

TECHNICAL MEMORANDUM

DATE: September 10, 2026
TO: City of Poulsbo
FROM: Paul Fendt, PE
SUBJECT: Nora and Valari - Stormwater Review for Submittals Dated May 13 (Preliminary Drainage Report) and May 18 (plan set)
CC:
PROJECT NUMBER: 553-2237-159
PROJECT NAME: Task Order 14 – Nora and Valari Residences

Parametrix has reviewed the materials provided by the City on July 7, 2026 for the project known as Nora and Valari Residences. as per the scope of work and agreement between the City and Parametrix. The Task Order was executed on August 26, 2026.

We have reviewed the plans provided and the calculations and model results provided in the preliminary drainage report to evaluate whether the basic elements of the stormwater management and drainage systems will be expected to meet stormwater management guidelines as described by the design engineer. There were no model files reviewed, although model inputs and results were evaluated. The site was not field reviewed.

Key items in the review included:

- Preliminary Drainage Report (PDR) dated May 13, 2026 prepared by MAP Ltd.
- Civil Site Plans for review (set of 5 sheets) dated May 18, 2026 prepared by MAP Ltd.

We have the following review comments and findings:

1. Flow Control Minimum Requirement 7

The project is required to control stormwater runoff discharge from the site via on-site controls, detention, or discharge to an existing system with the capacity to accept flows from the site without downstream impacts. A downstream storm drainage system discharging to Liberty Bay (a flow-control exempt water) is available and will be used. However, the system has limited capacity for the design storm and will require targeted flow control reduction. A previous detailed study of the system was prepared and is accepted for use in this analysis (Appendix B). As described in Appendix B, a maximum allowable peak flow of 0.67 cfs or less is the project flow control target.

The information provided in the PDR, Appendix I, is intended to demonstrate the performance of the proposed stormwater system with the required maximum discharge of 0.67 cfs. (pdf page 147). The key elements include runoff from the contributing catchments, downstream system tailwater, detention stage/storage, and outlet structure design.

- a. The catchment runoff and downstream tailwater was reviewed for model inputs and appears to reflect anticipated conditions. However, the storage and discharge structures are inconsistent across the materials. It appears that the storage table (pdf page 159) and level pool routing for the 100-year event (pdf page 163) is for a different detention facility than shown on the plan sheet and in other analyses in this appendix. For example, the results on page 163 show a peak stage of 49.56 feet, whereas the parking area above the structure is at about the same elevation, and different than the top elevation of the structure (45.2) shown elsewhere in the materials.
- b. The backwater analysis in this appendix has been provided to show the receiving system design flow conditions. It shows that the general location of the proposed connection will be surcharged. This level should be used as a tailwater condition for the level pool and detention analysis for the proposed control. The approximate levels determined to date show that the outlet control structure may be backwatered, affecting the discharge and storage available. No number was provided but the hydraulic profile estimate was applied and may affect the performance. Include this value in the level pool routing.
- c. Additional details or drawing of the proposed control structure is requested for review, including location size, structure configuration and size, and orifice dimension and location.

2. Runoff Treatment Minimum Requirement #6

The project is proposing a BioPod water quality vault at the discharge of pollution generating surfaces proposed at the project. This facility will then discharge to the detention vault for flow control. Runoff from other non-pollution-generating surfaces at the site (e.g. rooftops, sidewalks, landscaped areas, etc.) will discharge directly to the detention vault.

- a. The proposed BioPod will meet the enhanced treatment requirement of the manual.
- b. As described in Item 1, there is a discrepancy regarding the peak tailwater level in the detention vault. Also, the IE (43.5) of the BioPod outlet is below the roof of the detention vault (45.2) and below the peak stage (49.56) of the level pool analysis. The tailwater condition under which the water quality vault is operating must be evaluated and considered in the sizing.
- c. Additional details of the proposed BioPod should be provided, such as bypass splitter detail, media treatment area, and connecting pipes.
- d. Demonstrate that the BioPod facility will fit into the proposed project area and have access for operations and maintenance.

3. Runoff Treatment Minimum Requirement #6, replaced impervious surfaces.

It appears that there are improvements or construction proposed in the existing adjacent streets and sidewalks. The extent of replaced pollution-generating surfaces, if any, is not clear, notably in areas not directly part of the main project footprint discharging to the proposed stormwater system.

- a. Show all areas included in the project construction.
- b. Provide a table showing all pavement or impervious surface conversions and square footage.
- c. Show catchment delineations for those areas.
- d. If the areas exceed the replacement thresholds, stormwater treatment may be required for pollution-generating surfaces.

4. On-site storm sewer system.

The onsite storm sewer system location was shown on the plan sheets and includes system rim elevations. No other system details are provided, such as pipe size and inverts.

- a. Show the pipe system profile on the plan.
- b. An analysis of system design and performance should be included for on-site drainage.
- c. Provide catchment area delineations.

5. Landscape drainage.

A portion of the landscaped area to the east of the main development is shown at the head of two of the storm sewer systems. To which system is that area draining?

- a. Provide grading in the landscape area to demonstrate positive drainage and system capacity.
- b. Provide this and all project area in a catchment map drawing.