

CASE STUDY

CITY OF DIXON

City of Dixon, Illinois Uses Polyblend® Dry Polymer Preparation System as Part of a Creative, Cost-Neutral Biosolids Disposal Arrangement



OVERVIEW

Located along the scenic Rock River in northwestern Illinois, roughly 100 miles west of Chicago, the City of Dixon boasts a strong economy supported by a diverse range of industries including manufacturing, retail, and agriculture.

The city has a population of over 16,000 residents spanning nearly 10 square miles and serves as the epicenter of the county.

The City of Dixon goes through roughly 1.6 billion gallons of water annually. In order to provide water to nearly 4,300 households and businesses, the City of Dixon went upgraded to a 4.5 MGD wastewater treatment plant.

SITUATION

Much like most other wastewater treatment plants, Dixon's wastewater treatment plant uses polymer to aid in the dewatering of biosolids.

Unfortunately, Dixon was running into some issues with their current system that was ratcheting up their costs. The plant staff at Dixon began searching for an economical alternative that would not jeopardize quality or efficiency.

APPROACH

The plant in Dixon used dry polymer in the sludge dewatering process so they began looking for a system that would optimize the use of dry polymer in their existing process.



The treatment plant in Dixon has the capacity to treat up to 1.5 to 6 million gallons per day.

Here is one of two screw pumps located at the wastewater treatment plant in Dixon.

The City evaluated their options and decided to install a Polyblend® DP 800 into their wastewater treatment process and evaluate its performance.

In an environment where utility operators are increasingly challenged to reduce biosolids disposal costs, the City of Dixon began exchanging their biosolids for landfill leachate.

This creative biosolids disposal arrangement has been decreasing costs at the Dixon wastewater treatment plant as well as the Lee County landfill for over 12 years.

RESULTS

25%

REDUCTION
In Polymer Consumption

- The Polyblend® system reduced polymer consumption by over 25%.
- The Polyblend® system improved polymer performance in terms of sludge dryness, solids capture, water clarity, drainage and overall retention.
- The introduction of this new system led to significant cost savings, which was one of the key issues plaguing the plant prior to the Polyblend® installation.
- The Polyblend® DP 800 reduced polymer consumption by through proper energy, impeller size and recirculation. This also prevented agglomerations and minimized polymer failure.
- The new system required far less maintenance further reducing operating costs.

“The Polyblend® dry polymer preparation system has been very reliable and dependable for us. We installed the unit 12 years ago during our last upgrade and the unit has been in operation ever since.”

*Daniel Mahan,
Superintendent, Wastewater Treatment
Department, City of Dixon, Illinois*



Polyblend DP 800

CONCLUSION

The introduction of the Polyblend® DP 800 Dry Polymer System proved to be an excellent choice for the City of Dixon. It reduced overall operational, maintenance and polymer costs. The City reduced polymer consumption by 25%. The Polyblend® DP 800 has been in use for over a decade. The City of Dixon couldn't be happier with its performance.



Polyblend
®DP 800
Installation
at Dixon, IL

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