

# MS4 STORMWATER POND BATHYMETRIC ASSESSMENT

As a stormwater pond fills with sediment, its ability to remove total suspended solids (TSS) and total phosphorus (TP) is diminished. Cities are responsible for determining the level of basin degradation and ultimately restoring a pond's treatment capacity. This high-resolution geospatial technique uses a kayak and depth finder to determine the current level of sediment accumulation, instantly calculate sediment accumulation quantities, and prioritize pond cleaning.

## How it Works

The MS4 Permit requires communities to analyze their stormwater management ponds to determine the current treatment effectiveness. Our technique provides a high resolution planning tool that identifies an implementation that strategy works with a city's long-term maintenance budget goals. The bathymetric data collection and reporting technique accommodates the Minnesota Pollution Control Agency's current MS4 planning-level requirements and establishes early protocols for the ultimate shift from planning to implementation. This tool identifies the critical rates of sediment accumulation (i.e. the annual quantity of sediment accumulated since the pond was constructed or last cleaned) to recognize additional watershed stressors that may be contributing to higher loading rates.

## Benefits

- Analyzes stormwater management ponds to determine the current level of sediment accumulation
- Uses automated geospatial techniques to determine the quantity of sediment accumulated in each pond
- Prioritizes stormwater ponds requiring sediment removal to restore the design
- Establishes a timeline for additional bathymetric analysis and pond cleaning
- Develops cost estimates for sediment removal
- Provides annotated photo catalog of pond inspections using Bolton & Menk's GeoCP™ tool.

## Other Water Resources Services

- Comprehensive Stormwater Management Planning
- GIS Compatible Stormwater Modeling
- TMDL Assistance & Implementation Plans
- Water Quality BMP Designs
- Infiltration, Reclamation, & Reuse Designs
- DFIRM Mapping
- Culvert & Waterway Analysis
- Wetland Services
- Agricultural Drainage



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