

File 121088

August 3, 2023

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Manager, Development Engineering
Town of The Blue Mountains
32 Mill Street, P.O. Box 310
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Re: 372 Grey Road 21, Town of The Blue Mountains
Water Servicing Brief – East Parcel

Dear Brian:

On June 13, 2022, Rhemm Properties Ltd. made a rezoning and severance application to create initially four single family lots fronting on the west side of Grey Road 21 Town of Blue Mountains. As a process of the circulation of the application, the proposal has been reduced to three single family lots.

The lots are located 200 metres from the Town of Blue Mountains existing 200 mm water main on Highway 26, which does have sufficient capacity to service these lots.

In response to the circulation of the proposed development of these 3 lots, Deanna Vickery, P.Eng. of Development Engineering, Town of The Blue Mountains has stated:

“The Town does not support extension of new Town of The Blue Mountain watermain from Highway 26 on Grey Road 21 by the developer. Water servicing will be dependant upon supply capacity becoming available from the Town of Collingwood and upgrades at the Town of The Blue Mountains Arrowhead booster pumping station could be required.”

The Town of Collingwood is prepared to provide water service to the property and confirmed via email May 25, 2022 that:

“The Town would be willing to support connections to our water system following the water treatment plant expansion, scheduled for 2026. Alternatively, if Town of The Blue Mountains was in agreement, the lots could be connected to the Collingwood system and supported from the water allocation provided to TBM through our supply contract (i.e. Collingwood would minus the allocated SDUs from the 1,250 m3/d allocated to TBM).”

The following is provided to address the potable water servicing for the proposed development of the east parcel of 372 Grey Road 21.

PROPOSED DEVELOPMENT

The proposed development will consist of three residential lots fronting Grey Road 21. A 38 mm diameter watermain will be provided to the site from the Town of Collingwood's existing 300 mm diameter watermain located at the intersection of Silver Creek Drive and Grey Road 21. The 38 mm diameter water service will be constructed along the west side of Grey Road 21 to the subject site and 25 mm diameter water services will branch off the 38 mm service to provide potable water to each lot.

WATER SUPPLY & DISTRIBUTION

The Town of Collingwood's Interim Control By-law related to new water connections is no longer in effect; however, the Servicing Capacity Allocation Policy (SCAP) continues to manage how servicing capacity is allocated. This development is likely to be considered minor and should be exempt from the SCAP.

The Town of Collingwood currently provides 1,250 m³/d of water to the Town of The Blue Mountains as part of an existing supply contract. Due to the restrictions currently in place related to development within the Town of Collingwood, they are not able to provide additional water to Town of The Blue Mountains properties. The Town of Collingwood has confirmed they are willing to connect the proposed lots to the Collingwood system, provided they are supported from the water allocation currently provided to the Town of the Blue Mountains through the existing supply contract (ie. no additional water allocation will be provided).

Based on the Town of the Blue Mountains Water and Wastewater Capacity Assessment 2022 Year End Report, the firm capacity available from the Town's water treatment plant is 15,140 m³/d, plus the previously mentioned 1,250 m³/d supplied from the Town of Collingwood. Therefore, the total firm water capacity available is 16,390 m³/d, or 16,164 units based on the five-year rolling Maximum Day Demand (MDD) of 1.014 m³/unit/day. There are currently 10,728 units allocated (connected and/or may connect) and 2,681 units reserved (not connected), leaving 2,755 units of available capacity.

WATER DEMANDS ASSESSMENT

The Town of Collingwood Development Standards (2007), Town of Collingwood Semi-Annual Water and Wastewater Uncommitted Hydraulic Reserve Capacity Update (September 2022) and Town of The Blue Mountains Engineering Standards (May 2023) were used to determine the water consumption demands for the site. The most conservative demand (worst case scenario) will be deducted from the 1,250 m³/d supply provided by the Town of Collingwood.

Town of Collingwood Development Standards

The average water demand was calculated using 260 L/cap/day and 2.90 persons per unit (PPU) as per the Town of Collingwood Semi-Annual Water and Wastewater Uncommitted Hydraulic Reserve Capacity Update and Amendment to Town Development Standards Staff Report PW-2022-16 as approved. Peak



usage factors for maximum day demand and peak hour demand were determined to be 1.77 and 2.7, respectively. The maximum daily demand was calculated to be 4.0 m³/d and the peak hour demand is 6.1 m³/d. The maximum daily demand equates to 3 SDU using the Town's single detached unit equivalent calculation. The supporting calculations are attached.

Town of the Blue Mountains Engineering Standards

The average water demand was calculated using 350 L/cap/day and 2.15 persons per unit (PPU) as per the Town of Blue Mountains Engineering Standards dated May 29, 2023. Peak usage factors for maximum day demand and peak hour demand were determined to be 2.5 and 3.75, respectively, based on the MECP Design Guidelines for Drinking Water Systems (Table 3.1). The maximum daily demand was calculated to be 5.6 m³/d and the peak hour demand is 8.5 m³/d. The supporting calculations are attached.

The maximum day demand calculated using the Town of The Blue Mountains Engineering Standards is more conservative than the demand calculated using the Town of Collingwood Development Standards, therefore 5.6 m³/d will be deducted from the 1,250 m³/d currently being supplied from the Town of Collingwood.

Fire Protection

An existing fire hydrant is located on the south side of Silver Creek Drive approximately 40 m from the southernmost proposed lot and approximately 85 m from the northernmost proposed lot. It is anticipated the existing fire hydrant will provide the requisite fire flows for the proposed development.

SUMMARY

The Town of Collingwood has agreed to supply water to the three proposed lots via a connection to their distribution system, using a portion of the allocation provided to The Town of The Blue Mountains via the existing supply contract (i.e. Collingwood would deduct the allocated SDUs from the 1,250 m³ per day being supplied). Based on the Town of The Blue Mountains demand criteria for determining flows to the three lots, this is equivalent to a deduction of 5.64 m³ per day of the 1,250 m³ per day being supplied.

The Town of The Blue Mountains 2022 Water and Wastewater Capacity report confirms there is sufficient remaining capacity within the Town's water distribution system to service an additional 2,755 units, equal to 2,793 m³ of capacity per day based on the five-year rolling Maximum Day Demand (MDD) of 1.014 m³/unit/day, when including the 1,250 m³ of water supplied per day from Collingwood.

Considering the deduction of the 5.64 m³ per day from the supply contract for the connection of the three lots to Collingwood's system, the remaining capacity within the Town of The Blue Mountains water distribution system would be 2,787 m³ per day. Therefore, there is sufficient capacity within the Town's water system to service the proposed three lots via a connection to Collingwood and the deduction of the



water supplied to the three lots from the supply contract with Collingwood has no significant impact to available capacity.

We trust the findings and conclusions of this letter sufficiently demonstrate the proposed three lots can be serviced via municipal water connections and will allow the Town to advance the review and approval of the on-going consent application.

Yours truly,

Tatham Engineering Limited



Andrew Schoof, B.A.Sc., M.A.Sc.
Engineering Intern
AS:rlh
Encl.



Randy Simpson, B.A.Sc., P.Eng.
Director, Manager – Land Development





Project: 372 Grey Road 21 - East

Date: June 2023

File No.: 121088

Designed: AS

Subject: Water Supply Calculations - ICBL
Town of Collingwood

Checked: JPA

Town and MECP Standards Water Supply Calculation

Sewage Generation for Domestic Water Demand: 260 L/cap/day As per Town of Collingwood Semi-Annual Water and Wastewater Uncommitted Hydraulic Reserve Capacity Update (Septmber 2022) and Amendment to Town Development Standards Staff Report PW-2022-16 as approved

Persons Per Unit: 2.90 PPU

Total Units = 3

Number of Persons = 8.7

Average Daily Flow = 2262 L/day

Average Daily Flow = 2.3 m³/day

Maximum Day Factor = 1.77 As per Town of Collingwood Semi-Annual Water and Wastewater Uncommitted Hydraulic Reserve Capacity Update and Amendment to Town Development Standards Staff Report PW-2022-16 as approved

Peak Hour Factor = 2.70 Town of Collingwood Engineering Standards

Maximum Day Demand: 4.01 m³/d / 1.33 = **3 SDU**

Peak Hour Demand: 6.11 m³/d

Town of Collingwood Semi-Annual Water and Wastewater Uncommitted Hydraulic Reserve Capacity Update (Septmber 2022) - Appendix A

Assumptions:

ADD/ Capita Consumption (L/day): 260

Residential Peaking Factor (ADD:MDD Ratio): 1.77

ICI Peaking Factor (ADD:MDD Ratio): 2.5

Commercial Area ADD (m3/ha/day) 28

Industrial Area ADD (m3/ha/day) 35

Institutional Area ADD (m3/ha/day) 28

Residential Types Legend

| | MDD (m3/d) |
|---|------------|
| Residential - Single Detached Home (2.9 ppl/unit) | 1.33 |
| Residential - Semi Detached (2.7 ppl/unit) | 1.24 |
| Residential - Townhouse/ Row-House (2.4 ppl/unit) | 1.10 |
| Residential - Condo/ Apartment (1.9 ppl/unit) | 0.87 |

Residential Types Legend

| | SDU-E |
|--|-------|
| Residential - Single Detached Home (2.9 ppl/un | 1.00 |
| Residential - Semi Detached (2.7 ppl/unit) | 0.93 |
| Residential - Townhouse/ Row-House (2.4 ppl/u | 0.83 |
| Residential - Condo/ Apartment (1.9 ppl/unit) | 0.65 |



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Water Supply Calculations -
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Town and MECP Standards Water Supply Calculation

Domestic Water Demand: 350 L/cap/day As per Town of the Blue Mountains Engineering Standards (May 2023)
Persons Per Unit: 2.15 PPU

Total Units = 3
Number of Persons = 6.5
Average Daily Flow = 2258 L/day
Average Daily Flow = 2.3 m³/day
Maximum Day Factor = 2.50 As per MOE Design Guidelines for Drinking Water Systems (2008)

Peak Hour Factor = 3.75 As per MOE Design Guidelines for Drinking Water Systems (2008)

Maximum Day Demand: 5.64 m³/d
Peak Hour Demand: 8.47 m³/d