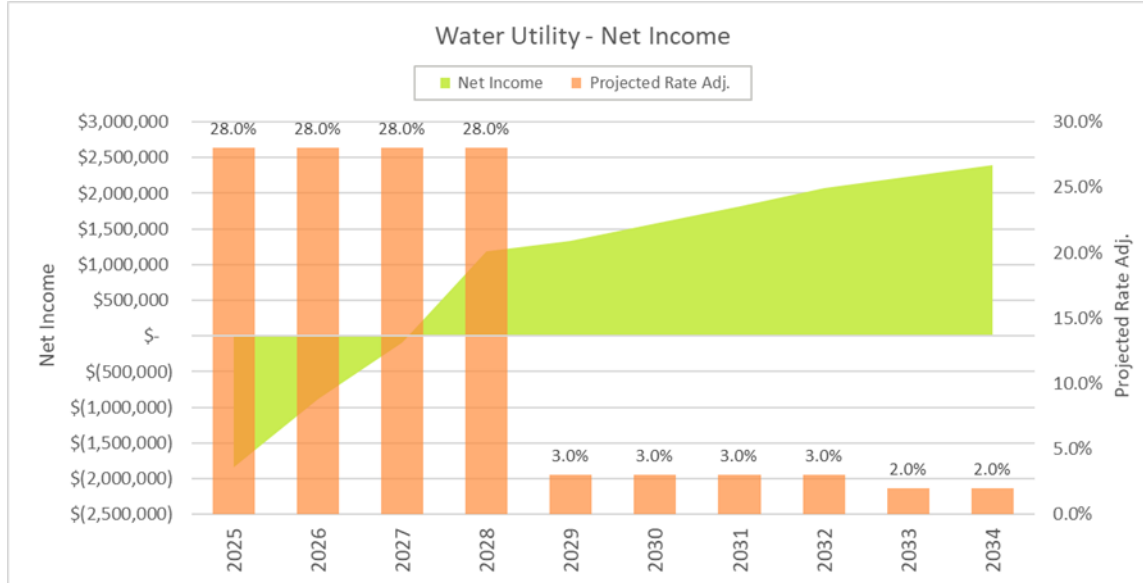
- City received \$3,945,000 for water treatment plant project from Federal Funding for FY24
- City applied for additional \$29,505,000 in Federal Funding for FY25 however was not successful in obtaining funding
- City has applied for low interest

# Water Treatment Plant Cost



<b>Construction Cost Estimate - Northfield WTP</b>	
Item	Cost
General Conditions/Mobilization	\$ 1,600,000
Roads and Site Work	\$ 3,700,000
Raw Watermain	\$ 2,900,000
Garage	\$ 3,500,000
Solar - Rooftop	\$ 1,500,000
Water Treatment Facility including Gravity Filtration	\$ 22,500,000
Office/Conference Rooms	\$ 3,000,000
Reverse Osmosis Addition	\$ 11,000,000
<b>Subtotal Estimated Construction Costs</b>	<b>\$ 49,700,000</b>
Contingencies @ 10%	\$ 4,970,000
<b>Total Estimated Construction Cost</b>	<b>\$ 54,670,000</b>
Engineering	\$ 3,582,135
Land	\$ 572,000
<b>Total Estimated Project Cost</b>	<b>\$ 58,824,135</b>
FY24 Federal Funding	\$ 3,945,000
<b>Estimate Project Cost minus FY24 Funding</b>	<b>\$ 54,879,135</b>

# Projected Water Rates without Federal Funding



# Sample Utility Bill



<b>Sample Bills - Residential</b>						
<b>Average Residential</b>						
589	cubic feet					
0.33	acre lot					
		<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>
Water		\$ 20.27	\$ 25.95	\$ 33.21	\$ 42.51	\$ 54.41
Sewer		\$ 40.42	\$ 42.24	\$ 44.14	\$ 46.13	\$ 47.51
Garbage (35 gal)		\$ 12.42	\$ 12.54	\$ 12.67	\$ 12.80	\$ 12.92
Storm Water		\$ <u>9.92</u>	\$ <u>11.41</u>	\$ <u>13.12</u>	\$ <u>15.09</u>	\$ <u>17.35</u>
		\$ 83.03	\$ 92.14	\$ 103.14	\$ 116.52	\$ 132.20



# Reverse Osmosis & Why Water Softening?

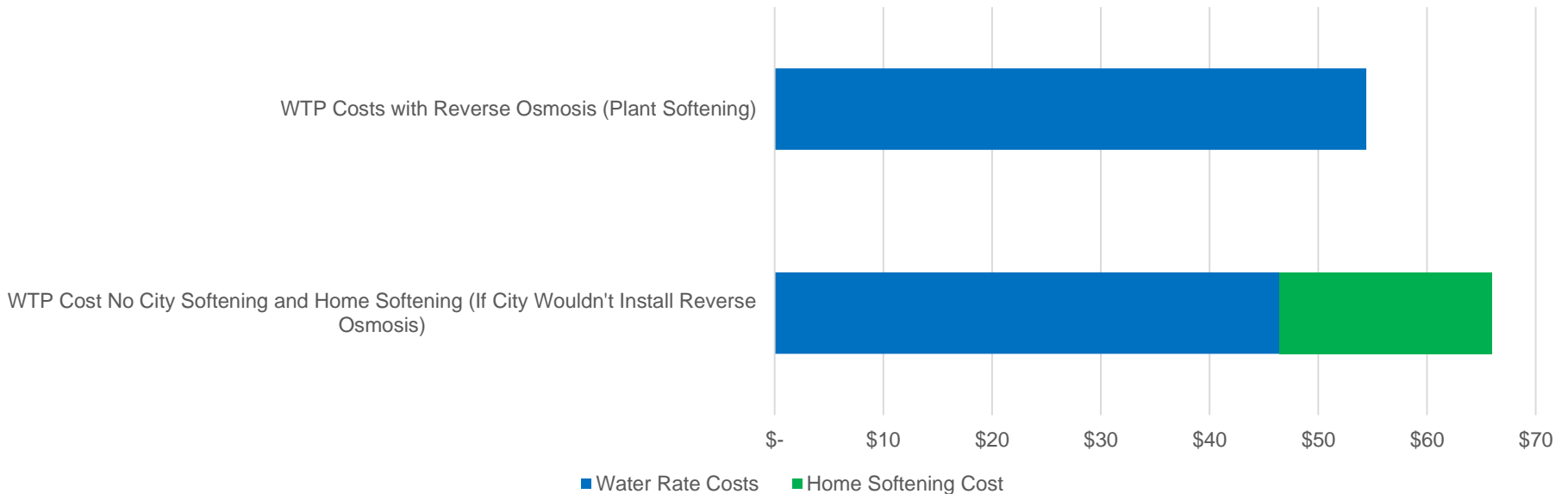


- Soft water prevents build-up of minerals inside pipes, helps dry skin and hair, cleaner dishes, cleaner laundry, protects appliance, etc.
- Removes PFAS (forever chemical) and other future or unknown contaminants.
- Provides high quality of water to all residents
- Provides softened water to all Northfield water users who currently do not have access to softened water in their rental units
- Residents will be able to remove their in-home water softeners and no longer have to haul softener salt bags into home
- Less chlorides discharged to the Cannon River by removing home water softeners
- City can provide softened water at roughly \$8 or slightly more than 1 bag of softener salt per month (typical amount used by residents)

# Cost Comparison of Home vs. Municipal Softening



2028 Monthly Residential Water Costs Comparison

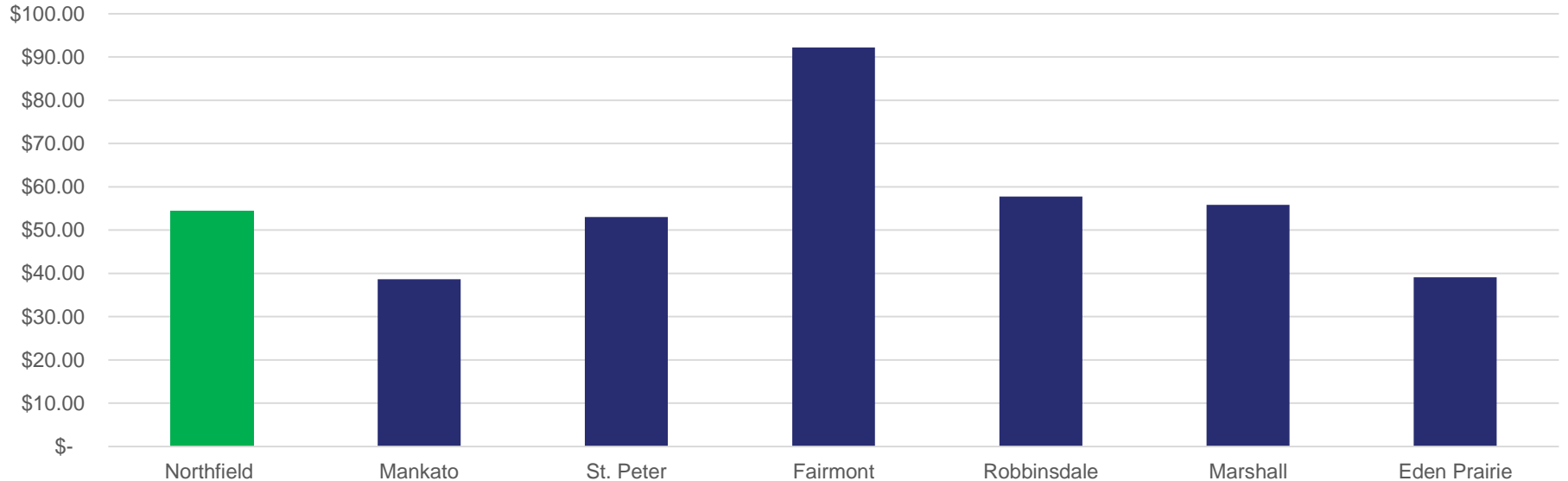


# Comparable Cities



## 2028 Projected Rates for Softening Communities

Based on a 3% annual increase for other cities



Note: These are some examples and with 22 cities with PFAS exceeding limits there will be many more new similar plants being built to remove those forever chemicals.

# Project Influence

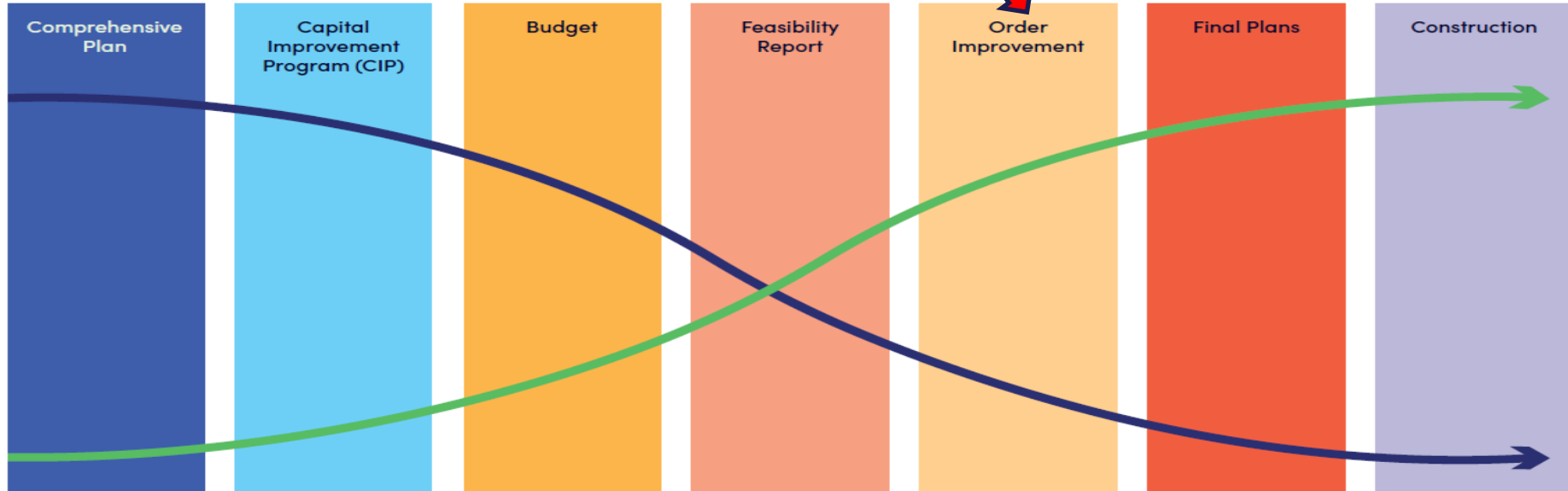
Decision to do project Complete

We are here

Major Influence

Rapidly Declining Influence

Low Influence



Opportunity for Influence

Cost of Changes

# Water Treatment Plant Projects



- Water Treatment Plant being broken into three separate projects
  - (1) Water Treatment Plant
  - (2) Reverse Osmosis/Federal Funding
  - (3) Extension of Jefferson Park and new roadways and raw watermains

# (1) Water Treatment Plant



- Construction of water treatment plant
  - Water Treatment Plant Building, equipment and site
- Project Timeline
  - Approve Plans and Specs & Advertisement for Bid – November 12, 2024
  - Award Project – January 7, 2025
  - Construction – 2025 - 2027

## (2) Reverse Osmosis/Federal Funding



- Procurement of Reverse Osmosis Skids and Installation
  - Project bid by Army Corps of Engineers
- Project Timeline
  - Winter 2024/2025 Approvals of Project Partnership Agreement
  - Ad for Bid and Procurement of Equipment 2025 – 2026
  - Installation of Equipment – 2026 – 2027

# (5) Extension of Jefferson Park and new roadways and raw watermains



- Construction of Jefferson Parkway along south property line and new north/south road on east side of property
  - Required within the purchase agreement from previous landowner within 5 years of purchase
- Raw Watermain Installation
  - Bringing watermains from all wellhouses to water treatment plant



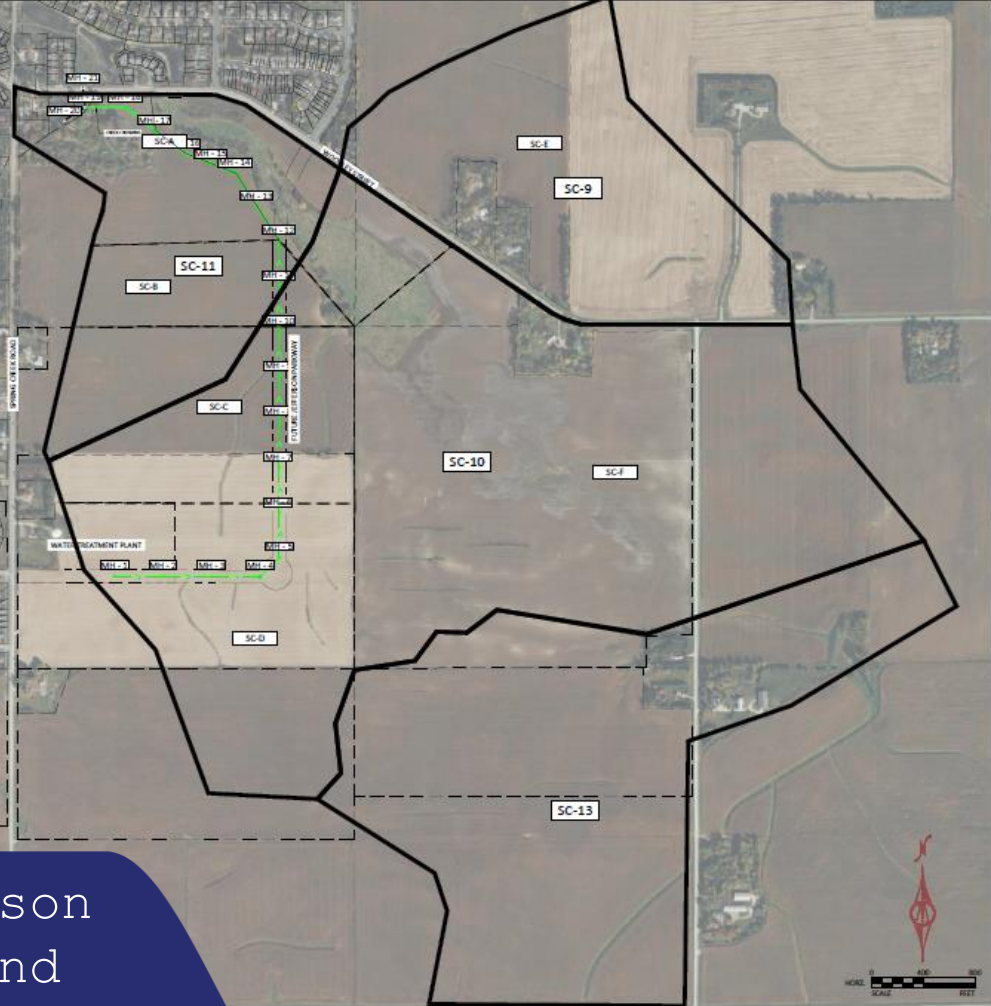
# (5) Extension of Jefferson Park and new roadways and raw water mains



- Current plan for sanitary sewer
  - Discharge would go west on Jefferson Parkway (opposite of road grad) and would require additional road construction on Jefferson Parkway
  - Engineer Estimate - \$800,000
- Alternate Option
  - New trunk sanitary sewer line from north that will serve both the water treatment plant and future development around the water treatment plant
  - Option follows Comprehensive Sewer Plan, however, no development has taken place to the north of the water treatment plant that would have provided the trunk sanitary sewer
  - New design - \$211,000
  - Engineers Estimate - \$2,248,072.60

Sewershed ID	AREA(SF)	AREA(AC)	OPEN SPACE (AC)	DEV. AREA(AC)	GPD	GPM
<b>Sanitary Sewer Comp Plan</b>						
SC-9	4990472	114.6	0	114.7	144,478	100.3
SC-10	4152198	95.3	33.8	61.5	77,506	53.6
SC-11	15992033	364.8	17.0	347.8	438,267	304.4
SC-13	6380096	152.4	4.4	168.0	236,864	164.5
TOTAL	33419099	767	56	712	897118	623
<b>Design</b>						
SC-A	2988615	66.5	35.5	31.1	38,161	27.2
SC-B	1177968	27.0	0.0	27.0	34,073	23.7
SC-C	3132965	71.9	2.2	69.7	87,825	61.0
SC-D	3626091	83.2	0.0	83.2	104,867	72.8
SC-E	4990472	114.6	0.0	114.6	144,352	100.2
SC-F	1757731	403.5	17.2	386.4	486,826	338.1
TOTAL	33420842	767	56	712	897125	623

Pipe Segment	Sewersheds	Cummulative Flow	Pipe Size	Gravity Capacity	Peaking Factor
MH-12 to MH-19	A, B, C, D, E, F	623	18"	2123	3.41
MH-10 to MH-12	B, C, D	157	10"	520	3.30
MH-6 to MH-10	C, D	134	10"	520	3.89
MH-1 to MH-6	D	73	8"	343	4.71



(3) Extension of Jefferson Park and new roadways and raw watermains

# (5) Extension of Jefferson Park and new roadways and raw watermains



- Project Timeline

- October 15 – Approve Water Treatment Plant Sanitary Sewer Discharge Design Amendment (if no objection, on consent agenda)
- April/May 2025 – Approve Plans and Specs & Order Advertisement for bid
- May/June 2025 - Award Project
- Construction – 2025 – 2026 (Raw Watermains required in 2025 due to Jefferson Parkway mill and overlay in 2026)

(3) Extension of  
Jefferson Park and new  
roadways and raw  
water mains



- Policy Question

- Do you support staff moving forward with alternate route for sewer discharge?

# Next Steps



- Public Meeting on October 29, 2025 at 6:00 p.m. to inform residents on the water treatment plant project, need for water treatment plant, costs and timeline



Questions?

Thank you