



S T R A U G H A N
E N V I R O N M E N T A L
S E R V I C E S , I N C .

Baltimore-Washington International Thurgood Marshall Airport Comprehensive Stormwater Management Plan

Location: Anne Arundel County, Maryland

Description: Straughan Environmental Services, Inc. (SES) updated Baltimore/Washington International Thurgood Marshall (BWI) Airport's 1993 Comprehensive Stormwater Management Plan in a two-phased investigation. SES designed the study protocol to document existing streams in terms of habitat and water quality conditions and developed a future plan for stormwater management that would achieve instream water quality standards.

In Phase I, SES conducted field investigations throughout four seasons and documented the existing geomorphology, habitat, water quality, and macroinvertebrate populations associated with each stream. SES investigated stream stability using the Rosgen stream classification system (Rosgen, 1994), and stream habitat and water quality using the Environmental Protection Agency's (EPA's) Rapid Bioassessment Protocol (EPA, 1989).

Phase II of the study used traditional TR-55, TR-20, and HEC-RAS modeling tools to develop specific retrofit recommendations and identify future facility needs. In conducting Phase II, SES:

- Documented existing conditions in terms of stormwater runoff from existing development (year 2000);
- Evaluated the performance of existing SWM facilities in terms of quantity control using TR-55 and Hydraflow modeling and analysis;
- Identified potential retrofit opportunities to enhance existing SWM facilities or potential stream restoration opportunities to enhance water quality and quantity control for areas developed since 1993; and
- Studied future development plans to develop conceptual SWM facilities that would provide both water quality and quantity control for facilities proposed through the design year 2010.

Future facilities were both sized and located based upon the Airport Layout Plan and considering Federal Aviation Administration's requirements for minimizing the potential wildlife strike hazards associated with open water near aircraft operation areas.

This approach allowed MAA to coordinate with regulatory agencies in the early phases of their projects, ensuring smoother reviews during later design development stages.