



St. Louis County

Addressing PFAS now and into the future

What is PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a large family of man-made chemicals that are forever present in the environment due to frequent use since the 1930s. At certain levels they are toxic, causing adverse health effects in humans, fish, and wildlife.

Now

Regional Landfill Leachate Treatment System Replacement

&

Into the Future

Integrated Solid Waste Management Campus

St. Louis County's project is aligned with the State's goals to **protect ecosystem health, remediate PFAS contaminated sites, and manage PFAS in waste** by constructing an advanced leachate treatment facility in Canyon that will provide a solution for the entire Northeast region. This new facility could be utilized as a repository for leachate generated by landfills within the region. It also will be designed to consolidate old landfills and dumps into a lined facility to contain PFAS containing waste.

Project Details - Phase 2

Integrated Solid Waste Management Campus includes:

» Leachate Treatment and Management

- Treatment Ponds
- Off-Site Landfill Leachate
- Ultrafiltration Technology
- Vibratory Reverse Osmosis
- Spray Irrigation Site

» Landfill

- MSW
- Closed Landfill/Old Dump MSW Waste
- Municipal WWTF Pressed Biosolids

» Landfill Gas/Solar/Geothermal Energy Capture and Utilization

- Office and Maintenance Building
- Treatment Ponds
- Solid Waste Processing Facility
- Landfill Compactors

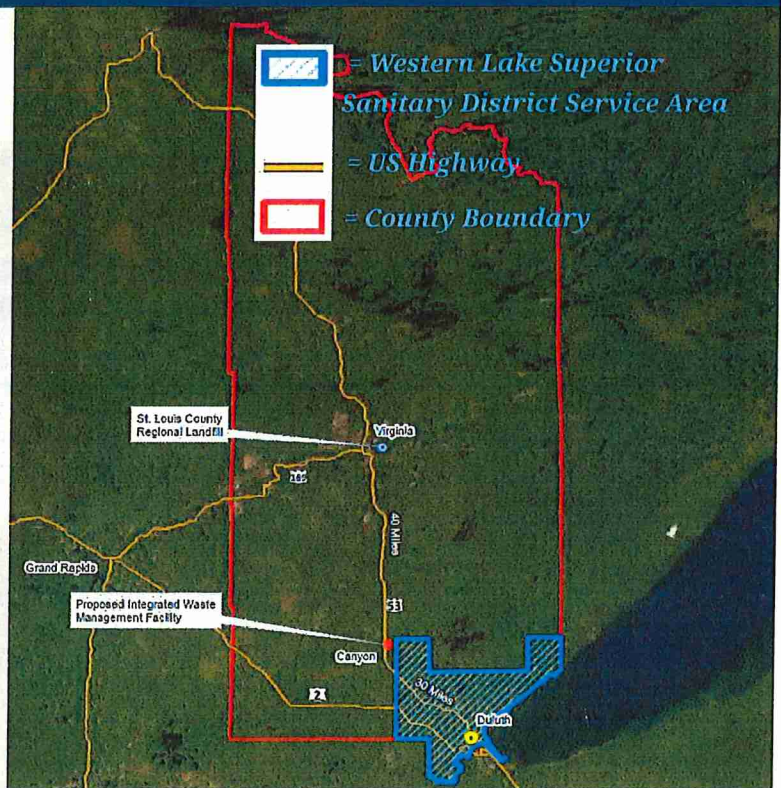
» Waste Processing Facility

- Recyclables
- Non-permitted Landfill Materials

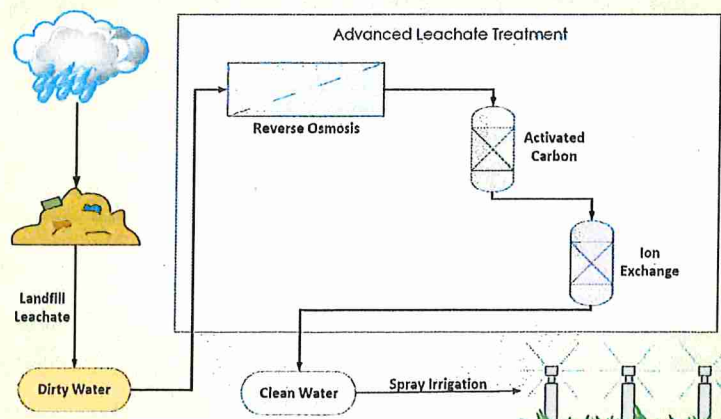
» Organics Transfer to WLSSD

State Request: \$6M

Match: \$6M



STATE-OF-THE-ART LEACHATE TREATMENT SYSTEM

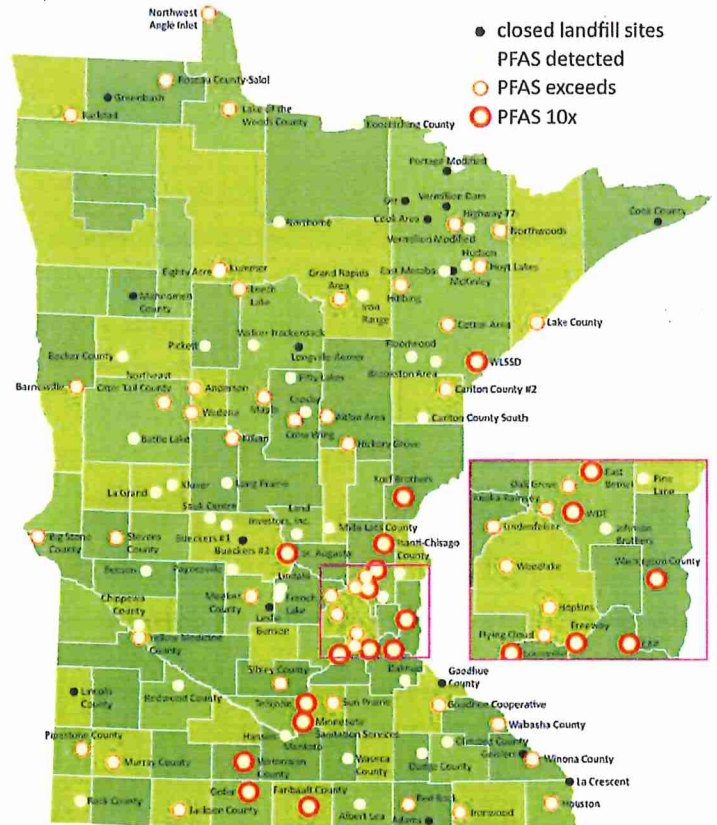


St. Louis County

Project Rationale:

Integrated Solid Waste Management Campus

- **Manages PFAS** to meet current and future Minnesota Department of Health drinking water standards
- **Meets** current and anticipated Minnesota Pollution Control Agency PFAS management requirements
- **Serves** as a long term solid waste management tool in the 10 year Regional Solid Waste Management Plan
- **Accepts** leachate from active landfills and waste/leachate from closed landfills and dumps in the region
- **Prevents** leachate contaminants from entering critical surface and groundwater resources
- **Allows** for modifications/expansion to address future regulatory requirements
- **Provides** a system to sustain the region's recycling goals and commitments
- **Protects** ecosystem health, reduces per- and polyfluoroalkyl substances (PFAS) exposure to humans from fish and game consumption



Municipal Solid Waste Landfill
 - RCRA Subtitle D composite liner
 - Leachate collection system
 - Gas management system
 - Final cover

Waste Processing - Mixed Recycling Facility
 Promotes sustainable materials management

Advanced Leachate Treatment
 - Designed for PFAS removal
 - No discharge to surface waters - land application disposal
 - Promotes unique habitat

Advanced Energy Recovery
 - Solar
 - Geothermal
 - Landfill Gas

A Regional Solid Waste Solution for Northeast Region
 Key facility in the Northeast MN Regional Solid Waste Plan
 - supports 7 counties and WLSSD

Environmental Monitoring Systems
 - Groundwater monitoring system
 - Leachate collection system with leak detection
 - Landfill gas monitoring/mitigation system

Carbon Budget Conscious
 To reduce the facility's overall carbon footprint, site will use
 - Sustainable design and building techniques
 - Renewable energy sources

STATE-OF-THE-ART LEACHATE TREATMENT SYSTEM
 Aqueous leachate treatment
 Dirty Water → Reverse Osmosis → Activated Carbon → No Exchange
 Dirty Water → Spray Irrigation → Clean Water → Spray Irrigation

Centrally Located on Transportation Corridor Hwy 53

St. Louis County logo and **Stantec** logo.

State-of-the-Art Waste Campus
 St. Louis County Environmental Services
 Canyon, MN

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