Facility Plan Update

Customer Meeting

February 16, 2022

NEW Water

The brand of the Green Bay Metropolitan Sewerage District

Facility Plan

Comprehensive look at liquids process needs at NEW Water's Green Bay Facility (GBF) and De Pere Facility (DPF)

- Required by the Wisconsin DNR
  - Required for approval of construction projects
  - Required for use of Clean Water Fund Program (loans at 55% of market rate)
- Does not authorize projects, budgets, revenues, or rates
  - NEW Water's annual budget process
  - Future Commission award of construction projects and loans
- Does project the revenue needs
  - Numerous variables and long-term planning affect certainty

Facility Plan

Reflects the shared values of our stakeholders:

- Support the growth and economic vitality of our community
  - Existing facilities cannot meet capacity needs
  - Permit non-compliance will limit growth
- Protect public health and the environment through 100% permit compliance
  - Existing facilities need investment to reliably meet permit
- Reliably provide conveyance and treatment of wastewater
  - “Do nothing” or long-term deferral of projects is not an option.

Discussion

Do we share these values?

Have we adequately conveyed why we are performing Facility Planning?

Facility Plan

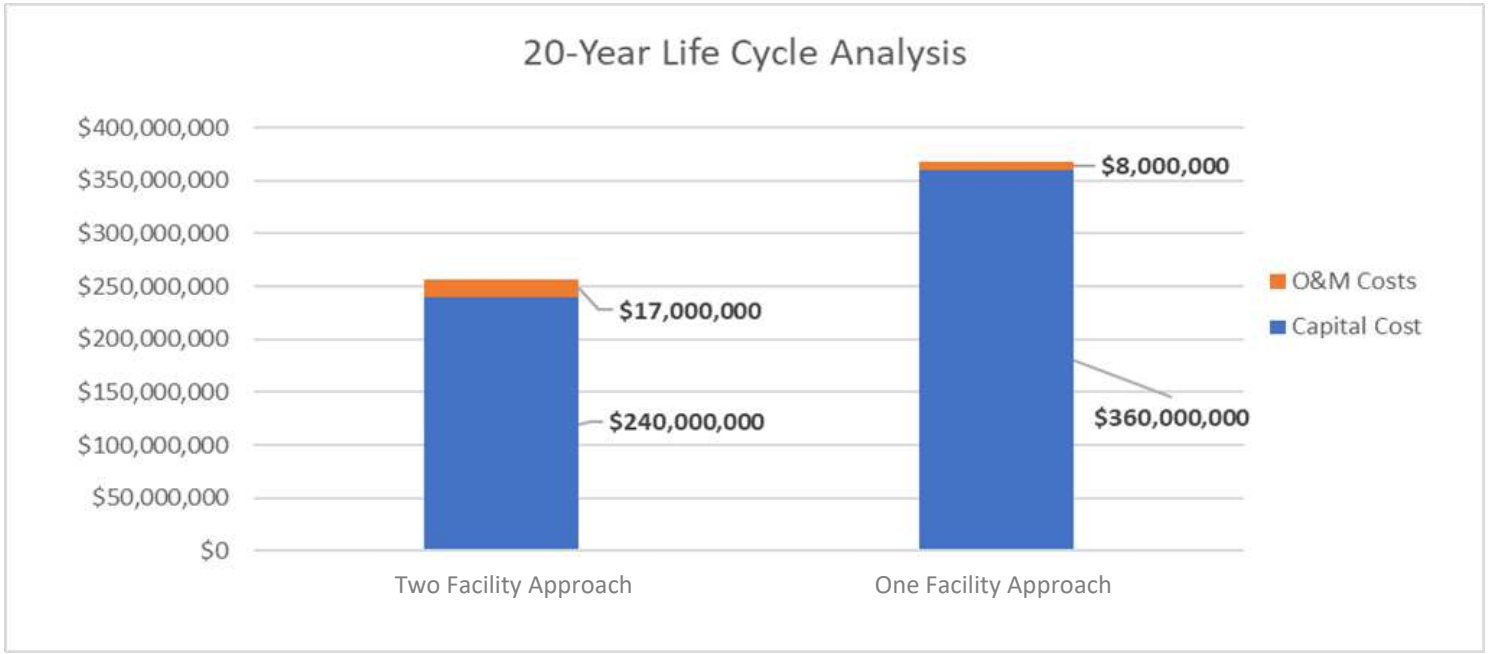
Comprehensive look at liquids process needs at NEW Water's Green Bay Facility (GBF) and De Pere Facility (DPF)

Three main conclusions:

- Most cost effective and advantageous to maintain De Pere Facility
- Need to invest $245 million - $370 million over the next 20 years
- Projected to increase revenues approximately 5.5% - 7% each year for 10 years to fund needed projects

Understanding the needs: DPF Future Vision

- Evaluated continuing the two wastewater treatment facilities or consolidate to one facility
- Continuing <u>two treatment facilities is the cost-effective approach</u>
  - Managing peak flow rates at one facility requires significant capital investment
  - 20-year life cycle cost was about 50% higher to migrate to one facility



What Drives* the Investment?

- Capacity
  - Ability of existing infrastructure to support residential and industrial growth over next 20-years
  - Flows and/or contaminant loadings
- Asset replacement
  - Existing infrastructure remaining useful life
  - Focused on reliability of aging equipment
- Optimization
  - Performance focused – energy efficiency, water quality, resource recovery
- Regulatory
  - Need to remain flexible to adapt to future regulations

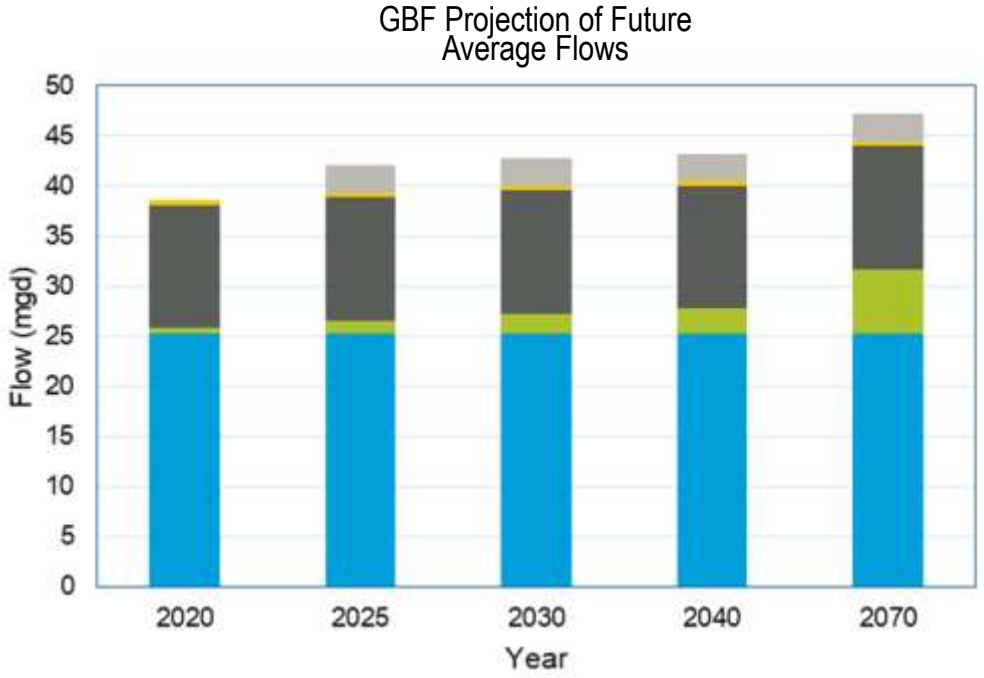
** Numerous projects have both **capacity** and **asset replacement** drivers*

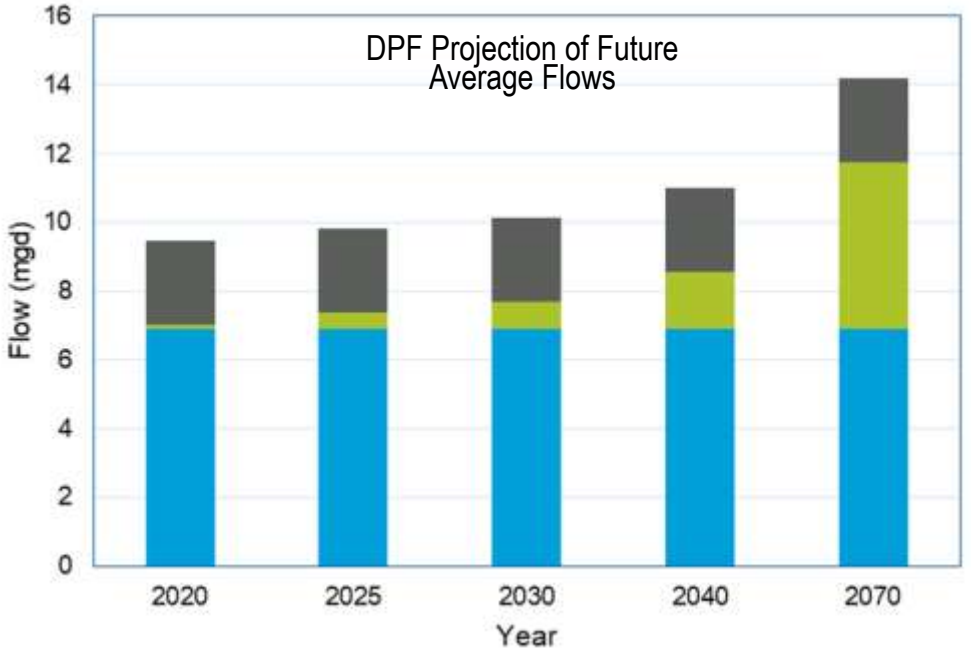
Planning for future needs:
Wet-weather peak flow impacts
Inflow & Infiltration reductions needed

Peak flow capacity gaps at both facilities

Investment Needs by Driver: Capacity

- Wet weather flow rates strain the facilities
- Need to support ongoing residential and economic growth
- Both facilities need capacity improvement
- I&I mitigation can help but likely will not solve issue quickly enough





Building the case for investment: Existing system performance & condition

Condition concerns & system performance

Investment Needs by Driver: Asset Replacement

- Significant plant investments made five decades ago
- Majority of current facilities constructed in Mid 1970s / Early 1980s
- Nutrient removal and capacity improvements made in 1990s
- Equipment reliability is critical

Green Bay Facility

Construction overviews, by decade

1970s 1990s 2010s


1950s
1980s
1990s
2000s
De Pere Facility

Investment Needs by Driver: Optimization

- Continue to focus on optimization to manage operational costs and improve water quality
- Energy and chemical costs remain significant component of budget
- Improved TSS and Phosphorus performance will be critical for permit compliance

Identified Near-Term Projects

Facility	Project	Driver	Potential Cost Range (2021 MM USD)
GBF	North Final Clarifiers	Asset Replacement	21-31
GBF	Primary Clarifier Improvements	Asset Replacement	14-20
GBF	Pumping and Headworks (GBF)	Capacity	30-44
GBF	Thickening Improvements	Capacity	14-21
GBF	Biosolids Handling and Storage	Capacity	13-19
GBF	Mill Pumps	Capacity	2-3
GBF	Primary Sludge Degritting	Asset Replacement	8-12
GBF	Blowers	Energy Efficiency	22-33
GBF	Maintenance Building	Asset Replacement	3-4
GBF	South Final Clarifiers	Asset Replacement	8-11
GBF	Aeration Basin Improvements (GBF)	Energy Efficiency	4-6
GBF	Sludge Screening	Capacity	9-13
DPF	Pumping and Headworks (DPF)	Capacity	21-31
DPF	Final Clarifiers and RAS	Asset Replacement	8-11
DPF	UV Disinfection	Capacity	3-4
DPF	Aeration Basin Improvements (DPF)	Capacity	21-31
DPF	Equalization	Capacity	8-12

Potential facility needs cost range over the next 10 years

Green Bay Facility: $145M to $215M

De Pere Facility: $60M to $90M

***Note**: These figures will be reviewed and adjusted annually during the budgeting process*

Identified Intermediate-Term Asset Renewal Projects

Facility	Project	Potential Cost Range (2021 MM USD)
GBF	Air pollution control equipment renewal (WESP, scrubber, GAC, CEM)	7-10
GBF	Dewatering/drying equipment renewal	2-3
GBF	Biogas generator replacement	5-7
GBF	Biogas collection and conditioning equipment renewal	4-6
GBF	Heat exchanger/thermal oil system renewal	2-3
GBF	Ash handling system renewal	1-2
GBF	Incinerator sludge feed equipment renewal	2-3
GBF	RAS/WAS, SEP pumping systems	2-3
GBF	Phosphorus control - chemical feed system	1-2
GBF	Odor control equipment renewal	3-4
GBF	Septage receiving equipment renewal	1-2
GBF	Digester mixing, heating, gas recovery renewal	2-3
GBF	Electrical distribution system renewal	3-5
GBF	Basin mixer replacement (30)	2-3
DPF	Compressor upgrades	2-3
DPF	Sludge storage tank/chemical building demolition	1-2
DPF	Electrical distribution system renewal	2-3
DPF	Basin mixer replacement (8)	1-2

Potential facility needs cost range starting in 10 to 20 years

Green Bay Facility: $35M to $55M

De Pere Facility: $5M to $10M

***Note**: These figures will be reviewed and adjusted annually during the budgeting process*

Identified Emerging Needs Projects

Facility	Project	Potential Cost Range (2021 MM USD)
GBF	AnitaMOX Sidestream Nitrogen	13-19
GBF	Disinfection	40-60
GBF	Parallel solids treatment train	66-100
GBF	South Plant Expansion	34-50
GBF	Tertiary filtration/HRT	41-60

These projects may be triggered by external drivers that develop over the coming years.

Ongoing financial planning and monitoring of flows, loads, and regulatory changes will be required to adapt to these emerging needs.

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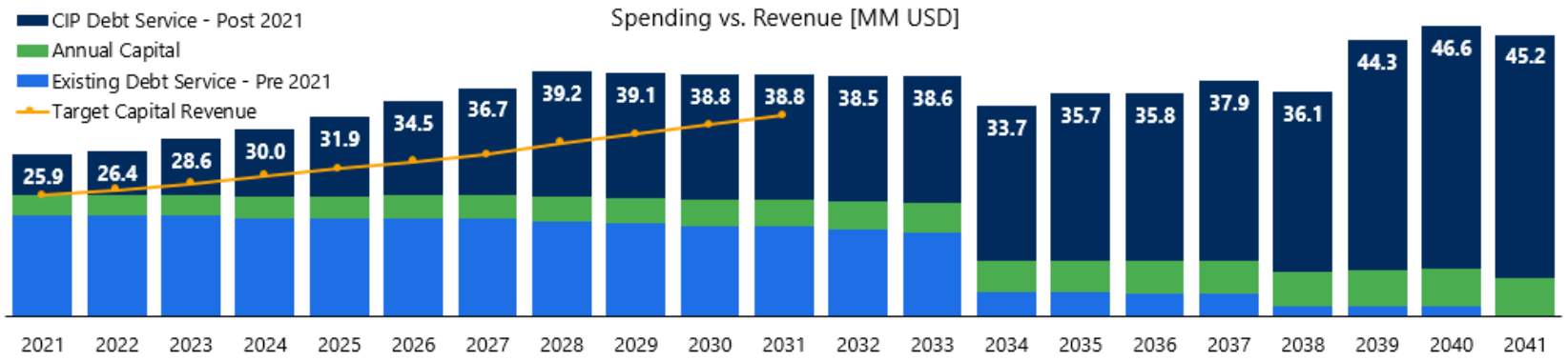
Discussion

Have we adequately conveyed the drivers for projects?

Do you have any comments or questions about the technical aspects?

Managing Needed Improvements with Financial Responsibility



- Identified capital improvement needs exceed our ability to fund them at current revenue levels
- The next significant decrease in existing debt service occurs in 2034
- Deferring needed capital improvements until 2034 will likely result in:
  - Significant increase in risk of regulatory violations
  - Significant increase in corrective maintenance costs due to equipment failures
  - Limiting growth in industrial and residential sectors

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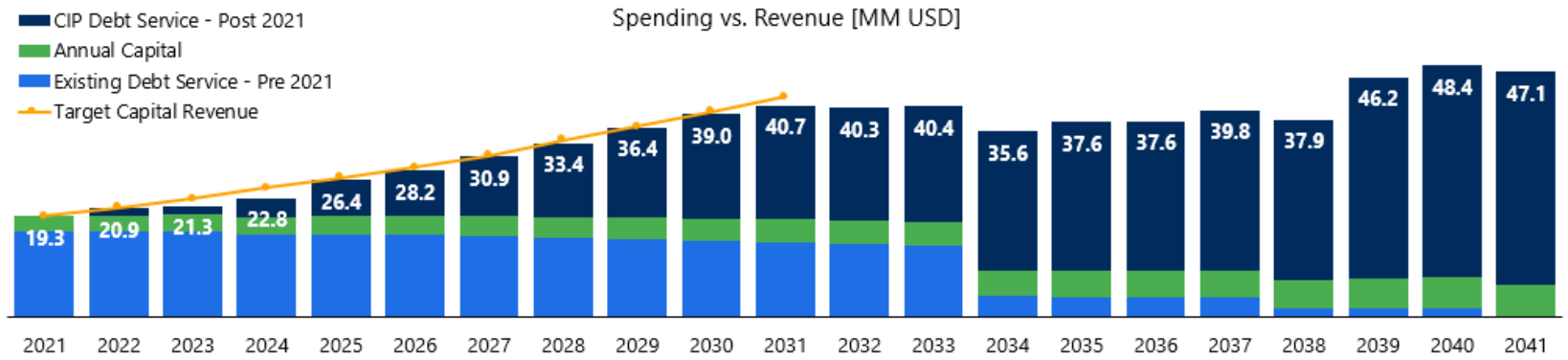
Managing Needed Improvements with Financial Responsibility



- Prioritization of capital projects based on need
- Focus on managing revenue impacts while:
  - Planning for future needs
  - Supporting residential and industrial growth
  - Meeting regulatory requirements
  - Maintaining reliable service

***Note**: These figures will be reviewed and adjusted annually during the budgeting process*

Annual Revenue Increases to Support Capital Improvement Plan

Target Total Revenue Annual Increase	4.00%	4.50%	5.00%	5.50%	6.00%	7.00%
Target O&M Revenue Annual Increase	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Annual Capital Annual Increase	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Assumed Interest Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Include Grant Funding?	No	No	No	No	No	No
Escalation Percentage	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Escalation Start Year	2021	2021	2021	2021	2021	2021
MUA Scaling Factor	1	1	1	1	1	1

Project	Desired Year	Modeled Year	Modeled Year	Modeled Year	Modled Year	Modeled Year	Modeled Year
Near-Term Projects							
DPF Pumping and Headworks (DPF)	2024	2025	2024	2024	2024	2024	2024
GBF North Final Clarifiers	2024	2029	2026	2025	2025	2024	2024
GBF Primary Clarifier Improvements	2024	2030	2029	2026	2025	2025	2024
GBF Pumping and Headworks (GBF)	2025	2034	2032	2031	2030	2029	2027
GBF Thickening Improvements	2022	2024	2023	2023	2022	2022	2022
GBF Biosolids Handling and Storage	2025	2031	2029	2027	2026	2025	2025
GBF Mill Pumps	2026	2033	2031	2030	2029	2027	2026
GBF Primary Sludge Degritting	2023	2030	2026	2023	2023	2023	2023
GBF Blowers	2029	2034	2034	2034	2032	2031	2029
DPF Final Clarifiers and RAS	2025	2032	2030	2029	2027	2026	2025
DPF UV Disinfection	2027	2034	2034	2033	2031	2030	2027
GBF Maintenance Building	2027	2035	2034	2034	2032	2031	2027
GBF South Final Clarifiers	2029	2035	2034	2034	2032	2031	2029
DPF Aeration Basin Improvements (DPF)	2026	2033	2031	2030	2029	2027	2026
DPF Equalization	2027	2034	2034	2032	2031	2030	2027
GBF Aeration Basin Improvements (GBF)	2029	2035	2034	2033	2031	2031	2029
GBF Sludge Screening	2030	2036	2034	2034	2033	2031	2030

Increased funding will be required to achieve critical project completions on an acceptable timeline.

Red dates indicate project delayed more than 5 years beyond desired completion date.

Yellow dates indicate project delayed 2 to 5 years beyond desired completion date.

<u>Actual increases and implementation schedule highly dependent on several assumptions.</u>

NEW Water Cost* for a Typical Household

2022 Budget

- For the 2022 budget, a typical household will pay **about $23 per month** for NEW Water services* to flush the toilet, wash dishes, and do laundry whenever they want.
- At the projected 5.5% to 7% annual revenue increase: The **typical household is projected to see an annual average increase of about $1.60 to $2.25 more per month** for wastewater services provided by NEW Water.
- *Important note: NEW Water is a wholesale provider of services; this example does not include costs a community typically includes in a resident's bill, for example, to operate and maintain the neighborhood sewer systems.*

** NEW Water's 15 municipal customers can be found at this link. NEW Water charges the same rates to all municipal customers. As such, NEW Water bills each municipality based on their usage of the system; each municipality may bill their residents to also cover their costs, which typically includes operations and maintenance of their systems. The example provided here is for illustrative purposes, and concerns only the NEW Water cost for wastewater treatment services.*

Discussion

Have we adequately conveyed how we will prioritize projects to manage cost impacts?

Have we established support for this Facility Plan?

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Facility Plan: Next Steps

- Customer Meeting – Today's Presentation
- Commission Update – February 23, 2022
- Public hearing and Commission adoption – late March, possibly concurrent with March meeting
- WDNR approval – submit to WDNR in early March for review
- Ongoing communication with customers and stakeholders
- Annual review and adjustment of Capital Improvement Plan in coordination with our budgeting process

Thank You!
Questions or Comments?

Stay tuned to NEW Water news!

Sign up for our E-newsletter, follow us on social media, get in touch

www.newwater.us

NEW Water

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