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16. Abstract

Current environmental regulations require TDOT to develop and implement a stormwater management program (SWMP) characterize the contaminant of concern and reduce it to the extent practical for stormwater runoff from all portions of TDOT's municipal separate storm sewer system (MS4) maintained within the State. Section 2.2 of the existing TDOT MS4 Permit requires TDOT to determine if stormwater discharges from the TDOT MS4 potentially impact impaired streams in any Total Maximum Daily Load (TMDL) regulated watershed. A TMDL evaluation is a study that quantifies the amount of a pollutant, identifies the sources, and recommends regulatory or other actions.

Currently in Tennessee, over 1,200 impaired waterbodies have been evaluated in 109 separate TMDL evaluation documents. TDOT is required to characterize and map all of the stormwater outfalls and subsequently design and implement control measures. The overall cost to TDOT for TMDL regulated watersheds is estimated to be as much $15 million for sampling and mapping, and as much as $400 million for discharge control installations, representing a significant burden to TDOT.

This project sought the development of an effective methodology to determine the relative pollutant contribution of TDOT MS4 to local watersheds through the modeling of pollutant loading from TDOT MS4 stormwater discharges. Results from this project were expected to help 1) rapidly identify critical watersheds with significant TDOT MS4 impact and prioritize these watersheds as targets for more focused characterization and mitigation, and 2) eliminate the need to study a majority of TDOT storm discharges with minor contributions to the overall pollutant loading, which would optimize resource allocation and maximize the environmental benefits of stormwater BMP implementation.

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