



Info Item: Environmental Services Wastewater System Plan Overview



Environment Committee: August 22, 2023

Kyle L. Colvin

Wastewater System Plan



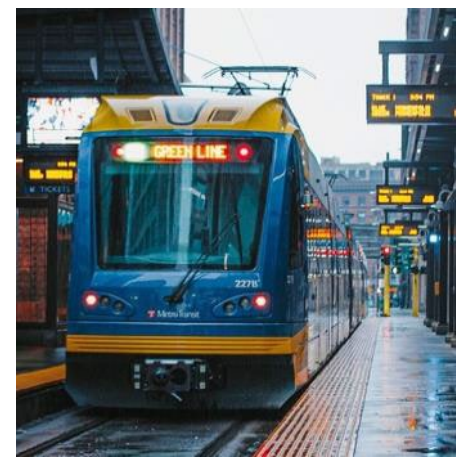
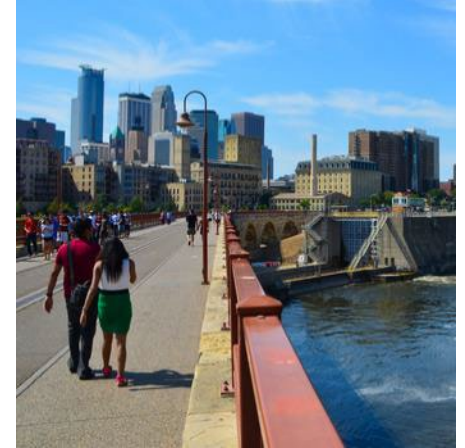
Presentation Outline

- WRPP Purpose and how System Plan fits within it
- Statutory References
- System Plan Content & Purpose
- Development (Input)
- Investment & Value
- Regulatory Strategies
- Development Timeline

Water Resource Policy Plan (WRPP)

Plan Purpose

- Met Council is developing the 2050 Water Resources Policy Plan, which **focuses on ensuring sustainable water resources in the region**. It is a part of and informed by the Regional Development Guide.
- The WRPP provides a **framework for integrative water planning** (wastewater, water supply, and water resources) the Metro Area Water Supply Plan, and the Wastewater System Plan.
- It contains water **policies, strategies, and actions** for both the Met Council and our 180+ local governments within the seven-county region.
- WRPP policies **will commit the Council** to take action in the areas of long-range visioning and planning, regional system investments, facility management, technical assistance, research and assessment, and partnerships.



Statutory References

Metropolitan System Plans

473.852, Definitions, subd 8: “*Metropolitan system plans means the transportation portion of the Metropolitan Development Guide, and the policy plans, and capital budgets for metropolitan wastewater service, transportation, and regional recreation open space.*”

Statutory References

Metropolitan System Plan – Contents

473.146 Policy Plans for the Metropolitan Agencies, Subd 1, pt 3, Requirements: *Statement of the council's goals, objectives, and priorities with respect to the functions, services, and systems covered, addressing areas and populations to be served, the levels, distribution, and staging of services; a general description of the facility systems required to support the services; the estimated cost of improvements required to achieve the council's goals for the regional systems, including an analysis of what portion of the funding for each improvement is proposed to come from the state, Metropolitan Council levies, and cities, counties, and towns.*

Long-Term Wastewater System Plan



**Specific Plan to
Serve Growth to
2050**



**General Plan to
Serve Long-Term
Growth**



Long-Term Planning

- Consider Possibilities
- Provide Options

System Plan Contents & Purpose

The System Plan is:

- 20-year vision as to how regional wastewater service will be provided (How, Where, and When)
- Is the Plan that local comprehensive sewer plan updates and amendments are compared against. *Plan modification if inconsistent.*
 - System Impact to
 - System departure from
- Updated every 10-years based on local plan content which was approved by the Council.
- Includes Long-term post 20-year vision how regional wastewater service will be provided and checked against local 20-year plans for consistency.
- Some elements/considerations guided by policies or goals in WRPP.
 - Reuse
 - Energy, Climate change, etc.

System Plan Contents

20-Year Planning

- High Level System Overview
 - Assets
 - Population, Households, Employment Forecasts
 - Local Community Wastewater Treatment Plant (WWTP)
 - Regional WWTPs
 - Capacity (Existing and Planned)
 - Treatment Requirements
 - Regional criteria for projecting regional flow
 - Flow Projections

Rural Area WWTPs

- Capacity
- Treatment Requirements

Capital Improvement Program

- Major Projects
- Regulatory Strategies

Post-20-Year Planning

- Regional WWTPs (Scott, Cologne, NE Metro)
- Interceptor Capacity Projects
- Regulatory Strategies



System Plan Contents

The System Plan isn't:

- Commitment to provide services that are inconsistent with policies.
- Listing of projects that haven't been proven to be technically sound or economically viable.

Long-Term Wastewater System Plan

Future Crow River Plant to replace Rogers Plant and to off-load Elm Creek Interceptor

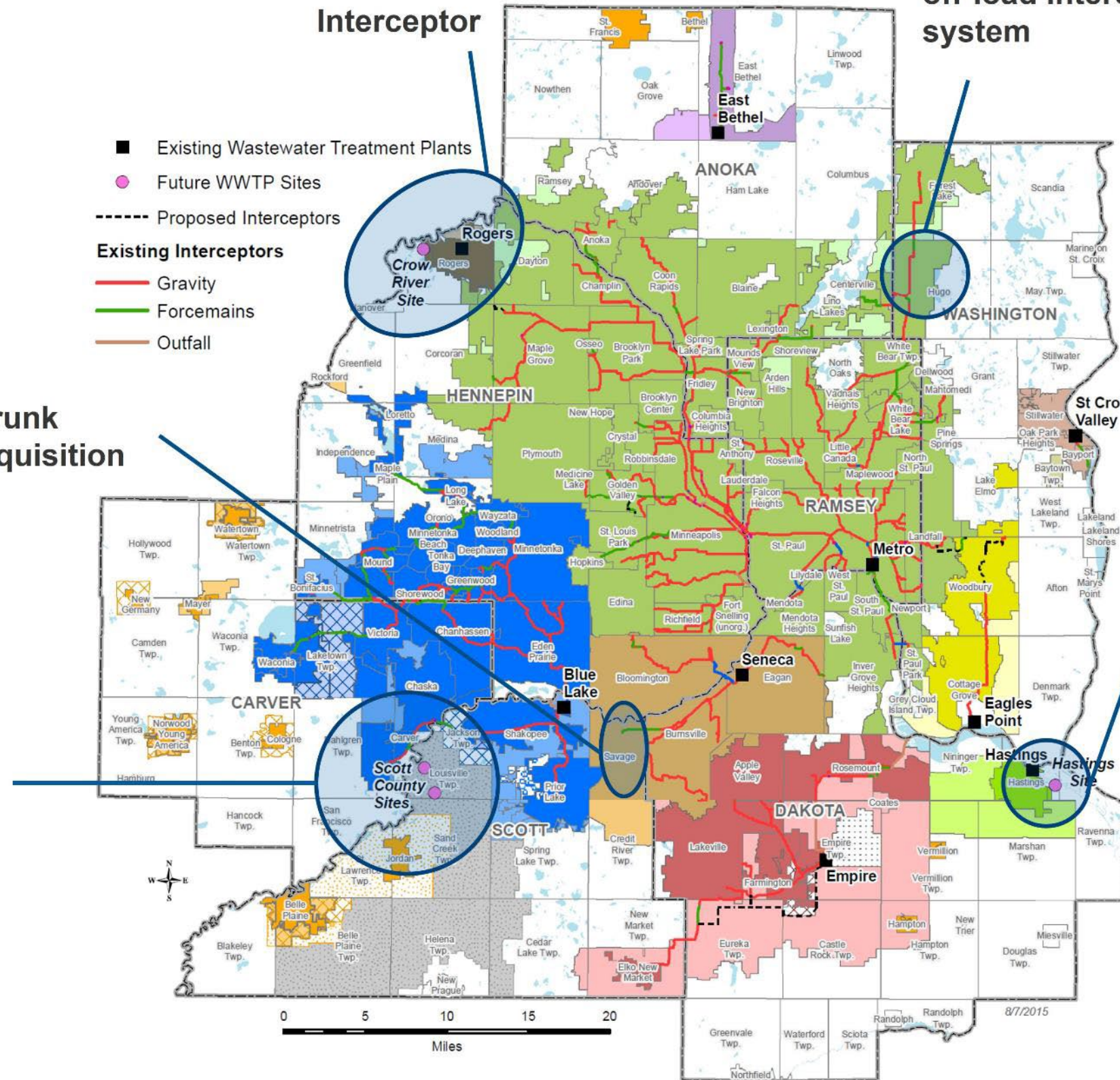
Future Northeast Plant to off-load interceptor system

Savage Trunk Sewer Acquisition

Future Scott County Plant to off-load Blue Lake Plant

New Hastings Plant & Decommission Exist. Plant

- Existing Wastewater Treatment Plants
- Future WWTP Sites
- Proposed Interceptors
- Existing Interceptors**
- Gravity
- Forcemains
- Outfall





Long-Term Wastewater Service Areas

Capacity of each treatment plant site considering future regulatory scenarios

Capacity of existing interceptors

Potential developable area

Potential new wastewater plants and service area revisions

Wastewater generation rates based on location, proximity to transit and major highways, and physical features of the area



System Plan Development



Inputs

- Previous local comprehensive sewer plans
- Council community designations and associated residential densities
- Development Framework and WRPP policies, growth forecasts, and previous System Plan
- Assumption there are no factors that could inhibit growth projections as assigned by Council (water supply)
- Public review and comment

Growth and Flow Projections

Sewered growth projections in 10-year increments (2030 – 2050)

- Population – Household – Employment
 - i. Community
 - ii. Council Wastewater Treatment Facility

Flow projections in 10-year increments (2030 – 2050)

- Millions gallons per day (average)
 - i. Community
 - ii. Council Wastewater Treatment Facility



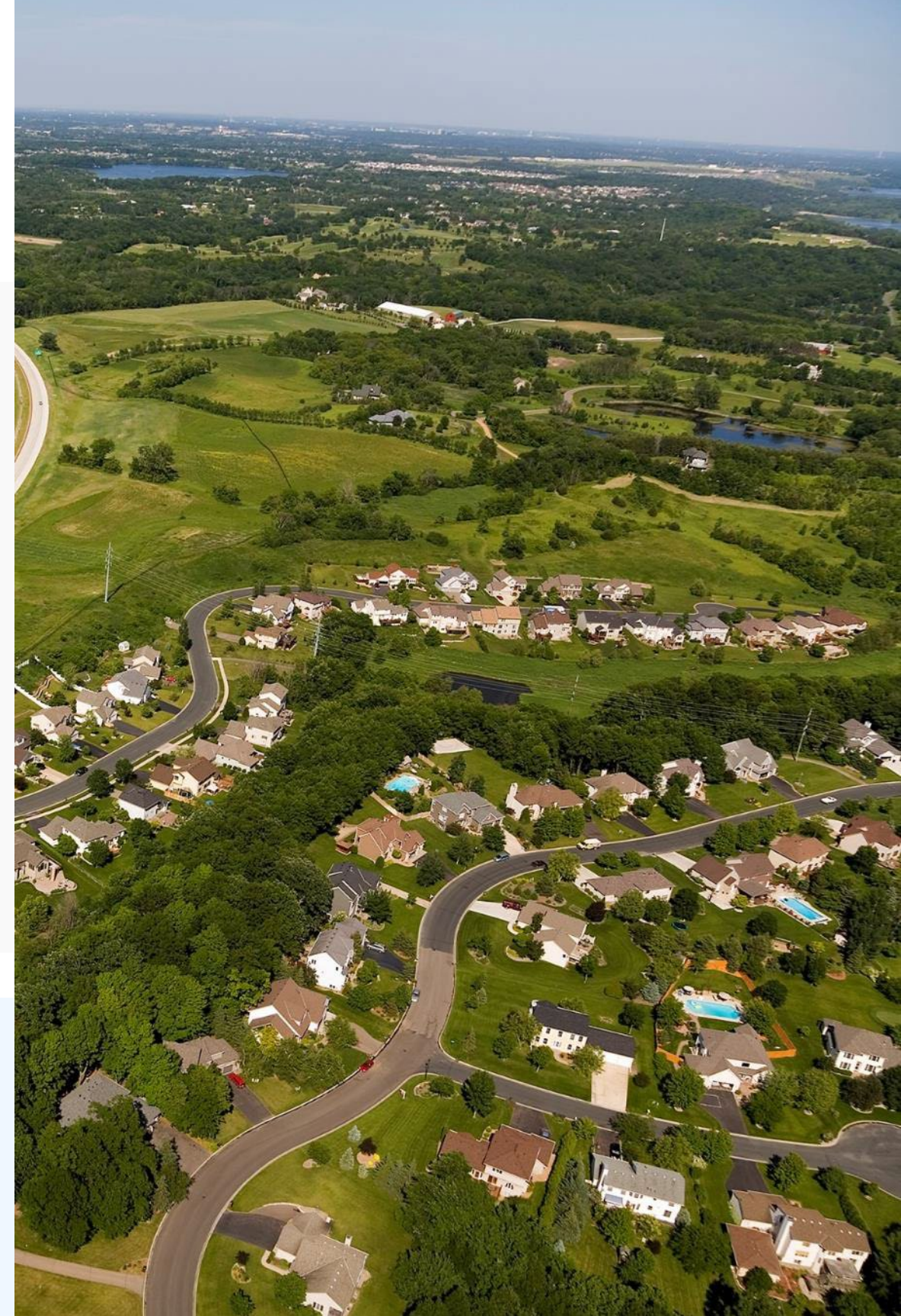


Flow and Loading Projections

Flow from New Development/Redevelopment

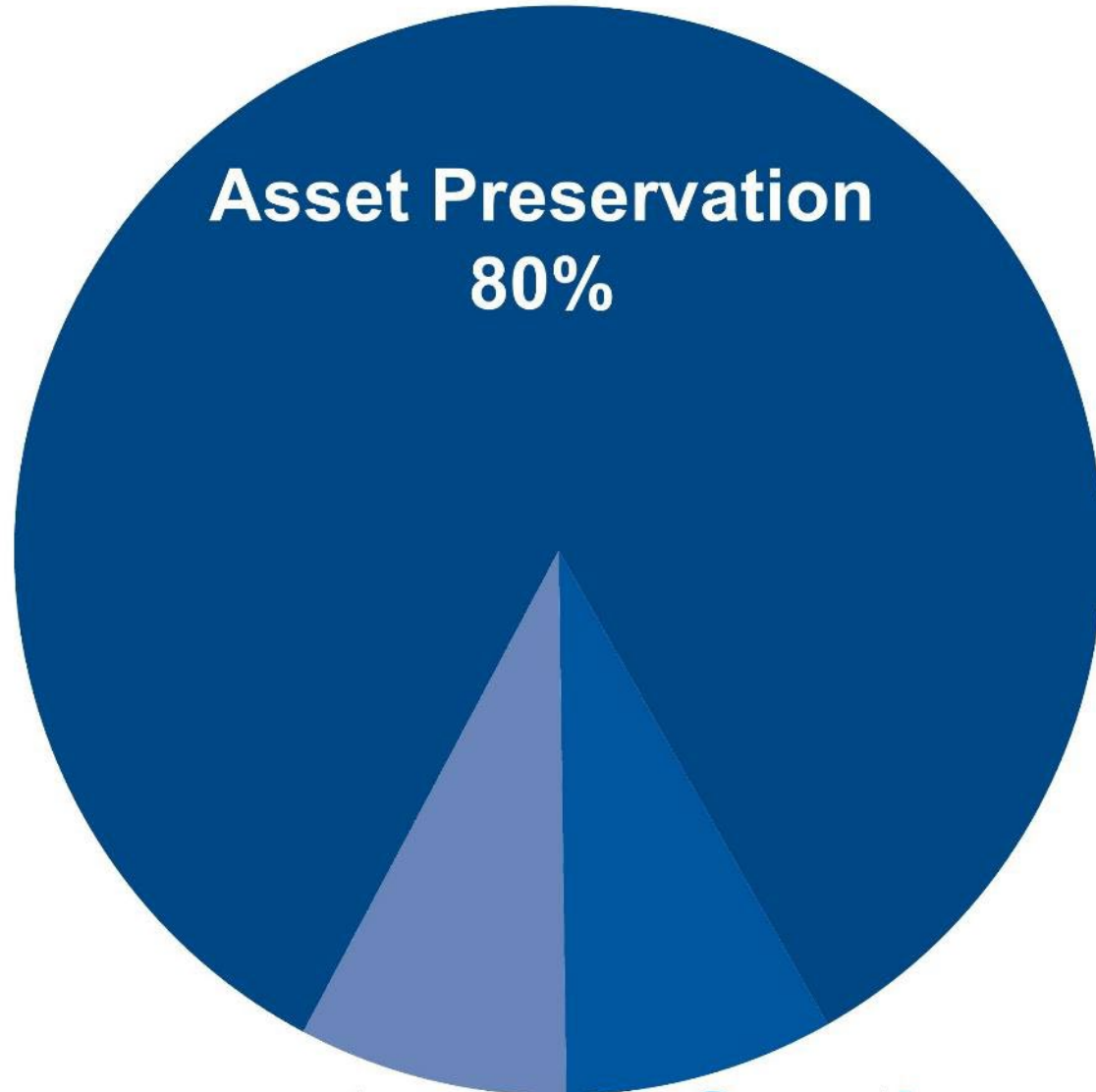
- 60 gallons per person per day (150 gpd/household)
- 15 gallons per employee per day
- Gradual reduction of flow from existing development due to water conservation and Infiltration/ Inflow (I/I) mitigation

Loadings from New Development/Redevelopment





Long-Term Capital Improvement Program



Improvements
10%

Growth
10%



Estimated Present Worth Value*

Facility Type	Estimated Present Worth Cost	Estimated Useful Life
Gravity Sewers	\$3.8 Billion	80-100 Years
Forcemains	\$0.5 Billion	40-50 Years
Treatment Plants	\$2.8 Billion	30 Years
Lift/Meter Station	\$0.5 Billion	30 Years
Total	\$7.6 Billion	56-66 Years

*Present Worth Cost estimate as of ~ 2018
 Estimated useful life assumes rehabilitation when necessary





Policy

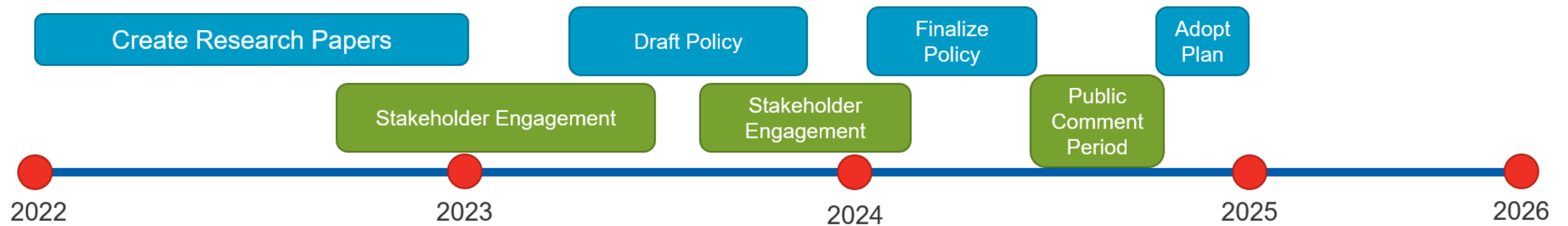
Do not incorporate regulatory upgrades into capital improvement program until they become a requirement via a rule, permit, or other enforceable regulatory vehicle.

Strategy

1. Maintain and preserve our assets efficiently and effectively, so that our revenues can support regulatory upgrade costs if/when they occur.
2. Stay current on technology improvements and how they may reduce the cost of potential regulatory upgrades.
3. Actively engage in regulatory development and implementation, in order to guide the regulatory outcome to a win-win situation.

(Example: How we've handled phosphorus.)

2050 WRPP Timeline



Questions

Kyle L. Colvin

Manager, Wastewater Planning & Community Programs
Utility Management Systems & Planning

651-602-1151

Kyle.colvin@metc.state.mn.us

