

**THE WEST SIDE
WASTEWATER TREATMENT
FACILITY**

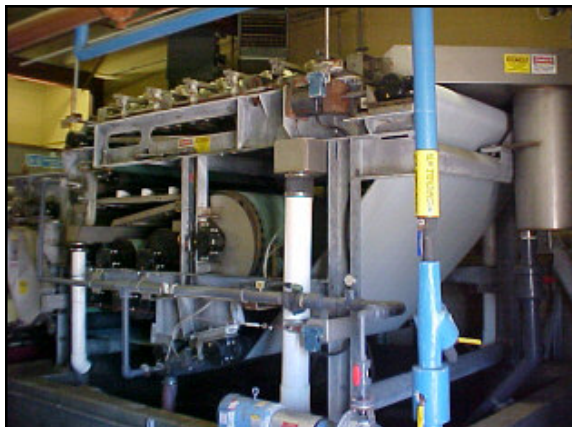


SOLIDS HANDLING

Solids that are removed from the wastewater are pumped to aerobic digesters. In the digesters, air is added to oxidize and further stabilize the organic matter in the solids. The solids (called sludge) are then dewatered by a belt filter press and trucked to a landfill.



BELT PRESS



BLOWER BUILDING



RECENT IMPROVEMENTS

The west plan of the WRC was improved in recent years. Two additional 85-foot diameter secondary clarifiers were constructed in 2000 to double the total settling capacity of the activated sludge system. The clarifier project was a design/build venture by Lintech Engineering, LLC of Crystal Lake, Illinois and Joseph J. Henderson & Son, Inc. of Gurnee, Illinois.

The West System was again expanded and improved in 2003 under the IEPA SRF loan program. The project included the construction of additional aeration tanks, aeration blowers, and aerobic digesters. The project was designed by Lintech Engineering, LLC and constructed by Joseph J. Henderson & Son, Inc.

***Village of Carol Stream
Water Reclamation Center***



Circa 2002 - Prior to Expansion

CONVEYOR



DIGESTER



OWNER

Village of Carol Stream
500 North Gary Avenue
Carol Stream, IL 60188
630-665-7050



DESIGNER

Lintech Engineering, LLC
500 Coventry Lane, Suite 270
Crystal Lake, IL 60014
815-479-5180



CONTRACTOR

Joseph J. Henderson
& Son, Inc.
4288 Old Grand Avenue
Gurnee, IL 60031
847-244-3222

INTRODUCTION

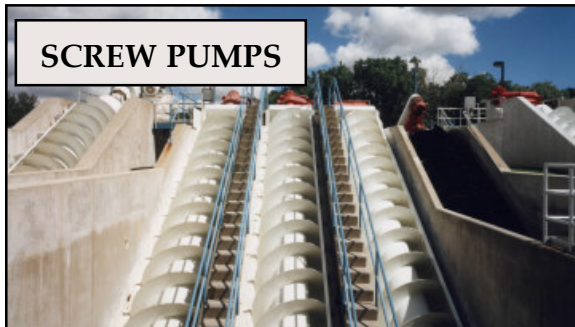
The Carol Stream Water Reclamation Center (WRC) is designed to treat 6.5 million gallons of wastewater each day. Approximately 80 percent of the wastewater flow is from the Residential Area on the west side of the Village and the remaining flow is from the Industrial and Commercial District on the east side of the Village.

The WRC has two Wastewater Treatment Plants. The East Plant was originally constructed in 1959. The West Plant was constructed as a part of the major expansion projects in the 1990's. The Village now uses only the West Plant to treat all wastewater flow from the Village.

PRELIMINARY TREATMENT

Wastewater flows through the gravity sewer pipes and lift stations to reach the WRC. The wastewater is first pumped by the screw pumps to the grit tanks and then to the rotating screen building. Inorganic matter such as sand and fine pebbles are settled in the grit tanks. The fine screens remove coarse materials such as rags and plastic, then wash, compact, and transport the materials for disposal.

After preliminary treatment, the wastewater is again pumped by the second set of the screw pumps to the secondary treatment system.



SCREW PUMPS

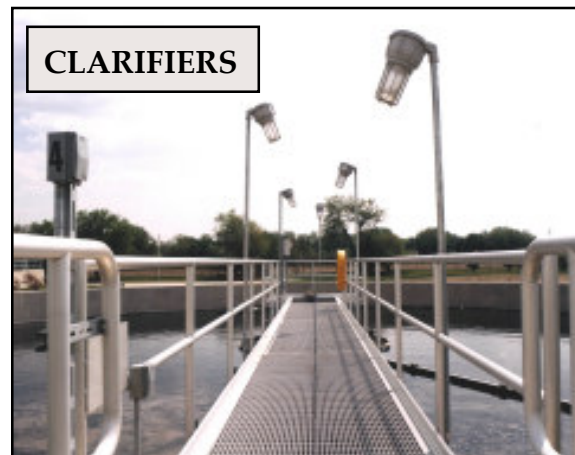


**THE EAST SIDE
WASTEWATER TREATMENT
FACILITY**

SECONDARY TREATMENT

The wastewater still contains dissolved organic matters, suspended solids, and ammonia nitrogen after preliminary treatment. These organics are

removed in the aeration tanks and secondary clarifiers. Air is diffused into the aeration tanks to mix and transfer oxygen to the wastewater to allow microorganisms to consume the organic material. The wastewater is treated in the aeration tank for over 24 hours to allow removal of organics and ammonia. The wastewater then flows to four secondary clarifiers designed to settle out the suspended solids (biomass).



CLARIFIERS



CLARIFIER

TERTIARY TREATMENT

After secondary treatment, the wastewater flows to the sand filters. The sand filters filter out any remaining fine suspended solids to produce a clear effluent.

DISINFECTION & DECHLORINATION

The final process is disinfection of the treated effluent prior to the discharge to Klein Creek. Chlorine is added to destroy any disease-causing organisms remaining in the effluent. The excess chlorine is then neutralized by sulfur dioxide so it will not be harmful to the fish in the receiving stream.



CHLORINE CONTACT TANKS

DESIGN/BUILDER



Lintech Engineering, LLC
500 Coventry Lane, Suite 270
Crystal Lake, IL 60014
815-479-5180



Joseph J. Henderson
& Son, Inc.
4288 Old Grand Avenue
Gurnee, IL 60031
847-244-3222