Clean Michigan Initiative
Nonpoint Source Grant
2000-0166

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Recreation Commission
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Hager Creek Restoration

August 1, 2001 through December 31, 2004

Hager Creek has experienced excessive stream bank erosion due to large volumes of runoff from nearby residential developments. The erosion has been accelerated by activities of park users. The project goal was to improve the quality of Hager Creek and downstream watercourses by reducing the amount of sediment released during large rainfall events. This was done by installing rock riffles and spurs, which were placed to provide grade control and divert flow energy away from the channel bank. The stream bank was stabilized by the construction of vegetated geogrids, and placement of live stakes and a vegetative cover. The stream was isolated from park users by a fence. A new bridge was placed to allow protected viewing of the creek. In addition, the runoff from large events was diverted away from Hager Creek via a new diversion structure, storm sewer, infiltration basin, and diversion channel.

Grant Amount: $ 259,058
Match Funds: $ 165,423

Total Amount: $ 424,481

Best Management Practices:

- 1 Stream Channel Restoration with rock riffles and rock spurs
- 683 linear feet of Stream Bank Stabilization
- 3,000 feet of Fencing
- 6 Grade Stabilization Structures
- 1,800 linear feet of Grassed Waterways
- Infiltration Basin for 435 acre watershed
- 1 Diversion
- 1 Pedestrian bridge

Annual Load Reductions:

- 223 tons of sediment reduced annually
- 232 lbs of phosphorous reduced annually
- 492 lbs of nitrogen reduced annually

I&E Activities:

- Signs posted throughout the park
- Meeting and tour for the Soil and Water Conservation Society
- Local college student volunteers used to place seed and mulch

Partners involved:

- Ottawa County Parks and Recreation Commission
- Grand Valley State University
- Fishbeck, Thompson, Carr and Huber, Inc.
- Nativescape, LLC.

Before: Hager Creek east of Park Drive prior to implementation of management practices.

After: Hagar Creek Channel banks are restored with geogrid and vegetation and the channel is redirected with the riffle.

Before: Hagar Creek at 28th Avenue prior to to implementation of management practices.

After: Hagar Creek after revegetative cover.

Description: A Diversion structure, where water is channeled into the culvert, which discharges into an infiltration basin, at right.

Description: Infiltration Basin immediately after a rain event, which receives water from the diversion structure at a rate of 30 cubic feet per second.