

# I-94 / EDENS EXPRESSWAY WINNETKA AVENUE UNDERPASS 2015-2016

**Client: IDOT, District 1  
Programming - Hydraulics**

**Client Contact: Rick Wojcik, P.E.  
Chief of Hydraulics**

**Project Manager: John Whitt, P.E.**

**Project Engineer: Greg Ulreich, P.E.**

**Project Description:**

Various underpasses along I-94/Edens Expressway have periodically experienced temporary road closures due to pavement flooding resulting from severe and intense rainstorm events. Of particular note is the crossing at Winnetka Avenue which has been temporarily closed due to pavement flooding a number of times over the past few years.

Rempe-Sharpe & Associates, under contract to IDOT District 1—Hydraulics, was authorized to conduct a Drainage Investigation (DI) toward the goal of developing solutions to reduce the occurrences of road closure due to flooding.

The roadway storm sewer / drainage system / watershed includes 3 miles of trunk sewer (up to 72" diameter) and culminates at a pump station rated at 54,000 gpm. Hydrologic and Hydraulic modeling of the existing network was performed using XP Solutions XPSWMM software and includes a 2-D representation of the Winnetka Avenue underpass to reflect the depth of ponding on the pavement.

Services further included: Model calibration to several historical storm events, limited topographic/engineering surveys, research of engineering plan sets spanning six decades, and televising to confirm pipe connectivity where other data was lacking.

**Project Status:**

The existing conditions model, with calibration to five historical storm events, was completed in January 2016 and is under review by the Client. (Development of proposed solutions is ongoing.)

**Note:** Project was originally initiated as a Phase I Study, including preparation of ESR Forms, but modified to DI.

