The City of Superior
Wastewater Division of Public Works
Stormwater Flood Control Pilot Project

Description

The Stormwater Flood Control Pilot Project (SFC PP) is intended to reduce the incidences of basement flooding for single-family, owner-occupied dwellings of the City of Superior. It is not intended to be a solution in and of itself, but rather one of several practices that work together in forming a comprehensive Stormwater Management Plan. A Stormwater Management Program is a long-term approach for planning how the City manages stormwater run-off in order to protect public health, safety and the environment as well as acting in the public interest to limit property damage and City liability.

The SFC PP is comprised of private sewer inspections and plumbing modifications that help to reduce incidences of basement flooding and eliminates the clear water connection to the sewer (i.e., foundation drain system).

Background

The idea of the City helping homeowners prevent basement flooding is not a new one. The first program began in the late 1970's and continued into the early 1990's. The focus of this program was to pay homeowners for the installation of backwater valves. Problems such as improper installation, little or no instruction to the homeowners on how to maintain these valves, and poor quality materials combined to cause the program to have limited success. At the same time the City of Superior had experienced historic rainfall amounts. Extensive sewer system backups resulted in property damage in combined sewer districts where stormwater flow exceeded the design capacity of the sewer system. In addition, excessive quantities of surface water have also caused aboveground wash outs and flooding of homes.

The City of Superior received a stormwater permit and will continue stormwater management activities with flow analysis. As part of this program the City will be conducting several stormwater pilot tests to assess potential benefits for the public. This will also provide decision makers with options and costs for addressing surface flooding and sewer system backups. The SFC PP is one of these pilot tests. The findings and costs will help to determine if this project should continue or if other activities require greater attention.

Results

The SFC PP has helped us to understand the various causes of flooding that occur on private property. We have collected invaluable information on private sewer systems of which we know little about, yet they make up 50% of the City's collection system. This information will help us to make future assessments on sewer collections and how it may relate to sanitary and combined sewer overflows. Currently, we have provided 50 City of Superior homeowners with service lateral inspections and 20 homeowners with plumbing modifications that help to prevent basement backups.

At this time, staff is installing flow meters for project participants. The meters will measure the amount of clear water that is collected from the home foundation drains and pumped to the surface. This will tell us how much clear water is being kept from entering the City's sewer system; the more clear water we keep from entering the system, the more likely we can reduce basement backups and sewer overflows. Results of the SFC PP will be provided when the project is completed.

Pictures

	Foundation drains have been disconnected from the sewer and diverted to a sump pit, where it is pumped to the surface. This model has a high water alarm that will alert the homeowner to sump pump failure. If pump should fail, overflow water will run to near by floor drain.
Clear water discharged to a safe place in the yard, away from the building foundation.	

For more information:

http://www.ci.superior.wi.us/publicwks/wastewater/SFC PP.htm

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