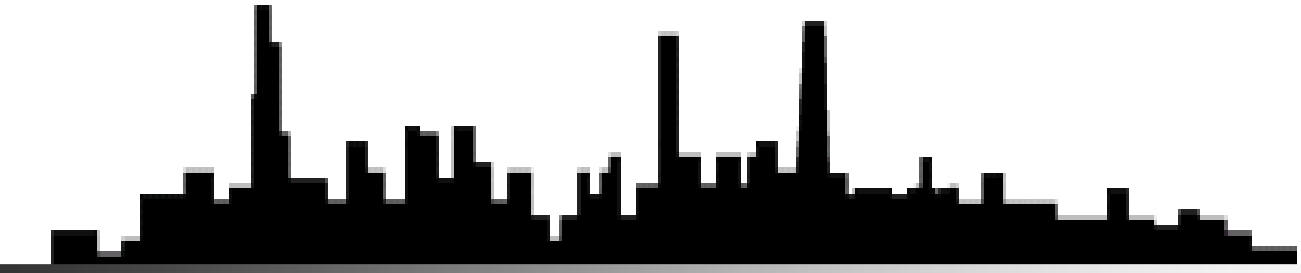

Metropolitan Water Reclamation District of Greater Chicago

STICKNEY
WATER RECLAMATION PLANT

Facility Improvements
Master Plan for the Future

Board of Commissioners

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STICKNEY WATER RECLAMATION PLANT

Protecting Our Water Environment

The Metropolitan Water Reclamation District of Greater Chicago (District) provides the citizens of Cook County with award-winning environmental service at the lowest possible cost. The District's Stickney Water Reclamation Plant (WRP), located at 6001 W. Pershing Road in Cicero, will face new challenges in the coming years, and the District plans to meet them with cost effective, state-of-the-art technology.

Today the Stickney WRP provides a multi-step wastewater treatment process, cleaning the water even more thoroughly than required by the discharge permit, before the treated water is discharged to the Chicago Sanitary and Ship Canal. Solids removed from the wastewater are processed and taken from the plant for off-site beneficial reuse. The plant can treat an average flow of 1,200 million gallons per day (mgd), and receives flow from a population of 2,276,000(1) as well as discharges from commercial and industrial establishments. Treatment consists of the following:

Preliminary Treatment – A mechanical process that removes rags, wood, trash, and grit from the wastewater through screening and settling in tanks

Primary Treatment – A process in which settleable organic and inorganic materials in the wastewater are removed using settling tanks

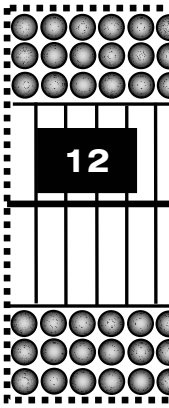
Secondary Treatment – A biological process that breaks down remaining organic matter

Solids Treatment – A series of processes in which solids collected during primary and secondary treatment are thickened, stabilized, and dewatered to generate a useful product known as biosolids

To ensure that the Stickney WRP continues to provide high quality service to the community into the future, the District has initiated a major study to determine future needs and establish a long-range plan for the facility that will improve the air and water environment. This effort, called the **Stickney Master Plan**, will serve as a road map for the District's future course of action. Major challenges include:

- Providing treatment for wastewater stored in the McCook Reservoir, which will be developed as part of Phase II of the District's Tunnel and Reservoir Plan ("Deep Tunnel"). The McCook Reservoir will have a capacity of 10.5 billion gallons. When the reservoir is dewatered, the wastewater will be pumped to the Stickney WRP for treatment.
- The need to produce high-quality biosolids, to give the District greater flexibility in locating and serving beneficial reuse biosolids markets.
- The need to modify current biosolids treatment practices in light of the eventual loss of off-site drying cells due to construction of the McCook Reservoir.
- Potential changes in State regulation, which may require additional levels of wastewater treatment.

After analyzing recent population trends and projections made by the Northeastern Illinois Planning Commission, the District anticipates the population of the area served by the Stickney WRP to grow by approximately 17% between 2000 and 2040. The projected annual average flow is still well below the design average flow of the plant of 1,200 mgd, therefore, the Stickney Master Plan improvements will not increase the plant's design average flow. However, the number of days the Stickney WRP will treat 1,200 mgd will increase because the plant will treat water pumped from the McCook Reservoir in addition to the average daily wastewater flow.



Key objectives for the Stickney Master Plan are as follows:

- Assess future flows and pollutant loadings.
- Maintain treatment capacity for flows projected through the year 2040.
- Replace/upgrade existing plant components.
- Review opportunities for process changes.
- Reduce energy costs.
- Provide increased odor control.

The Stickney Master Plan now includes 12 major projects. The graphic at right lists the projects and indicates the areas in which they will take place. The District estimates the total cost to implement these comprehensive improvements to be $993,600,000, not including potential nutrient removal projects.

Near-term projects include solids treatment facilities, the demolition of Westside Imhoff Battery A and replacement with new primary settling tank facilities, new Westside grit handling facilities, a blower facility upgrade, and new digester gas storage and utilization facilities to maximize the digester gas as an energy

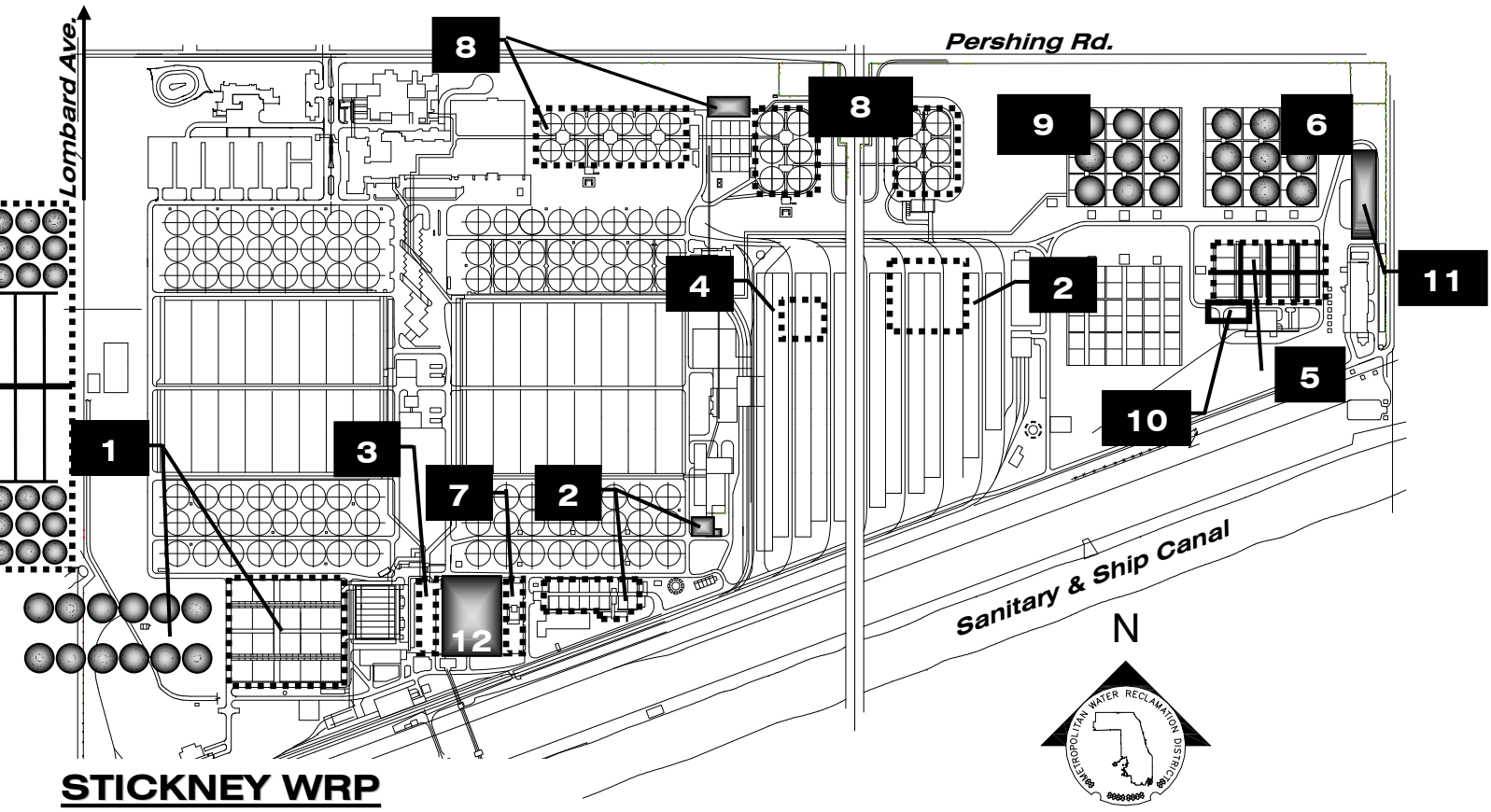
source. These projects will also improve treatment and diminish plant odors.

Mid-term projects include the demolition of Westside Imhoff Battery B and replacement with new primary settling tanks, and replacement and improvement of equipment which will have reached the end of its useful life.

Long-term projects include new southwest primary tanks, replacement of the West Side Pump Station, and projects that may be needed to provide additional levels of treatment in response to increasingly stringent environmental regulations. Construction will be phased through the year 2020 to ensure the treatment plant's capacity is maintained while new facilities are built and old facilities are taken out of service. Effluent quality will meet or exceed that required by the State at all times during construction.

The Stickney Water Reclamation Plant has been recognized in the past for its outstanding performance in treating wastewater. The District is hard at work to ensure that the exceptional performance of the Stickney WRP will continue far into the future.

(1) *Population in 2000. Source: Northeastern Illinois Planning Commission.*

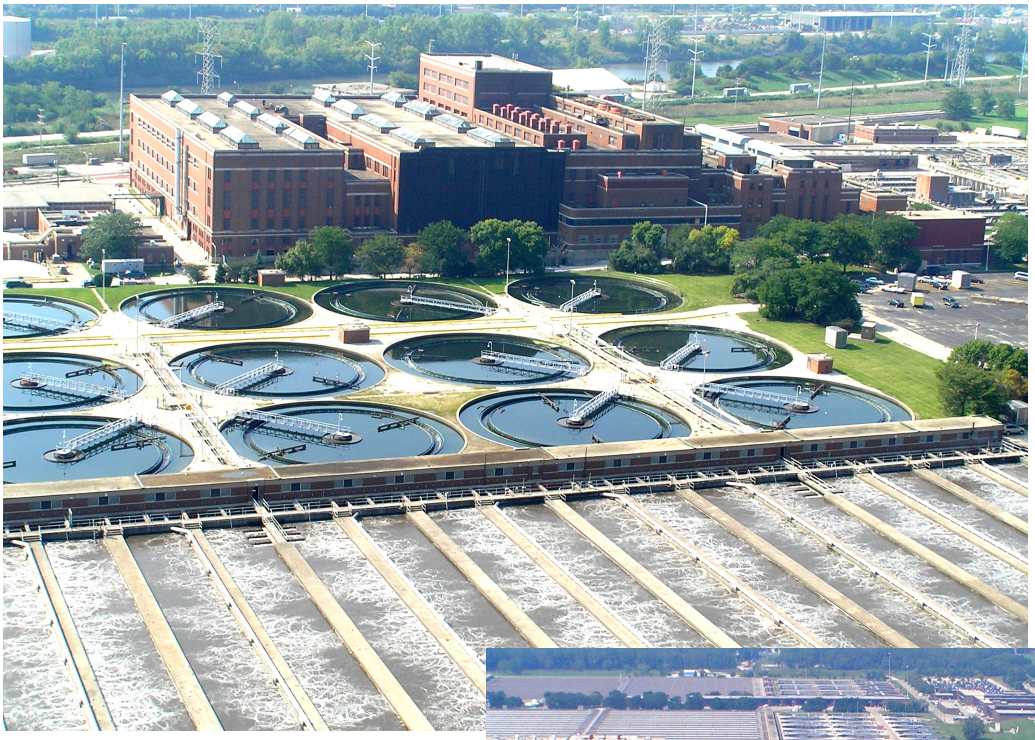


STICKNEY WRP Planned Improvements

1. **New Southwest Circular Primary Tanks & Modifications to Existing Primary Tanks**
2. **New Solids Thickening Facilities, Decommission Existing Concentration Tanks**
3. **Addition of New Air Blower**
4. **Sludge Drying Facilities Waste Heat Utilization**
5. **Westside Grit Handling Improvements**
6. **New Westside Circular Primary Tanks, Battery A**
7. **Southwest Screens Handling Equipment**
8. **Low-pressure Gas Storage and Utilization Facilities**
9. **New Westside Circular Primary Tanks, Battery B**
10. **Westside Fine Screen Replacement**
11. **Westside Pump Station Replacement**
12. **Potential Nutrient Removal Projects**

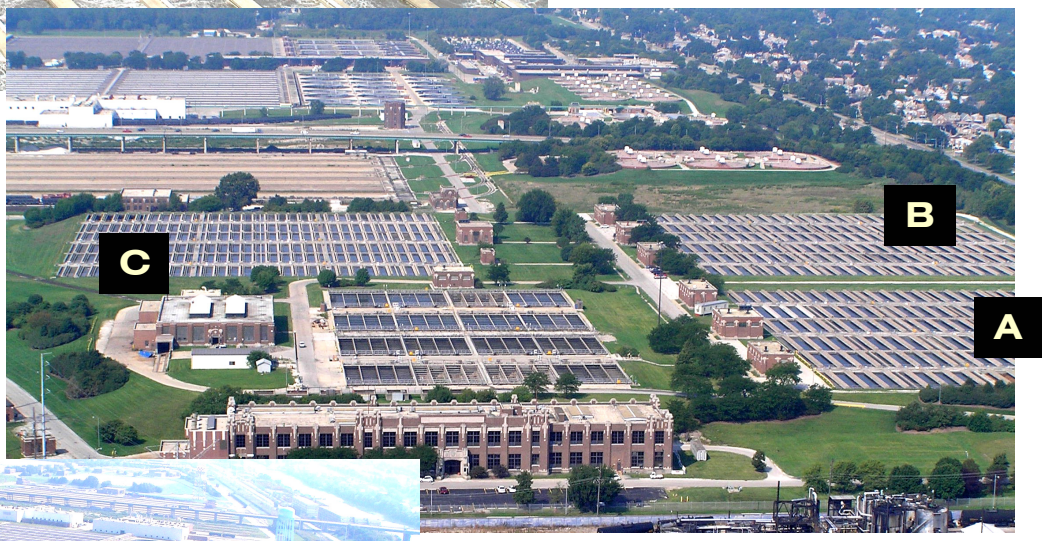
STICKNEY WATER RECLAMATION PLANT

Protecting Our Water Environment



The Sludge Disposal Building will be demolished. Future processes may be built in this area.

Batteries A and B of the Imhoff tanks will be converted into modern primary tanks through a series of improvement projects. Battery C will be retired from service.



The plant's current western boundary is approximately at Lombard Ave. A long-term project will build new circular primary tanks in the vacant area shown. Potential nutrient removal projects may require expansion of the plant west of Lombard (foreground).

Revised June 2009