



Project:

City of Greenville IOWA



North American Wetland Engineering

LOCATION

Greenville, Iowa

PROJECT TYPE

Residential Development

WASTE TYPE

Domestic

COMPLETION DATE

2005

DESIGN FLOW

9,900 gpd

TREATMENT

Subsurface Flow Wetland
with Forced Bed Aeration

NEED

The City of Greenville, a community of 43 homes and 2 businesses, is located in Clay County, approximately 8 miles south of Spencer, Iowa. The City was being served by individual septic systems, the majority of which did not meet code requirements. The poor condition of the septic tank systems resulted in wastewater entering a local receiving stream.

SOLUTION

North America Wetland Engineering (NAWE) along with Clay Regional Water, designed a horizontal flow constructed wetland system with **Forced Bed Aeration™**. In addition, a small diameter gravity collection system was designed to collect the wastewater. This collection system included new septic tanks at the homes in the community. The septic tanks provided an opportunity for the solids to settle out of the wastewater prior to the "gray water" leaving the septic tanks and entering the small diameter gravity collection system. The collected gray water was routed to a lift station where the gray water was pumped to the horizontal flow constructed wetland treatment system. The treatment system consists of a single horizontal flow constructed wetland cell that discharges into a receiving stream.

BENEFIT

The horizontal flow constructed wetland treatment system provides a natural method of treating the wastewater prior to disposal to the receiving stream. The wetland plants that are utilized in the treatment system provide an aesthetically pleasing amenity to the City of Greenville, while providing a significant environmental benefit to the local area. Funding for this project was provided by the City of Greenville, USDA Rural Development and the Iowa Department of Economic Development. The operation of the collection, treatment, and disposal system will be provided by Clay Regional Water.



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