

DRAINAGE DESIGN CHECKLIST FOR ACCESSING STATE TRUNKLINE DRAINAGE SYSTEMS

This checklist provides the required information necessary for MDOT review of drainage connections within MDOT right of way (ROW). Use MDOT's [Drainage Manual](#) as the primary reference for hydrologic and hydraulic calculations. MDOT will not accept drainage connections from properties that do not naturally drain to the MDOT ROW.

Base Information *(Provide all)*

Contour map of existing and proposed conditions
Hydrologic analysis of existing and proposed conditions (Rational or modified rational methods are not acceptable for determining volume)
Plans of proposed stormwater conveyance system
Outlet control details (limit discharge rate to MDOT piped systems to 6 fps or less)
Connection details to MDOT system
Hydrologic and hydraulic design calculations. (Digital copy of modeling program required when computer application is used)

Information for Detention/Retention/Infiltration Basins

Elevation vs storage table or curve
Elevation vs discharge table or curve (excluding infiltration component)
Soil boring information showing groundwater elevations. Borings should be taken at the deepest elevation of the basin(s) and advanced to a minimum depth of 5 ft
Permeability test results (infiltration basins only)

Flood Routing Method *(Choose one. Required for sites with detention/retention/infiltration)*

NRCS TR55
TR20
Modified Puls Method
HEC-1
Other

Note: The rational or modified rational methods are not acceptable for flood routing. Computer programs must use a hydrograph to calculate runoff volume for routing calculations.

National Pollutant Discharge Elimination System (NPDES) Information

Applicant verifies that the discharge to MDOT's stormwater system will not cause a violation of [MDOT's NPDES Stormwater Discharge Permit](#)
Calculations showing the discharge rate to the MDOT drainage system for the 2-yr., 24-hr storm will not increase compared to existing conditions
Documentation that the first inch of runoff from the site to the MDOT drainage system will be treated to remove 80% of total suspended solids using a NJDEP certified manufactured treatment device **or** provide calculations showing at least an 80% sediment removal efficiency for other treatment methods

Additional Information *(Provide all that apply)*

Private drainage easement(s)
(Required when multiple properties share the proposed drainage system)
NPDES stormwater industrial permit Certificate of Coverage
(Required when stormwater discharge associated with industrial activities defined by 40 CFR 122.26(b)(14))
Energy dissipation details to control discharge velocities
(Required when proposed velocity is 6 fps or greater entering a non-enclosed MDOT system)
Local stormwater requirements
(Required when either flows or storage volumes are more restrictive than MDOT's requirements. Meeting local requirements may not meet MDOT requirements.)
Flow restrictors (i.e., orifice plates/caps) must not be removable
Input and output reports in pdf format for the range of flows (Required when computer application is used)
Outlet pipe is outside MDOT ROW unless directly connected to manhole/catch basin

**** Failure of the applicant to submit all required materials will result in delays or rejection of the application.****

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ALL FIELDS SHALL BE COMPLETED BY THE APPLICANT

Data Summary

Site Information			Existing			Proposed				
Drainage Area (Acres)										
Site % Impervious										
Frequency	Existing flow to MDOT ROW		Proposed flow to MDOT ROW							
			Without Detention			With required detention*				
	Discharge (cfs)	Runoff Volume (cft)	Discharge (cfs)	Velocity ** (ft/s)	Runoff Volume (cft)	Discharge (cfs)	Velocity (ft/s)	Required Storage Volume *** (cft)	Design Storage Volume (cft)	Water Surface Elevation (ft)
2-year Storm Event										
10-year Storm Event										
50-year Storm Event										
100-year Storm Event ****										

* Not required if proposed discharge is less than or equal to the existing discharge without detention.

** Not applicable (N/A) if "sheet flow" into MDOT ROW or detention is proposed.

*** Difference in volume between the proposed and existing conditions. N/A if proposed volume is less than or equal to existing volume.

**** Harmful Interference Evaluation.

Certification

I, _____, P.E., have prepared the attached plans and specifications for the
(Print your name)

proposed drainage system. The proposed flow from this drainage system is discharged at a flow rate equal to or less than the existing flow rate conditions into the MDOT stormwater conveyance system; the velocity discharged is properly dissipated; there is storage on the permit applicant's property for the range of flows above so that no harmful interference to MDOT ROW or adjacent properties will be caused. This discharge to MDOT's stormwater system will not cause a violation of MDOT's NPDES stormwater discharge permit and the site is designed to include best management practices (BMPs) to treat the first inch of runoff to achieve 80% total suspended sediment removal. A maintenance plan is developed to ensure the long-term operation of the BMPs.

Signature

, P.E.

Michigan Professional Engineer License Number

This document shall be sealed in the space to the left and submitted with the application.