

STORMWATER MANAGEMENT FACILITY RETROFIT—AURORA

Client: City of Aurora

Evaluated operation of an existing stormwater management facility originally designed during the 1990's, and proposed retrofit based on state-of-the-art computer modeling toward the goal of reducing downstream drainage impacts.

SERVICES PROVIDED BY THE ENGINEER:

- ◆ Researched methodology used in the original facility design/planning, and identified design deficiencies.
- ◆ Developed a computer model of the existing tributary area/local watershed which accurately reflects the true operation of the highly inter-related drainage system.
- ◆ Prepared plans, specifications, and details to retro-fit the existing control structure to improve regulation of the release rate and more completely manage the available volume potential and reduce downstream discharges while minimizing costs and land disturbance.
- ◆ Developed a critical duration analysis of the proposed condition improvements which reflected a 7+% increase in stormwater storage potential used with no increase in high water level of the system.
- ◆ Developed a plan to regrade portions of the downstream property to fully utilize the stormwater storage potential of an existing wetland while routing remaining flows to re-establish the previous agricultural potential.
- ◆ Consulted with agricultural industry specialist and contracted farmer to implement and initiate a program of deep cultivating so to maintain a high agricultural potential of the land until development.
- ◆ Provided grading design to more fully utilize existing wetlands stormwater potential and to minimize re-establishment of previously mitigated wetland areas.

Increased the utilization of an existing 88 acre-foot stormwater system by an additional 6+ acre-feet, without increasing the footprint of the facility and without raising the high water level. Re-grading to gain an additional 4.5+ acre-foot of storage in an adjoining stormwater wetland, without impacting off-site areas.

REFERENCE:

Michelle Keller,
Senior Vice President of Real Estate Services
312.208.3612

Initiated by Mr. Whitt while with previous employer and completed at Rempe-Sharpe.

