

Title: **Storm Water Annual Assessments – 03 Inspections**

A total of 33 outfalls, ponds, and structural pollution control devices (SPCD) were inspected this year. This represents all known SPCD's, 25% of our ponds and almost 50% of our known outfalls. Outfalls not mentioned in the summary have no outstanding issues. Individual inspection reports are available by contacting UMD Facilities Management, 1049 University Drive - Room 241, Duluth, MN 55812.

Structural Pollution Control Devices (Part V.G.6.b.2)

Part V.G.6.b.2 of the MPCA permit number MN R 040000 requires to "Inspect annually all structural pollution control devices, such as trap manholes, grit chambers, sumps, floatable skimmers and traps, separators, and other small settling or filtering devices."

The University of Minnesota Duluth has three known structural pollution control devices as of January 1, 2004. These are the Stormceptor (ST5146) located off Lot M (Installed 2002) and the Stormceptor / Underground (ST4591- ST4596) holding facility under Lot G (installed 2003) and a filtration area (ST3982) between Lot T-2 and Rock Pond installed in 1994. They were inspected between 11/3/03 -11/20/03.

- ST5146 was inspected on 11/3/03 and was found to have just a sheen of hydrocarbons and 6" of sediment in the bottom. Stormceptor recommends that the units be cleaned out when they reach 15% of their capacity. Maintenance should be scheduled when the Model 900 sediment level reaches 8".
- ST4591- ST4596 we inspected on 11/19/03 and had yet to fill to operating capacity after construction. The Stormceptor had some suspended solids, but no oils and only minor sedimentation in the holding area. Stormceptor recommends that the units be cleaned out when they reach 15% of their capacity. Maintenance should be scheduled when the Model 900 sediment level reaches 8". The underground storage tanks had not yet filled.
- ST3982 was inspected on 11/20/03 and while not pretty, it is functioning as designed.

No work was required from the structural pollution control device inspections.

Outfalls, Sedimentation Basins, and Ponds (Part V.G.6.b.3)

Part V.G.6.b.3 of the MPCA permit number MN R 040000 requires inspecting at least 20% of all outfall, ponds, and sedimentation basins.

Glensheen

The outfalls on the Glensheen property were inspected and photographed on 11/7/03. There were no lines found that were greater than 10" and most being 6"-8" in diameter. During the mapping of the property (BMP UMD 301) three additional outlet structures (6") were found on the plans (ST9625, ST9705, and ST9715). Several small (6") outlets that had been found were not shown on any construction plans. These areas were discussed with the curator (18 years experience at the property) and many were ruled out as drain tiles / weep holes or previously abandoned lines.

- ST9595 is a small 6" clay pipe with the outlet section of the pipe broken up. It serves a single area drain and outlets into a rocky section of Bent Brook and while there is evidence of erosion, it does not appear to be significant. It will be added to the maintenance backlog.
- ST9765 and ST9775 are two non-controlled areas that funnel water from the parking lot over the shore bank. There is significant erosion in both locations. These

locations are part of a shoreline protection / storm water improvement project currently under design that will begin in the spring of 2004 (UMD 503). The project was originally slated to begin in the fall of 2003 but was delayed for reason out of our control. The water flow over both areas will be treated using grassy swales and / or bio-retention and the outlet areas rip rapped.

- ST9625, ST9705, and ST9715 will be investigate this spring and dye tested if necessary to determine their location. ST9705 and ST9715 are shown to discharge onto the Lake Superior shoreline and could easily be buried with beach rock rendering them impossible to find.
- It is recommended that catch basins ST9640 and ST9510 and unknown roof drains be dye tested to determine their outlets.
- ST9655 and ST9565's use could not be determined and should be further investigated this summer. Inspect during rain event to see if abandoned or operational.

West Branch of Tischer Creek

The University outfalls into the WBTC from the intersection of Elizabeth and Waverly to St. Marie Street and the outfall from Rock Pond were inspected on 11/20/03 – 11/21/03. There are 5 lines 12" or greater and three open ditches. Rock Pond is the headwaters for a minor tributary to the West Branch of Tischer Creek. These inspections and the Glensheen inspections, constitute all know outfalls into the Tischer Creek.

Outfalls

- ST3995 is the outlet from Rock Pond. It is frequently flooded by beaver dams located down stream. The outlet is maintained only to minimize freeze up and overtopping of Rock Pond. When visible, the outfall is in good shape.
- ST5495 is continually under water. There is no apparent erosion and the upgradient system appears to be functioning. It is functionally impossible to modify the outlet elevation.
- ST5630 is a 26" pipe and one of the major outfalls on campus. The last few sections appear to be separating and show minor signs of erosion. Since this is the outfall impacted by BMP UMD 502, modifications or maintenance to this outfall should be done as part of that project scheduled for 2004/2005.
- ST5705 is a 12" pipe outfall with minor signs of erosion. This outfall will be looked at for erosion protection at part of BMP UMD 503.
- ST5665 was not found. Additional work will be needed to determine if this still exists.

Rock Pond

Rock Pond was inspected on 11/20/03. It has a limited aboveground watershed, being mainly fed by sub-surface springs and the Lot T-2 filtration system (ST3982). There is minimal non-natural floatables and vegetation is fairly normal. However, Rock Pond has animal problems; both goldfish and beaver inhabit the pond and are degrading the water quality. The goldfish will be eliminated this spring/summer in a project co-developed between UMD, MNDNR, and MN Sea Grant. We are currently working on a management plan to determine appropriate boundaries for beaver habitat, while still protecting the integrity of the dam. The beaver habitat is used for study by faculty and students.