

TECHNICAL MEMO

To

John Marsh, Administrator
Deep Bay Improvement District

From

Chris Pogson, P.Eng., Project Manager
McElhanney Ltd, Nanaimo

Re

Water Supply Review for Proposed Zoning
Amendment Application No. PL2023-101. 85 Henry
Morgan Drive – PID:023-176-148 Electoral Area H

Date

October 29, 2025

This memorandum is in response to a request by the Deep Bay Improvement District (DBID) to review an application for rezoning for 85 Henry Morgan Drive, Bowser, BC.

DBID provided the following documents for review:

- Regional District of Nanaimo Referral on Zoning Letter, dated September 29, 2025.
- Proposed Strata Plan, prepared by PRISM Land Surveying Ltd, date December 13, 2024.
- Regional District of Nanaimo Bylaw No. 2500.09, Schedules 1 & 2.

1. Proposed Development

The Regional District of Nanaimo (RDN) has received a zoning amendment application proposing to rezone the subject property from Residential 2 (RS2) to a new zone. The proposed amendment would permit the subdivision of the property into up to eight residential parcels, each accommodating one dwelling unit, and one larger parcel that could support up to 19 dwelling units of limited size.

The proposed development is located at the most southern extent of the DBID water service area and is bounded by Esary Road to the south and Maple Guard Drive to the north. Water service to the area is provide by a 150 AC main on both Maple Guard Drive and Thompson Clarke Drive East. There is currently no residential housing on the property.

2. Proposed Water Demands

The proposed zoning amendment will increase water demands on the existing system. As such, based on the criteria used in the Thompson Clake West, Watermain Review Technical Memo (McElhanney 2023), we have calculated the domestic demand for the proposed development.

The water system demands rates are:

Average Day Demand (ADD)	0.53 m ³ /day/service
Maximum Day Demand (MDD)	1.59 m ³ /day/service
Peak Hour Demand (PHD)	3.18 m ³ /day/service

The estimated total demand for the proposed development is:

ADD = 0.53 m ³ /day/service x 27 units	= 14.31 m ³ /day
MDD = 1.59 m ³ /day/service x 27 units	= 42.90 m ³ /day
PHD = 3.18 m ³ /day/service x 27 units	= 85.86 m ³ /day

Current Peak Hour Demand (based on 623 services)	= 1,981 m ³ /day
Peak Hour Demand of Proposed 27unit subdivision	= 86 m ³ /day

Total System Demands with proposed subdivision	= 2,067 m ³ /day
DBID can currently supply	4,216 m ³ /day from eight (8) wells.

The above demands are a typical representation of the project; however, they need to be confirmed by the developers' engineer. Note, the above rates based on a total of 27 residential units.

Based on the above, the current water supply can accommodate the proposed subdivision

3. System Pressure

Based on the water model developed for the Thompson Clake West, Watermain Review Technical Memo (McElhanney 2023), current system pressure in the area is more than 80psi. The additional lots may cause a minor loss in operating pressure; however, this can be addressed by on-site looping of the system in the area.

Based on the above system pressure are considered adequate to service the development.



4. Proposed Servicing

No formal servicing has been proposed at this time. However, generally based on the site plan it is anticipated the following servicing will be required:

- 1) **Lots 1-9:** A watermain will be required to be constructed on Henry Morgan Drive with standard residential services. Please note this has previously been identified as a CEC project.
- 2) **Lots 1-A to 19-B:** A watermain will be required to service these units and likely include a loop from Maple Guard Drive to Thompson Clarke West. This will be a strata development and the District will need to consider who will own the watermain located on strata lands.

Detailed servicing will need to be reviewed once the project proceeds to the detailed design phase.

5. Conclusions & Recommendations

The 2008 Water System Evaluation and 2023 Thompson Clarke West, Watermain Review Technical Memo show sufficient domestic water supply and pressures for this residential development. The proposed property appears to be servable for residential use within the Deep Bay Improvement District.

These recommendations apply on to the Deep Bay Improvement District water system. The developer must receive all other approvals required by the other authorities have jurisdiction with respect to the subdivision.

Regards,



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