

# FLOOD ACTIVITY / EMERGENCY MANUAL

## SWMM MODELLING

City of Winnipeg

Winnipeg, Manitoba



### Project Description

As part of the development of the City of Winnipeg Flood Activity/Emergency Manual, KGS Group performed an assessment of the most critical land drainage systems for hydraulic problems experienced during spring rainfall events in combination with high river levels. SWMM (Stormwater and Wastewater Management Model) models were developed for these districts using LBIS (Land Based Information System) database for the City of Winnipeg. Aerial photos were utilized within a GIS environment to determine the runoff characteristics (percent imperviousness, catchment width, catchment area) of each subcatchment for input into the models. In addition, data retrieved for the models included pipe characteristics such as length and diameter, as well as the corresponding UTM coordinates.

The land drainage districts studied as part of this project included ten separate subdivisions with an approximate total area of 5120 acres (2070 ha). These land drainage districts were selected based on the extent of problems experienced during the 1997 Flood.