METROPOLITAN COUNCIL

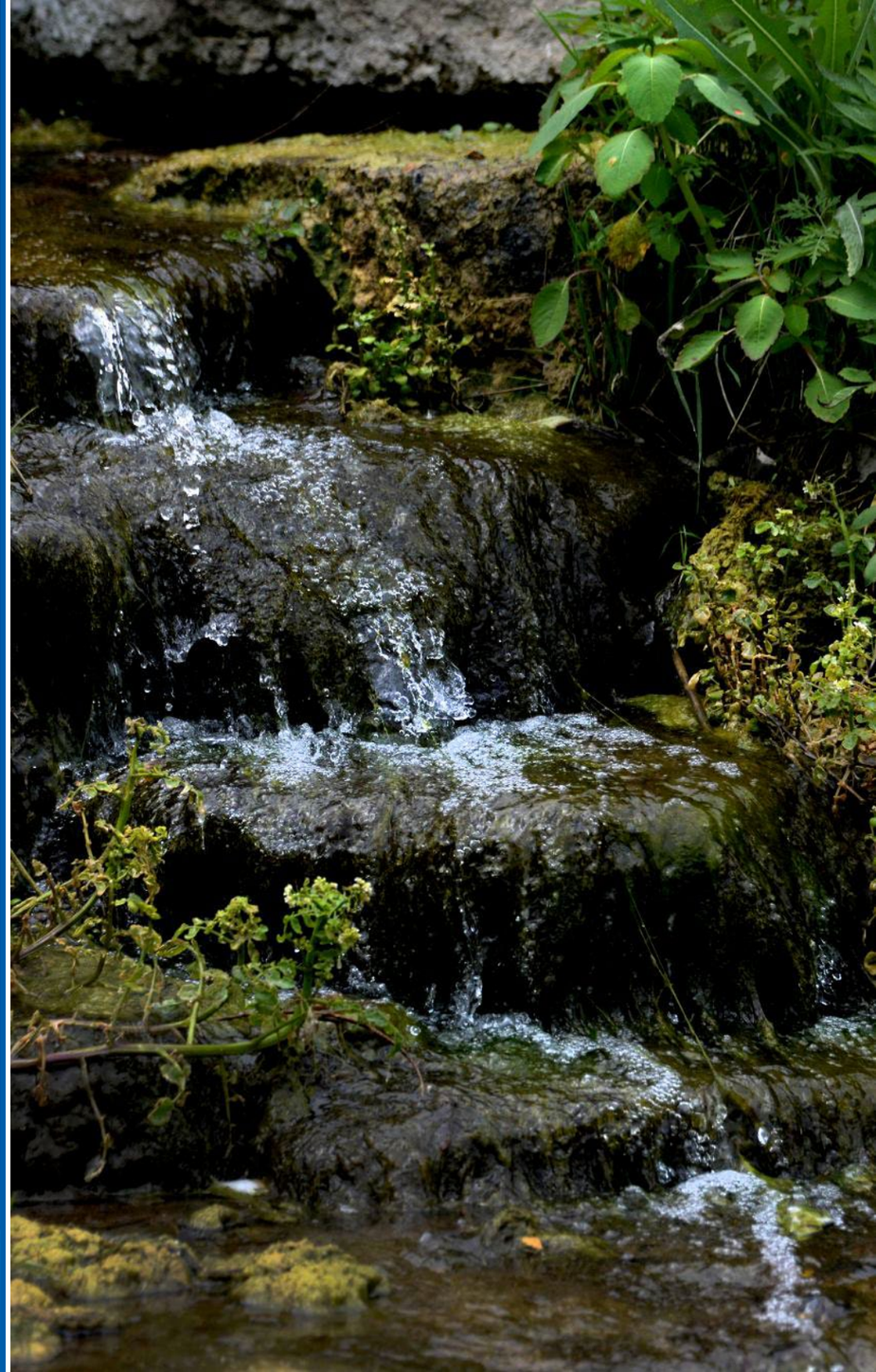
Potential regional impacts of high-volume water users

Jen Kostrzewski, Assistant Manager, Water Resources Policy and Planning, Environmental Services

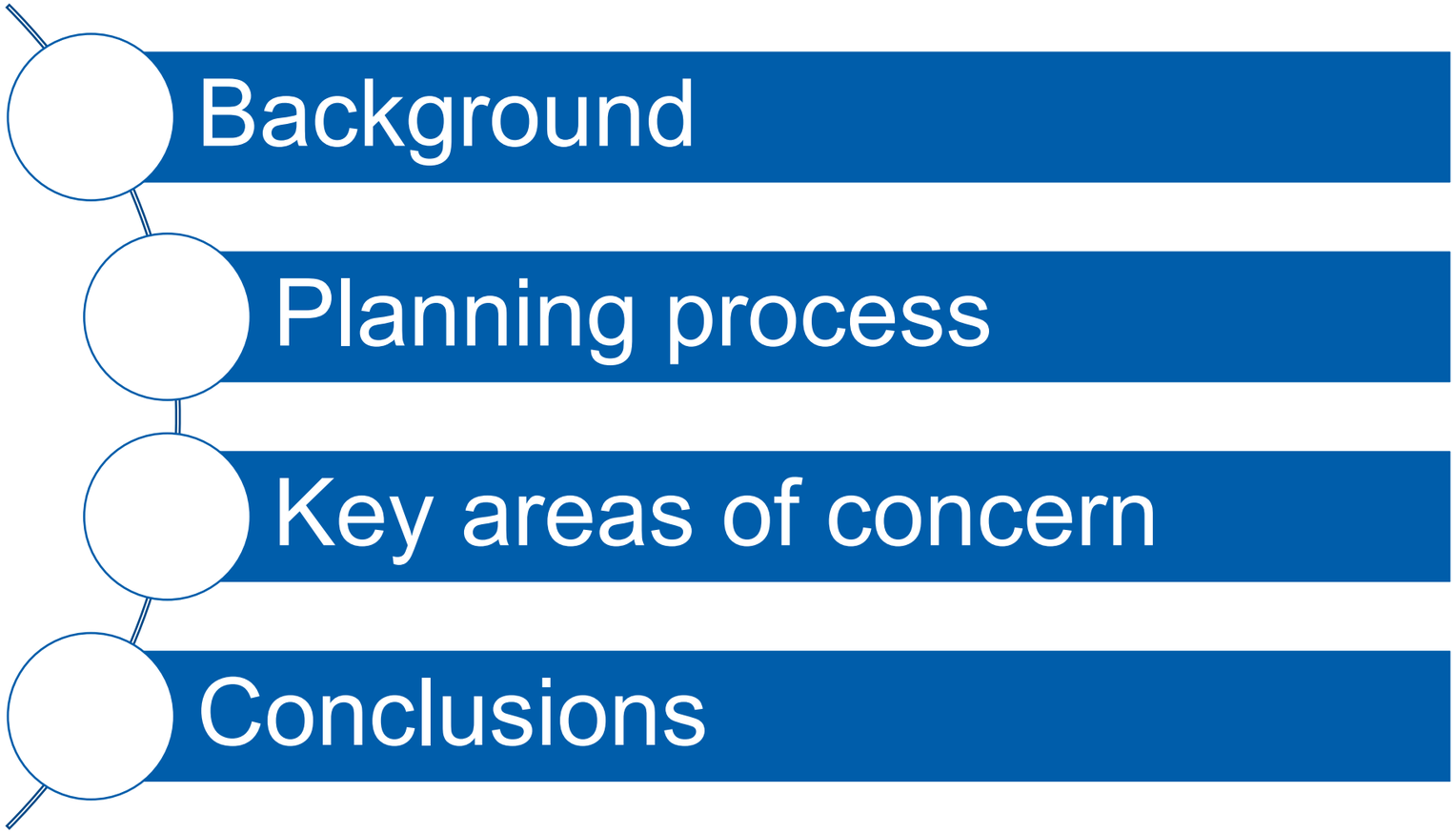
John Chlebeck, Assistant Manager, Wastewater Planning & Community Programs, Environmental Services

LisaBeth Barajas, Executive Director, Community Development

Committee of the Whole, November 5, 2025



Presentation outline



High-volume water users

High-volume water users are defined as users whose proposed new or additional consumptive use exceeds 100,000,000 gallons per year.

This definition uses a higher threshold than the Minnesota Department of Natural Resources definition of Major Water Users, which includes those who withdraw more than 10,000 gallons per day or 1 million gallons per year (MGY), requiring a water use permit.

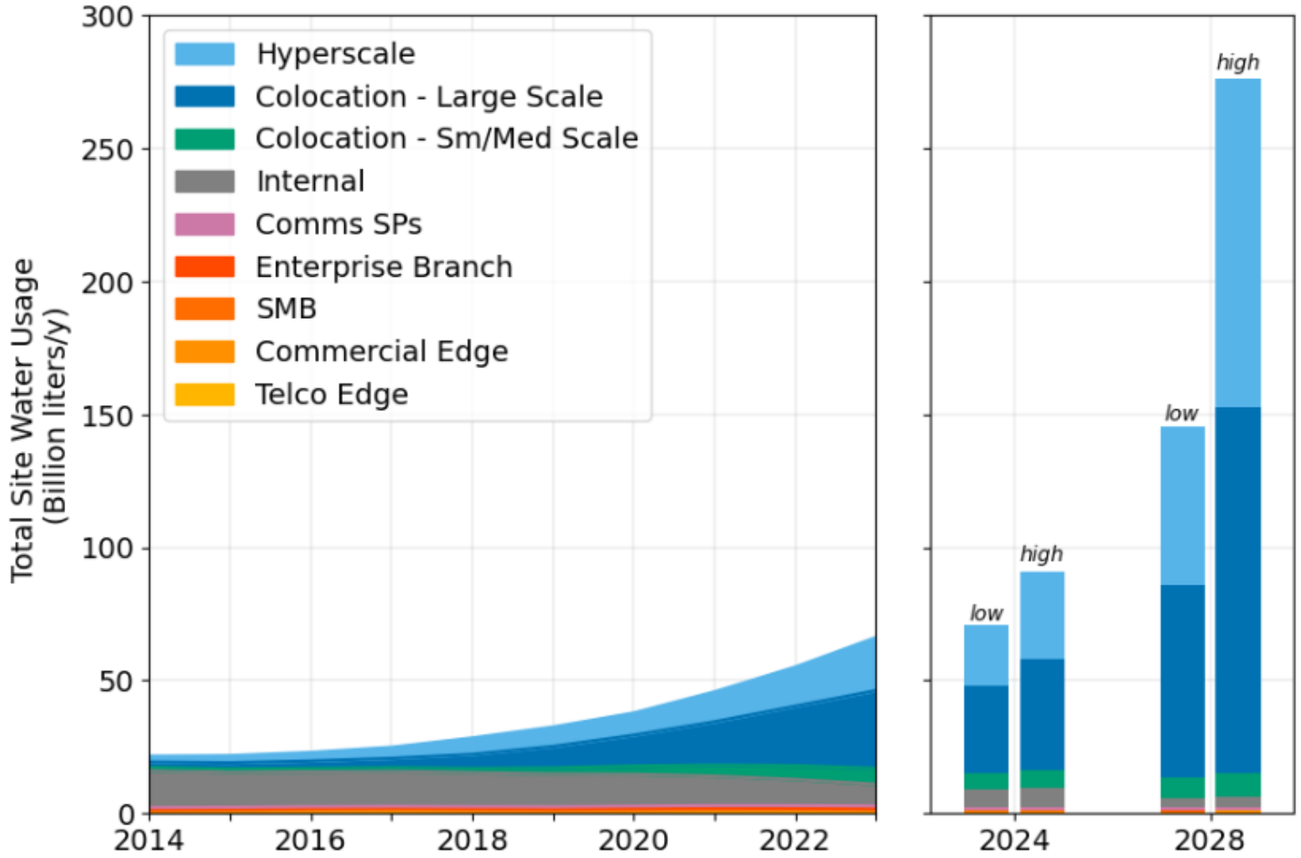
Examples:

- Agricultural producers
- Industrial processing – food and beverage processors, data centers
- Power generation
- Flood control, construction dewatering
- Municipal water supply

Drivers for these industries

- Economic and electrical demands
- Innovative technology
- Increased digital needs – AI, cloud storage, etc.

National data center water usage



Direct water consumption by data center type

Source: 2024 US Data Center Energy Usage Report

Highly dependent on technology type

- In 2023, U.S. data centers directly consumed **~17.4 billion gallons of water**.
  - This is expected to **double by 2028**.
- At the current rate, the total capacity of hyperscale data centers has **doubled in four years**.
- The number of facilities and average capacity is **rapidly climbing**.

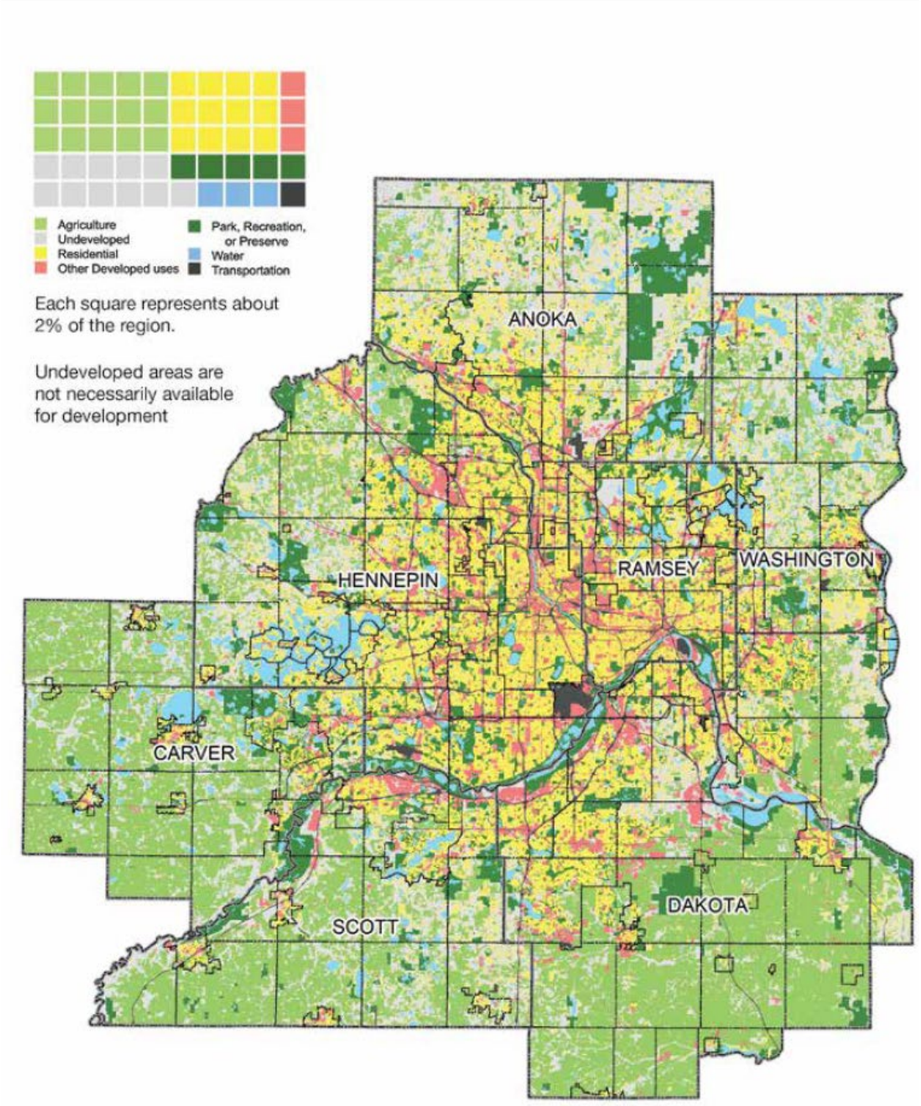
Metropolitan Council

Location, location, location

What makes an ‘ideal’ location?

- Abundant water
- Capacity on the electrical grid
- Fiber optic cables and latency
- Transportation and distribution corridors
- Land availability
- Financial incentives
- Skilled workforce

What about the seven-county metro region?



- Abundant water?
  - **Yes**, there is a perception of abundance
- Capacity on the electrical grid?
  - **Yes**, there is a long-range plan to build up transmission lines across the Midwest
- Fiber optic cables and latency?
  - **Yes**, The Minnesota Internet Exchange connects the region to Chicago, Denver, Des Moines and others.
- Transportation and distribution corridors?
  - **Yes**, the region has a robust transportation system.
- Land availability?
  - **Yes**.
- Financial incentives?
  - **Yes**, MN DEED and Greater MSP are recruiting industry to the state and region.
- Skilled workforce?
  - **Yes**, we have a strong, skilled workforce.
- Cold climate?
  - **Yes**, this helps offset cooling/electrical needs.

How do we plan for this?

Economic Development teams help site the project

Municipalities are approached to evaluate land use, power use, water use

Agreements are reached and the project goes public

Concerns raised by citizens, legislators, water managers

Site Design (Will Serve Notice)
Environmental Review (AUAR / EAW / EIS)
Comprehensive Plan / Plan Amendment

Site design/will serve

Developers need infrastructure

- Greater MSP / Mn DEED / Technical Representatives
- Requests for wastewater service
- Met Council evaluates for wastewater system capacity and potential treatment process impacts from a wastewater utility perspective
- Through this process ES staff have been engaging with developers' engineers to better understand the developments and to evaluate our ability to serve

Environmental Review

Environmental Assessment Worksheet (EAW)

- Basic information about a project
- Used to determine whether an EIS is required for further evaluation of a proposed project
- Informs the public about the project, required permits, and methods for protecting environment

Environmental Impact Statement (EIS)

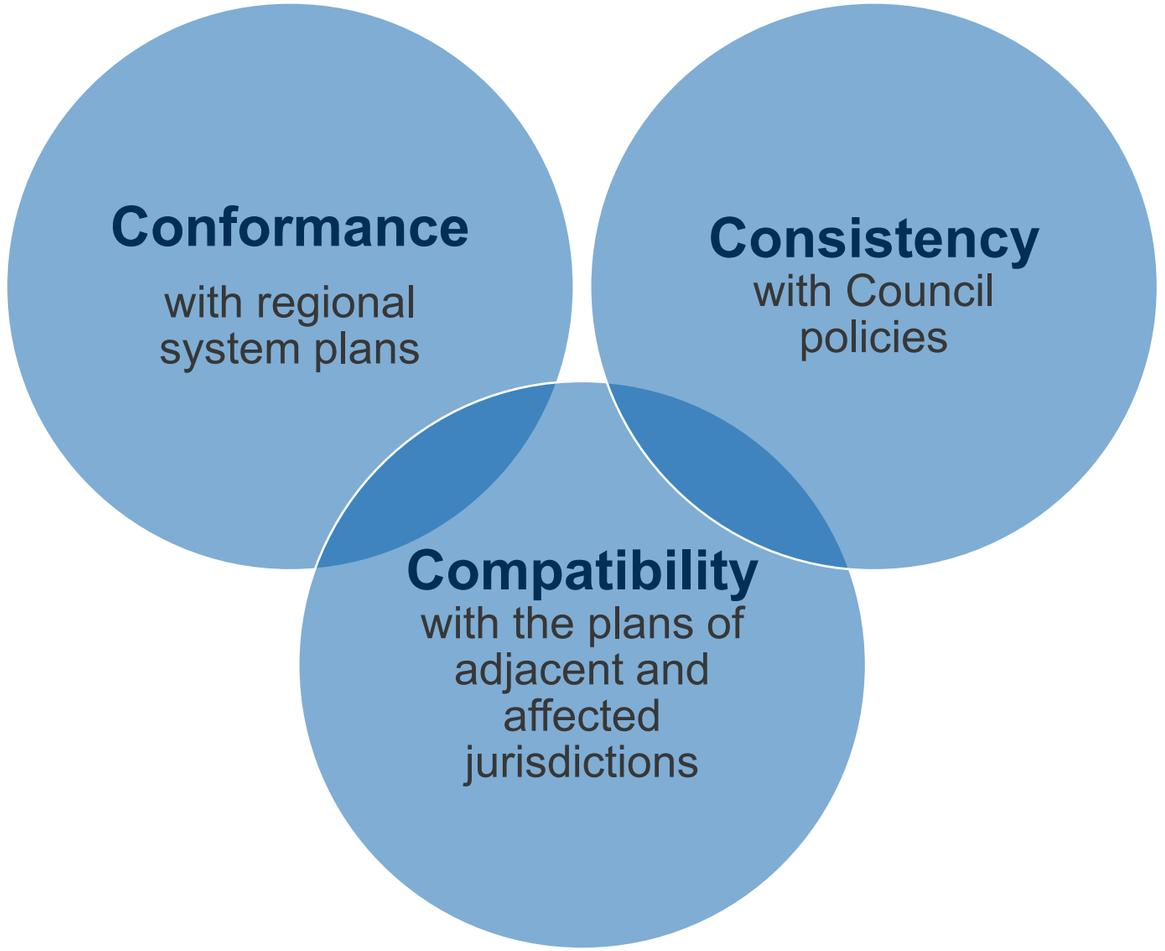
- Detailed information on a proposed project
- Evaluates alternatives to the proposed projects
- Identifies avoidance and mitigation plans to limits environmental and other effects

Alternative Urban Areawide Review (AUAR)

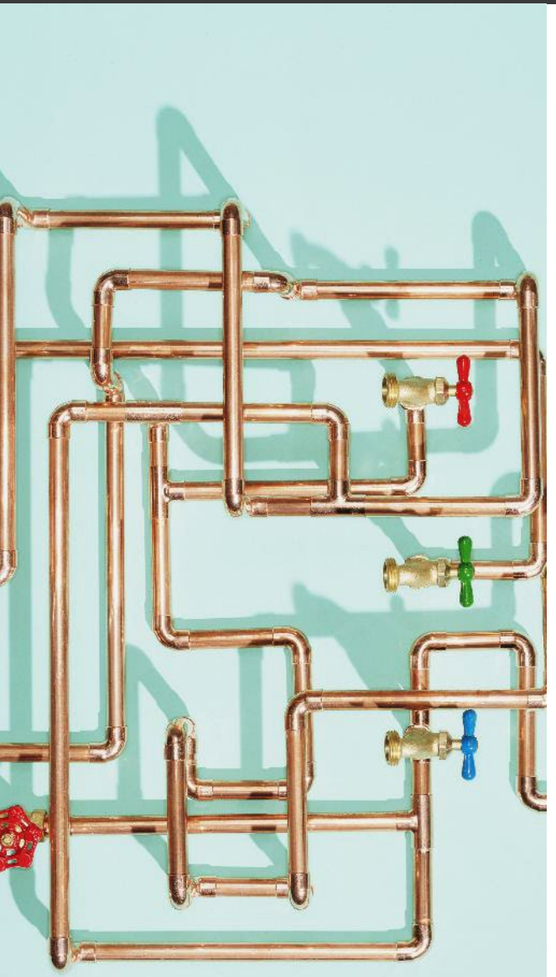
- Planning tool
- Considers a variety of development scenarios across often a larger geographic area (more than one site)
- Evaluates cumulative impacts of anticipated development scenarios to inform planning decisions

Comprehensive Plan Process

Review standards for plans and plan amendments



Water supply allocation



Industry obtains a water supply allocation permit

If the industry applies for its own allocation permit, it must work with the DNR. The Water Appropriation Permit Program exists to balance competing management objectives that include both development and protection of Minnesota's water resources.

A water use permit from the DNR is required for all users withdrawing more than 10,000 gallons of water per day or 1 million gallons per year.

Industry connects to municipal supply system

The industry could alternatively connect with the municipal water supply system if there’s adequate capacity. This could increase the municipality’s revenue as the high-volume water user would become a new customer.

Key areas of concern

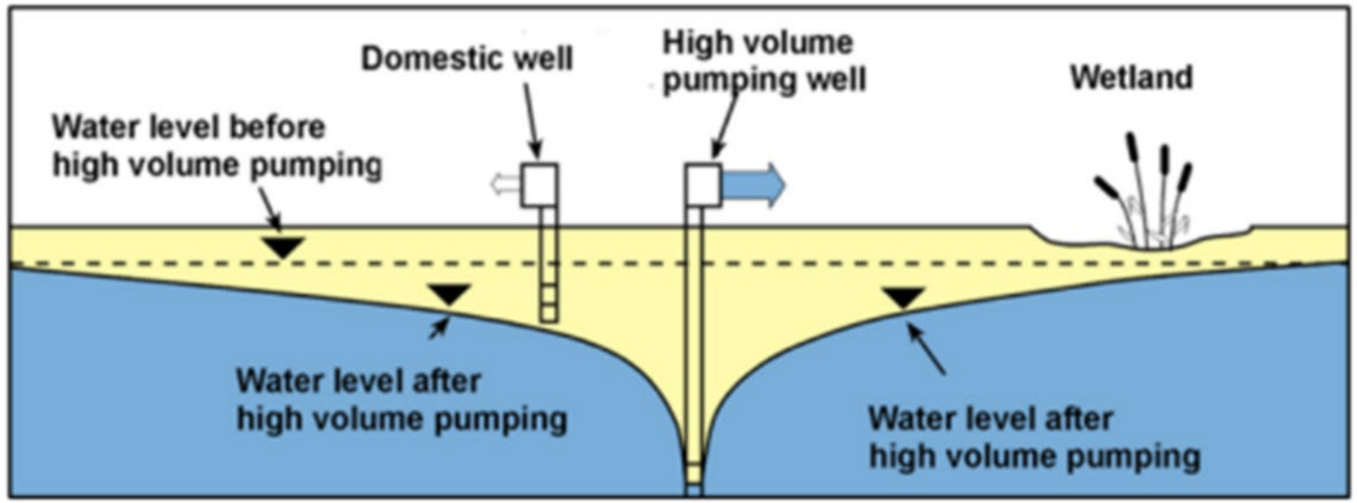
Planning without enough information raises areas of concern:

- Environmental impacts on nearby water bodies
- Risks of municipal permits being used for industrial needs
- Industrial use vs. long-term population needs
- Cumulative impacts on wastewater and local water supplies
- Regional wastewater impacts
- Wastewater discharge permitting
- Plan amendment decisions prior to DNR permitting timing
- Regional growth management and capital investment impacts

Impacts on nearby water bodies

High-volume pumping can affect water quantity and quality

- Drawdown cones can lower water levels to inhibit access to shallower wells (well interference).
- Geogenic pollutants (e.g. arsenic, manganese) can be mobilized into private wells.
- Groundwater-dependent surface waters (e.g. trout streams, fens, wetlands) can lose connection to groundwater.
- Increased impervious surfaces (roofs, parking lots) can increase pollution in run-off.



Industrial use vs. future population growth

Local trade-off must be considered

- Council is directed by state law to develop forecasts of when, where, and how much population, household, and job growth the seven-county region and local jurisdictions can expect over a 30-year horizon. These long-range forecasts provide a shared foundation for coordinated comprehensive planning and capital investment.
- The population forecasts help to determine the water demand for local water suppliers over the next 30-years.
- Met Council and local governments cannot assume that the DNR, as the regulating agency, will appropriate additional water supplies.
- Water conservation and efficiency actions may offset the high-volume water user ’s water demand, but many times, the offset is not enough.
- This may result in a trade-off of future local population growth for industrial use.

Municipal water appropriation permit

More trade-offs to consider

If the local water supplier connects the high-volume water user to their system, there are advantages and potential risks.

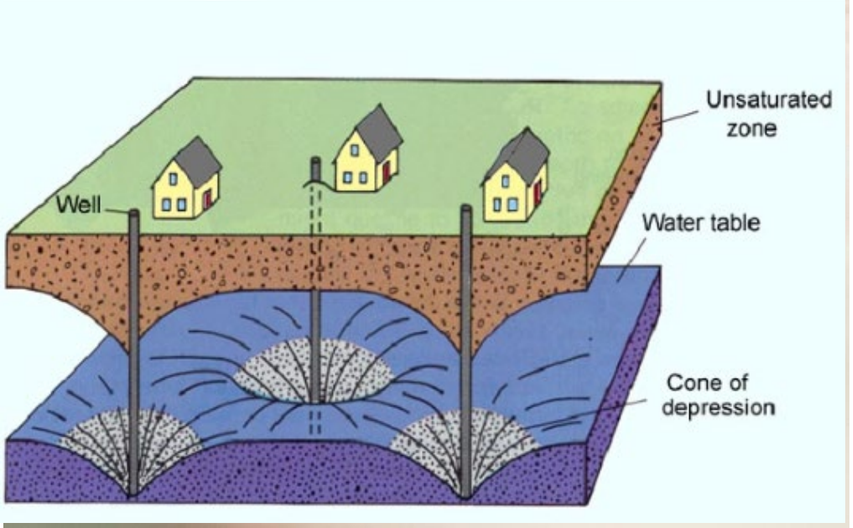
Advantages

- Additional revenue source
- Greater financial stability
- Greater ability to enhance their systems
- May reduce the risk of well interference for municipal system

Risks

- Additional infrastructure (wells, pumps, pipes).
- Could be liable to repair any damages to affected neighboring wells.
- Would not be able to limit industrial demand during drought restrictions.
- May limit ability to grow without additional water allocations.

Cumulative impacts on water systems



Co-location of high-volume water users may magnify impacts

- One high-volume water user development on its own may have minor impacts, but this is multiplied by hosting many in one area
- Dakota County has experienced the majority of high-volume water user sitings in the metro
- These high-volume water users could draw from the same aquifer and potentially discharge to the same Water Resource Recover Facility

Regional wastewater concerns

Increased wastewater volume

If the high-volume water user is connected to the Regional Wastewater System, it could discharge large volumes of water into our conveyance system.

- May impact available capacity for upstream and downstream communities, or result in expensive system improvements.
- The cumulative effects of multiple high-volume water users will exacerbate the capacity limitations.

Water quality

The discharged cooling water does not carry as many solids as typical wastewater, is high is dissolved minerals, and is high in temperature.

- These characteristics could pose difficulty to our biological wastewater treatment processes and to our effluent permitting.

Wastewater discharge permitting

Pollution prevention

To achieve efficient and effective use of the Metropolitan Council's facilities, the Metropolitan Council regulates wastewater discharges into public sewers.

Met Council also enforces national and state pretreatment standards.

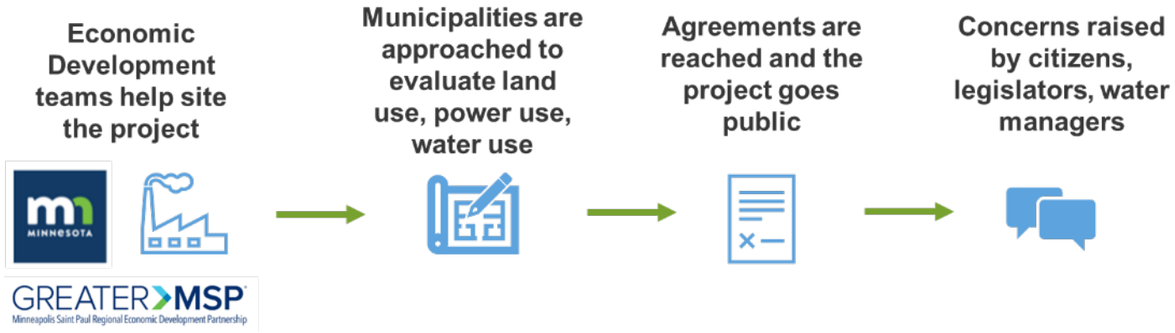
Example regulated waste products

- Lead
- Chromium
- PH
- Temperature
- Grease
- Flammable and explosive liquids

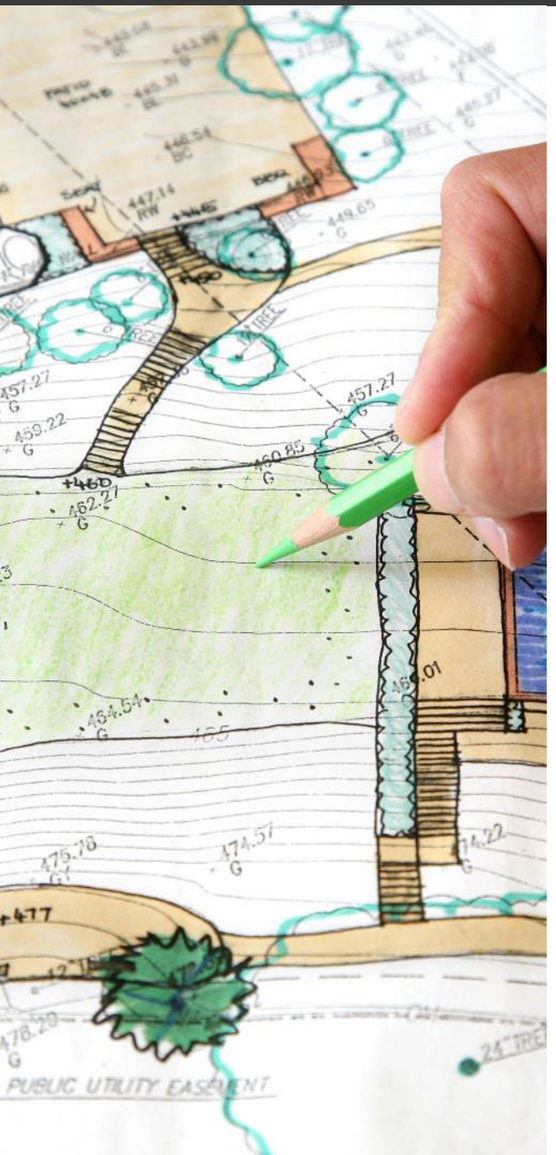
Plan review timing

Reviews are requested before full development plan is set

- Environmental Review (especially the AUAR) does not specifically identify a proposed project, but a list of development scenarios to consider.
- Comprehensive Plan Amendments authorize a change of land use, not a specific development.
- Industrial waste permitting occurs after the development is built and the strength of the discharge is measured.
- Met Council staff are being asked to offer comments without complete information on the impact these high-volume water users might have on the environment, water supplies, and regional systems.



Metropolitan Significance Review



Applicability is limited

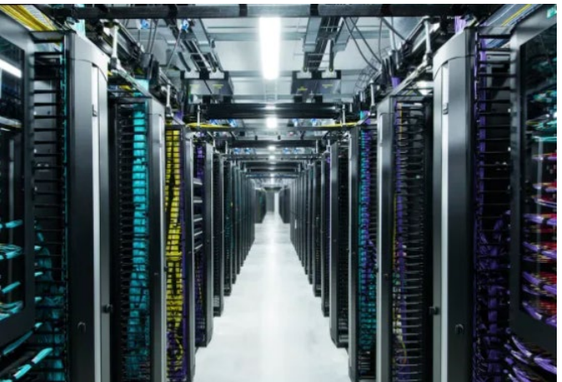
- Large development projects have the potential to:
  - affect neighboring communities
  - cause excessive demands on regional systems such as sewers
  - interfere with other projects that receive public funding
- State law and supporting rules provide for the Council to carry out a “metropolitan significance review”
- Purpose: to ensure all effects are considered before it’s too late to effectively deal with them and more generally to promote the orderly development of the metropolitan area
- Metro significance review is an opportunity to bring the various parties together to identify and, if possible, resolve differences, and to coordinate major development projects with regional plans and systems.

Regional growth management

Long-term effects of large volume water users

- Potential to use regional wastewater capacity planned for a community, including that for planned household growth
- Region will continue to grow, even with those localized constraints, but it will be elsewhere in the region
- Growth absorption in response to the newly created “constraint” is not planned for other parts of the region
- May require the Council to reconsider its allocation of regional forecasts and its capital plans for wastewater

Conclusions



How to best advance Regional Goals

- Council needs to be able to continue to provide regional service with the same (or better) levels of service while minimizing additional financial and environmental costs to the region and our communities.
- Region can have industrial growth without necessarily sacrificing future needs, but we need the right information and the right time to make the best decision.
- Local government staff need support to assess the trade-offs for their community.

What's Next:

- Discussions are ongoing between state agencies to ensure we have the best statutory framework to take on these new industries.
- ES finalizing projects to provide a greater understanding of environmental, water supply, and wastewater system impacts.
- Consider whether new Council policy is needed to address growth management needs.
- We will return to the Committee of the Whole in the coming months with more information.

LisaBeth Barajas

Executive Director, Community Development

Lisa.Barajas@metc.state.mn.us

John Chlebeck

Assistant Manager, Wastewater Planning & Community Programs

John.Chlebeck@metc.state.mn.us

Jen Kostrzewski

Assistant Manager, Water Resources

Jennifer.Kostrzewski@metc.state.mn.us

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