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Technical Memorandum

To: **City of Rosemount Engineering Guidelines Distribution Recipients**

From: **Bill Alms, WSB & Associates**

Date: **May 19, 2016**

Re: **Use of Atlas 14 Precipitation data within the City of Rosemount, MN**

Implementation

This technical memorandum is a supplement to the City of Rosemount Engineer Guidelines dated February 2008. This memorandum is effective immediately for all developers, builders, and engineers creating final plans and specifications within the City of Rosemount.

Guidelines

Use Atlas 14 Precipitation Frequency Estimates when using rainfall-runoff models to compute hydrology for the design of hydraulic infrastructure. The Atlas 14 data is obtained from NOAA's Precipitation Frequency Data Server (PFDS): http://hdsc.nws.noaa.gov/hdsc/pfds/

Rational Method

Use the precipitation intensities from Atlas 14 for the project location to develop a project Intensity-Duration-Frequency (IDF) curve, or use the Atlas 14 regionalized IDF values developed by MnDOT with the Rational Method to calculate flow.
http://www.dot.state.mn.us/bridge/hydraulics/atlas14/atlas14regions/atlas14regions.html

NRCS Method

Use the rainfall distribution derived from Atlas 14 data or use the NRCS MSE 3 rainfall distribution with the NRCS rainfall/runoff hydrology method. Do not use the NRCS Type II rainfall distribution. Use the Atlas 14 depth for the project location or the Minnesota NRCS Atlas 14 county average depth when the 24 hour precipitation depth is used. Use the standard NRCS dimensionless unit hydrograph with the peak rate factor of 484.

Further guidance on the NRCS methodology is available from the Minnesota NRCS Office at:
http://www.nrcs.usda.gov/wps/portal/nrcs/detail/mn/technical/?cid=nrcs142p2_023722

Questions

Any questions regarding the technical provisions of this Technical Memorandum can be address to the following:
- **Bill Alms, City of Rosemount Water Resources Consultant at walms@wsbeng.com or 763-231-4845.**