



Project:

City of Spring Hill

North American Wetland Engineering



LOCATION

Spring Hill, Minnesota

PROJECT TYPE

Residential Development

WASTE TYPE

Domestic

COMPLETION DATE

1999

DESIGN FLOW

9,800

TREATMENT

Subsurface Flow Wetland
with Forced Bed Aeration

NEED

The City of Spring Hill, a community of 46 homes, is located in central Stearns County, approximately 20 miles south of Sauk Centre and west of St. Cloud. The City was being served by individual septic systems, the majority of which did not meet code requirements. Spring Hill needed to install wastewater services for its community in conjunction with a highway improvement project.

SOLUTION

NAWE designed a subsurface flow constructed wetland with **Forced Bed Aeration™**. The treatment system consists of a series of community septic tanks, flow metering, and two 7,000 square foot wetland cells. After treatment, a subsurface drip irrigation system is used for effluent disposal. The drip irrigation area is divided into five time-based drip zones. NAWE designed the drip irrigation system to be a community shelterbelt on the north and west sides of town. The disposal field was planted with a variety of native trees and shrubs to maximize the wildlife habitat value of the shelterbelt. NAWE also selected plant species to maximize water consumption through evapotranspiration. Pre-treated wastewater is recycled through 21,000 linear feet of drip tubing over a total area of approximately one acre.

BENEFIT

Mary Wuertz, mayor of Spring Hill, said: "I like that it is a natural way to treat wastewater. The flowers and wildlife that inhabit the wetland will be a welcome addition to the City." A Stearns County Environmental Specialist explained: "This will be nothing like a traditional wastewater system. What I like is that it pulls out the nutrients, especially phosphorus and nitrates before they go into the groundwater." Funding for the project was received from the Minnesota Pollution Control Agency ISTS Grant program and USDA Rural Development. North American Wetland Engineering received the 1999 Minnesota Engineering Project of the Year Award from USDA Rural Development for its role in the innovative Spring Hill system.



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North American Wetland Engineering

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