



Headworks® Completes One of the Largest Screening Projects in North America

Background

The George W. Kuhn Drainage District (formerly the Twelve Towns Drainage District) serves all or part of 14 communities, encompassing a drainage area of 24,500 acres upstream of the Red Run Drain, a tributary of the Clinton River. During dry weather, all flow is routed to the Detroit Wastewater Treatment Plant, but during heavy rainfall, heavy volumes of combined sewage (typically more than 93 percent storm water) exceed the outlet capacity to Detroit, causing excess flow to be diverted to the George W. Kuhn Retention Treatment Basin where it is stored, screened and disinfected prior to discharge to the Red Run Drain.

The original facility was built in 1972, but unfortunately, by the early 1990s, the facility could no longer meet more stringent environmental regulations. Planning for an expansion began in the late 1990s, and construction was completed in 2006.

Why GWK chose Headworks

Headworks Inc. was one of the exclusive suppliers for the George W. Kuhn Retention Treatment Basin (GWK RTB) located in the Detroit Metropolitan Area in Michigan.

QUALITY THAT NEVER QUILTS™

Customer: George W. Kuhn Drain
Industry: Municipal

KEY FACTS

- **Installed:** 2004
- *Largest wastewater screening facility in North America*
- **Flow per Screen:** 270 MGD (1,022 MLD)
- **Total Flow:** 5,940 MGD (22,485 MLD)
- *High flow speed capacity and high object impact resistant screenfield*
- *Automatic reverse feature allows self-cleaning & removal of obstructions*

Installed Equipment:

- 16 Primary Screens
- 4 Emergency Screens
- 1 Pump Station Screen
- 1 Sluice Trough Screen

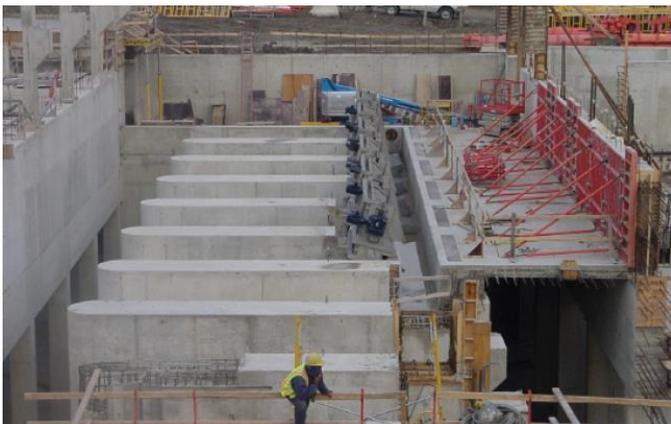


A photo from January 2004 shows the installation of the first Headworks MS Bar Screen in the GWK FTB facility

“ Everything about this project is big, and the resulting impact on the environment is equally big. Naturally, for such a ‘big’ project the screens would have to come from a Texas company. ”

- Greg Baranski

Project Manager at GWK



View of the channel with six MR Bar Screens installed

Headworks supplied all 22 of the screens for one of the largest screening contracts ever awarded in the wastewater industry. Project manager Greg Baranski for Centerline Piping, Inc., which handled the plumbing and mechanical subcontract for the GWK RTB project stated, “Everything about this project is big, and the resulting impact on the environment is equally big. Naturally, for such a ‘big’ project the screens would have to come from a Texas company.”

Solution

The number and size of screens at the GWK RTB make it one of the largest screening facilities in North America. Sixteen fine screens with 0.5 in openings (12.7 mm) are used under normal conditions; four emergency screens with 2 in openings (50.8 mm) are used if upstream flow levels reach critical depths. All flow that enters the Red Run Drain receives screening. Debris that is collected on the screens is discharged to a sluicing trough that flushes to the Detroit collection system for treatment. Two auxiliary screens protect the pumps by removing large objects from the sluicing trough. These large objects are dried on-site and disposed of in a landfill. A 10-ton overhead crane is provided to lift the screens out for maintenance.

The MS™ Bar Screens at this facility contain a high flow capacity and high object impact resistant screenfield. The patented automatic reversing feature allows self-cleaning and removal of obstructions. The screens cover 3,003 sq. ft. (279 m²) of screening area with a total design flow rate of 5,940 MGD (22,485 MLD). More than 46,300 ft. (14,112 m) of tapered stainless steel bar and over 3,300 ft. (1,006 m) of stainless steel roller chain went into this facility. The MS Bar Screens, which have been operating since 2005 with no maintenance issues, are part of a system which dramatically aids in preventing backup and combined sewer overflow (CSO) discharges into the Red Run and Clinton Rivers after major storm events, fulfilling the objective of improving environmental conditions in the twelve towns it serves.

