Jp2g Consultants Inc.
ENGINEERS · PLANNERS · PROJECT MANAGERS

Jp2g No. 24-5047G

June 2, 2025

Village of Village of Merrickville-Wolford
317 Brock St W, Box 340
Merrickville ON K0G 1N0
Phone (613) 269-4791 Ext 242

Re SWM Peer Review of Orchards of Riverbend, Merrickville-Wolford (1st SWM Review)

Dear Sir or Madam:

The following provides a general review of the plans and reports noted below, submitted as part of the Orchards of Riverbend application in support of draft conditions for the above noted project.

List of Drawings Reviewed:

1. **Drawings 210816-PRE, Pre-Development Plan**, prepared by Kollard and Associates, Rev.1, dated December 20, 2024.
2. **Drawings 210816-POST, Post-Development Plan**, prepared by Kollard and Associates, Rev.1, dated December 20, 2024.
3. **Drawings 210816-GR(1), Proposed Grading and Drainage Plan (1)**, prepared by Kollard and Associates, Rev.1, dated December 20, 2024.
4. **Drawings 210816-GR(2), Proposed Grading and Drainage Plan (2)**, prepared by Kollard and Associates, Rev.1, dated December 20, 2024.
5. **Drawings 210816-ESC, Erosion and Sediment Control Plan**, prepared by Kollard and Associates, Rev.1, dated December 20, 2024.
6. **Drawings 210816-DS1, Detail Sheet**, prepared by Kollard and Associates, Rev.1, dated December 20, 2024.

List of Reports/Notes Reviewed:

1. **Conceptual Stormwater Management Report, Proposed Residential Subdivision, 819 County Road 23, Merrickville-Wolford, Ontario,** Prepared by Kollard Associates, dated December 20, 2024
2. **Geotechnical Investigation, Proposed Residential Subdivision, 819 Burritts Rapids Road, Merrickville-Wolford, Ontario,** Prepared by Kollard Associates, dated January 2025

Jp2g SWM Review Note

This response letter is provided in support of draft plan conditions. The below comments are required to be addressed in the detailed design stage.

1 Drawings

For Detailed Design:

1. South SWM block is a flat slope. Given the silty-clay nature of this site, infiltration is anticipated to be minimal. Ensure minimum 0.3% slope through both the SWM facilities to avoid standing water and significant wetland vegetation growing (especially in the roadside ditch).
2. Add the 5- and 100-year ponding elevations in the profile view
3. Ensure minimum 0.30m freeboard elevation for each SWM facility
4. Confirm extent of ponding in plan view on the drawings
5. Add a cross-section view for both SWM facilities along the length of the facility and a second one perpendicular.
6. Ensure all ditches have a minimum depth of 0.85m
7. Ensure minimum cover over culverts
8. Provide a culvert schedule
9. All USF elevations are to meet the following criteria:
    - Min 0.30m above groundwater level and
    - Min 0.30m above roadside ditch or 0.30m above low-lying area on the lot (outside of the setback line)

    Some lots do not meet this requirement (i.e. Lot 4).
10. Generally, the developed portion for the lot should drain to the roadside ditch
11. Illustrate the orifice opening size for pond outlet structures on the details
12. Provide structural design of the concrete structure
13. Lot line swales don't have fall to the roadside ditch. Revise grading to drain (i.e. between lot 23 and 25, lot line swale is 93.34 and ditch invert is 93.41).

2 SWM Report

14. Confirm with RVCA that it is acceptable to convey the roadside ditch into the wetland as well as uncontrolled developed areas.
15. Provide detailed design of the culverts crossing the wetland. Culverts shall be designed for the full flows going to the wetland.
16. Confirm if the RVCA requires the wetland to be evaluated.
17. Section 5.3.5 – Provide infiltration design for the south swale based on existing soil conditions at the swale, supported by geotechnical testing. The percolation rate shown seems high for potential silty-clay and doesn't account for mounding, groundwater levels (adjacent to a wetland), or clogging of infiltration material.
18. Table 6-1: Provide calculation method to show how peak flow velocity was calculated.
19. Sand filter: confirm minimum 1m separation between sand filter and groundwater level. Unclear if the filter will work as intended.
20. Confirm roadside ditch design meets MTO HDDS for local roadway.

Feel free to contact the undersigned for any questions regarding the above comments.

Yours truly,

Jp2g Consultants Inc.

Stephen Arends P.Eng.
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