A proposed partnership between the University of Minnesota and MCES

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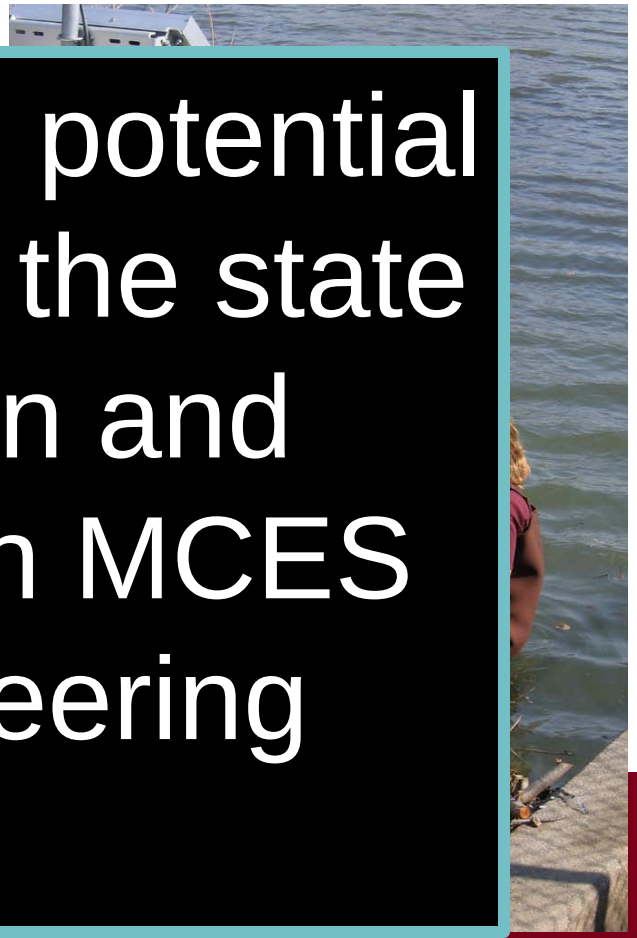

Such research has the potential to advance practice in the state through cooperation and collaboration between MCES and the Civil Engineering Department

Long-term objective

Develop an *ongoing* cooperative agreement between the Civil Engineering Department at the University of Minnesota and MCES to

- Advance wastewater practice,
- Save energy and money, and
- Educate diverse students (the future workforce)

through research

Precedent

Current agreements exist between the Civil Engineering Department and St. Paul and Minneapolis Water and have resulted in:

- Elimination of taste/odor issues in St. Paul,
- Savings of millions of dollars a year via an increased understanding of biologically active carbon filters, and
- Corrosion control/savings associated with changing corrosion control technology

We see potential to achieve the same level of success

MCES wants to improve treatment, save energy and money, and diversify and better-train the future workforce

The CE Department wants to train and support high-quality graduate and undergraduate students focused on real-world problems

Immediate objective

Begin the relationship with an initial 4-year agreement

- Support a graduate student to perform applied research to address (and solve) **an MCES-identified problem**
- Support two summer interns through the Northstar STEM Alliance

Initial project

- MCES is considering accepting high strength industrial wastes for anaerobic treatment
- A method is needed to predict how waste characteristics impact treatment, energy generation (methane), and the final product

We will develop such a method via laboratory research