



GENESEE COUNTY DRAIN COMMISSIONER'S OFFICE

-DIVISION OF-
SURFACE WATER MANAGEMENT

G-4608 BEECHER ROAD, FLINT, MI 48532
PHONE (810) 732-1590 FAX (810) 732-1474

JEFFREY WRIGHT
COMMISSIONER

23 October 2025

Reference: Warehouse/Office Space; PID: 18-24-400-021

Melissa Lawrence
Lawrence Engineering P.C.
4344 Silver Lake Rd.
Linden, MI 48451

Dear Ms. Lawrence,

We have reviewed the site plan for this proposed project. We cannot approve the storm water plan for the following reasons:

- Compensatory storage for the driveway apron and approaches need to be provided for sediment treatment, channel protection, and flood protection.
- It is unclear where the roof drainage will go from units 9-12. Please show where the roof will drain ensuring it will reach the pond.
- Please include the calculations for stormwater review of the driveway culverts.
- Please provide a berm detail showing how the proposed berm along the northern edge of the pond will be constructed.
- Please provide a detail with dimensions for the rip rap spillways. Spillways should extend into the pond to prevent erosion.
- Please revise the rim elevation of the OCS on sheet 3.
- No operation and maintenance information was submitted with the plans. Part D of our design standards require the information be provided to the owner on how to maintain and operate the new storm water BMP's that will be installed on site.

We offer the following for your consideration:

- Any work done in the Road Right-of Way may require a permit from the GCRC or MDOT.
- According to our standards, we recommend a maximum slope of 1:4 for ponds within a commercial area.

If you have questions or comments, please feel free to contact our office. Thank you.

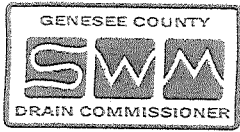
Sincerely,

Heather Kronenberg

Heather Kronenberg
Civil Engineer

cc: LEP1023(18-24)

Vienna Township Building Department
Plans Drawn Date: 10-13-2025



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STORM WATER REVIEW SUBMITTAL FORM

Project Name: Warehouse/Office Space
Parcel Number(s): 18-24-400-021
Address: N. Saginaw Road, Vienna Township, Genesee County, Michigan, 484...
Name Submitting: Lawrence Engineering P.C.
Party Submitting: Melissa Lawrence E-mail: 1996LEPC@gmail.com
Mailing Address: 4344 Silver Lake Road
City, State Zip: Linden, Michigan 48451
Phone Number: 810-750-5280

Type (Check all that apply):

Commercial: [checked] Residential: [] Road: [] Utility: [] New Construction: [] Redevelopment: []

Description:

Is Submission Required

Does site drain to County Drain or Road Commission system? [checked] Yes [] No
Is submission required by local Municipality? [checked] Yes [] No
Is this a Plat or Mobile Home Park? [] Yes [checked] No
Is plan required to be submitted for your NPDES permit? This permit is issued to Municipalities and Schools by EGLE. [] Yes [checked] No

If you answered yes to any continue below. If you still plan to submit to office please continue below to determine if you must meet Genesee County Standards.

Acreage Disturbed (acres): 1.64 Is Disturbed Area > 1 acres? [checked] Yes [] No
Amount New Impervious (acres): 1.3 Is Impervious < 1 and > 0.5 acres? [] Yes [checked] No

Is site part of a larger development with > 0.5 Acre of Impervious: [] Yes [checked] No

Did you answer yes to any of the acreage questions above? [checked] Yes [] No

If yes than your site must meet Genesee County Standards for Storm Water Management please submit this completed form and 1 site plan to 4608 Beecher Road, Flint, MI 48532 for review and approval.

Design Criteria

Part A Sediment Treatment

Using statewide analysis by region for the 90-percent annual non-exceedance storms that is summarized in the March 24 2006 MDEQ memo. (Genesee County is considered to be part of the Detroit Metro Area for calculating runoff) A copy of this memo is available on the Drain Commissioner's website. www.gcdcswm.com

Impervious Area(acres)*: <u>1.30</u>	$R_v = 0.05 + 0.009(\text{Imp})$	<u>0.79</u>
Tributary Area(acres): <u>1.64</u>	P = 0.9 inches for "Detroit Metro" area	
Percent Impervious(Imp): <u>79%</u>	$WQV = \frac{P * R_v * A(\text{ft}^2)}{12}$	<u>4,071.99</u>

*For redevelopment if pavement is milled and resurfaced sediment control is not required. If parking lots are redesigned sediment control will be required.

This volume of water needs to be treated for minimum of 80% TSS removal. Describe the methods that will be used to meet this goal.

Pond is designed to hold 20% of WQV.

Part B Channel Protection

Channel Protection protects resource impairment from flow volume and rate increase during low flow events. This can be done using any of the following methods:

- Computing Flood Discharges for Small Ungaged Watersheds
- TR55
- HEC-RAS
- HEC-HMS
- USEPA SWMM

A sample spreadsheet has been provided on our website along with a chart of additional CN coefficients that can be used.

This water is to be infiltrated or evaporated from the site. Please explain how this will be accomplished. If soil conditions will not allow for infiltration please provide documentation this volume of water will need to be held on site for a minimum of 48 hr and released and a discharge rate lower than the 2-year storm discharge from the site.

Infiltration Rate of Property: ~~0.24-0.5 in/hr~~ > 10" / hr @ pond location Depth of ground water: 0-24" ✓ ⇒ No inf.

See Plan Sheet for storm calculations.

Part C Flood Protection

Genesee County requires that the 100-year storm event be handled by the detention system. Because of the soil types retention basin are not allowed. All volumes will be checked using the rational method. Engineers are required to find the time at which the basin will reach max volume. If multiple ponds add additional sheets

Tributary Area (acres) =	<u>1.64</u>	$V_{pond} =$	<u>17,322.70 cu.ft.</u>
$C_{weighted} =$	<u>0.9055</u>	HWL =	<u>741.0'</u>
$Q_a = A * 0.2 =$	<u>0.328</u>	Freeboard =	<u>742.0'</u>
$Vol_{required} =$	<u>17,307 cu.ft.</u>		

Predevelopment	Redevelopment Post Development	Detention Pond Design
$C_w =$ _____	$C_w =$ _____	$C_w =$ _____
$Q_a =$ _____	$Q_a =$ _____	$Q_a =$ _____
$V =$ _____	$V =$ _____	$V =$ _____

Additional Notes

See Plans.

Please use Rainfall Intensity - Frequency Curves found on page 12 of the Design Parameters for I

Part D Operation and Maintenance

Please provide documentation on the plans or as a supplement on Yearly and Long term operation and maintenance on all BMPs used to comply with this approval.

Office use only:

Discharge to an MS4? Owner: _____

Site Plan Number: 04449

Approved: Yes No

Reviewed for Post Construction: Yes No