



Enhancing our communities



11476 Highway 26

WATER TAKING AND DISCHARGE PLAN

Integricon Property Restoration and Construction Group Inc.

Document Control

File:

120232

Date:

June
25, 2025

Prepared by:

Tatham Engineering Limited

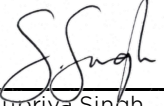
115 Sandford Fleming Drive, Suite 200
Collingwood, Ontario L9Y 5A6

T 705-733-9037
tathameng.com

Prepared for:

**Integricon Property Restoration and
Construction Group Inc.**

219 Westcreek Drive
Vaughan, Ontario L4L 9T7

Authored by:	Reviewed by:
 Supriya Singh., M.Sc., P.Geo. Hydrogeologist, Project Manager	  Alicia Kimberley, M.Sc., P.Geo., QP _{ESA} Manager - Hydrogeology & Geoenvironmental

Disclaimer	Copyright
The information contained in this document is solely for the use of the Client identified on the cover sheet for the purpose for which it has been prepared and Tatham Engineering Limited undertakes no duty to or accepts any responsibility to any third party who may rely upon this document.	This document may not be used for any purpose other than that provided in the contract between the Owner/Client and the Engineer nor may any section or element of this document be removed, reproduced, electronically stored or transmitted in any form without the express written consent of Tatham Engineering Limited.

Issue	Date	Description
1	June 25, 2025	Issued to Client



Document Contents

1 Introduction.....1

1.1 Site Description.....1

1.2 Hydrogeological Setting2

1.3 Groundwater and Surface Water Interactions.....2

2 Water Taking Plan.....3

2.1 Construction Dewatering Discharge Rate and Zone of Influence.....3

2.2 Potential Settlement and Monitoring.....3

2.3 Potential Impact on Other Water Users.....3

2.4 Reduction of Groundwater Flow to WaterBodies.....4

2.5 Water Quantity, Quality, and Groundwater Level Monitoring Program.....4

3 Discharge Plan.....7

3.1 Proposed Discharge Method and Location.....7

3.2 Erosion and Sediment Control Measures.....7

3.3 Statements7

4 Summary of Qualifications8



1 Introduction

Tatham Engineering Limited (Tatham) was retained by Integricon Property Restoration and Construction Group Inc. to prepare a Water Taking and Discharge Plan to support future construction works at 11476 Highway 26 in Collingwood, as shown on Figure 1 (the “Site”). The proposed development consists of two mixed-use buildings with one common level of underground parking (P1)

The Water Taking and Discharge Plan was prepared to support obtaining an Environmental Activity and Sector Registry (EASR) registration for the project, as recommended by DS Consultants Limited (hereinafter referred to as “DS”). Short-term construction dewatering was estimated to be 352,000 L/day.

The following reports and letters by DS were relied upon for preparation of this water taking and discharge plan:

- Geotechnical Investigation, Proposed Residential Buildings, 11476 Highway 26, Collingwood, Ontario, dated August 15, 2022.
- Preliminary Hydrogeological Investigation, Proposed Residential and Commercial Development 11476 Highway 26, Collingwood, Ontario, dated February 15, 2023.
- Surface Water and Groundwater Level Monitoring, 11476 Highway 26, Collingwood, Ontario, dated October 18, 2024.
- Surface Water and Groundwater Level Monitoring, Wetland Risk Evaluation and Feature Based Water Balance Study, 11476 Highway 26, Collingwood, Ontario, dated April 21, 2025.

This water taking and discharge plan is to be read in conjunction with the above reports.

1.1 SITE DESCRIPTION

The Site is located at 11476 Highway 26 in Collingwood. The property is approximately 2.7 hectares (ha) and is surrounded by the Lighthouse Point Development on all sides excluding Highway 26. The Site is bounded by Highway 26 to the South, Johnston Park Avenue to the North, Waterfalls Lane to the East and existing medium density residential properties to the west as illustrated in Figure 1.

The Site was formerly known as the Beacon Glow Motel and previously comprised approximately two dozen motel units, an office, modest amenities, and parking. The property has since been vacant for several years and is covered in tall grass, moderate vegetation, and trees. Further, a



coastal shoreline wetland occupies the northern portion of the property. There are no existing buildings located on the Site.

The topography at the site is flat with a gentle northwards slope with surface elevations ranging from 181.0 to 178.9 meters above sea level (m asl). Georgian Bay is located approximately 140 m northwest of the site from its northern boundary.

1.2 HYDROGEOLOGICAL SETTING

The site is located within the Simcoe Lowlands physiographic region comprising sand plains. Surficial geology mapping available from the Ontario Geological Survey (OGS) and the Hydrogeological Assessment from DS indicates the site is underlain by coarse-textured glaciolacustrine deposits consisting of sand to depths ranging from 1.4 to 2.1 meters below ground surface (m bgs) over Paleozoic bedrock. Bedrock on site consists of limestone of the Lindsay Formation and appears to be fractured within the upper 4.8 m based on rock coring completed at the site.

Locally, the sand forms a shallow unconfined shallow aquifer with groundwater levels ranging from 0.37 to 0.88 m bgs, and water levels within the underlying bedrock were noted at a depth of 0.48 to 0.57 m bgs on-site. Shallow groundwater flow is northwestwards based on groundwater contours developed by DS.

1.3 GROUNDWATER AND SURFACE WATER INTERACTIONS

A surface water and groundwater monitoring program over May to October 2024 was completed by DS. The program involved the installation of two surface water stations and nested drivepoint piezometers (shallow and deep) at the inlet and outlet of the wetland feature (PZ1 and PZ2) as shown on Figure 2.



2 Water Taking Plan

2.1 CONSTRUCTION DEWATERING DISCHARGE RATE AND ZONE OF INFLUENCE

The Radius of Influence (ROI) and temporary dewatering discharge rates were calculated by DS in the Preliminary Hydrogeological report, and the details are summarized below in Table 1. The ROI was calculated to be 103 m and the total flow rate including a 1.5 safety factor and stormwater removal was calculated to be 352,000 L/day.

Table 1. ROI and Dewatering Summary (DS)

LEVEL	ROI (m)	CONSTRUCTION DEWATERING FLOW RATE (L/day)	CONSTRUCTION DEWATERING FLOW RATE INCLUDING SAFETY FACTOR OF 1.5 (L/day)	STORMWATER REMOVAL (IF NEEDED) (@10 MM/24 H) L/DAY	CONSTRUCTION DEWATERING FLOW RATE INCLUDING SAFETY FACTOR OF 1.5 AND A 10 mm RAINFALL EVENT (L/day)
P1	103	86,000	172,000	180,000	352,000

2.2 POTENTIAL SETTLEMENT AND MONITORING

There are residential buildings located west of the site and within the 103 m ROI. Resultantly, there is the potential for settlement related impacts.

Prior to construction dewatering, a settlement analysis is to be completed by the geotechnical engineer, to provide input on the recommended monitoring and/or mitigative actions (if any).

Another cause of significant dewatering related settlement is due to the pumping of fines through the system. It is imperative any dewatering systems shall be designed and installed adequately to ensure no soil is conveyed through the system. Sufficient filtering techniques should be incorporated at the entry point to avoid migration of fines in the pumping and/or dewatering system. The turbidity of pumped water should be monitored daily to ensure the minimal fines are being conveyed.

2.3 POTENTIAL IMPACT ON OTHER WATER USERS

Temporary dewatering activities are not anticipated to impact any water well users as the area is fully serviced by municipal water. DS identified four domestic private wells and one commercial well within a 500 m radius. However, it was summarized in the Hydrogeological Assessment that



use of groundwater as a source of drinking water is not expected within a 500 m radius of the site.

2.4 REDUCTION OF GROUNDWATER FLOW TO WATERBODIES

A coastal wetland feature occupies the northern portion of the site, and Georgian Bay is located approximately 140 m northwest of the site. Given the short duration of the proposed construction dewatering and the water removed will be returned back to the watershed, dewatering activities are not anticipated to have negative impacts to Georgian Bay.

The on-site wetland is located within the ROI and therefore is within the projected cone of depression extending beyond the excavation area during dewatering activities.

While the wetland was categorized as “low risk” in relation to the proposed development through a Wetland Risk Evaluation (DS), monitoring is recommended at the wetland feature at the established drivepoint piezometer inlet (PZ1) and outlet (PZ2) locations to ensure construction dewatering does not negatively impact the feature.

In consultation with the ecologist for the site (LGL Limited), a monitoring and mitigation plan has been developed to mitigate impacts, if any, to the feature. This plan is based on baseline groundwater levels measured in the piezometers by DS over May to October 2024.

Table 2 summarizes the proposed monitoring plan for the wetland feature.

2.5 WATER QUANTITY, QUALITY, AND GROUNDWATER LEVEL MONITORING PROGRAM

Based on baseline groundwater quality analysis, potential dewatering discharge may not meet the PWQO requirements during construction dewatering. Water Quality parameters shall be confirmed during the trail dewatering.

Based on the preliminary background quality, it is recommended discharge be treated by a sediment control facility such as sediment/ filtration bags or a decantation tank. Treatment of dewatering discharge water by filtration or sedimentation to reduce the concentration of suspended solids will likely reduce the concentration of non-dissolved metals to achieve compliance with the PWQO.

If water quality parameters exceed PWQO criteria during construction dewatering, standard treatment options should be evaluated and/or the system should be shut down.

2.5.1 Water Quality Monitoring and Potential Treatment Plan

The discharge and monitoring plan are detailed in Table 2 below.



2.5.2 Groundwater Level Monitoring

The ground water level monitoring program is detailed in Table 2 below.

2.5.3 Discharge Rate Monitoring

Daily groundwater takings are to be measured and recorded using a flow measuring device during construction dewatering by the contractor, in accordance with O.Reg. 63/16. The total daily takings shall be recorded for the duration of the EASR and be submitted through the MECP online reporting system.



Table 2: Water Quality Monitoring Plan for Dewatering Discharge to Surface

PERIOD	MONITORING LOCATION	PARAMETERS	MONITORING FREQUENCY	TRIGGER FOR MITIGATION	MITIGATION MEASURES/COMMENTS
Trial Dewatering	Dewatering Discharge	PWQO Metals	Once during trial dewatering	Exceeds the PWQO	Modify treatment method and/or shut down.
During Construction	Dewatering Discharge	PWQO Metals	Weekly, then every four weeks after three consecutive weekly compliant samples	Exceeds the PWQO	Modify/change treatment method and/or shut down.
		Turbidity	Daily until stable, then weekly. Minimum of five samples	Exceeds 15 NTU	
	Discharge Point	Impact Assessment	At each sampling event	Sedimentation, erosion	Reduce pumping and/or improve sediment/erosion control measures
	On-site monitoring wells	Water level meter	Every two weeks	Water level to be no more than 1 m lower than proposed depth of excavation	Reduce pumping
	Wetland Piezometers PZ1 and PZ2	Water level	Weekly, then every four weeks after three consecutive weekly compliant samples	Water level in PZ1 at or below 0.1 m bgs (elevation 177.8 m asl).	LGL will be notified within 6 hours of noting water levels below the trigger limit. Mitigation measures will be discussed and approved by LGL and Tatham within 24 hours of noting water levels below the trigger limit. Potential mitigation measures could include a reduced dewatering pumping rate, the re-direction of treated dewatering discharge to feature, and/or ultimately the cessation of dewatering efforts. Tatham will provide recommendation to the dewatering contractor with 24 hours of noting water levels below the trigger limit.
Post Construction	On-site monitoring wells	Water level meter	Every two weeks for four weeks, then every four weeks until 90% recovery	Water level recovery less than 90% of baseline level	Continue monitoring
	Wetland Piezometers	Water level meter	Every two weeks for four weeks, then every four weeks until 90% recovery	Water level recovery less than 90% of baseline level	Continue monitoring



3 Discharge Plan

3.1 PROPOSED DISCHARGE METHOD AND LOCATION

There are no storm or sanitary sewers identified along Highway 26 for storm or sanitary sewer discharge options.

Therefore, preferred discharge location is the ground surface. The dewatering discharge will be transported by a hose and/or pipe to the treatment system. Following treatment at a sediment tank, filtration/silt bag or similar, the dewatering discharge will be transported by a hose/pipe to the preferred discharge location.

If significant rainfall events occur (including a 100-year storm event), the on-site excavation shall shut down until storm water infiltration is reduced and the dewatering system can operate efficiently and accurately.

3.2 EROSION AND SEDIMENT CONTROL MEASURES

Sediment and erosion control measures will be set up on-site according to typical best management practices.

3.3 STATEMENTS

The Water Taking Plan, including the water quantity and quality monitoring program, shall be implemented at the site. No adverse effects on the environment are expected if the plan is adhered to.



4 Summary of Qualifications

Alicia Kimberley is a licensed professional geoscientist with a Bachelors and Masters degree in Earth Sciences from McMaster University and the University of Waterloo, respectively. She has thirteen years of professional experience with geoenvironmental and hydrogeological assessments.

Her experience includes the design and execution of aquifer testing, in-situ groundwater sampling, groundwater modelling, and preparation of hydrogeological reports to support EASR registry.

Supriya Singh is a Hydrogeologist with over 7 years of experience. She obtained her Bachelors and Masters degree in Earth Sciences from McMaster University. Her experience includes preparation of hydrogeological assessments to support permitting with the MECP, water balance assessments, and aquifer testing.





NOTES:

1. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
2. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENSE - ONTARIO.

LEGEND

- SITE LOCATION
- WETLAND (NVCA)
- ROAD
- WATERCOURSE
- WATERBODY
- WOODED AREA
- PIEZOMETERS



**11476 HIGHWAY 26, COLLINGWOOD
WATER TAKING AND DISCHARGE PLAN
SITE LOCATION PLAN**

DWG. No.
FIG-1

SCALE: 1:3,000 DRAWN: AO DATE: JUN. 2025 JOB NO. 0120232

