

Appendix 7-C

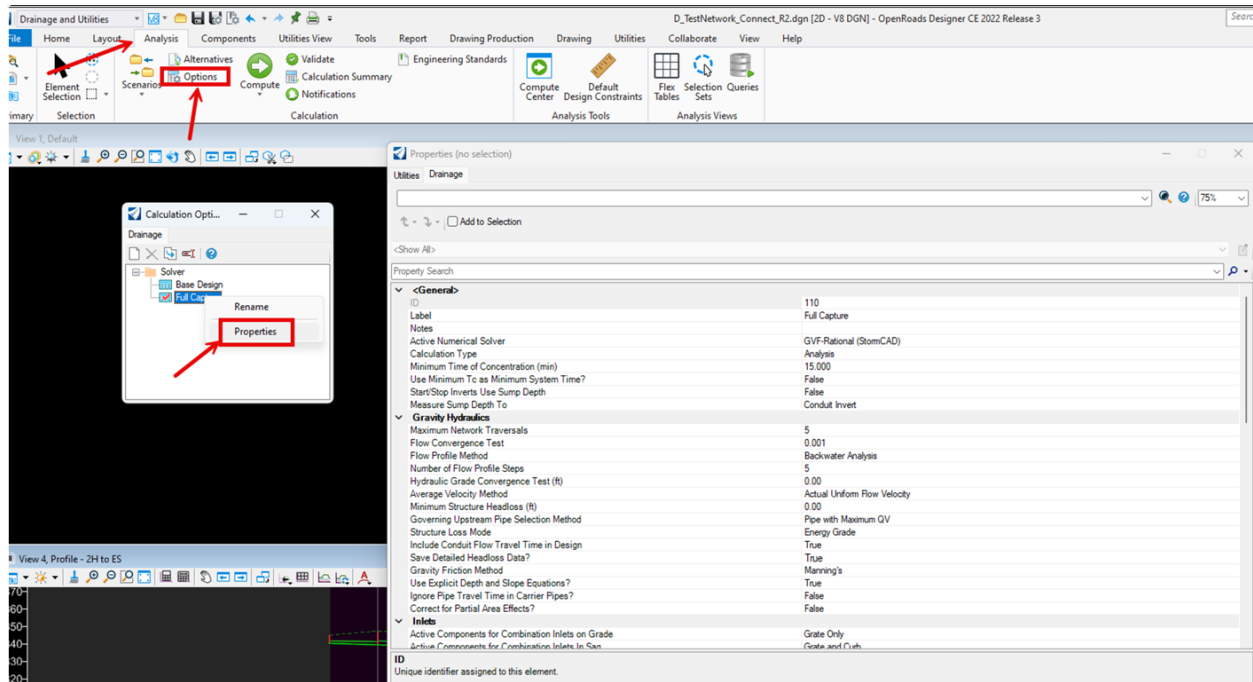
ORD Drainage and Utilities Hydraulic Settings

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If you require assistance accessing this information or require it in an alternative format, contact the Michigan Department of Transportation's (MDOT) Americans with disabilities Act (ADA) coordinator at Michigan.gov/MDOT-ADA.

ORD Drainage and Utility Hydraulic Settings

Refer to the MDOT Development Guide on the SharePoint Site for additional information on using the Drainage and Utilities software. The following steps describe how to open the calculation property settings.



Refer to **Table 7-C-1** for detailed ORD Hydraulic Settings for inlet spacing and storm sewer design.

Table 7-C-1. ORD Drainage and Utility Hydraulic Settings

General	Calculation type	Analysis
Gravity Hydraulics	Flow convergence Test	0.001
	Flow Profile Method	Backwater analysis
	Number of Flow Profile Steps	100
	Hydraulic Grade Convergence Test (ft)	0.00
	Average Velocity Method	Actual Uniform Flow Velocity
	Minimum Structure Headloss	0.00
	Governing Upstream Pipe Selection Method	Pipe with Maximum QV
	Structure Loss Mode	Energy Grade
	Include Conduit Flow Travel Time in Design	True
	Save Detailed Headloss Data	True
	Gravity Friction Method	Manning's
	Use Explicit Depth and Slope Equations?	False
	Ignore Pipe Travel Time in Carrier Pipes?	False
	Correct for Partial Area Effects?	False
Inlets	Active Components for Combination Inlets on Grade	Grate only
	Active Components for Combination Inlets in Sag	Grate and Curb
	Neglect Gutter Cross Slope for Side Flow?	False
	Neglect Side Flow?	False
	Split Downstream Surface Flow Between Gutters	False
Pressure Hydraulics	Pressure Friction Method	Manning's
Rational Method	Use Rational Method Frequency Factors	False
	Allow Runoff Coefficient to Exceed 1.0?	False
	Carryover Modeling Method	As CA (Traditional)
HEC-22 Energy Losses (Third Edition)	Flat Submerged Coefficient	-0.05
	Flat Unsubmerged Coefficient	-0.05
	Depressed Submerged Coefficient	0
	Depressed Unsubmerged Coefficient	0
	Half Bench Submerged Coefficient	-0.05
	Half Bench Unsubmerged Coefficient	-0.85
	Full Bench Submerged Coefficient	-0.25
	Full Bench Unsubmerged Coefficient	-0.93
	Improved Submerged Coefficient	-0.6
	Improved Unsubmerged Coefficient	-0.98