

# WASTEWATER MANAGEMENT

It's no longer just wastewater treatment. It's wastewater management.

Wastewater treatment is about infrastructure that must be operated to make the wastewater clean enough to discharge and meet effluent permit requirements. Historically, when municipalities were at risk of not meeting permit requirements, the solution was to upgrade their treatment systems with construction projects, perhaps at great cost.

Today, the issues that threaten permit compliance are numerous and complex: mercury, effluent toxicity, industrial loadings, non-degradation - just to name a few. In an era of higher costs and reduced Federal and State funding support, these issues need to be addressed with an array of solutions that do not necessarily include costly upgrades. Simply, a municipality must protect its wastewater treatment system by managing the potential threats to its performance, integrity, and life.



## Examples of Wastewater Management

**Industrial Pretreatment** - Industrial pretreatment doesn't necessarily involve treatment. Instead, it's about regulating industrial customers with the issuance of special user agreements, just as the municipal treatment plant is regulated by an NPDES permit issued by the State. The agreements limit the volume and strength of industrial dischargers to protect the treatment plant from toxic loads, biosolids from high concentrations of toxics or metals, and the receiving stream from pass-through contaminants.

**Mercury Minimization** - Mercury is found everywhere in the environment. Its safe threshold concentration is extremely low, bordering on detection limits. Consequently, the risk is great that the mercury discharge of only one or two wastewater customers can create problems for the wastewater treatment plant. The good news is that mercury minimization at the source to avoid problems is not only possible but highly effective.

**Rate Control** - What is the cost to treat a pound of phosphorus at the treatment plant? It's important to know if some wastewater customers discharge phosphorus at levels greater than typical residences. These customers should pay a surcharge based on the number of pounds discharged in excess of domestic strength. It's fair and proportional and provides incentives to businesses to reduce their phosphorus loading, which is good for everyone.

**Inflow/Infiltration** - The clear water that enters the wastewater system takes up capacity that should be used for treating wastewater. Removing or reducing I/I can eliminate the need to expand a treatment plant's capacity. The trick is removing it economically. Finding I/I sources such as cross-connections with storm sewers or cracked pipes or leaky manholes can be difficult. Often, I/I enters the system from sump pumps and foundation drains in homes—i.e., from private property. These are easy to target and disconnect from the sanitary system, providing that the municipality applies strict monitoring and enforcement. The benefit to the municipality is the potential to reduce great amounts of I/I at low cost.

**Sewer Use Ordinance** - A municipality's sewer use ordinance is its greatest tool for managing and protecting the wastewater system. With this single tool a municipality can prohibit any waste or substance that threatens the integrity of the system or the safety of operators. Effective sewer use ordinances address fats, flammable materials, grease, pH, noxious fumes, and any discharge with the potential to upset the plant or create a pass-through situation.



If you have any questions on the information provided in this handout or additional questions concerning wastewater, contact Jason Benson, PE at 763-463-5036 (Minneapolis), Shawn Gaddie, PE at 701-746-8087 (Grand Forks), Russell Sorenson, PE at 701-221-0530 (Bismarck), Eric Dodds, PE at 218-299-5610 (Fargo/Moorhead), or Nate Weisenburger at 406-268-0626 (Great Falls).