REPORT

Application for Industrial Sewage Works Environmental Compliance Approval

Lafarge Canada - Wellington County Pit/Quarry

Submitted to:

Ministry of the Environment, Conservation and Parks
Client Services and Permissions Branch
135 St. Clair Ave West, 1st Floor
Toronto, Ontario M4V 1P5

Submitted by:

Golder Associates Ltd.
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1536522-R01

July 2019

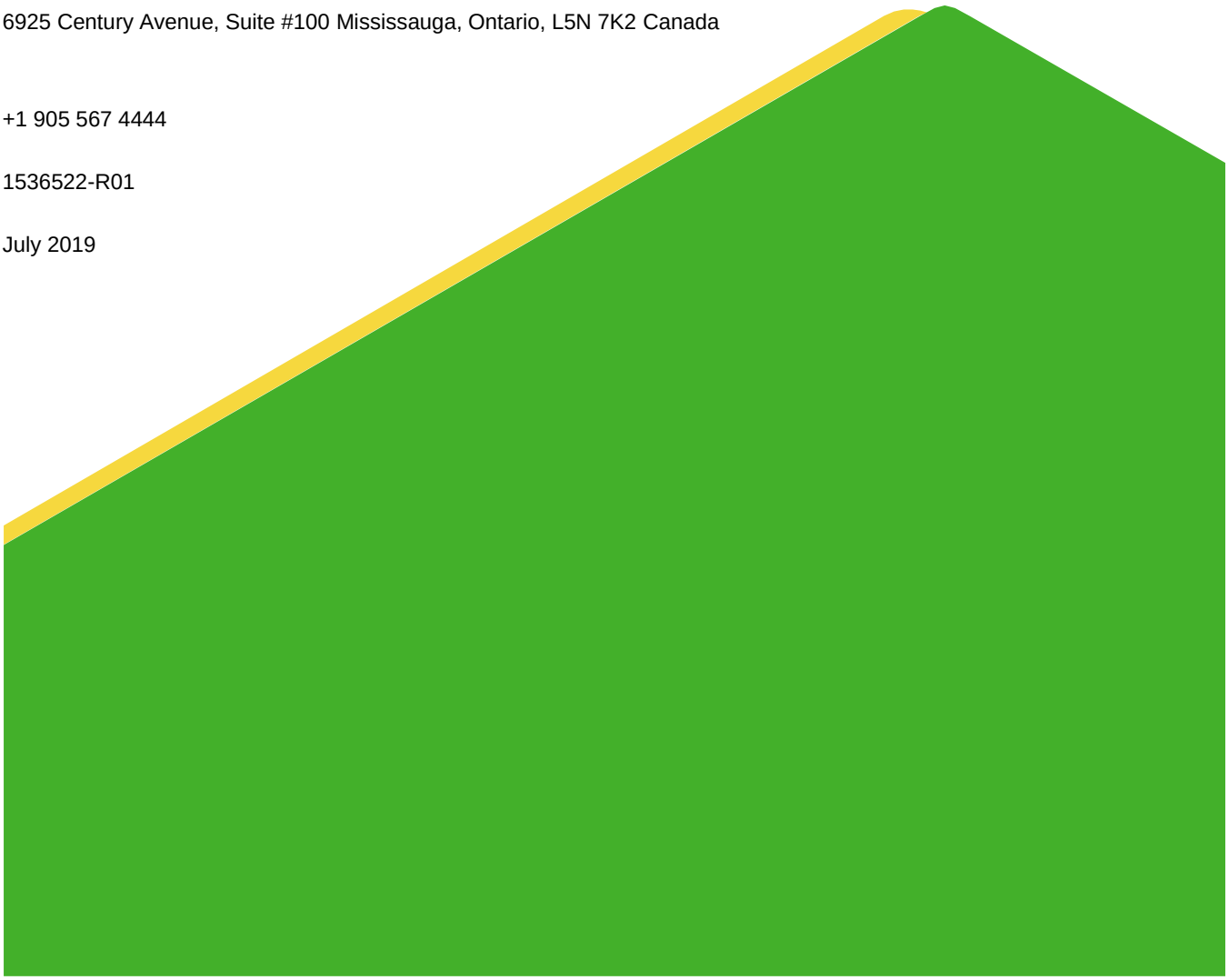

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Table of Contents

1.0 INTRODUCTION 1

2.0 SITE DESCRIPTION 1

3.0 OVERVIEW OF SEWAGE WORKS 2

4.0 PROPOSED MONITORING AND REPORTING PROGRAM 3

5.0 PRE-APPLICATION CONSULTATION WITH MECP 5

6.0 SOURCE WATER PROTECTION REVIEW 5

7.0 APPLICATION FORM AND APPLICATION FEE 6

8.0 CLOSURE 6

TABLES

Table 1: Proposed Discharge Water Quality Limits from the Quarry Sump 3

Table 2: Proposed Individual Wetland Water Level Targets for Monitoring Piezometers 4

FIGURES

Figure 1: Site Location

Figure 2: Existing and Proposed ECA Works

Figure 3: Local Source Water Protection Areas

Figure 4: Cross Section of Proposed Infiltration Ditch

Figure 5: Site Water Handling Diagram

APPENDICES

APPENDIX A
Water Management Plan

APPENDIX B
Zoning Maps

APPENDIX C
Verification of Legal Name

APPENDIX D
Environmental Compliance Approval Application Form

APPENDIX E
Grand River Source Water Protection Plan

APPENDIX F
Operational Site Plans

1.0 INTRODUCTION

Golder Associates Ltd. (Golder) was retained by Lafarge Canada to prepare an Industrial Sewage Works (ISW) Environmental Compliance Approval (ECA) amendment application under Section 53 of the *Ontario Water Resources Act* (OWRA) for its existing Wellington County Pit/Quarry. As shown on Figure 1, the Wellington County Pit/Quarry (the Site) is located on the south side of Wellington County Road 124, in the Townships of Guelph-Eramosa and Puslinch, Ontario. The ECA amendment application and associated technical support documentation is to supersede the existing Certificate of Approval (C of A 0290-6PHGPS) for the Site.

This submission includes the following supporting information found in the attached appendices:

- Appendix A – The Water Management Plan for the Site that was prepared by Golder Associates Ltd. in July 2019, as well as the existing C of A for the Site (Ref No. 0290-6PHGPS - provided as Attachment 1 to Appendix A);
- Appendix B – Existing zoning maps for the Site that were obtained from the Townships of Puslinch and Guelph-Eramosa;
- Appendix C –The Verification of Legal Name of the Applicant (Lafarge Canada Inc.);
- Appendix D –Completed Environmental Compliance Approval Application form;
- Appendix E – Excerpts from the Grand River Source Protection Plan that were prepared on behalf of the Lake Erie Region Source Protection Committee; and,
- Appendix F – The operation plans for the Site.

The process to obtain approval under Section 53 of the OWRA is being undertaken in general accordance with the MECP document dated October 2018 and titled *Guide for Applying for an Environmental Compliance Approval* (hereafter referred to as the 'MOE Guideline').

This report and supporting documentation provide information regarding the existing and proposed sewage works for current and future operational activities. The proposed monitoring and reporting program outlines the steps that will be taken to ensure the proper collection, transmission, treatment and discharge of water from the Site catchment area. This application for an ISW ECA amendment under Section 53 of the OWRA relates to the proposed below water table quarry dewatering and discharge to the Speed River / Speed River Wetland Complex. In order to extract below the water table, the quarry will be dewatered to the Speed River / Speed River Wetland Complex via the existing Quarry Water Management Pond (QWMP)discharge and a proposed infiltration ditch that would be constructed along the southern extent of the Lafarge property. Additional details are provided in the following text and Appendix A – Water Management Plan. The Site operates its water takings under the Permit to Take Water Number 2718-7S3RM7, which is currently under amendment / renewal.

2.0 SITE DESCRIPTION

The Site currently represents an active pit operation and is bordered by Wellington County Road 124 to the northwest, agricultural, commercial and residential lands to the north, and the Speed River / Speed River Wetland Complex to the east and south. To date, only sand and gravel aggregate deposits from above the water table have been extracted from the Site under Aggregate Resource Act Licence #5514. Water takings (approved under

PTTW No. 2718-7S3RM7) are also used on site for Ready-mix concrete and asphalt production, noting that Lafarge operates the Ready-mix concrete plant, while Coco Paving operates the asphalt plant.

The Site occupies land in both the townships of Puslinch and Guelph/Eramosa, and, as a result of this, the Municipal zoning descriptions vary across the Site. The northwest portion of the Site (Guelph/Eramosa Township) is currently zoned as Rural Industrial and Extraction Industrial, while the southeast portion of the Site (Puslinch Township) is zoned as Extractive. The wetland complex to the south of the Site is zoned as Environmental Protection and Natural Environment. The Official Plan Zoning Maps for the two Townships are provided in Appendix B. The legal boundaries of the Site are provided in Appendix F, as illustrated on the approved Site Plans.

3.0 OVERVIEW OF SEWAGE WORKS

Existing Works

The following section describes the sewage works currently in operation, as well as the existing asphalt and Ready-mix concrete plants located on Site. A list of the existing sewage works at these facilities are detailed below, noting that each of the identified items were previously included in the approved C of A (No. 0290-6PHGPS):

- One (1) Quarry Water Management Pond (QWMP), with a total effective water quality storage volume of approximately 22,000 cubic meters (14,000 cubic meters as permanent pool storage and 8,000 cubic meters as extended detention storage), that discharges to the Speed River via an outlet control structure with a control gate and drainage ditch;
- Two (2) catchbasins, serving the Ready-mix concrete plant area and asphalt plant area, that drains to a drainage ditch, and, in turn, the Quarry Water Management Pond (QWMP); and,
- All other controls and appurtenances that are essential for the proper operation of the aforementioned *works*.

Additionally, the Site has operated a wash plant for the above water table extraction. Under proposed conditions, the Site will be maintaining the ability to wash aggregate from their below water table extraction. No changes are proposed for the existing sewage works listed above, with the understanding that the asphalt plant and Ready-mix plant will continue to operate as described under the existing C of A.

Proposed Works

The quarry will operate below the water table and will collect groundwater seepage and precipitation runoff in the quarry sump, where collected water will settle before it is dewatered. The quarry dewatering will be directed towards a ditch, originating at the southeast end of the Site, which will convey flow west adjacent to and along the northern extent of the Speed River wetland complex, until finally discharging to the QWMP. The ditch will provide infiltration to the Speed River Wetland Complex located south of the Lafarge property boundary. The wetland will be monitored to evaluate whether additional quarry water is needed to maintain the existing wetland hydroperiod. When required, water will be introduced to the wetlands via the infiltration ditch. Infiltration beds, weirs or diffusers may be connected to the ditch in the future, if required, to enhance infiltration to the wetland. When wetland water level mitigation is not required, quarry discharge water may also be piped directly to the QWMP to avoid flooding in the wetland. Wetland mitigation is expected during the majority of the year with the exception of short periods during the spring freshet or frozen ground conditions.

Based on the proposed discharge plan, a number of required sewage works associated with the quarry operation are itemized as follows, recognizing that these works are in addition to the existing works listed above:

- One (1) quarry sump, with a total effective water quality storage volume of approximately 15,750 cubic meters, that discharges via a pump to the infiltration ditch, with a maximum discharge rate of 181 L/s and an average discharge rate of approximately 77 L/s;
- One (1) ditch with infiltration beds, weirs and/or diffusers, approximately 1,000 meters long and approximately 4 metres wide, that flows east to west along the northern extent of the Speed River wetland complex and drains to the Quarry Water Management Pond (QWMP); and,
- All other controls and appurtenances that are essential for the proper operation of the aforementioned works.

The conceptual design of the proposed infiltration ditch and water handling strategies are presented on Figures 4 and 5.

Additionally, a report describing and evaluating the proposed water handling system of Wellington County Pit/Quarry has been prepared in support of this ISW ECA application and is provided as Appendix A.

4.0 PROPOSED MONITORING AND REPORTING PROGRAM

The proposed monitoring plan at the Site will include the following tasks:

- Continuous discharge monitoring at the QWMP via an automated flow monitoring gauge;
- Manual water quality and continuous discharge monitoring at the quarry sump discharge (that directs flows to the infiltration ditch) via an automated flow monitoring gauge; and,
- Continuous water level monitoring of three (3) piezometers at the Speed River Wetland Complex via an automated water level loggers.

Continuous flow monitoring at the QWMP is proposed to evaluate the flow volumes discharged from the Site to the Speed River. This monitoring will be carried out with a continuous water level logger with the aid of a field calibrated stage-discharge rating curve.

Continuous discharge monitoring is also proposed for the quarry sump dewatering. This will be completed using a flow totalizer. Manual monthly water quality monitoring of the quarry sump discharge is proposed. The proposed water quality limits at the quarry sump discharge are summarized in Table 1.

Table 1: Proposed Discharge Water Quality Limits from the Quarry Sump

Discharge Parameter	Units	Proposed Limit
Total Suspended Solids	mg/L	25
pH	pH	6.5 – 9.5
Oil & Grease	mg/L	15

The quarry dewatering has the potential to lower water levels within the wetland and therefore continuous water level monitoring at wetland piezometers is proposed. The objective of the proposed water level monitoring at the shallow piezometers is to evaluate the proposed mitigation designed to maintain wetland water levels within the range of the observed baseline monitoring. .

Groundwater level monitoring will be undertaken at two (2) existing piezometers (MP16-1 and MP16-2), as shown on Figure 2,. These monitors, installed in June 2016, include drive point piezometers approximately 1 m and 2 m deep, and are equipped with water level loggers. A third wetland piezometer is proposed for the area east of the existing piezometers (towards Sideroad 10 North). This piezometer is intended for monitoring purposes only to confirm wetland water levels are behaving similar to those at the existing piezometers. The water level targets at the existing piezometers are expected to be sufficient to manage the infiltration ditch performance at this time.

. The wetland water level targets for each existing piezometer location have been set as the highest and lowest seasonal daily average water levels observed within the collected record from 2016 - 2018 (refer to Table 2 below). To achieve naturally occurring flexibility for wet and dry years, the seasonal targets considered water levels from a week before and after each season.

The water level targets represent the high and low bounds of daily average water level at the piezometer, and may be refined as additional baseline monitoring is collected, before proposed quarrying activities commence. It is proposed that, if applicable, the target values may be revised, from time to time, with approval from the District Manager.

Table 2: Proposed Individual Wetland Water Level Targets for Monitoring Piezometers

Existing Piezometers	Season	Low Water Level Target (masl)*	High Water Level Target (masl)*
MP16-1	Spring	296.70	297.05
	Summer	296.45	297.10
	Fall	296.65	297.00
	Winter	296.25	297.10
MP16-2	Spring	297.40	297.60
	Summer	296.40	297.65
	Fall	296.65	297.35
	Winter	296.60	297.60

* Low and high-water level targets have been determined based on daily average water levels

The wetland water level targets are applied to both the shallow and deep piezometers at each location. The water level piezometers will be monitored monthly and will use continuous water level dataloggers.

The results of the water level monitoring will be used to assess discharging towards the wetland. Quarry discharge to the infiltration ditch is expected to be largely continuous, however if daily average water levels in the

wetland drop below the lower target, additional discharge volumes or methods may need to be initiated to direct water to low water level areas of the wetland. Alternatively, if the wetland water levels rise above the high water targets, discharge volumes are to be reduced or stopped until wetland water levels drop below the high water targets. In the case that discharge to the wetland needs to be reduced or stopped, quarry discharge can be pumped directly to the QWMP (via piping).

Monitoring results will be reported annually to the MECP in an annual ECA performance report.

5.0 PRE-APPLICATION CONSULTATION WITH MECP

A pre-application consultation was conducted with the MECP Hamilton District Office (Mr. Michael Spencer) and Golder Associates (Craig De Vito) between March 13 and 14, 2018. The site sewage works and the water handling operations were discussed.

6.0 SOURCE WATER PROTECTION REVIEW

A review of the *Grand River Source Protection Area Amended Proposed Source Protection Plan* (June 2015) was completed for the area surrounding and including the Site as a requirement of the ECA application process.

The review of the Grand River Source Protection plan indicated that the Site is located within two Well Head Protection Areas (WHPAs), as seen in Appendix E. With reference to Figure 8.10 of the Grand River Source Protection plan, the eastern portion of the Site overlaps with a WHPA-C designated area and the remainder of the Site overlaps a WHPA-D area. It is understood that these WHPAs are sensitive to activities involving waste disposal, sewage systems and dense non-aqueous phase liquids (DNAPLs). However, it is important to point out that activities involving waste disposal, sewage systems and dense non-aqueous phase liquids (DNAPLs) are either not applicable at the Site or carried out in portions of the Site that are located outside of the WHPAs. The Site operates an existing septic bed for the facilities bathroom and kitchen sanitary sewage located in the central portion of the Site, which is outside of the WHPA-C boundary (Figure 3). Additionally, the Site's regular operations do not use DNAPLs.

As part of the day-to-day activities on the Site, there may be some risks of unintended spill and/or leaks. However, these considerations will be mitigated through the measures outlined below. The transportation, storage, and handling of all fuels during construction and operations will be in compliance with the Technical Standards and Safety Act, 2000 (Government of Ontario 2000). A plan will be developed to:

- Transport fuel and hazardous materials in approved containers in licensed vehicles;
- Isolate fuel storage tanks with a secondary containment tub to prevent fuels from escaping;
- Avoid re-fuelling of vehicles and equipment, to the extent practicable, within 100 m of a water body;
- Inspect equipment for leaks on a routine basis; and
- Provide adequate supply of spill prevention and emergency response equipment on site at all times.

An Environmental Emergency Response Plan that describes response procedures to potential environmental incidents or emergencies (e.g., spills, fire, erosion or sedimentation) will be prepared for the proposed quarry

operation. The identified mitigation measures are expected to minimize opportunities for accidental spills and leaks that could be washed off into nearby water bodies during a runoff event. In the event of an accidental spill or leak, the implementation of the response plan is expected to result in minimal changes (if any) to the chemical constituents in receiving water bodies.

7.0 APPLICATION FORM AND APPLICATION FEE

As previously mentioned, the completed Environmental Compliance Approval Application form has been provided in Appendix D. The associated application fee has been included as well in the amount of $7,600 (Canadian funds). Based on prior experience for an application of this complexity, it is expected that an application fee of $6,200 (instead of $7,600 - *the amount that the application form suggests*) should be sufficient. To that end, the application fee of $7,600 is included herein to satisfy the MECP screening process; however, it is anticipated that an adjustment (i.e., credit of $1,400) may be required.

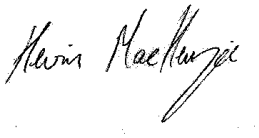
8.0 CLOSURE

We trust that the technical supporting information included herein meets the requirements to support the application for an ISW ECA under Section 53 of the OWRA. However, please do not hesitate to contact the undersigned if you have any questions or concerns.

Signature Page

Golder Associates Ltd.

Craig De Vito, PEng
Water Resources Engineer



Kevin MacKenzie, MSc, PEng
Principal, Senior Water Resources Engineer

CDV/NP/KMM/mp

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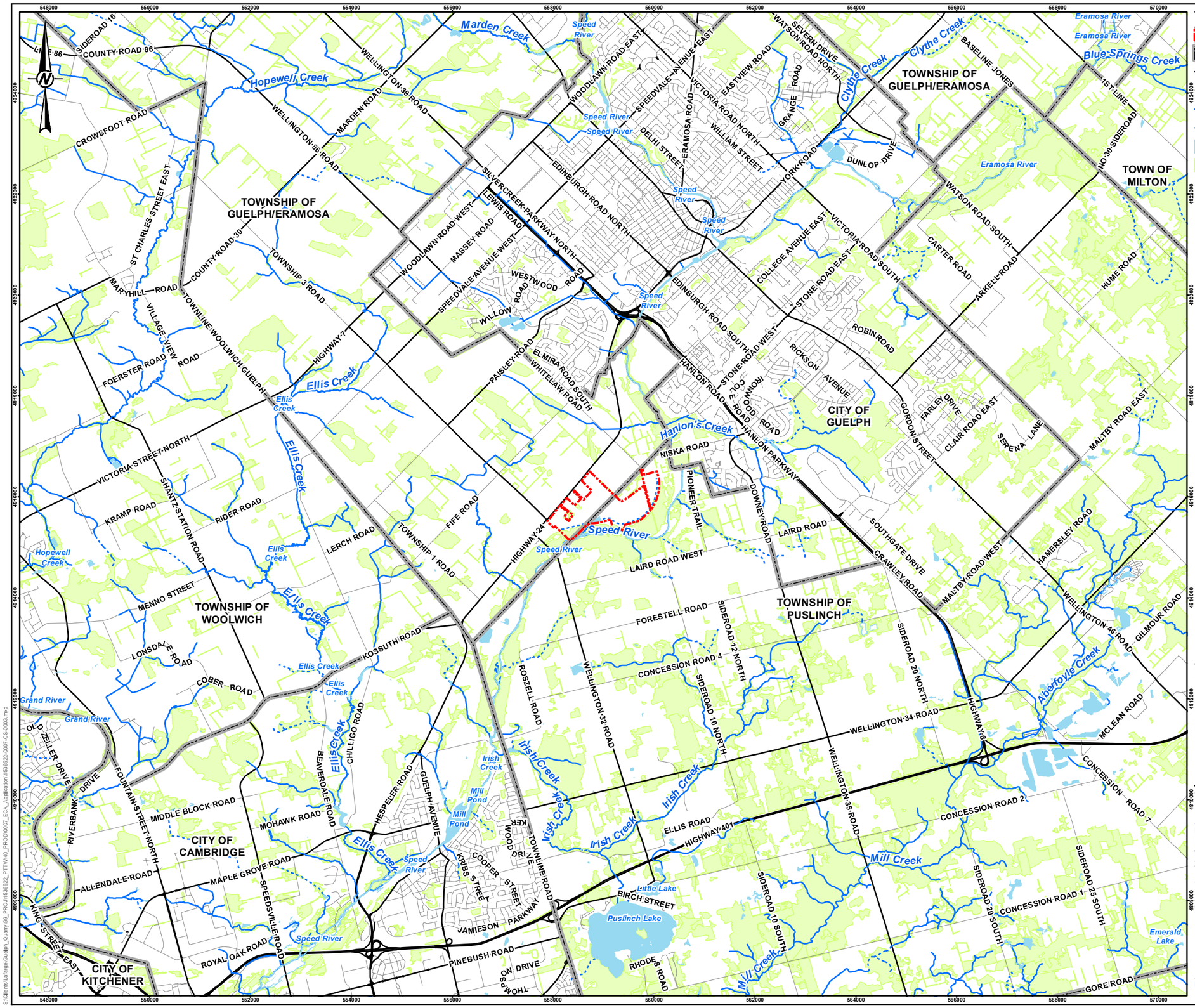
FIGURES



LEGEND

- License Boundary
- Municipal Boundary
- Major Road / Highway
- Local Road
- Watercourse
- Intermittent Watercourse
- Waterbody
- Wooded Area

0 1 2 3

1:75,000 Kilometers

REFERENCE(S)

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PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2015
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CLIENT
LAFARGE CANADA INC.

PROJECT
LAFARGE WELLINGTON COUNTY ECA APPLICATION
WELLINGTON COUNTY QUARRY

TITLE
SITE LOCATION

CONSULTANT
GOLDER

YYYY-MM-DD	2019-06-24
DESIGNED	KD
PREPARED	PR
REVIEWED	CDV
APPROVED	CDV

PROJECT NO.	CONTROL	REV.	FIGURE
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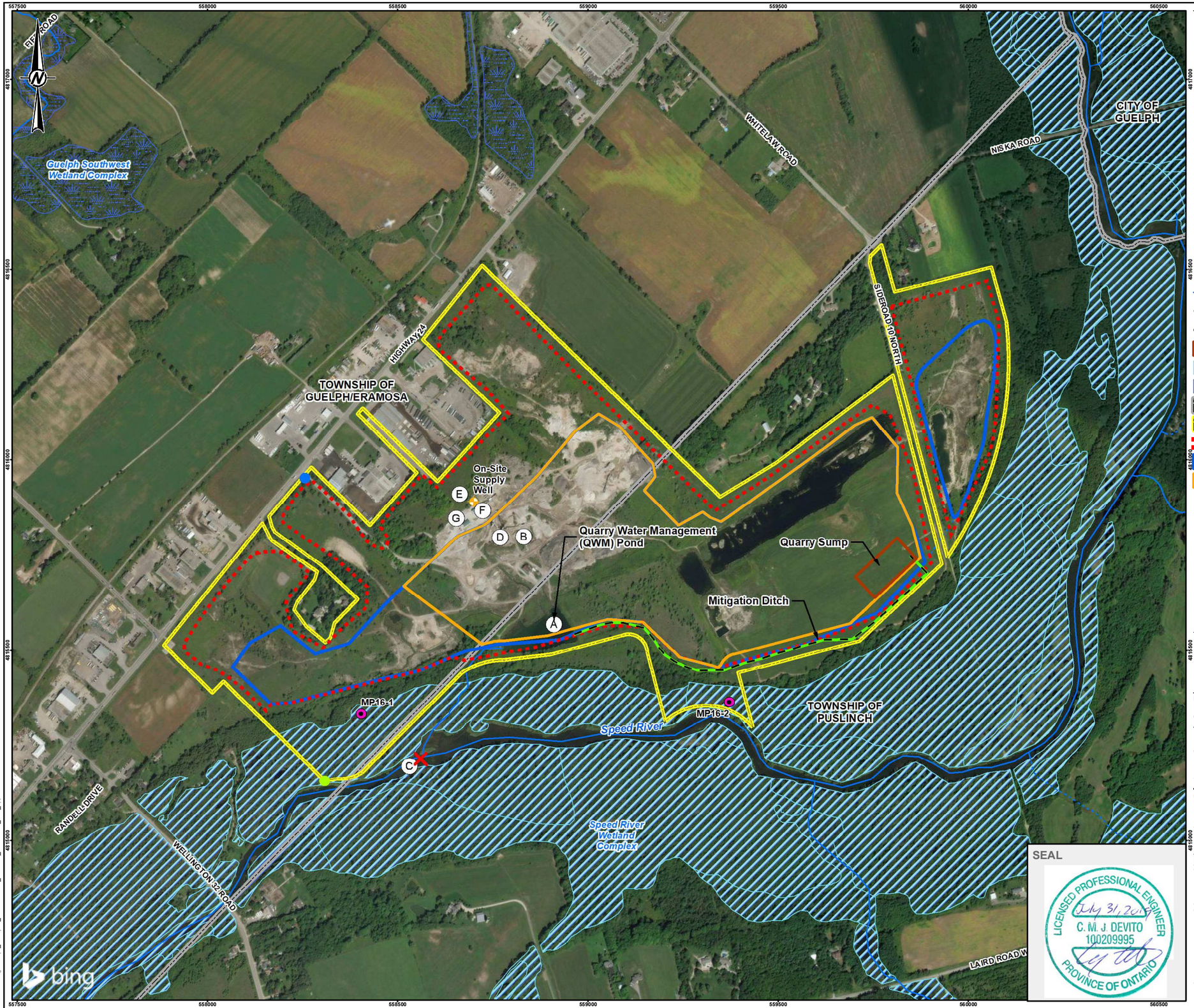

LEGEND

- Main Entrance (E-558255.83, N-4815952.83)
- South West Property Point (E-558307.61, N-4815158.15)
- Piezometer
- Supply Well
- (A) Source Pond / Discharge Pond
- (B) Holding Pond
- (C) River Intake
- (D) Asphalt Plant Wet Scrubber
- (E) On-Site Supply Well
- (F) Concrete Batching Plant
- (G) Concrete Plant Washout
- Watercourse
- Intermittent Watercourse
- Mitigation Ditch
- Quarry Sump
- Provincially Significant Wetland
- Wetland
- Municipal Boundary
- License Boundary
- Approximate Above Water Limit of Extraction
- Approximate Below Water Limit of Extraction
- Initial Phase of Below Water Extraction

0 200 400 600

1:10,000 Metres

NOT FOR CONSTRUCTION
FOR PERMITTING ONLY

NOTE(S)

1. THE AREA OF EXTRACTION IS SUBJECT TO THE CURRENT APPLICATION

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
CONTAINS INFORMATION MADE AVAILABLE UNDER GRAND RIVER CONSERVATION AUTHORITY'S OPEN DATA LICENCE V1.0 - HTTPS://DATA.GRANDRIVER.CA/DOCS/GRCA%20OPEN%20DATA%20LICENCE%20V1.PDF
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SEAL

LICENSED PROFESSIONAL ENGINEER
July 31, 2019
C. M. J. DEVITO
100209995
PROVINCE OF ONTARIO

CLIENT
LAFARGE CANADA INC.

PROJECT
LAFARGE WELLINGTON COUNTY ECA APPLICATION
WELLINGTON QUARRY

TITLE
EXISTING AND PROPOSED ECA WORKS

CONSULTANT
GOLDER

YYYY-MM-DD	2019-06-24
DESIGNED	KD
PREPARED	PR
REVIEWED	GP
APPROVED	CDV

PROJECT NO.	CONTROL	REV.	FIGURE
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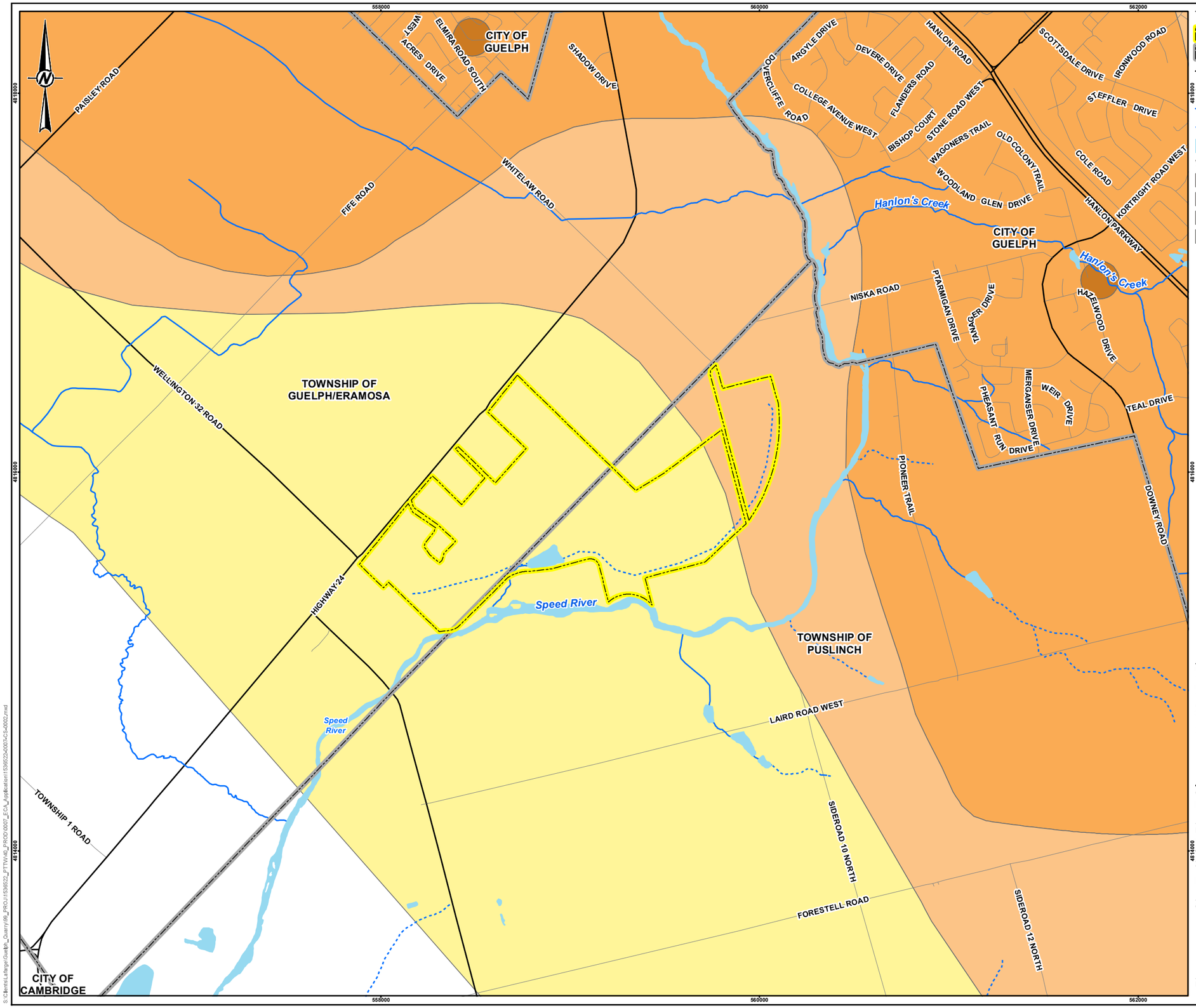

LEGEND

- License Boundary
- Municipal Boundary
- Major Road / Highway
- Local Road
- Watercourse
- Intermittent Watercourse
- Waterbody

Wellhead Protection Area Zone

- WHPA-A
- WHPA-B
- WHPA-C
- WHPA-D

0 500 1,000 1,500

1:20,000 Meters

REFERENCE(S)

1. BASE DATA - MNR LIO, OBTAINED 2015
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2015
2. SOURCE WATER PROTECTION, WELLHEAD PROTECTION AREA ZONE, GRAND RIVER CONSERVATION AUTHORITY, 2018
3. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 17

CLIENT
LAFARGE CANADA INC.

PROJECT
LAFARGE WELLINGTON COUNTY ECA APPLICATION
WELLINGTON COUNTY QUARRY

TITLE
LOCAL SOURCE WATER PROTECTION AREAS

CONSULTANT
GOLDER

YYYY-MM-DD	2019-06-24
DESIGNED	PR
PREPARED	PR
REVIEWED	CDV
APPROVED	CDV

PROJECT NO.	CONTROL	REV.	FIGURE
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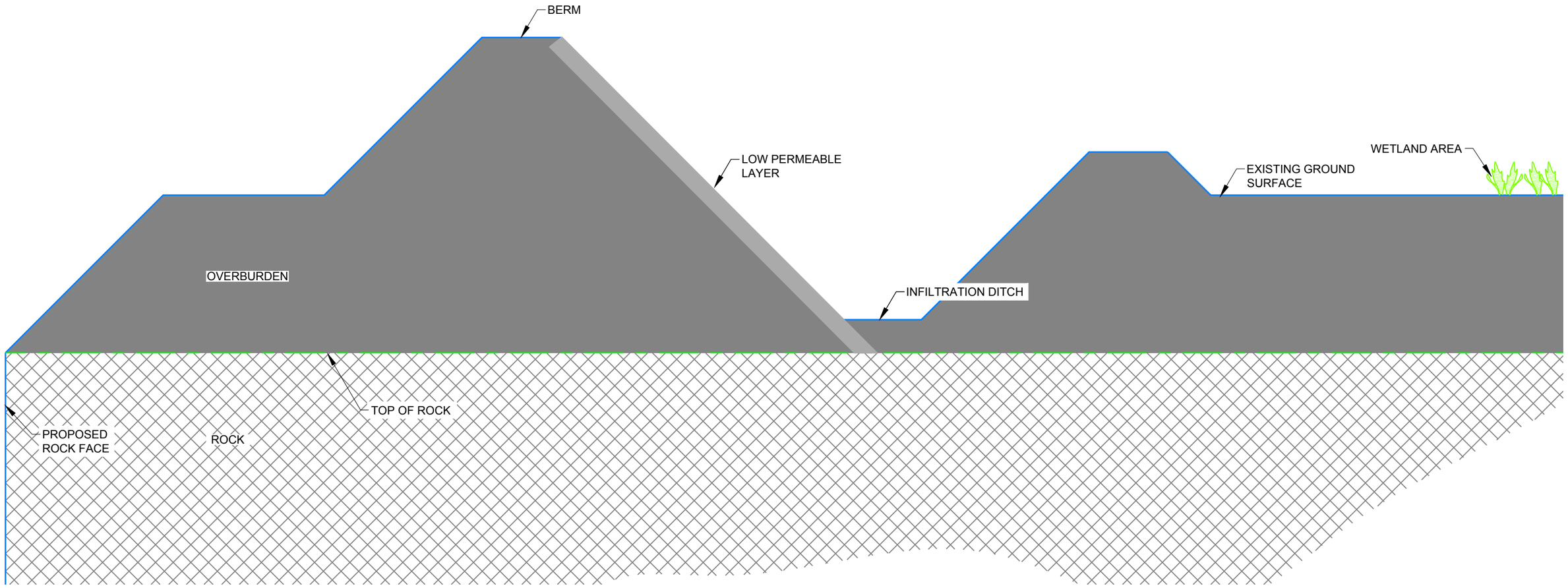

NOT FOR CONSTRUCTION

FOR PERMITTING ONLY

NOT TO SCALE

CLIENT
LAFARGE CANADA INC.

PROJECT
LAFARGE WELLINGTON COUNTY ECA APPLICATION
WELLINGTON COUNTY QUARRY

CONSULTANT
GOLDER

YYYY-MM-DD	2018-04-27
DESIGNED	CV
PREPARED	SEC/NP
REVIEWED	CDV
APPROVED	CDV

TITLE
CROSS SECTION OF PROPOSED INFILTRATION DITCH

PROJECT NO.	PHASE	REV.	FIGURE
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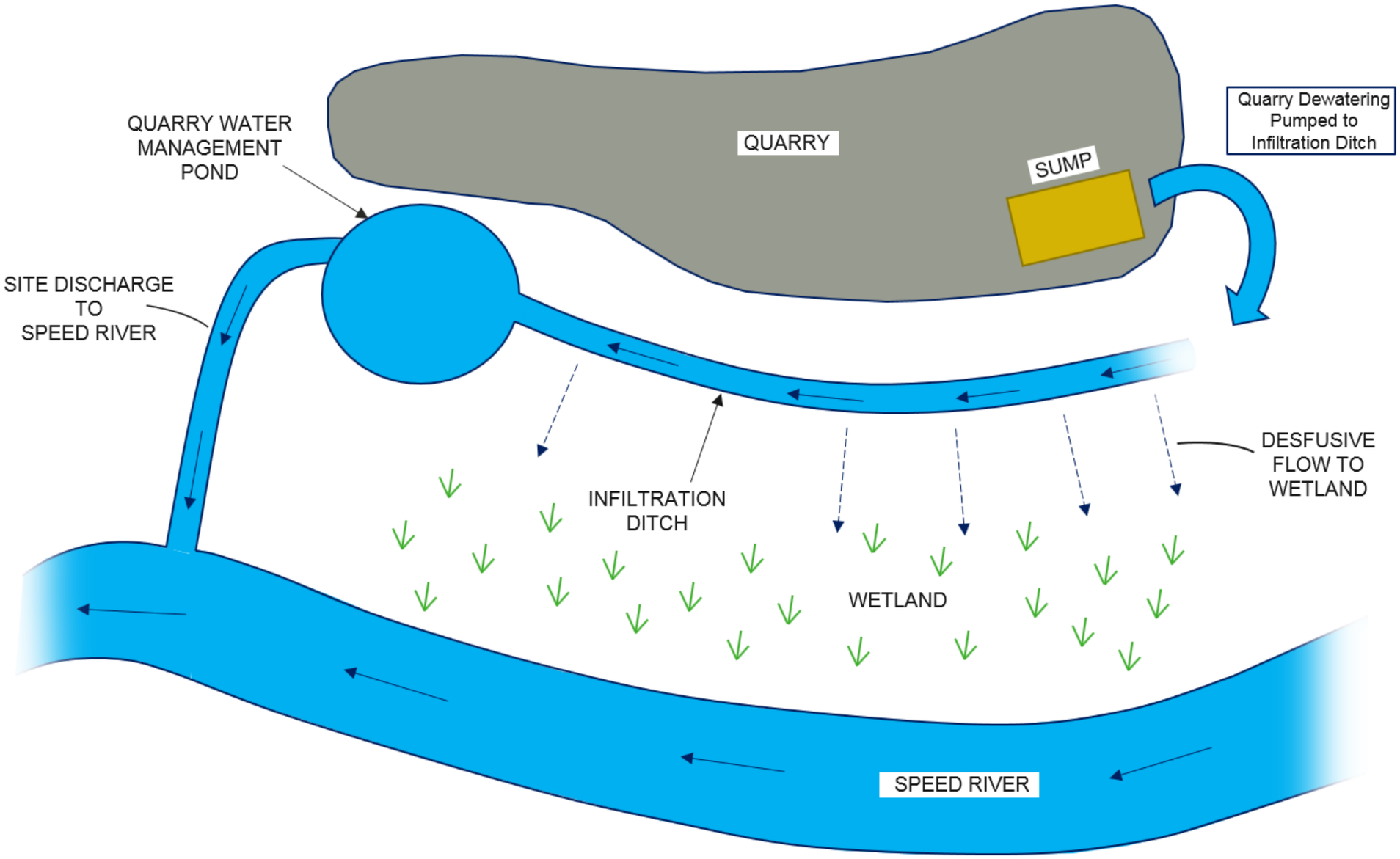

FOR DISCUSSION ONLY

NOT TO SCALE

CLIENT	LAFARGE CANADA INC.
CONSULTANT	GOLDER
PROJECT	LAFARGE WELLINGTON COUNTY ECA APPLICATION WELLINGTON QUARRY
TITLE	**SITE WATER HANDLING DIAGRAM**

YYYY-MM-DD	2019-06-24
DESIGNED	NP
PREPARED	NP
REVIEWED	CDV
APPROVED	CDV

PROJECT NO.	PHASE	REV.	FIGURE
1536522	2000	A	5

APPENDIX A

Water Management Plan

REPORT

Pit and Quarry Water Management Plan

Lafarge Wellington County Pit/Quarry

Submitted to:

Lafarge Canada Inc.
6509 Airport Road
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Submitted by:

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+1 905 567 4444

1536522

July 2019

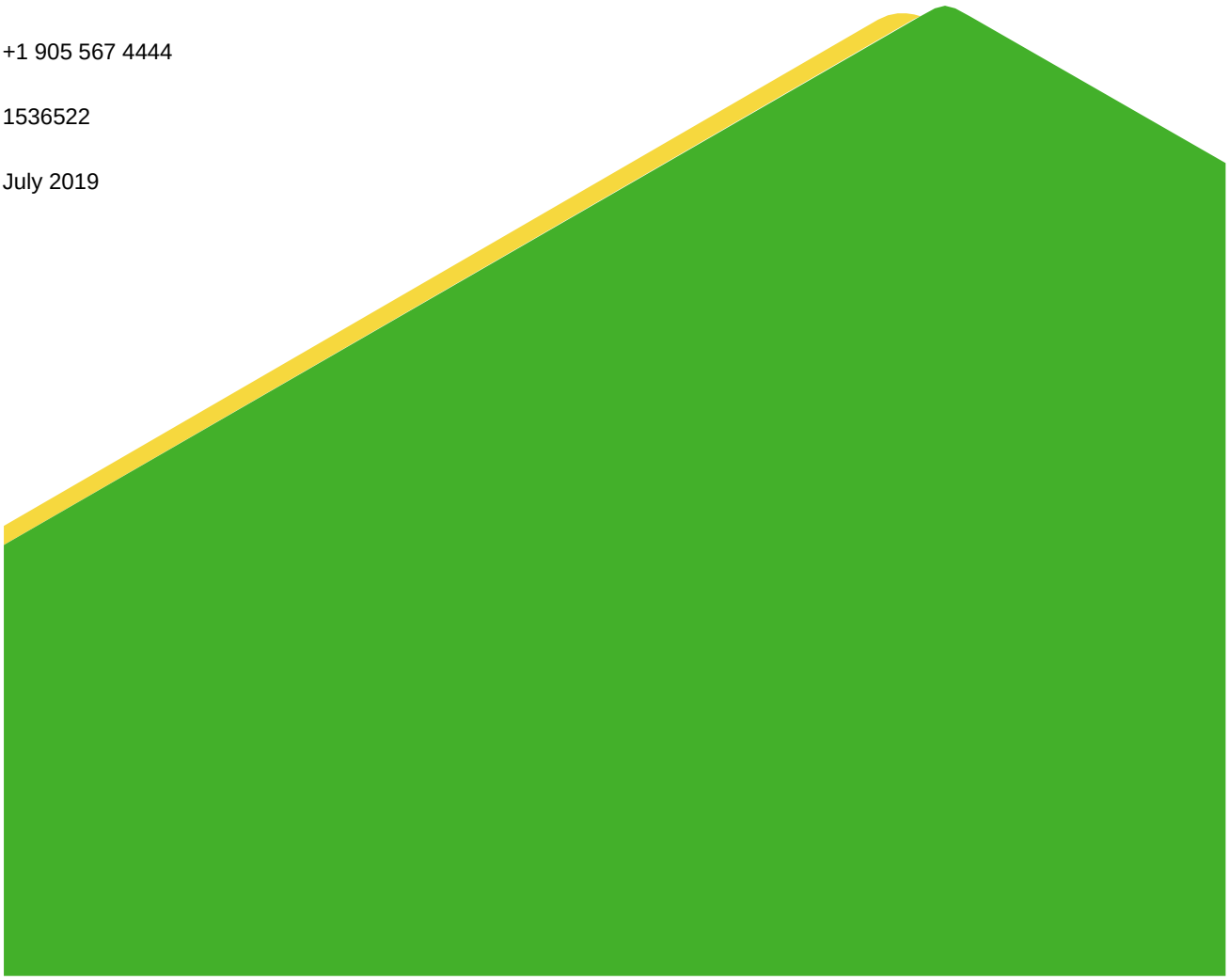

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Table of Contents

1.0 INTRODUCTION 1

2.0 SITE OPERATIONS 2

3.0 DISCHARGE FLOWS 3

4.0 WATER QUALITY 4

5.0 WETLAND MONITORING 5

6.0 PEAK FLOW AND SUMP VOLUME 6

7.0 CONCLUSIONS 7

8.0 CONSIDERATIONS FOR STATEMENT OF ENVIRONMENTAL VALUES 7

TABLES

Table 1: Proposed Individual Water Level Targets for Monitoring Piezometers 6

Table 2: Rainfall Storage Volumes at Quarry Sump 7

Table 3: Considerations for Each of the Statement of Environmental Values 8

FIGURES

Figure 1: Site Location

Figure 2: Site Layout

Figure 3: Local Groundwater Wells

Figure 4: Water Levels at MP16-1

Figure 5: Water Levels at MP16-2

Figure 6: Seasonal Water Levels at MP16-1

Figure 7: Seasonal Water Levels at MP16-2

ATTACHMENTS

ATTACHMENT 1
Existing Certificate of Approval (Number 0290-6PHGPS)

ATTACHMENT 2
Water Quality Results

ATTACHMENT 3
IDF Curves (Environment Canada, Guelph Turfgrass)

ATTACHMENT 4
Water Balance Results (Operational Conditions)

1.0 INTRODUCTION

Golder Associates Ltd. (Golder) was retained by Lafarge Canada to prepare an Industrial Sewage Works (ISW) Environmental Compliance Approval (ECA) amendment application under Section 53 of the *Ontario Water Resources Act* (OWRA) for its existing Wellington County Pit/Quarry. As shown on Figure 1, the Wellington County Pit/Quarry (the Site) is located on the south side of Wellington County Road 124, in the Townships of Guelph-Eramosa and Puslinch, Ontario. The ECA amendment application and associated technical support documentation is to supersede the existing Certificate of Approval (C of A 0290-6PHGPS) for the Site.

This submission includes supporting information found in the following attachments:

- Attachment 1 - Existing Industrial Sewage Works Environmental Compliance Approval No. 0290-6PHGPS;
- Attachment 2 - Water Quality Results sampled from Site surface water and well monitoring locations;
- Attachment 3 - Intensity Duration Frequency (IDF) curves for the Guelph Turfgrass meteorological monitoring station; and,
- Attachment 4 - Detailed water balance results for the Site.

The Site represents an active pit operation and is bordered by Wellington County Road 124 to the northwest, agricultural, commercial and residential lands to the north, and the Speed River / Speed River Wetland Complex to the east and south. To date, only sand and gravel aggregate deposits from above the water table have been extracted from the Site under the Aggregate Resource Act Licence #5514. Water takings (approved under PTTW No. 2718-7S3RM7) are also used on site for Ready-mix concrete and asphalt production, noting that Lafarge operates the Ready-mix concrete plant, while Coco Paving operates the asphalt plant. A Site layout plan is provided on Figure 2.

The Site currently includes a ready-mix concrete plant (operated by Lafarge) and an asphalt plant (operated by a third-party). These operations rely on the Quarry Water Management Pond (QWMP) for water supply. The water is either pumped directly from the QWMP to the respective facilities or it is pumped from the QWMP and temporarily stored in a small holding pond next to the plants. Flow contributions to the QWMP include drainage from the central portion of the Site, as well as water taking activities from the Speed River, as required, under Permit to Take Water (PTTW) Number 2718-7S3RM7. Discharge from the QWMP is directed to the Speed River under the conditions of the current Certificate of Approval (C of A) Number 0290-6PHGPS (provided in Attachment 1 for reference). The development of a below water table quarry has been proposed in the central portion of the Site (Figure 2). The proposed quarry will require active dewatering activities to allow material extraction in the dry, with a plan to discharge this water to the Speed River / Speed River Wetland Complex.

This report and supporting documentation provide information regarding the existing and proposed water management operations for current and future activities. The proposed monitoring program outlines the steps that will be taken to ensure the proper collection, transmission, treatment and discharge of water from the Site catchment area.

2.0 SITE OPERATIONS

Existing Conditions

As shown on Figure 2, the Site occupies approximately 142.34 hectares (ha) of licensed aggregate area, with the understanding that the majority of the Site has been fully extracted above the water table. Operations at the Site include a ready-mix plant and an asphalt plant, noting that a wash plant has also been used when washed aggregate products were required. These operations rely on water from the QWMP or holding pond (which is supplied by the QWMP).

The QWMP is designed to have a total effective water storage volume of approximately 22,000 cubic meters (14,000 cubic meters as permanent pool storage and 8,000 cubic meters as extended detention storage). The QWMP receives drainage from the central portion of the Site, and, in turn, discharges to the Speed River under normal conditions. Flow/storage volumes at QWMP can also be replenished by pumping from the Speed River, if needed, under the approved PTTW.

The eastern portions of the Site drain internally, with runoff reporting to a series of shallow ponds that infiltrate to ground (i.e., no surface outlets). The western portion of the Site drains in a southerly direction and discharges to the Speed River.

Proposed Operations

Proposed operations include water taking activities to support the development of a below-water quarry in the central portion of the Site (Figure 2). Runoff and groundwater seepage that emerges in the extraction area will be collected at the quarry sump. The proposed configuration of the quarry sump will include an approximate area of 15,750 m^2 and an approximate depth of 2 m (with 1 m of permanent pool and 1 m of storage volume).

Discharge from the quarry sump will be pumped to a proposed infiltration ditch along the southern extent of the quarry (located adjacent to a section of the Speed River Wetland Complex). Flows at the infiltration ditch will drain from the eastern extent of the quarry to the western extent and ultimately report to the QWMP (at the western terminus of the infiltration ditch). The infiltration ditch will use infiltration beds, weirs or diffusers as required to allow flows to be directed to the Speed River Wetland Complex. Initially, the infiltration ditch will rely on unlined infiltration beds along the entire southern bank of the infiltration ditch for these purposes, noting that, if the wetland requires more, or less, water in specific areas, weirs and diffusers may be installed to enhance flow contributions to the wetland. at. Where appropriate, water may also be directly pumped from the quarry sump to the QWMP (i.e., bypassing the infiltration ditch) to avoid the discharge of excess water to the wetland or to perform maintenance at the infiltration ditch. The purpose of the infiltration ditch is to maintain water levels within the wetland. For instance, if daily average water levels in the wetland drop below the lower target levels identified in the ECA report, additional discharge volumes or methods may need to be initiated to direct water to low water level areas of the wetland. Alternatively, if the wetland water levels rise above the high water proposed ECA targets, discharge volumes are to be reduced or stopped until wetland water levels drop below the high water targets. When maintaining wet conditions in the wetland, the risk of decreasing baseflow in the Speed River (by the quarry dewatering) will be reduced. This will likely occur as the wetland discharge may flow diffusely to the river or the reduced drawdown in the overburden (caused by the wetland discharge) will reduce the seepage from the river to the quarry.

As described above, weirs or diffusers may be installed to enhance flow contributions to the wetland. The weirs would allow water depths to be increased in the infiltration ditch, and, in turn, to improve/increase infiltration processes on a broad scale areas along the length of the channel. Diffusers work on a similar principal; however,

these features rely on piping, and, because of this, can be used direct discharge to specific areas of the wetland. Of note, diffusers can only be installed on Lafarge property or on adjacent properties with land owner permission.

3.0 DISCHARGE FLOWS

Existing Discharge from QWMP

Discharge from the QWMP to the Speed River was monitored from November 2015 to December 2016 and included a total of nine (9) manual water levels and stream flow measurements. The results of these monitoring activities demonstrated that existing flows from the QWMP ranged between <1 L/s to 7 L/s over this period.

The existing catchment area of the QWMP was estimated at approximately 27.8 ha. Flow contributions at this catchment area under existing conditions are anticipated to include groundwater seepage, coupled with runoff from precipitation events, given that the QWMP pond was shown to support outflows during all monitoring events.

Estimated Discharge from Quarry

The water that accumulates at the quarry sump is expected to include runoff from the Site, as well as groundwater seepage from the extraction areas. As the quarry extraction expands/deepens, these flow contributions (and the subsequent discharge requirements) are anticipated to increase. It is important to note that the catchment area of the quarry sump under proposed conditions will remain consistent with the associated area under existing conditions, with the understanding that the increase in flow contributions (under proposed conditions) will be attributed to groundwater seepage, changes in land use and an associated increase in runoff

The fully extracted quarry is expected to have an average annual discharge of approximately 77 L/s. This discharge includes approximately 8 L/s of runoff (as shown in Table A2 of Attachment 4 as total runoff draining to the Phase 1 extraction area – 254,334 m^3/year) and approximately 69 L/s of groundwater seepage. A detailed summary of the discharge calculations are presented in the PTTW Number 2718-7S3RM7 amendment application and supporting documentation (Golder 2019).

The majority of the discharge water from the quarry sump will be directed to the ditch for subsequent infiltration to the wetland, while a portion of these flows will report to the QWMP. It is expected that, at specific times of quarry dewatering (i.e., spring melt), proportionally larger water volumes may be directed to the QWMP.

It is recommended that the outflow channel from the QWMP to the Speed River be inspected annually for signs of erosion, with a plan to undertake maintenance or repair measures as required.

Estimated Seepage from Infiltration Ditch

The infiltration ditch is designed to direct flow contributions to the wetland complex through the overburden; however, it is understood that a portion of the discharge waters from the infiltration ditch will contribute back to the quarry (through seepage through the bedrock). The surficial geology along the extent of the infiltration ditch is predominantly composed of Burford Loam, identified through the Soil Survey Complex of Ontario taxonomy (2012). This substrate has a relatively high seepage rate. As a result of this, the bank along the north side of the infiltration ditch (between the quarry and the infiltration ditch) should be lined (to the bedrock layer if possible) with low permeability materials. These measures will be used to limit the lateral seepage of water back to the quarry through the upper overburden and bedrock contact layers.

The estimated vertical seepage/discharge rate (Q_v) from the infiltration ditch to the quarry area was calculated using Darcy's Law:

$Q_v = K\ I_v\ A$, where:

> K_v = Vertical hydraulic conductivity of the Guelph formation ($1.6x10^{-2}$ m/day), underlain across the eastern portion of the Site, noting that the estimated K_v is based on a conservative estimate identified in the Guelph Tier 3 Study ($1.6x10^{-3}$ m/day).
>
> I_v = Vertical hydraulic gradient across the Guelph Member, assumed to be 0.006 m/m, which is conservative considering the vertical gradients are weakly downward within the surrounding area (as noted in the Guelph Tier 3 Study).
>
> A = Cross-sectional area, which is approximately 44,840 m^2 from the centreline of the infiltration ditch up to the mapped Speed River Wetland complex (the infiltration ditch is approximately 1,121 m length and the infiltration distance from the ditch to the wetland boundary is approximately 40 m).

Applying Darcy's Law, vertical (Q_v) flow rates into the proposed quarry is predicted to be approximately 4 m^3/day. The discharge seepage rate is nominal when compared to the expected average annual discharge rate from the quarry (e.g., approximately 77 L/s or 6,600 m^3/day).

4.0 WATER QUALITY

Discharge Water Quality

Water quality from the QWMP (monitoring station SW2 – refer to Figure 2) was monitored/sampled during three separate events in 2016 (i.e., January 26, August 31 and November 24, 2016). The water quality results from these sampling events are presented in Attachment 2. Key results are as follows:

- pH ranged between 6.5 and 8.22; and,
- Total suspended solids (available during two events) were below 10 mg/L.

Based on these results, coupled with the estimated residence time of water from the proposed sump during discharge, the QWMP is performing well and is expected to continue to do so. The introduction of water from the proposed sump to the QWMP is not expected to significantly increase TSS concentrations of the discharge waters (from the QWMP), given that the proposed sump will be designed to support settling processes. Total suspended solids levels in the quarry dewatering will be managed through the use of the quarry sump. The sump will utilize a minimum 24 hour settling time in a 1 m deep permanent pool. Sump volumes and further details are described in section 6.0.

To estimate the groundwater seepage water quality, water quality from the Site monitoring wells were also evaluated. Water quality samples were collected from four groundwater wells on Site, as shown on Figure 3. The samples were analysed for general chemistry parameters, nutrients and metals. The water quality results from these sampling events for the monitoring wells are presented in Attachment 2. Key results are as follows:

- Based on the parameters analysed, only uranium and zinc exceeded the Provincial Water Quality Objectives (PWQO);

- Uranium concentrations were above the PWQO at one of the four wells and are not expected to be a continuous concern during quarry dewatering because of the suspended solid settling in the sump and the addition (dilution) of surface runoff with the groundwater seepage; and,
- Zinc was elevated above the PWQO at all four well locations. The zinc concentrations were within an order of magnitude of the PWQO and after mixing with Site runoff and sump settling, zinc is not expected to have any adverse effects as part of the Site discharge.

Based upon our knowledge of this area and a review of publicly available water quality information in this region, the zinc and uranium concentrations are typical of naturally occurring groundwater (GRCA, 2017 and OGS, 2016).

It is suggested that the discharge water quality limits for the amended ECA be targeted at the outlet of the quarry sump. Adopting the quarry sump outlet location as the compliance point will serve to ensure that water quality is suitable for discharge upstream of the proposed infiltration ditch adjacent to the Speed River Wetland Complex.

5.0 WETLAND MONITORING

The objective of the proposed groundwater level monitoring at the shallow piezometers is to assess when water will need to be directed to the Speed River Wetland Complex. There are two existing piezometer monitoring locations within the Speed River Wetland Complex. These existing monitors (MP16-1 and MP16-2) are shown on Figure 3 and are located within the two portions of wetland owned by Lafarge. Each of these monitors consist of two drive point piezometers approximately 1 m and 2 m deep and a water level logger in each. These monitors were installed June 2016 and are still operating.

These piezometers will continue to be monitored until below water extraction begins, in order to record as much baseline data as possible. The monitors will also remain in place and continue to be monitored during the period of operation of the quarry to assess the water levels in the wetland for effects (if any) during quarry dewatering. It is recommended that the piezometers be monitored monthly to allow discharge operations to be adjusted if effects are identified.

Wetland high and low water level targets were estimated using the baseline water level data collected from June 2016 onwards. These targets were established to provide some flexibility for wet and dry years, but largely mimic the existing hydroperiod of the wetland. To achieve flexibility for wet and drier years, the seasonal targets considered water levels from a week before and after the season in question. These targets were established as the maximum and minimum daily average water levels observed over the monitoring period. The discharge to the wetland (through the infiltration ditch, weir or diffuser) would be conducted on a continuous basis unless one of the seasonal high-water targets is reached. Further refinements may be made as additional baseline monitoring is collected in the interim before proposed quarrying activities commence. The preliminary targets set for each of the drive point piezometers and water level loggers are provided in Table 1 below.

Table 1: Proposed Individual Water Level Targets for Monitoring Piezometers

Existing Piezometers	Season	Low Water Level Target (masl)	High Water Level Target (masl)
MP16-1	Spring	296.70	297.05
	Summer	296.45	297.10
	Fall	296.65	297.00
	Winter	296.25	297.10
MP16-2	Spring	297.40	297.60
	Summer	296.40	297.65
	Fall	296.65	297.35
	Winter	296.60	297.60

*Low and high-water level targets have been determined based on daily average water levels

The wetland water level targets are applied to both the shallow and deep piezometers at each location. Water level hydrographs of piezometers MP16-1 and MP16-2 are provided in Figures 4 and 5. The seasonal trends of daily average water level in these piezometers and associated seasonal targets can be seen in Figures 6 and 7.

The two existing piezometers are generally located in the central and western portions of the wetlands adjacent to the quarry. In order to develop a more robust monitoring program an additional piezometer is recommended in addition to the two existing piezometers on adjacent lands.

6.0 PEAK FLOW AND SUMP VOLUME

The intensity-duration-frequency (IDF) data for the Guelph Turfgrass Environment Canada Climate station (Climate ID 6143090) were used to evaluate sump storage requirements under various return period events. The rainfall volume of the 24 hour duration storm event was evaluated for both the 2-year and 5-year return periods over the quarry catchment area. The total rainfall volume which would be conveyed to the quarry sump during the twenty-four (24) hour, two (2) year event would be approximately 46,800 m^3. The proposed quarry discharge flow rate is intended to dewater the quarry from a two-year rainfall event within a three-day period. This proposed discharge rate during such an event is 181 L/s (i.e., 46,800 m^3 / 3 days = 15,600 m^3/day).

In order to maintain a minimum twenty-four (24) hour residence time with a discharge rate of 181 L/s, the quarry sump will require a permanent volume of at least 15,600 m^3, as seen in Table 2. The proposed depth of the sump will be between 1 and 2 m with side dimensions of approximately 70 m by 225 m (i.e., 15,750 m^3 assuming a minimum depth of 1 m for settling purposes). This provides a length to width ratio of approximately 3L:1W. these approximate sump dimensions may change base on the depth of the quarry floor and the Vinemount member, however the total sump volumes and retention time will be maintained.

Table 2: Rainfall Storage Volumes at Quarry Sump

Sump Name	Catchment Area	Rainfall Volume for Return Period (m^3) *(mm)*		Minimum Sump Volume	Proposed Sump Volume (m3)
	m^2	2 year	5 year	m^3	
Quarry Sump	994,000	46,800 *(47.1)*	61,300 *(61.7)*	15,600	15,750

Under average annual conditions the quarry sump will discharge at 77 L/s which would require a sump volume of approximately 6,600 m^3 to obtain 24 hrs of retention. The proposed quarry sump is sufficient for both the average and maximum proposed discharge rates to obtain 24 hours of retention time. The sump design will be based on 181 L/s pump rate and 15,750 m^3 of volume, however dewatering to a lower volume (i.e., 6,600 m^3) may be possible at a lower pumping rate (i.e., 77 L/s). Under storm event conditions large rainfall events would result in minor flooding of the quarry floor. In this situation the flooded area would be dewatered over a period of a few days after the event.

Alternatively, to reduce flooding, areas of the catchment outside of the quarry area could be bermed or redirected away from the quarry.

The IDF curve used to generate these estimates can be found in Attachment 3.

The average flow in the Speed River (WSC Gauge No. 02GA015) is approximately 6,230 L/s. The proposed discharge rate of 77 L/s is approximately 1.2% of the flow of the Speed River. Therefore, the increase in flow from the site is not expected to significantly impact the receiving system.

The 2-year peak flow in the Speed River is approx. 42,900 L/s. The proposed storm event dewatering rate (i.e., 181 L/s) would be 0.4% of the estimated flow in the Speed River at that time.

7.0 CONCLUSIONS

The proposed quarry discharge is expected to have negligible effects on the Speed River or the Speed River Wetland Complex. The infiltration ditch will be built (and modified as needed) to provide adequate passive discharge to the wetland. Wetland monitoring will be competed to monitor the infiltration ditch performance.

The proposed quarry (assuming current catchments) will experience some flooding under significant rainfall events. The proposed quarry sump will have sufficient capacity to result in a twenty-four (24) hour average retention time with a maximum dewatering rate of 181 L/s (with an annual average dewatering rate of 77 L/s). The estimated discharge water quality or quantity is expected to have negligible effects on the receiving system.

8.0 CONSIDERATIONS FOR STATEMENT OF ENVIRONMENTAL VALUES

The Ontario government and Lafarge are both guided by principles meant to protect the environment in a sustainable and accountable fashion.

Each provincial ministry that is subject to the Ontario Environmental Bill of Rights has a framework called a "Statement of Environmental Values" (SEV). The SEV are a means for each ministry to record their commitment to the environment and to be accountable for ensuring the environment is considered in decision making. The MECP applies the principles in their SEV when developing acts, regulations and policies to protect the environment and human health.

Although not a requirement, this application package has been assembled in a manner that goes beyond demonstrating compliance by proposing how the MECP can consider the SEV principles during the review process.

Table 3 is intended to summarize how each SEV can be considered in the review process, with specific references to technical components of the application package.

Table 3: Considerations for Each of the Statement of Environmental Values

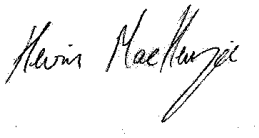
Factors to Consider
The Ministry adopts an ecosystem approach to environmental protection and resource management. This approach views the ecosystem as composed of air, land, water and living organisms, including humans, and interactions among them.
In order to adapt an ecosystem approach, the Site monitoring and permitting (i.e., ECA and PTTW) involved studies in hydrology, hydrogeology and the natural environment to determine how changes in one discipline may affect another discipline. On the larger scale, the study has not only reviewed potential impacts at the local level but includes a review of source water protection. Analysis to support the PTTW amendment was utilized in this assessment.
The Ministry considers the cumulative effects on the environment; the interdependence of air, land, water and living organisms; and the relationship among the environment, the economy and society.
The Site has gone through the approvals process and a license was granted to extract sand and gravel, and rock from the Site. As operations proceed and PTTW and ECA amendments are sought, this technical study has been completed to promote sustainable development and thereby achieve or maintain a healthy environment and a healthy economy. Information provided by the Lake Erie Region Source Water Protection Committee was reviewed to consider cumulative effects. Minimal changes to consumptive use are anticipated and the design is intended to minimise consumptive uses in light of cumulative effects. Further, the monitoring program as the quarry expands over the coming years will enable corrective strategies if needed.
The Ministry considers the effects of its decisions on current and future generations, consistent with sustainable development principles.
A sustainability approach was used to determine if the project is environmentally sound and socially responsible. The quarry provides a valuable source for future development in the City of Guelph and surrounding area while managing risks to the environment. Additional future uses are included in the PTTW application (e.g., Non-potable water for irrigation, fire fighting, etc.) during periods of drought. As climate change progresses, the ability to store water will become more important.
The Ministry uses a precautionary, science-based approach in its decision-making to protect human health and the environment.

Factors to Consider
To ensure that projects are considered in a careful and precautionary manner, the technical study assessment process is based on a precautionary and science-based approach. The precautionary approach is guided by judgement, based on values, and is intended to address uncertainties in the assessment. The science-based approach characterizes and assesses the current conditions and the potential effects of the Project in a thorough, traceable manner, and proposes impact management measures to mitigate potential negative environmental effects. The studies also predict whether there will be likely significant net environmental effects after impact management measures are implemented. Further, the monitoring program as the quarry expands over the coming years will enable corrective strategies if needed.
The Ministry's environmental protection strategy will place priority on preventing pollution and minimizing the creation of pollutants that can adversely affect the environment.
Lafarge has a spill prevention plan to minimize the risk of spills to the environment. In addition, Lafarge will restrict any fuelling of on-site equipment to outside of WHPA-C (5 year capture zone) and beyond 150 m from a mapped watercourse so that there are no significant threats to the municipal drinking water wells and the local aquatic environment.
The Ministry endeavours to have the perpetrator of pollution pay for the cost of clean-up and rehabilitation consistent with the polluter pays principle.
It is Lafarge's intent to clean-up and rehabilitate the Site in the event that Lafarge's operations result in pollution. As per the Site Plan, rehabilitation of the property includes the creation of a lake and recreational land.
In the event that significant environmental harm is caused, the Ministry will work to ensure that the environment is rehabilitated to the extent feasible.
This is a reactive principle not applicable to the application process. It is the intent of Lafarge to avoid environmental harm and rehabilitate in the event that the environment is harmed. The long-term goal may be to create a conservation area at the Site once operations are finished.
Planning and management for environmental protection should strive for continuous improvement and effectiveness through adaptive management.
The technical studies propose impact management measures to mitigate potential negative environmental effects and predicts whether there will be significant net environmental effects after management measures are implemented. Groundwater, surface water and natural environment monitoring programs were developed to track changes in the natural environment once operations begin and to confirm that mitigation measures are effective. It is estimated that a detailed mitigation plan will be developed as a condition of the ECA and PTTW.
The Ministry supports and promotes a range of tools that encourage environmental protection and sustainability (e.g., stewardship, outreach, education).
Lafarge holds open house events at their facilities to provide outreach and education to the public on how the business operates. In addition, Lafarge is a member of the Ontario Stone, Sand and Gravel Association which also provides outreach and education. Lafarge participates on the Lake Erie Region Source Water Protection Committee. LafargeHolcim, the parent company of Lafarge Canada, has a commitment in its 2030 plan to make positive contributions to water in drought prone areas.

Factors to Consider
The Ministry will encourage increased transparency, timely reporting and enhanced ongoing engagement with the public and Aboriginal communities as part of environmental decision making.
As part of the application process, the application will be posted on the EBR for at least 45 days to allow public comment. Lafarge will address any concerns identified by interested parties and the MECP. Lafarge as planned an Open House and has provided a website with the application information.

Signature Page

Golder Associates Ltd.



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CDV/KMM/NP/mp

https://golderassociates.sharepoint.com/sites/18194g/surface water/4. eca application/1. cover report/appendix a - water management report/1536522-r-rev0-swm report-31jul2019.docx

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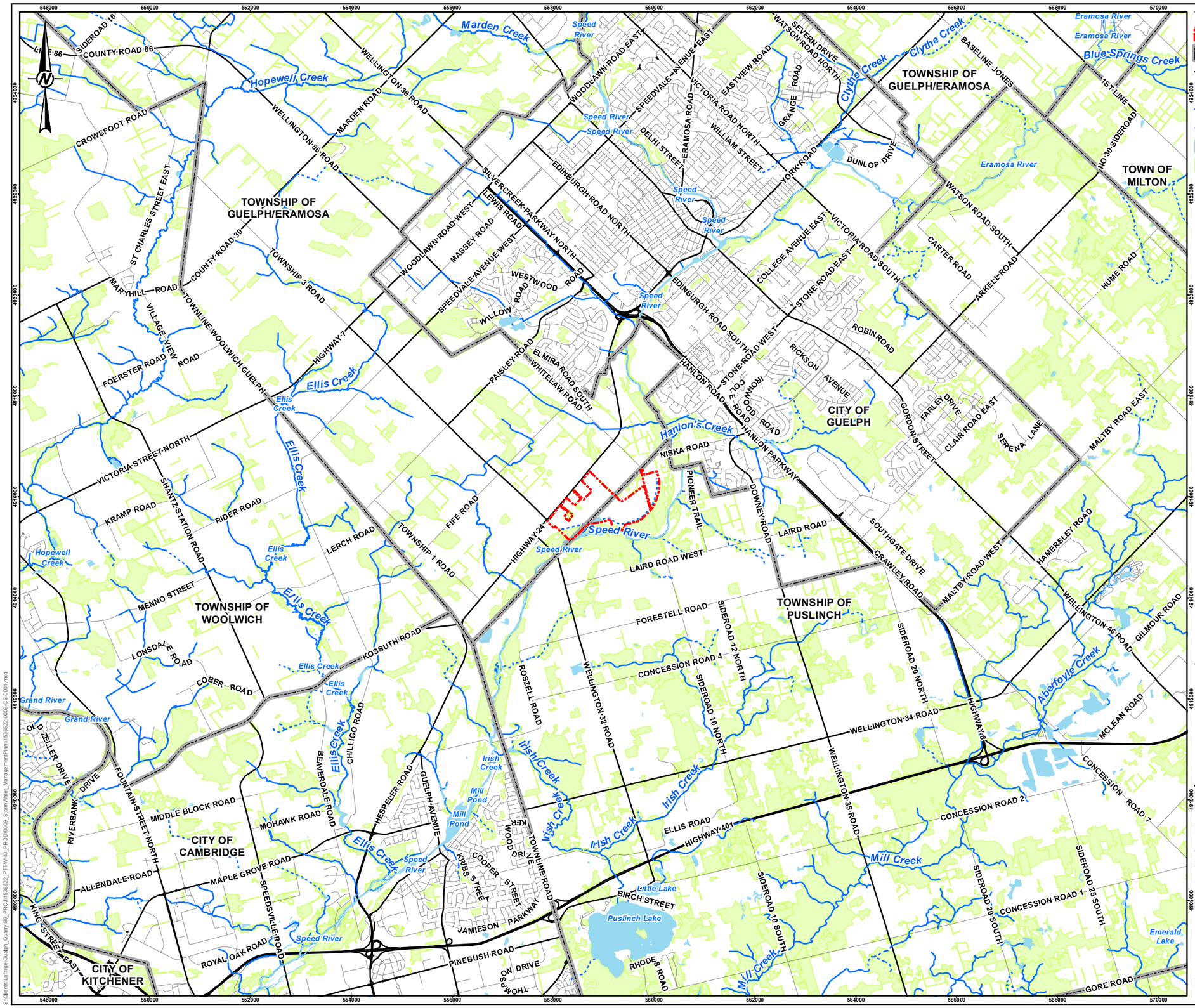
FIGURES



REFERENCE(S)

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CLIENT
LAFARGE CANADA INC.

PROJECT
LAFARGE WELLINGTON COUNTY QUARRY
WATER MANAGEMENT PLAN

TITLE
SITE LOCATION

CONSULTANT
GOLDER

YYYY-MM-DD	2019-06-26
DESIGNED	KD
PREPARED	PM/PR
REVIEWED	CDV
APPROVED	CDV

PROJECT NO.	CONTROL	REV.	FIGURE
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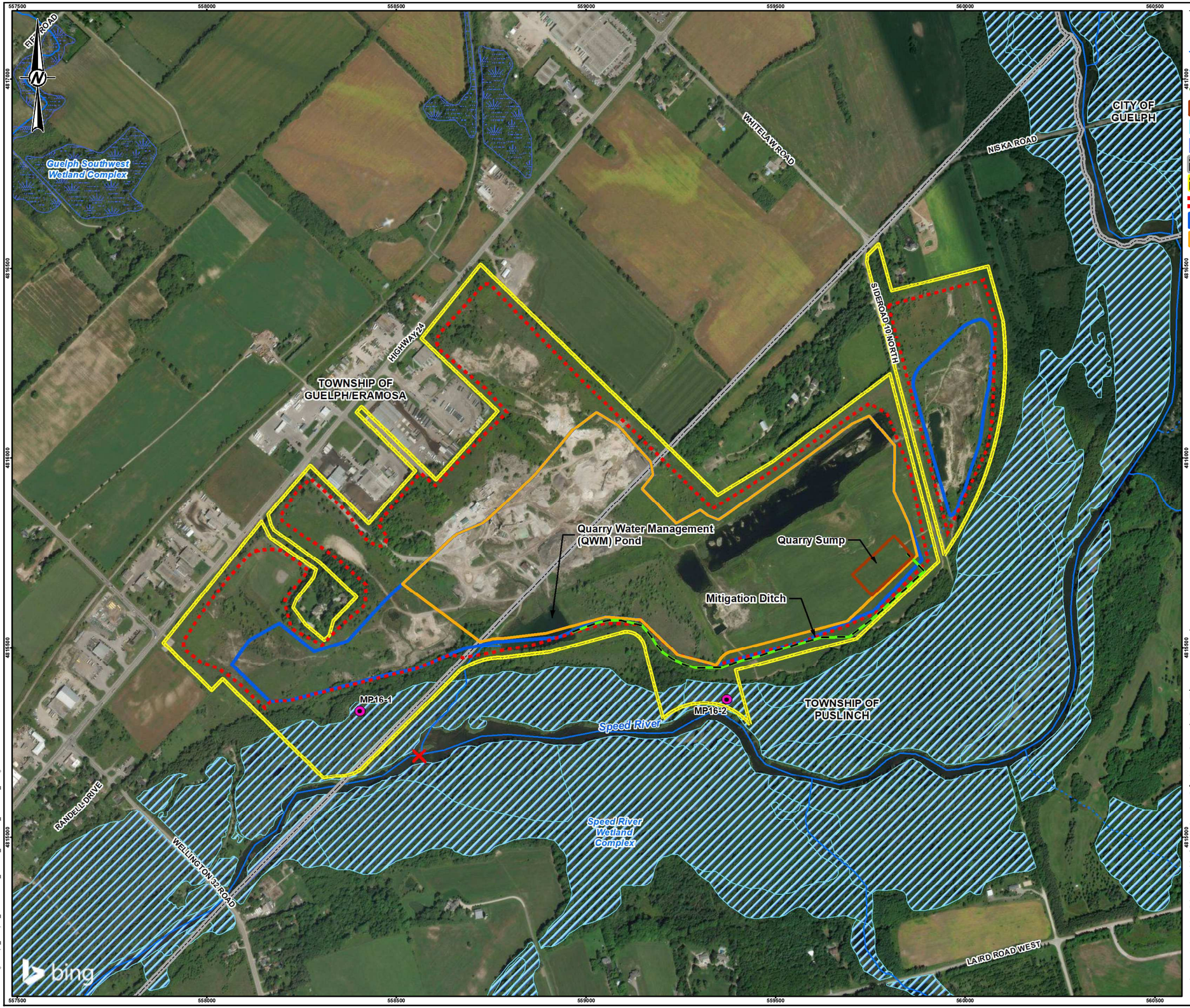

LEGEND

- Piezometer
- Watercourse
- Intermittent Watercourse
- Mitigation Ditch
- Quarry Sump
- Provincially Significant Wetland
- Wetland
- Municipal Boundary
- License Boundary
- Approximate Above Water Limit of Extraction
- Approximate Below Water Limit of Extraction
- Initial Phase of Below Water Extraction

0 200 400 600

1:10,000 Metres

NOTE(S)

1. THE AREA OF EXTRACTION IS SUBJECT TO THE CURRENT APPLICATION

REFERENCE(S)

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CLIENT
LAFARGE CANADA INC.

PROJECT
LAFARGE WELLINGTON COUNTY QUARRY WATER MANAGEMENT PLAN

TITLE
SITE PLAN

CONSULTANT
GOLDER

YYYY-MM-DD	2019-06-24
DESIGNED	KD
PREPARED	PR
REVIEWED	GP
APPROVED	CDV

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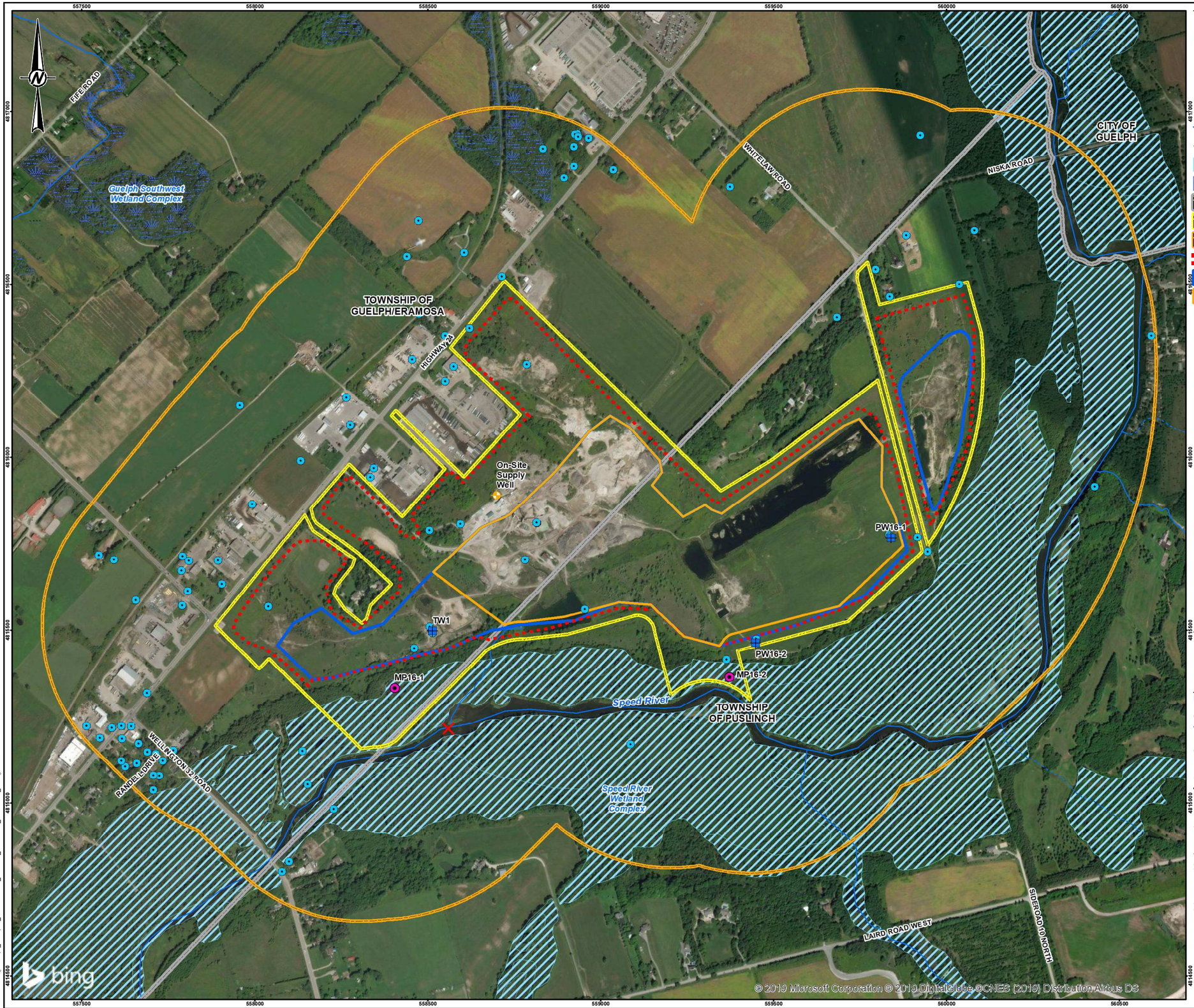

LEGEND

- Piezometer
- Supply Well
- Test Well
- MOECC Water Well Location
- Discharge to Speed River
- Watercourse
- Intermittent Watercourse
- Provincially Significant Wetland
- Wetland
- Municipal Boundary
- License Boundary
- License Boundary 500m Buffer
- Approximate Above Water License Boundary
- Approximate Below Water License Boundary
- Initial Phase of Below Water Extraction

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NOTE(S)

1. THE AREA OF EXTRACTION IS SUBJECT TO THE CURRENT APPLICATION

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
CONTAINS INFORMATION MADE AVAILABLE UNDER GRAND RIVER CONSERVATION AUTHORITY'S OPEN DATA LICENCE V1.0 - HTTPS://DATA.GRANDRIVER.CA/DOCS/GRCA%20OPEN%20DATA%20LICENCE%20V1.PDF
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2015
PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17
EXTRACTION LIMITS WERE DIGITIZED FROM FILE NAMED "PROPERTY OUTLINE WITH SETBACKS.JPG" SUPPLIED BY LAFARGE, 20150915

CLIENT
LAFARGE CANADA INC.

PROJECT
LAFARGE WELLINGTON COUNTY QUARRY
WATER MANAGEMENT PLAN

TITLE
LOCAL GROUNDWATER WELLS

CONSULTANT
GOLDER

YYYY-MM-DD	2019-06-26
DESIGNED	KD
PREPARED	PR/MM
REVIEWED	CDV
APPROVED	CDV

PROJECT NO.	CONTROL	REV.	FIGURE
1536522	0004	B	3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm 0

S:\Clients\Lafarge\Guelph_Quarry\9_PROJ\1536522_PTTW-4b_PROJ\0009_StormWater_Management\Plan\1536522-0009-C3-0003.mxd

Water Levels at MP16-1

Figure 4

PROJECT: 1536422

DATE: June 2019

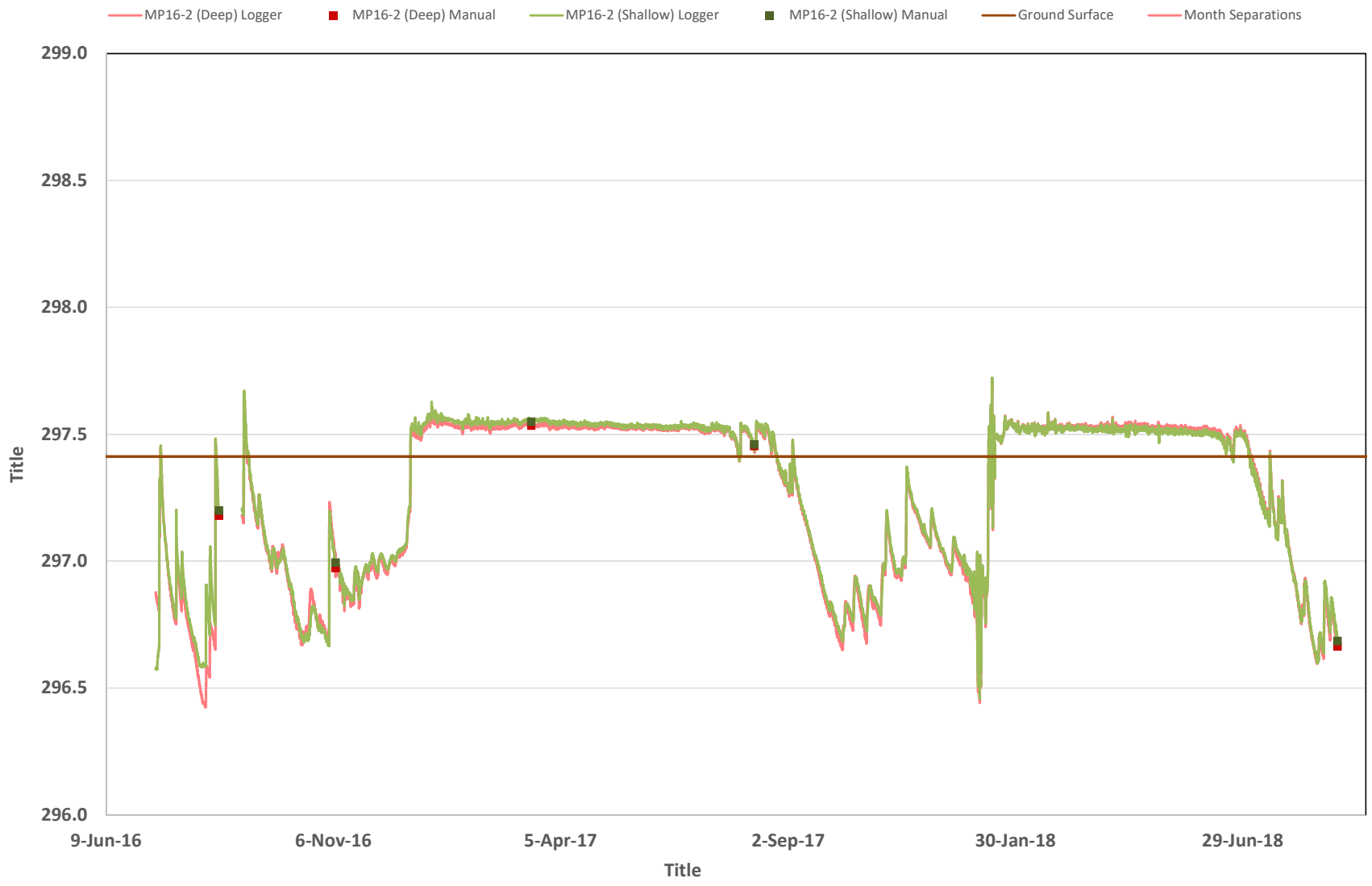
GOLDER

DRAWN: JS

CHECK: CDV

Water Levels at MP16-2

Figure 5



PROJECT: 1536422

DATE: June 2019

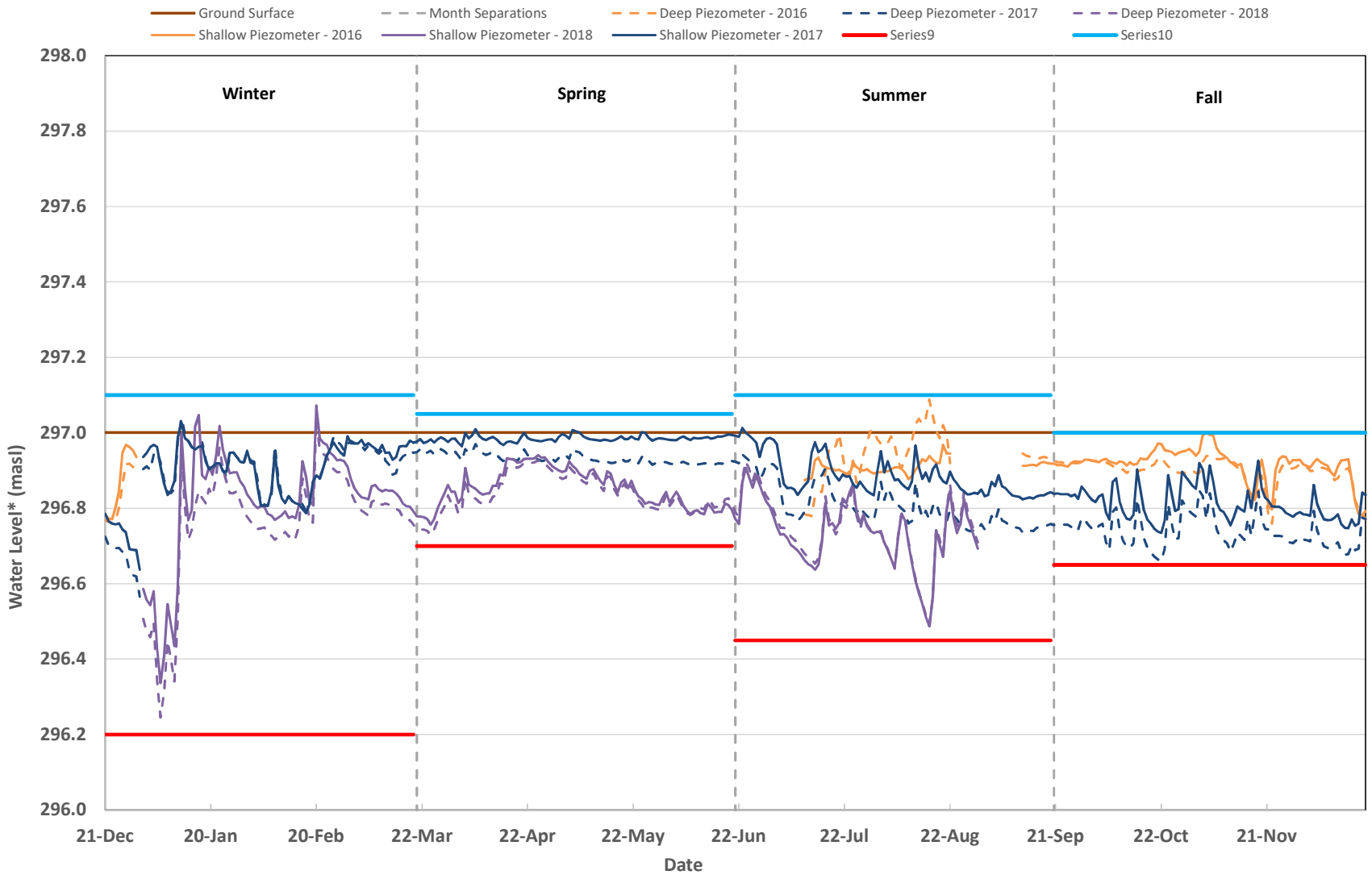
GOLDER

DRAWN: JS

CHECK: CDV

Daily Average Water Levels and Seasonal Limits at MP16-1

Figure 6



PROJECT: 1536422

DATE: July 2019

GOLDER

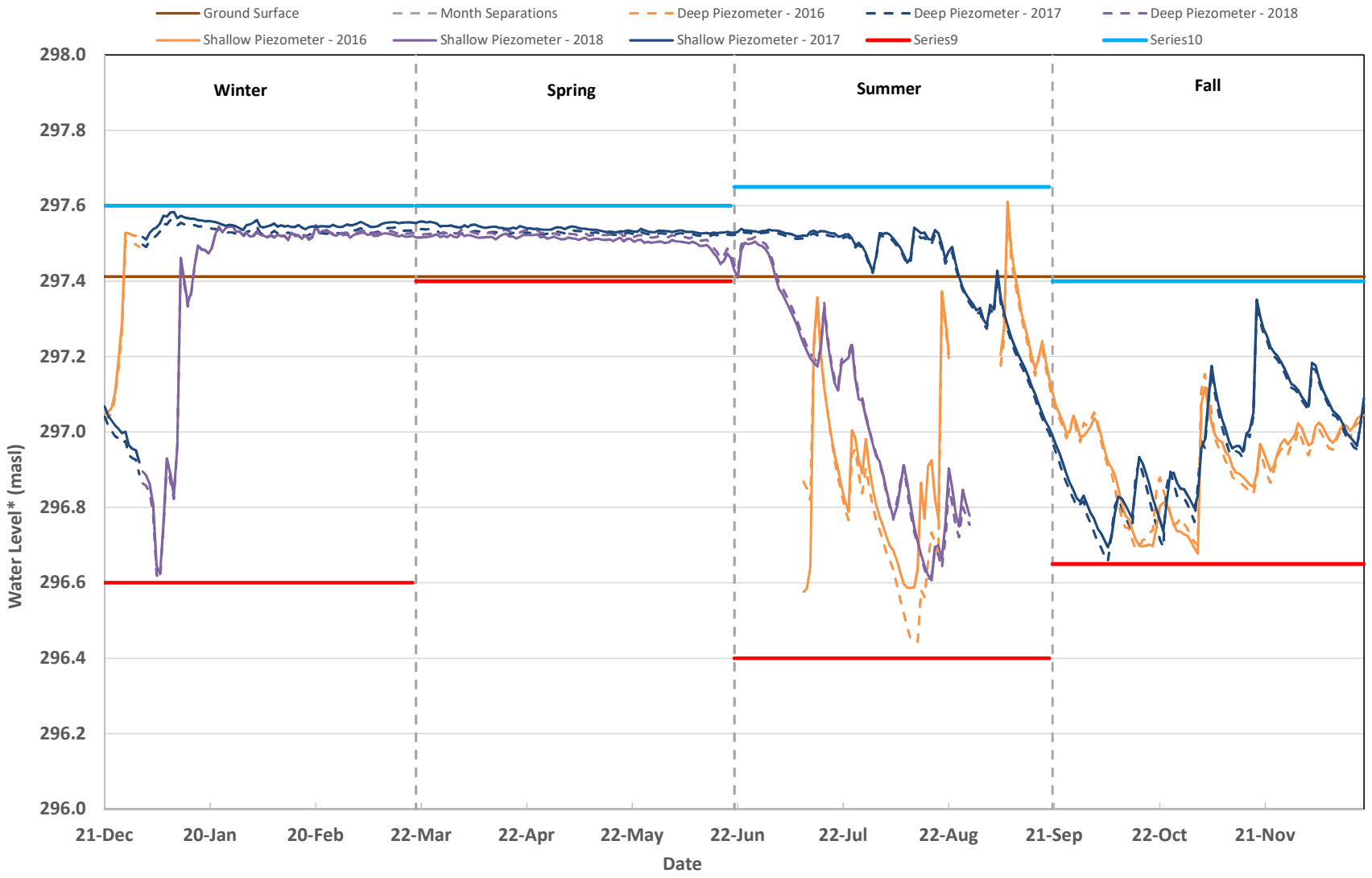
DRAWN: JS

CHECK: CDV

*Note: Water Levels Shown are daily average values

Daily Average Water Levels and Seasonal Limits at MP16-2

Figure 7



PROJECT: 1536422

DATE: July 2019

GOLDER

DRAWN: JS

CHECK: CDV

*Note: Water Levels Shown are daily average values

ATTACHMENT 1

Existing Certificate of Approval (Number 0290-6PHGPS)

Ontario

Ministry of the Environment | Ministère de l'Environnement

CERTIFICATE OF APPROVAL
INDUSTRIAL SEWAGE WORKS
NUMBER 0290-6PHGPS
Issue Date: November 20, 2006

Lafarge Canada Inc.
7880 Keele Street, 5th Floor, Suite 302
Vaughan, Ontario
L4K 4G7

Site Location: Lafarge Canada Inc. - Guelph Pit
7051 Wellington Road 124
Guelph/Eramosa Township, County of Wellington

You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:

the establishment of stormwater management *Works* for the collection, transmission, treatment and disposal of stormwater runoff from a catchment area of approximately 39.3 hectares, to provide enhanced water quality protection, discharging to the Speed River, consisting of the following:

- two (2) catchbasins, serving the ready-mix cement plant area and asphalt plant area, draining to a drainage ditch that drains to the stormwater management pond;

- one (1) stormwater management wet pond, with a total effective water quality storage volume of approximately 22,000 cubic metres (14,000 cubic metres as permanent pool storage and 8,000 cubic meters as extended detention storage), discharging to the Speed River via an outlet control structure with a control gate and a drainage ditch; and

- and all other controls and appurtenances essential for the proper operation of the aforementioned *Works*;

all in accordance with the following submitted supporting documents:

1. Application for Approval of Industrial Sewage Works submitted by Tom Baumgarten of Lafarge Canada Inc. dated April 28, 2006;

2. Application for Industrial Sewage Works Approval under Section 53 of the Ontario Water Resources Act, Lafarge Canada Inc., Lafarge Guelph Pit, dated April 2006, prepared by Golder Associates;

3. Report on Lafarge Guelph Pit Drainage and Water Quality Assessment, dated March 2006, prepared by Golder Associates;

4. Letter and attachments dated August 29, 2006 from Kevin Mackenzie of Golder Associates to Randy Chin of the Ministry of the Environment.

For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

"*Certificate*" means this entire certificate of approval document, issued in accordance with Section 53 of the Ontario Water Resources Act, and includes any schedules;

"*Director*" means any *Ministry* employee appointed by the Minister pursuant to section 5 of the Ontario Water Resources Act;

"*District Manager*" means the District Manager of the Guelph District Office of the *Ministry*;

"*Ministry*" means the Ontario Ministry of the Environment;

"*Owner*" means Lafarge Canada Inc. and includes its successors and assignees;

"*Works*" means the sewage works described in the *Owner*'s application, this *Certificate* and in the supporting documentation referred to herein, to the extent approved by this *Certificate*.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL PROVISIONS

(1) Except as otherwise provided by these Conditions, the *Owner* shall design, build, install, operate and maintain the *Works* in accordance with the description given in this *Certificate*, the application for approval of the works and the submitted supporting documents and plans and specifications as listed in this *Certificate*.

(2) Where there is a conflict between a provision of any submitted document referred to in this *Certificate* and the Conditions of this *Certificate*, the Conditions in this *Certificate* shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.

(3) Where there is a conflict between the listed submitted documents, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.

2. CHANGE OF OWNER

The *Owner* shall notify the *District Manager* and the *Director*, in writing, of any of the following changes within thirty (30) days of the change occurring:

(a) change of *Owner*;

(b) change of address of the *Owner*;

(c) change of partners where the *Owner* is or at any time becomes a partnership, and a copy of the most recent declaration filed under the Business Names Act, R.S.O. 1990, c.B17 shall be included in the notification to the *District Manager*; and

(d) change of name of the corporation where the *Owner* is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Information Act, R.S.O. 1990, c. C39 shall be included in the notification to the *District Manager*.

3. OPERATION AND MAINTENANCE.

(1) The *Owner* shall ensure that the design minimum liquid retention volumes are maintained at all times .

(2) The *Owner* shall inspect the *Works* at least once a year and, if necessary, clean and maintain the *Works* to prevent the excessive buildup of sediments and/or vegetation.

(3) The *Owner* shall maintain a logbook to record the results of these inspections and any cleaning and maintenance operations undertaken, and shall keep the logbook at the site for inspection by the *Ministry*. The logbook shall include the following:

(a) the name of the *Works*;

(b) the date and results of each inspection, maintenance and cleaning, including an estimate of the quantity of any materials removed; and

(c) the date of each spill within the catchment area, including follow-up actions / remedial measures undertaken.

4. RECORD KEEPING

The *Owner* shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the operation and maintenance activities required by this *Certificate*.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is imposed to ensure that the *Works* are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the *Certificate* and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.

2. Condition 2 is included to ensure that the Ministry records are kept accurate and current with respect to approved works and to ensure that subsequent owners of the works are made aware of the certificate and continue to operate the works in compliance with it.

4. Condition 3 is included to require that the *Works* be properly operated and maintained such that the environment is protected .

4. Condition 4 is included to require that all records are retained for a sufficient time period to adequately evaluate the long-term operation and maintenance of the *Works*.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to eachportion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
2300 Yonge St., Suite 1700
P.O. Box 2382
Toronto, Ontario
M4P 1E4

AND

The Director
Section 53, *Ontario Water Resources Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca**

The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.

DATED AT TORONTO this 20th day of November, 2006

Mohamed Dhalla, P.Eng.
Director
Section 53, *Ontario Water Resources Act*

RC/
c: District Manager, MOE Guelph
Kevin MacKenzie, Golder Associates Ltd.

ATTACHMENT 2

Water Quality Results

		Sample ID	Date / Time	Field Measured Parmeters			Turbidty[1]	Total Suspended Solids[1]
				pH	Temperature	Conductivity		
	Units			-	°C	uS	NTU	mg/L
2016	Event 1	SW1	26-Jan-16	6.71	3.2	1070	---	---
		SW2	26-Jan-16	6.5	1.5	920	---	---
		SW3	26-Jan-16	6.36	3.2	1210	---	---
		SW4	26-Jan-16	6.6	0.4	800	---	---
	Event 2	SW1	31-Aug-16	8.28	23.3	1116	1.3	<10
		SW2	31-Aug-16	8.11	26	703	0.5	<10
		SW3	31-Aug-16	8.15	23.1	1043	1.6	<10
		SW4	31-Aug-16	8.22	23.1	689	1.4	10
	Event 3	SW1	24-Nov-16	8.20 [1]	4.4 [2]	1250 [1]	2.1	<10
		SW2	24-Nov-16	8.22 [1]	3.4 [2]	867 [1]	1.0	<10
		SW3	24-Nov-16	8.18 [1]	4.6 [2]	1410 [1]	1.3	<10
		SW4	24-Nov-16	8.13 [1]	2.3 [2]	827 [1]	1.0	<10

1. Laboratory reported values
2. Temperature recorded by water level datalogger.

TABLE D1
GROUNDWATER QUALITY
LAFARGE GUELPH QUARRY

	UNITS	PWQO	PW16-1	PW16-2	TW1	Onsite Well
			Sep/01/2016	Sep/02/2016	Aug/26/2016	Jan/25/2018
Calculated Parameters						
Anion Sum	me/L		7.84	6.30	7.82	8.10
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		310	250	290	300
Calculated TDS	mg/L		410	320	420	420
Carb. Alkalinity (calc. as CaCO3)	mg/L		2.2	3.2	2.2	1.8
Cation Sum	me/L		7.73	5.90	7.78	7.54
Hardness (CaCO3)	mg/L		370	280	340	320
Ion Balance (% Difference)	%		0.730	3.32	0.300	3.58
Langelier Index (@ 20C)	N/A		0.920	0.992	0.901	0.746
Langelier Index (@ 4C)	N/A		0.671	0.743	0.653	0.498
Saturation pH (@ 20C)	N/A		6.95	7.14	7.01	7.05
Saturation pH (@ 4C)	N/A		7.20	7.39	7.26	7.30
Inorganics						
Total Ammonia-N	mg/L		<0.050	<0.050	<0.050	0.068
Unionized Ammonia (calculated)	mg/L	0.02 (unionized)	<0.0009	<0.0009	<0.0009	0.0012
Conductivity	umho/cm		720	580	750	770
Dissolved Organic Carbon	mg/L		1.0	1.2	0.82	1.2
Orthophosphate (P)	mg/L		<0.010	<0.010	<0.010	<0.010
pH	pH	6.5-8.5	7.87	8.13	7.91	7.80
Dissolved Sulphate (SO4)	mg/L		52	26	23	41
Alkalinity (Total as CaCO3)	mg/L		310	260	290	300
Dissolved Chloride (Cl)	mg/L		10	13	39	40
Nitrite (N)	mg/L		0.031	<0.010	<0.010	0.012
Nitrate (N)	mg/L		3.15	3.79	6.43	1.18
Nitrate + Nitrite (N)	mg/L		3.18	3.79	6.43	1.19
Metals						
Dissolved Aluminum (Al)	ug/L	75	<5.0	<5.0	<5.0	<5.0
Dissolved Antimony (Sb)	ug/L	20	3.5	0.74	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	5	1.5	3.3	<1.0	1.3
Dissolved Barium (Ba)	ug/L		63	51	40	66
Dissolved Beryllium (Be)	ug/L	1100	<0.50	<0.50	<0.50	<0.50
Dissolved Boron (B)	ug/L	200	21	19	17	24
Dissolved Cadmium (Cd)	ug/L	0.5	<0.10	<0.10	<0.10	0.16
Dissolved Calcium (Ca)	ug/L		100000	76000	95000	84000
Dissolved Chromium (Cr)	ug/L	1	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co)	ug/L	0.9	<0.50	<0.50	<0.50	0.88
Dissolved Copper (Cu)	ug/L	5	<1.0	1.1	<1.0	1.1
Dissolved Iron (Fe)	ug/L	300	<100	<100	<100	<100
Dissolved Lead (Pb)	ug/L	25	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L		30000	21000	24000	28000
Dissolved Manganese (Mn)	ug/L		20	<2.0	<2.0	2.4
Dissolved Molybdenum (Mo)	ug/L	40	12	5.2	<0.50	3.3
Dissolved Nickel (Ni)	ug/L	25	10	1.7	<1.0	3.2
Dissolved Phosphorus (P)	ug/L	10	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L		1600	2600	1600	1800
Dissolved Selenium (Se)	ug/L	100	<2.0	<2.0	<2.0	<2.0
Dissolved Silicon (Si)	ug/L		4700	3700	4800	5000
Dissolved Silver (Ag)	ug/L	0.1	<0.10	<0.10	<0.10	<0.10
Dissolved Sodium (Na)	ug/L		4700	7000	23000	23000
Dissolved Strontium (Sr)	ug/L		1100	440	140	520
Dissolved Thallium (Tl)	ug/L	0.3	0.12	0.18	<0.050	0.053
Dissolved Titanium (Ti)	ug/L		<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	5	**20**	1.7	0.24	0.24
Dissolved Vanadium (V)	ug/L	6	<0.50	<0.50	<0.50	<0.50
Dissolved Zinc (Zn)	ug/L	30	**110**	**84**	**36**	**51**

PWQO - Provinvial Water Quality Objective

Highlighted values exceed objectives

ATTACHMENT 3

IDF Curves (Environment Canada, Guelph Turfgrass)

Environment Canada/Environnement Canada

Short Duration Rainfall Intensity-Duration-Frequency Data
Données sur l'intensité, la durée et la fréquence des chutes de pluie de courte durée

Gumbel - Method of moments/Méthode des moments

2014/12/21

==========

GUELPH TURFGRASS CS ON 6143090
(composite)
Latitude: 43 33'N Longitude: 80 13'W Elevation/Altitude: 325 m

Years/Années : 1954 - 2003 # Years/Années : 42

==========

****

Table 1 : Annual Maximum (mm)/Maximum annuel (mm)

****

Year Année	5 min	10 min	15 min	30 min	1 h	2 h	6 h	12 h	24 h
1954	6.3	12.2	17.3	22.6	23.9	25.1	50.3	83.1	115.8
1955	12.7	15.0	15.7	18.3	21.6	26.9	28.7	39.1	46.5
1956	8.9	12.2	13.5	17.8	19.8	30.5	37.1	57.7	66.3
1957	6.9	9.1	9.9	12.7	16.5	19.0	30.5	32.5	51.3
1958	11.4	14.7	16.0	17.8	19.6	21.1	35.6	53.8	58.7
1959	7.4	8.9	10.4	12.7	15.0	18.5	26.2	27.2	27.2
1960	-99.9	-99.9	15.0	19.6	19.8	19.8	28.2	32.8	44.7
1961	7.9	12.4	13.2	16.8	20.1	31.5	37.8	37.8	50.0
1962	10.9	11.4	14.2	15.5	22.4	27.7	31.7	33.3	54.4
1963	9.4	13.2	15.5	18.5	19.8	22.1	27.4	31.7	34.8
1964	11.4	16.8	22.1	32.3	43.7	43.7	45.0	45.0	51.6
1965	11.9	15.0	17.3	17.8	17.8	19.0	30.0	35.8	45.5
1966	3.6	4.8	6.9	10.2	15.0	27.9	45.5	45.7	55.1
1967	6.9	9.1	11.2	14.7	23.1	33.0	43.9	45.2	45.2
1968	12.7	19.0	25.7	40.9	71.6	71.9	79.5	79.5	79.5
1969	3.6	6.1	8.1	9.1	11.9	21.1	46.2	46.2	46.2
1970	9.1	15.0	18.3	26.9	30.7	31.7	33.5	33.8	34.3
1971	12.7	25.4	30.5	39.4	39.4	42.2	60.7	61.0	61.0
1972	7.9	10.9	12.7	15.5	20.8	22.4	27.2	30.2	49.3
1973	9.4	9.9	11.7	18.3	22.1	27.2	31.2	32.3	33.3
1976	5.3	7.4	10.2	12.2	13.7	21.1	40.1	65.8	70.6
1977	11.2	16.8	21.6	22.4	22.4	22.4	22.6	22.6	38.6
1978	10.1	12.9	13.2	13.4	15.4	17.7	22.9	26.6	35.7
1979	11.7	12.0	12.0	14.7	18.7	25.7	37.2	38.4	42.5
1980	12.7	16.1	17.2	17.4	18.0	21.6	33.3	43.1	48.6

1981	5.9	10.1	13.7	17.2	17.8	21.2	27.1	35.5	49.6
1982	10.1	20.2	28.7	46.3	55.8	66.5	69.5	69.7	69.8
1983	9.1	10.9	12.2	13.6	13.8	17.8	28.8	34.8	35.0
1984	13.0	17.7	21.7	23.7	23.9	24.7	26.7	26.7	41.6
1985	11.6	13.0	19.4	30.5	30.5	30.5	40.6	43.7	46.2
1986	15.7	19.7	22.5	29.2	29.8	34.0	50.6	62.5	83.8
1987	8.6	10.5	10.5	13.4	18.5	23.2	34.7	43.4	53.7
1988	10.1	17.4	24.2	32.3	33.2	51.5	52.9	52.9	53.4
1989	3.9	6.8	7.2	7.4	9.8	12.7	-99.9	-99.9	37.4
1990	11.4	16.7	19.7	23.2	30.3	33.5	39.6	41.1	41.6
1991	8.4	10.4	11.1	16.1	21.7	30.9	45.6	57.0	62.6
1997	13.6	15.0	15.6	24.6	28.2	28.2	28.4	28.4	29.2
1998	7.8	10.2	12.2	18.0	24.4	28.4	29.6	29.8	54.0
1999	12.2	23.6	26.4	28.0	29.6	30.6	38.8	43.0	48.2
2000	8.2	14.6	17.6	23.2	26.8	27.6	31.2	36.2	41.6
2001	5.4	9.2	10.6	17.2	19.6	22.2	29.4	36.0	36.6
2002	15.0	21.4	24.8	24.8	24.8	24.8	31.4	31.4	43.8
2003	5.6	8.6	10.4	12.8	17.8	20.2	21.0	25.8	27.4
# Yrs. Années	42	42	43	43	43	43	42	42	43
Mean Moyenne	9.5	13.4	16.0	20.4	24.2	28.4	37.1	42.3	49.8
Std. Dev. Écart-type	3.1	4.7	5.9	8.6	11.3	11.7	12.3	14.5	16.5
Skew. Dissymétrie	-0.15	0.55	0.69	1.19	2.39	2.22	1.56	1.15	1.79
Kurtosis	2.56	3.20	2.91	4.45	10.39	8.79	6.00	4.02	8.21

*-99.9 Indicates Missing Data/Données manquantes

Warning: annual maximum amount greater than 100-yr return period amount
Avertissement : la quantité maximale annuelle excède la quantité pour une période de retour de 100 ans

Year/Année	Duration/Durée	Data/Données	100-yr/ans
1954	24 h	115.8	101.5
1968	1 h	71.6	59.7
1968	2 h	71.9	65.2
1968	6 h	79.5	75.8
1982	2 h	66.5	65.2

****

Table 2a : Return Period Rainfall Amounts (mm)
Quantité de pluie (mm) par période de retour

****

Duration/Durée	2 yr/ans	5 yr/ans	10 yr/ans	25 yr/ans	50 yr/ans	100 yr/ans	#Years Années
5 min	9.0	11.7	13.4	15.7	17.4	19.0	42
10 min	12.6	16.8	19.5	22.9	25.5	28.1	42
15 min	15.0	20.3	23.7	28.1	31.3	34.5	43
30 min	19.0	26.6	31.6	38.0	42.7	47.3	43

1 h	22.3	32.3	39.0	47.3	53.6	59.7	43
2 h	26.4	36.8	43.7	52.4	58.8	65.2	43
6 h	35.1	46.0	53.2	62.3	69.1	75.8	42
12 h	39.9	52.8	61.3	72.1	80.0	87.9	42
24 h	47.1	61.7	71.3	83.5	92.5	101.5	43

****

Table 2b :

Return Period Rainfall Rates (mm/h) - 95% Confidence limits
Intensité de la pluie (mm/h) par période de retour - Limites de confiance de 95%

****

Duration/Durée	2 yr/ans	5 yr/ans	10 yr/ans	25 yr/ans	50 yr/ans	100 yr/ans	#Years Années
5 min	107.6	139.9	161.4	188.5	208.5	228.5	42
	+/- 10.2	+/- 17.1	+/- 23.1	+/- 31.2	+/- 37.3	+/- 43.5	42
10 min	75.7	100.5	116.9	137.7	153.1	168.3	42
	+/- 7.8	+/- 13.1	+/- 17.7	+/- 23.9	+/- 28.6	+/- 33.3	42
15 min	60.1	81.0	94.8	112.3	125.3	138.2	43
	+/- 6.5	+/- 10.9	+/- 14.8	+/- 19.9	+/- 23.8	+/- 27.7	43
30 min	38.1	53.2	63.3	75.9	85.3	94.7	43
	+/- 4.7	+/- 7.9	+/- 10.7	+/- 14.4	+/- 17.3	+/- 20.1	43
1 h	22.3	32.3	39.0	47.3	53.6	59.7	43
	+/- 3.1	+/- 5.2	+/- 7.1	+/- 9.5	+/- 11.4	+/- 13.3	43
2 h	13.2	18.4	21.8	26.2	29.4	32.6	43
	+/- 1.6	+/- 2.7	+/- 3.7	+/- 4.9	+/- 5.9	+/- 6.9	43
6 h	5.8	7.7	8.9	10.4	11.5	12.6	42
	+/- 0.6	+/- 1.0	+/- 1.3	+/- 1.8	+/- 2.1	+/- 2.4	42
12 h	3.3	4.4	5.1	6.0	6.7	7.3	42
	+/- 0.3	+/- 0.6	+/- 0.8	+/- 1.0	+/- 1.2	+/- 1.4	42
24 h	2.0	2.6	3.0	3.5	3.9	4.2	43
	+/- 0.2	+/- 0.3	+/- 0.4	+/- 0.6	+/- 0.7	+/- 0.8	43

****

Table 3 : Interpolation Equation / Équation d'interpolation: R = A*T^B

R = Interpolated Rainfall rate (mm/h)/Intensité interpolée de la pluie (mm/h)
RR = Rainfall rate (mm/h) / Intensité de la pluie (mm/h)
T = Rainfall duration (h) / Durée de la pluie (h)

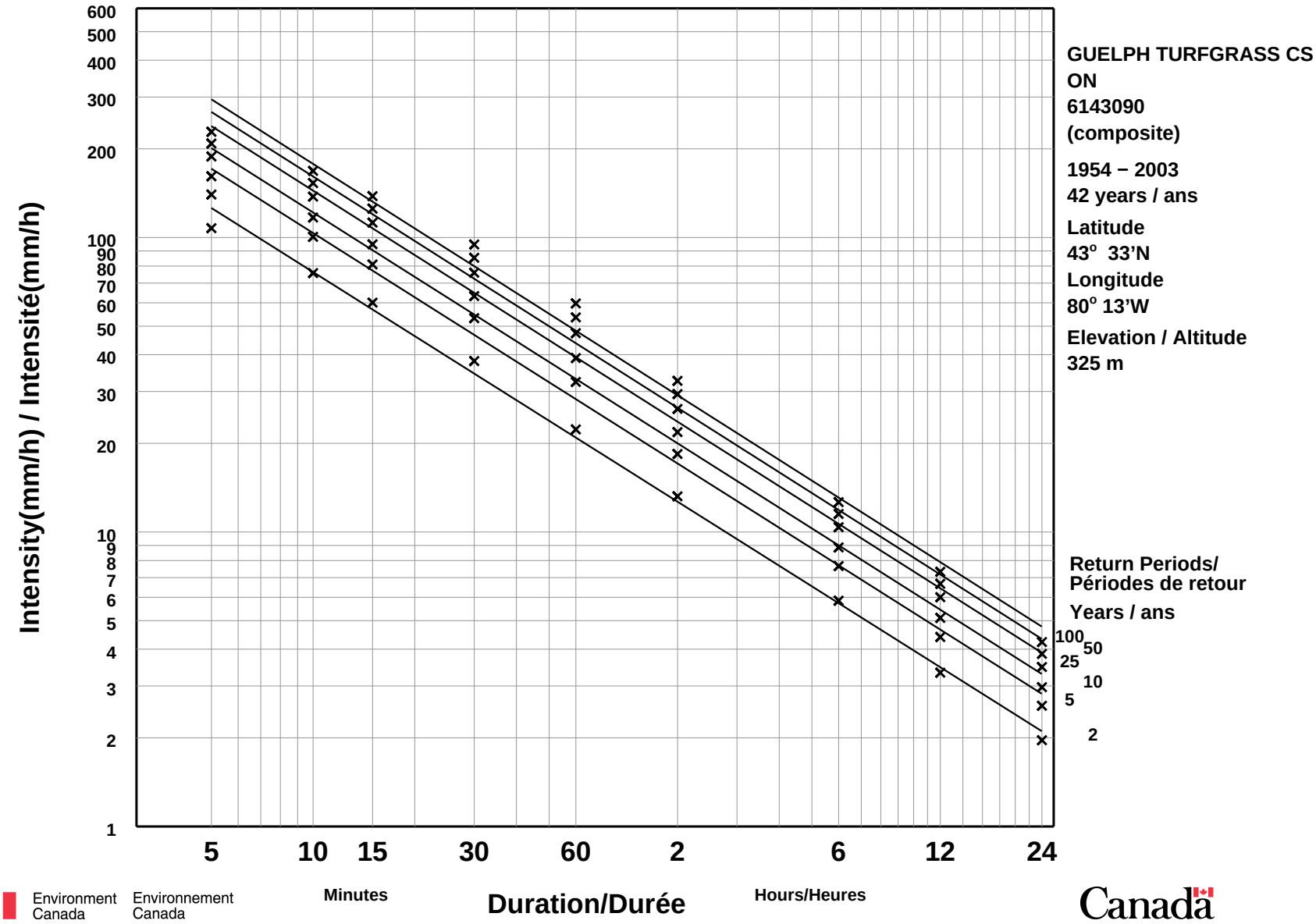
****

Statistics/Statistiques	2 yr/ans	5 yr/ans	10 yr/ans	25 yr/ans	50 yr/ans	100 yr/ans
Mean of RR/Moyenne de RR	36.5	48.9	57.1	67.5	75.3	82.9
Std. Dev. /Écart-type (RR)	37.3	48.8	56.4	66.0	73.2	80.3
Std. Error/Erreur-type	7.2	12.3	15.7	20.0	23.2	26.3
Coefficient (A)	20.9	28.3	33.1	39.2	43.7	48.2
Exponent/Exposant (B)	-0.723	-0.725	-0.726	-0.727	-0.728	-0.728
Mean % Error/% erreur moyenne	6.3	8.7	9.9	11.0	11.6	12.0

Short Duration Rainfall Intensity−Duration−Frequency Data

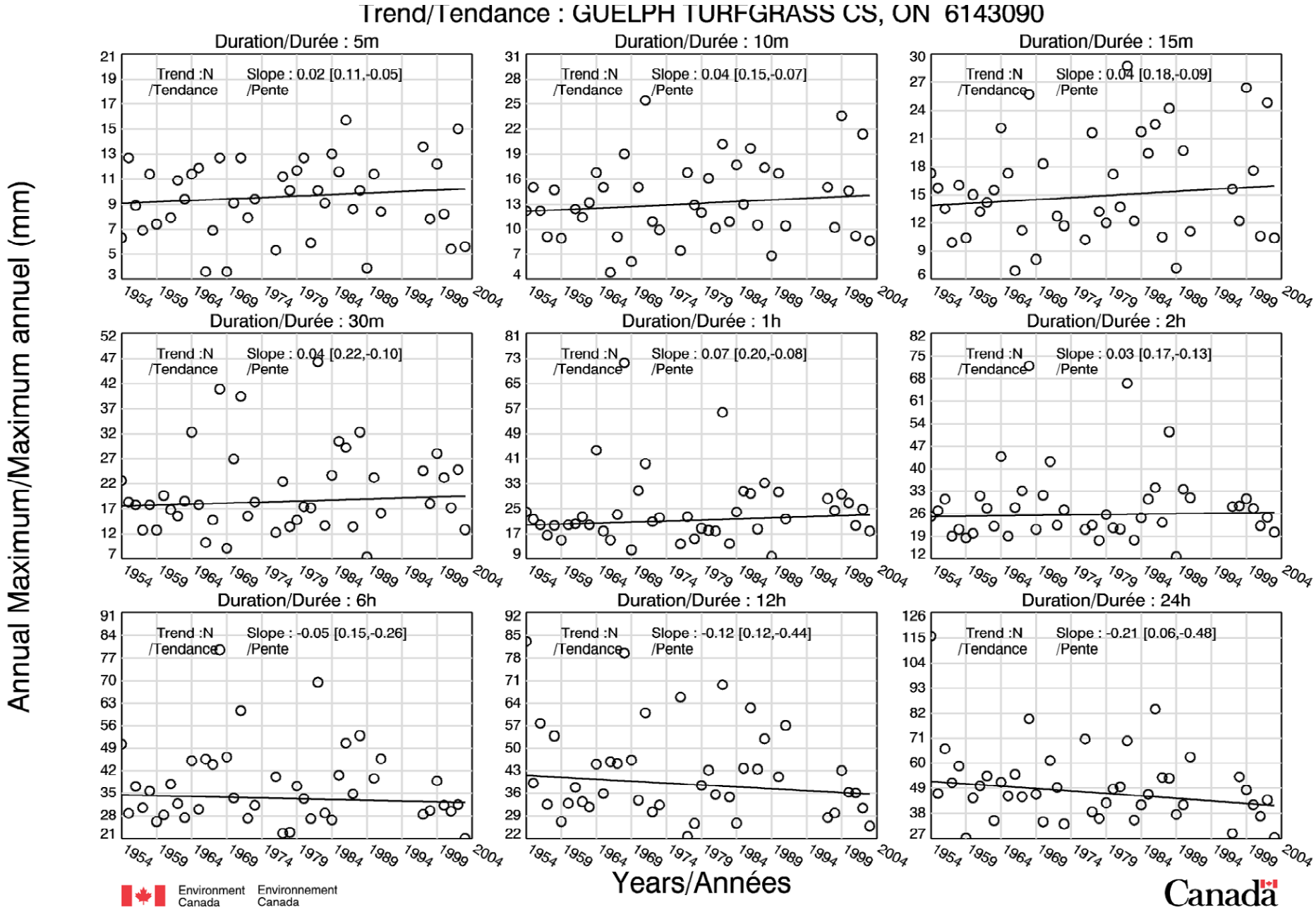
2014/12/21

Données sur l’intensité, la durée et la fréquence des chutes de pluie de courte durée



Environment Canada Environnement Canada

Canada


Trend/Tendance : GUELPH TURFGRASS CS, ON 6143090
Duration/Durée : 5m
Trend :N /Tendance
Slope : 0.02 [0.11,-0.05] /Pente
Duration/Durée : 10m
Trend :N /Tendance
Slope : 0.04 [0.15,-0.07] /Pente
Duration/Durée : 15m
Trend :N /Tendance
Slope : 0.04 [0.18,-0.09] /Pente
Duration/Durée : 30m
Trend :N /Tendance
Slope : 0.04 [0.22,-0.10] /Pente
Duration/Durée : 1h
Trend :N /Tendance
Slope : 0.07 [0.20,-0.08] /Pente
Duration/Durée : 2h
Trend :N /Tendance
Slope : 0.03 [0.17,-0.13] /Pente
Duration/Durée : 6h
Trend :N /Tendance
Slope : -0.05 [0.15,-0.26] /Pente
Duration/Durée : 12h
Trend :N /Tendance
Slope : -0.12 [0.12,-0.44] /Pente
Duration/Durée : 24h
Trend :N /Tendance
Slope : -0.21 [0.06,-0.48] /Pente
Annual Maximum/Maximum annuel (mm)
Years/Années
Environment Canada
Environnement Canada
Canada

ATTACHMENT 4

Water Balance Results (Operational Conditions)

Table A2
Water Balance for Operational Conditions

Catchment 1
Draining to Phase 1 Extraction Area

					Vegetated			Gravel / Bare			Forest			Impervious			Quarry (bedrock)					
					WHC	150 mm		WHC	75 mm		WHC	300 mm		WHC	3 mm		WHC	10 mm		Total Area (m^2)	993,917	
					Total Area (m^2)	301,569		Total Area (m^2)	140,842		Total Area (m^2)	19,940		Total Area (m^2)	19,097		Total Area (m^2)	512,469				
					Infiltration Factor	0.85		Infiltration Factor	0.4		Infiltration Factor	0.9		Infiltration Factor	0.10		Infiltration Factor	0.00				
Month	Days	Temp	Precipitation	Potential Evapotransp.	Actual Evapotransp.	Surplus		Actual Evapotransp.	Surplus		Actual Evapotransp.	Surplus		Actual Evapotransp.	Surplus		Actual Evapotransp.	Surplus		Total Surplus	Total Infiltr.	Total Runoff
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(m^3)	(m^3)
January	31	-6.2	60	2	2	37	11,158	2	42	5,915	2	26	518	2	43	821	2	43	22,036	**40,449**	**12,373**	28,076
February	28	-5.8	52	1	1	45	13,571	1	47	6,620	1	39	778	1	48	917	1	48	24,599	**46,483**	**14,936**	31,547
March	31	-0.9	58	10	10	74	22,316	10	76	10,704	10	68	1,356	10	76	1,451	10	76	38,948	**74,775**	**24,548**	50,227
April	30	6.1	67	33	33	37	11,158	33	37	5,211	33	37	738	33	37	707	33	37	18,961	**36,775**	**12,267**	24,508
May	31	12.3	78	76	76	16	4,825	75	16	2,253	76	16	319	63	16	306	66	16	8,200	**15,903**	**5,304**	10,598
June	30	17.4	81	110	110	3	905	103	3	423	110	3	60	77	5	95	80	4	2,050	**3,532**	**998**	2,534
July	31	19.8	94	128	123	2	603	105	2	282	128	2	40	87	7	134	89	6	3,075	**4,133**	**673**	3,461
August	31	18.9	73	112	95	2	603	81	2	282	111	2	40	70	4	76	71	4	2,050	**3,051**	**667**	2,384
September	30	14.7	87	75	66	9	2,714	65	9	1,268	73	9	179	62	24	458	63	20	10,249	**14,869**	**3,012**	11,856
October	31	8.5	75	39	38	8	2,413	38	16	2,253	38	8	160	36	37	707	37	35	17,936	**23,469**	**3,158**	20,310
November	30	2.4	78	12	12	26	7,841	12	44	6,197	12	23	459	12	64	1,222	12	62	31,773	**47,492**	**9,656**	37,836
December	31	-3.4	62	2	2	37	11,158	2	45	6,338	2	32	638	2	48	917	2	48	24,599	**43,649**	**12,654**	30,996
Total			***865***	***600***	***568***	***296***	***89,264***	***527***	***339***	#####	***596***	***265***	***5,284***	***455***	***409***	***7,811***	***466***	***399***	***204,475***	***354,580***	***100,245***	***254,334***

Catchment 2
Draining to SW 4

					Vegetated			Gravel / Bare			Forest			Impervious					
					WHC	150 mm		WHC	75 mm		WHC	300 mm		WHC	3 mm		Total Area (m^2)	270,025	
					Total Area (m^2)	210,215		Total Area (m^2)	18,078		Total Area (m^2)	40,273		Total Area (m^2)	1,459				
					Infiltration Factor	0.85		Infiltration Factor	0.7		Infiltration Factor	0.9		Infiltration Factor	0.10				
Month	Days	Temp	Precipitation	Potential Evapotransp.	Actual Evapotransp.	Surplus		Actual Evapotransp.	Surplus		Actual Evapotransp.	Surplus		Actual Evapotransp.	Surplus		Total Surplus	Total Infiltr.	Total Runoff
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(m^3)	(m^3)
January	31	-6.2	60	2	2	37	7,778	2	42	759	2	26	1,047	2	43	63	**9,647**	**8,091**	1,556
February	28	-5.8	52	1	1	45	9,460	1	47	850	1	39	1,571	1	48	70	**11,950**	**10,056**	1,894
March	31	-0.9	58	10	10	74	15,556	10	76	1,374	10	68	2,739	10	76	111	**19,779**	**16,660**	3,119
April	30	6.1	67	33	33	37	7,778	33	37	669	33	37	1,490	33	37	54	**9,991**	**8,426**	1,565
May	31	12.3	78	76	76	16	3,363	75	16	289	76	16	644	63	16	23	**4,320**	**3,644**	677
June	30	17.4	81	110	110	3	631	103	3	54	110	3	121	77	5	7	**813**	**683**	130
July	31	19.8	94	128	123	2	420	105	2	36	128	2	81	87	7	10	**547**	**456**	91
August	31	18.9	73	112	95	2	420	81	2	36	111	2	81	70	4	6	**543**	**456**	87
September	30	14.7	87	75	66	9	1,892	65	9	163	73	9	362	62	24	35	**2,452**	**2,052**	400
October	31	8.5	75	39	38	8	1,682	38	16	289	38	8	322	36	37	54	**2,347**	**1,927**	420
November	30	2.4	78	12	12	26	5,466	12	44	795	12	23	926	12	64	93	**7,281**	**6,046**	1,235
December	31	-3.4	62	2	2	37	7,778	2	45	814	2	32	1,289	2	48	70	**9,950**	**8,348**	1,603
Total			***865***	***600***	***568***	***296***	***62,224***	***527***	***339***	***6,129***	***596***	***265***	***6,129***	***455***	***409***	***597***	***79,621***	***66,845***	***12,776***

Catchment 3
Draining to Infiltration Pond

					Vegetated			Open Water			Gravel (Quarry or Lot)			Forest					
					WHC	150 mm		WHC	Precip - PET		WHC	75 mm		WHC	300 mm		Total Area (m^2)	157,560	
					Total Area (m^2)	110,149		Total Area (m^2)	6,743		Total Area (m^2)	34,133		Total Area (m^2)	6,534				
					Infiltration Factor	0.85		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.9				
Month	Days	Temp	Precipitation	Potential Evapotransp.	Actual Evapotransp.	Surplus		Actual Evapotransp.	Surplus		Actual Evapotransp.	Surplus		Actual Evapotransp.	Surplus		Total Surplus	Total Infiltr.	Total Runoff
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(m^3)	(m^3)
January	31	-6.2	60	2	2	37	4,076	2	58	391	2	42	1,434	2	26	170	**6,070**	**4,621**	1,450
February	28	-5.8	52	1	1	45	4,957	1	51	344	1	47	1,604	1	39	255	**7,160**	**5,566**	1,594
March	31	-0.9	58	10	10	74	8,151	10	48	324	10	76	2,594	10	68	444	**11,513**	**9,144**	2,369
April	30	6.1	67	33	33	37	4,076	33	34	229	33	37	1,263	33	37	242	**5,810**	**4,566**	1,244
May	31	12.3	78	76	76	16	1,762	76	2	13	75	16	546	76	16	105	**2,427**	**1,974**	452
June	30	17.4	81	110	110	3	330	110	-29	-196	103	3	102	110	3	20	**257**	**370**	-113
July	31	19.8	94	128	123	2	220	128	-34	-229	105	2	68	128	2	13	**72**	**247**	-174
August	31	18.9	73	112	95	2	220	112	-39	-263	81	2	68	111	2	13	**39**	**247**	-208
September	30	14.7	87	75	66	9	991	75	12	81	65	9	307	73	9	59	**1,438**	**1,111**	328
October	31	8.5	75	39	38	8	881	39	36	243	38	16	546	38	8	52	**1,722**	**1,178**	544
November	30	2.4	78	12	12	26	2,864	12	66	445	12	44	1,502	12	23	150	**4,961**	**3,621**	1,340
December	31	-3.4	62	2	2	37	4,076	2	60	405	2	45	1,536	2	32	209	**6,225**	**4,728**	1,498
Total			***865***	***600***	***568***	***296***	***32,604***	***600***	***265***	***1,787***	***527***	***339***	***11,571***	***596***	***265***	***1,732***	***47,694***	***37,372***	***10,322***

Table A2
Water Balance for Operational Conditions

Catchment 4
Draining to Wetland (D/S of Outlet Point)

					Forest			Wetland					
					WHC	300 mm		WHC	Precip - PET		Total Area (m^2)	66,529	
					Total Area (m^2)	21,175		Total Area (m^2)	45,355				
					Infiltration Factor	0.9		Infiltration Factor	0.0				
Month	Days	Temp	Precipitation	Potential Evapotransp.	Actual Evapotransp.	Surplus		Actual Evapotransp.	Surplus		Total Surplus	Total Infiltr.	Total Runoff
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(m^3)	(m^3)
January	31	-6.2	60	2	2	26	551	2	58	2,631	**3,181**	495	2,686
February	28	-5.8	52	1	1	39	826	1	51	2,313	**3,139**	743	2,396
March	31	-0.9	58	10	10	68	1,440	10	48	2,177	**3,617**	1,296	2,321
April	30	6.1	67	33	33	37	783	33	34	1,542	**2,326**	705	1,620
May	31	12.3	78	76	76	16	339	76	2	91	**430**	305	125
June	30	17.4	81	110	110	3	64	110	-29	-1,315	**-1,252**	57	-1,309
July	31	19.8	94	128	128	2	42	128	-34	-1,542	**-1,500**	38	-1,538
August	31	18.9	73	112	111	2	42	112	-39	-1,769	**-1,726**	38	-1,765
September	30	14.7	87	75	73	9	191	75	12	544	**735**	172	563
October	31	8.5	75	39	38	8	169	39	36	1,633	**1,802**	152	1,650
November	30	2.4	78	12	12	23	487	12	66	2,993	**3,480**	438	3,042
December	31	-3.4	62	2	2	32	678	2	60	2,721	**3,399**	610	2,789
Total			***865***	***600***	***596***	***265***	***5,611***	***600***	***265***	***12019***	***17,630***	***5,050***	***12,580***

Catchment 5
Drainig to Wetland (US of Discharge Point)

					Vegetated			Forest			Wetland					
					WHC	150 mm		WHC	300 mm		WHC	Precip - PET		Total Area (m^2)	25,181	
					Total Area (m^2)	1,563		Total Area (m^2)	9,431		Total Area (m^2)	14,187				
					Infiltration Factor	0.85		Infiltration Factor	0.9		Infiltration Factor	0.0				
Month	Days	Temp	Precipitation	Potential Evapotransp.	Actual Evapotransp.	Surplus		Actual Evapotransp.	Surplus		Actual Evapotransp.	Surplus		Total Surplus	Total Infiltr.	Total Runoff
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(m^3)	(m^3)
January	31	-6.2	60	2	2	37	58	2	26	245	2	58	823	**1,126**	270	856
February	28	-5.8	52	1	1	45	70	1	39	368	1	51	724	**1,162**	391	771
March	31	-0.9	58	10	10	74	116	10	68	641	10	48	681	**1,438**	675	762
April	30	6.1	67	33	33	37	58	33	37	349	33	34	482	**889**	363	526
May	31	12.3	78	76	76	16	25	76	16	151	76	2	28	**204**	157	47
June	30	17.4	81	110	110	3	5	110	3	28	110	-29	-411	**-378**	29	-408
July	31	19.8	94	128	123	2	3	128	2	19	128	-34	-482	**-460**	20	-480
August	31	18.9	73	112	95	2	3	111	2	19	112	-39	-553	**-531**	20	-551
September	30	14.7	87	75	66	9	14	73	9	85	75	12	170	**269**	88	181
October	31	8.5	75	39	38	8	13	38	8	75	39	36	511	**599**	79	520
November	30	2.4	78	12	12	26	41	12	23	217	12	66	936	**1,194**	230	964
December	31	-3.4	62	2	2	37	58	2	32	302	2	60	851	**1,211**	321	890
Total			***865***	***600***	***568***	***296***	***463***	***596***	***265***	***2,499***	***600***	***265***	***3760***	***6,721***	***2,642***	***4,079***

APPENDIX B

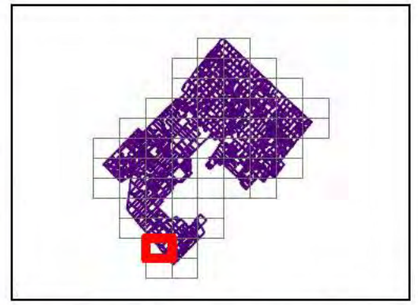
Zoning Maps

Guelph/Eramosa Township

Schedule A-Map 3

N

0 145 290 Meters



NEIGHBOURING MAPS

5	6	7
	3	4
	1	2

To be read in conjunction with Zoning By-law 40/2016
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Township of Woolwich

Woolwich-Guelph Townline
Paisley RD
Township Road 1
Fife RD

A
EP
A-21.104
A-21.103

Zones

- Agricultural (A)
- Environmental Protection (EP)

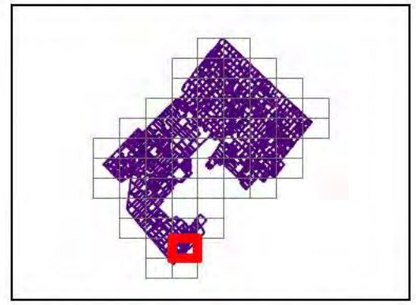
Consolidated to August 8, 2016

Guelph/Eramosa Township

Schedule A-Map 4

N

0 145 290 Meters



NEIGHBOURING MAPS

6	7	8
3	4	
1	2	

A
A-21.178
M1 (H)
M1-21.164
M1
A
Fife RD
Wellington RD 32
A-21.15
A
M3
A-21.26
EP
M1-21.150
Rail line (active)
A
M1
C4
A-21.37
Randell DR
RR
A
Wellington RD 124
A
EP
Township of Puslinch
EP
A-21.25
Township Road 1
A

Zones

- Agricultural (A)
- Highway Commercial (C4)
- Environmental Protection (EP)
- Rural Industrial (M1)
- Extractive Industrial (M3)
- Rural Residential (RR)

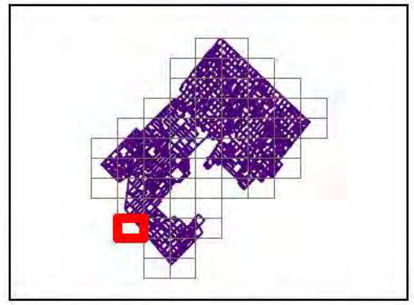
Consolidated to August 8, 2016

Guelph/Eramosa Township

Schedule A-Map 5

N

0 145 290 Meters



NEIGHBOURING MAPS

	9	10
	5	6
		3

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Zones

- Agricultural (A)
- Environmental Protection (EP)

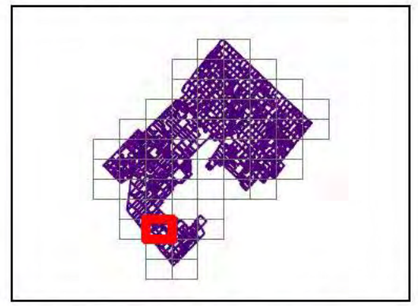
Consolidated to August 8, 2016

Guelph/Eramosa Township

Schedule A-Map 6

N

0 145 290 Meters



NEIGHBOURING MAPS

9	10	11
5	6	7
	3	4

A-21.129

Highway 7

Speedvale AV W

EP-21.4

A-21.4

Rail line (inactive)

Wellington RD 32

Wellington RD 31

Paisley RD

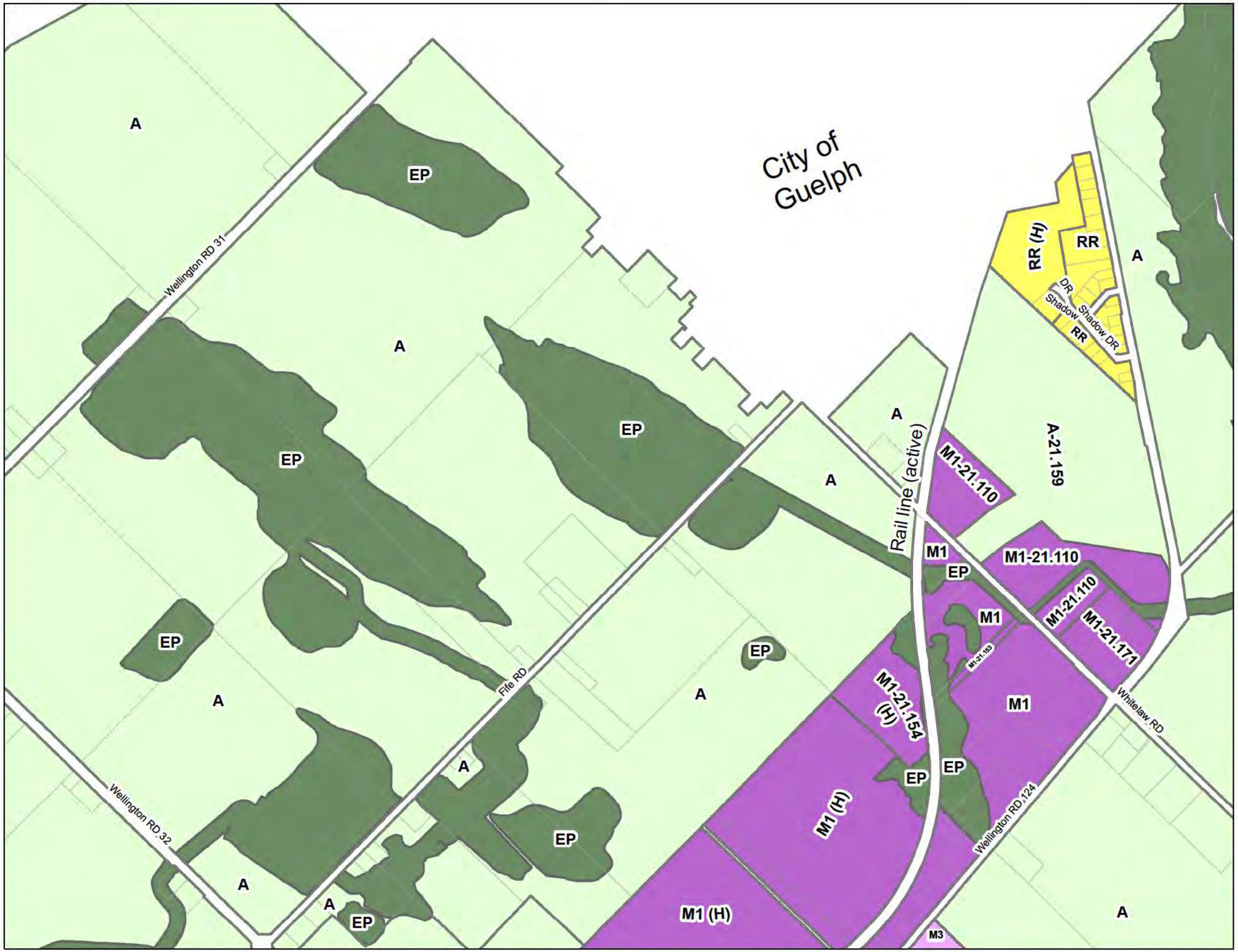
Woolwich-Guelph Townline

Township of Woolwich

Zones

- Agricultural (A)
- Environmental Protection (EP)

Consolidated to August 8, 2016

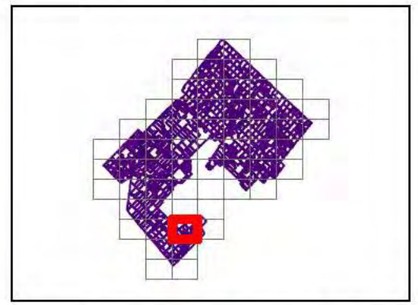


Guelph/Eramosa Township

Schedule A-Map 7

N

0 145 290 Meters



NEIGHBOURING MAPS

10	11	12
6	7	8
3	4	

To be read in conjunction with Zoning By-law 40/2016
DO NOT USE FOR SURVEY OR NAVIGATION PURPOSES
This map is for reference only and may not be accurate.
Some data gathered by Wellington County, 2016.

Zones

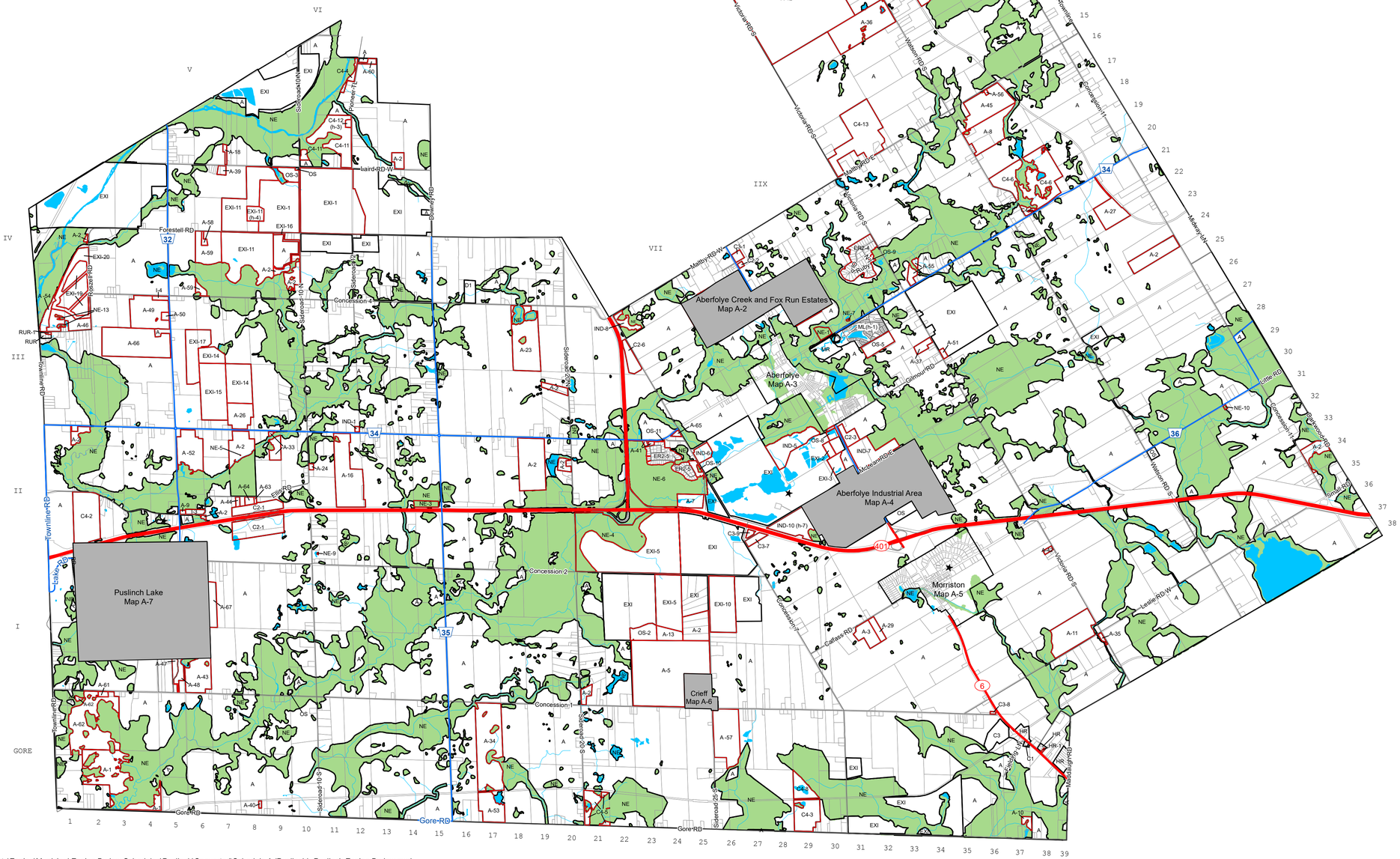
- Agricultural (A)
- Environmental Protection (EP)
- Rural Industrial (M1)
- Extractive Industrial (M3)
- Rural Residential (RR)

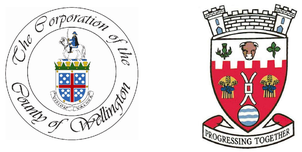
Consolidated to August 8, 2016

Township of Puslinch

Zoning By-Law No. 19/85

Schedule 'A'





Legend

- ★ Former Waste Disposal Site
- Flood Special Policy Area
- Site Specific Exemption
- Zoning
- Natural Environment

Zone Descriptions

A	AGRICULTURAL
HR	HAMLET RESIDENTIAL
RC	RESIDENTIAL COMMUNITY
RR	RESORT RESIDENTIAL
ML	MINI LAKES
ER1	ESTATE RESIDENTIAL TYPE 1
ER2	ESTATE RESIDENTIAL TYPE 2
RUR	RURAL RESIDENTIAL
MR	MILL CREEK RESIDENTIAL AREA
C1	HAMLET COMMERCIAL
C2	HIGHWAY COMMERCIAL
C3	AGRICULTURAL COMMERCIAL
C4	RESORT COMMERCIAL
IND	INDUSTRIAL
EXI	EXTRACTIVE
DI	DISPOSAL INDUSTRIAL
I	INSTITUTIONAL
OS	OPEN SPACE
NE	NATURAL ENVIRONMENT
(h)	HOLDING PROVISION

N

0 1 2 4

Kilometres

Sources:
County of Wellington Planning and Development Department 2018.
Ministry of Natural Resources 2016
Grand River Conservation Authority, Hamilton Region Conservation Authority and Conservation Halton

Consolidation Date: April 17, 2018.
Date printed: April 17, 2018.

Document Path: F:\LIS\Projects\Zoning\Municipal Zoning By-law Schedules\Puslinch\Converted\Schedule A (Puslinch)_Puslinch Zoning By-law.mxd

APPENDIX C

Verification of Legal Name

Industry Canada Industrie Canada

Certificate of Amalgamation

Canada Business Corporations Act

Certificat de fusion

Loi canadienne sur les sociétés par actions

LAFARGE CANADA INC.

Corporate name / Dénomination sociale

836668-3

Corporation number / Numéro de société

I HEREBY CERTIFY that the above-named corporation resulted from an amalgamation, under section 185 of the *Canada Business Corporations Act*, of the corporations set out in the attached articles of amalgamation.

JE CERTIFIE que la société susmentionnée est issue d'une fusion, en vertu de l'article 185 de la *Loi canadienne sur les sociétés par actions*, des sociétés dont les dénominations apparaissent dans les statuts de fusion ci-joints.

Marcie Girouard

Director / Directeur

2013-01-01

Date of Amalgamation (YYYY-MM-DD)
Date de fusion (AAAA-MM-JJ)

Canada

Industry Canada | Industrie Canada

Canada Business Corporations Act (CBCA) | Loi canadienne sur les sociétés par actions (LCSA)

FORM 9 ARTICLES OF AMALGAMATION (SECTION 185)

FORMULAIRE 9 STATUTS DE FUSION (ARTICLE 185)

Form 9

1 -- Name of the Amalgamated Corporation / Dénomination sociale de la société issue de la fusion

LAFARGE CANADA INC.

2 -- The province or territory in Canada where the registered office is to be situated (do not indicate the full address) / La province ou le territoire au Canada où sera situé le siège social (n'indiquez pas l'adresse complète)

Ontario

3 -- The classes and any maximum number of shares that the corporation is authorized to issue / Catégories et tout nombre maximal d'actions que la société est autorisée à émettre

An unlimited number of Common Shares

4 -- Restrictions, if any, on share transfers / Restrictions sur le transfert des actions, s'il y a lieu

The annexed Schedule 1 is incorporated in this form

5 -- Minimum and maximum number of directors (for a fixed number of directors, please indicate the same number in both boxes) / Nombre minimal et maximal d'administrateurs (pour un nombre fixe, veuillez indiquer le même nombre dans les deux cases)

Minimum: 1 Maximum: 10 / Minimal : Maximal :

6 -- Restrictions, if any, on business the corporation may carry on / Limites imposées à l'activité commerciale de la société, s'il y a lieu

NONE

7 -- Other provisions, if any / Autres dispositions, s'il y a lieu

The annexed Schedule 2 is incorporated in this form.

8 -- The amalgamation has been approved pursuant to that section or subsection of the Act which is indicated as follows: / La fusion a été approuvée en accord avec l'article ou le paragraphe de la Loi indiqué ci-après

☐ 183 ☒ 184(1) ☐ 184(2)

9 -- **Declaration:** I hereby certify that I am a director or an officer of the corporation. / **Déclaration :** J'atteste que je suis un administrateur ou un dirigeant de la société.

Name of the amalgamating corporations / Dénomination social des sociétés fusionnantes	Corporation No. / N° de la société	Signature
Westlake Paving and Aggregates Ltd.	835389-1	
Lafarge Canada Inc.	836755-8	

Note:
Misrepresentation constitutes an offence and, on summary conviction, a person is liable to a fine not exceeding $5,000 or to imprisonment for a term not exceeding six months or both (subsection 250(1) of the CBCA).

Nota :
Faire une fausse déclaration constitue une infraction et son auteur, sur déclaration de culpabilité par procédure sommaire, est passible d'une amende maximale de 5 000 $ et d'un emprisonnement maximal de six mois, ou de ces deux peines (paragraphe 250(1) de la LCSA).

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IC3190 (2008/09) Page 1

8366683

Canada

SCHEDULE 1 TO THE ARTICLES OF AMALGAMATION

OF

LAFARGE CANADA INC.

The shares of the Corporation shall not be transferred without the consent of either (i) the directors evidenced by a resolution passed or signed by them and recorded in the books of the Corporation or (ii) the holders of a majority in number of the outstanding voting shares of the Corporation.

SCHEDULE 2 TO THE ARTICLES OF AMALGAMATION

OF

LAFARGE CANADA INC.

Securities of the Corporation, other than shares and non-convertible debt securities, shall not be transferred without compliance with the restriction on transfer contained in the applicable securityholders' agreement or, absent any such restrictions, shall not be transferred without the consent of the Secretary of the Corporation.

Industry Canada | Industrie Canada
Corporations Canada | Corporations Canada

Initial Registered Office Address and First Board of Directors

(To be filed with Articles of Incorporation, Amalgamation and Continuance)

(Sections 19 and 106 of the Canada Business Corporations Act (CBCA))

Form 2

Changes to the registered office or the board of directors are to be made by filing Form 3 — Change of Registered Office Address or Form 6 — Changes Regarding Directors.

Instructions

4 At least 25 per cent of the directors of a corporation must be Canadian residents. If a corporation has four directors or less, at least one director must be a Canadian resident (subsection 105(3) of the *Canada Business Corporations Act* (CBCA)).

If the corporation is a "distributing" corporation, there must be at least three directors.

However, the board of directors of corporations operating in uranium mining, book publishing and distribution, book sale or film and video distribution must be comprised of a majority of Canadian residents (subsection 105(3.1) of the CBCA). If the space available is insufficient, please attach a schedule to the form.

5 Declaration

In the case of an incorporation, this form must be signed by the incorporator. In the case of an amalgamation or a continuance, this form must be signed by a director or an officer of the corporation (subsection 262.(2) of the CBCA).

General

The information you provide in this document is collected under the authority of the CBCA and will be stored in personal information bank number IC/PPU-049. Personal information that you provide is protected under the provisions of the *Privacy Act*. However, public disclosure pursuant to section 266 of the CBCA is permitted under the *Privacy Act*.

If you require more information, please consult our web-site at www.corporationscanada.ic.gc.ca or contact us at 613-941-9042 (Ottawa region), toll-free at 1-866-333-5556 or by email at corporationscanada@ic.gc.ca.

File documents online
(except for Articles of Amalgamation):
Corporations Canada Online Filing Centre:
www.corporationscanada.ic.gc.ca

Or send documents by mail:
Director General,
Corporations Canada
Jean Edmonds Tower South
9th Floor
365 Laurier Ave. West
Ottawa ON K1A 0C8

By Facsimile:
613-941-0999

1 Corporation name

LAFARGE CANADA INC.

2 Address of registered office (must be a street address, a P.O. Box is not acceptable)

NUMBER AND STREET NAME	CITY	PROVINCE/TERRITORY	POSTAL CODE
6509 Airport Road	Mississauga	Ontario	L4V 1S7

3 Mailing address (if different from the registered office)

SAME AS ABOVE ☐

ATTENTION OF	NUMBER AND STREET NAME	CITY	PROVINCE/TERRITORY	POSTAL CODE
Legal Department	6509 Airport Road	Mississauga	Ontario	L4V 1S7

4 Members of the board of directors

FIRST NAME LAST NAME	RESIDENTIAL ADDRESS (must be a street address, a P.O. Box is not acceptable)	CANADIAN RESIDENT (Yes/No)
Thomas Robert Cartmel	4652 W Aberdeen Place Littleton, Colorado USA 80123	No
Stephen H. Ker	2132 Tina Road Burlington, Ontario L7M 3R7	Yes
Kenneth Cathcart	139 Carter Road Guelph, Ontario N1H 6H8	Yes
René Thibault	64 Discovery Ridge Circle SW Calgary, Alberta T3H 5T8	Yes

5 Declaration

I hereby certify that I have relevant knowledge and that I am authorized to sign and submit this form.

SIGNATURE

Kenneth Cathcart, VP, General Counsel & Secretary — (905) 629-5358

PRINT NAME — TELEPHONE NUMBER

Note: Misrepresentation constitutes an offence and, on summary conviction, a person is liable to a fine not exceeding $5000 or to imprisonment for a term not exceeding six months or both (subsection 250 of the CBCA).

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Canada

IC 2904 (2006/12)

APPENDIX D

Environmental Compliance Approval Application Form

Ontario

Ministry of the Environment and Climate Change

Environmental Compliance Approval Application

Table of Contents

General Information and Instructions 1

1 Applicant Information 2

1.1 Applicant Information 2

1.2 Applicant Physical Address 2

1.3 Applicant Mailing Address 3

2 Project Information 4

2.1 Project Name and Description 4

2.2 Application Type 4

2.3 Project Type 5

2.4 Approval Information 5

2.5 Other Approval/Permits for Facility 6

2.6 Technical Contacts 6

3 Regulatory Requirements 7

3.1 Environmental Bill of Rights (EBR) Requirements 7

3.2 *Environmental Assessment Act* (EAA) Requirements 7

3.3 Consultation/Notification 8

4 Site Information 10

4.1 Site Address or Storage Location 10

4.2 Site or Storage Location Information 11

4.3 Site Zoning and Classification 11

4.4 Point of Entry into Ontario 12

4.5 Source Protection/Drinking Water Threats . . 12

4.6 Receiver of Effluent Discharge 12

5 Facility Information 14

5.1 Air 14

5.2 Noise 16

5.3 Sewage Works 17

5.4 Waste Disposal Site 19

5.5 Waste Management Systems (Except Mobile Waste Processing) 22

5.6 Waste Management System – Mobile Waste Processing 25

5.7 Cleanup of Contaminated Sites 26

6 Supporting Documentation and Technical Requirements 28

6.1 General 28

6.2 Air 29

6.3 Noise and Vibration 29

6.4 Sewage Works 29

6.5 Waste Disposal Sites 30

6.6 Waste Management Systems 31

6.7 Mobile Waste Processing 32

6.8 Cleanup of Contaminated Sites 32

6.9 Other Attachments 32

6.10 Confidentiality 32

7 Authorization 33

7.1 Statement of the Applicant 33

7.2 Statement of the Municipality 33

7.3 Statement of Technical Contacts 33

8 Payment Information 34

Application Summary 36

Ontario

Ministry of the Environment and Climate Change

Environmental Compliance Approval Application

General Information and Instructions

General Information

Information requested in this form is collected under the authority of the *Environmental Protection Act* (EPA), *Ontario Water Resources Act* (OWRA) and Environmental Bill of Rights (EBR), and will be used to evaluate applications for Environmental Compliance Approvals (ECAs) issued under Part II.1 of the EPA. This application form should not be used for mobile PCB destruction facilities.

For all questions related to preparing or submitting this form or about the Ministry's collection of information related to applying for an ECA, contact:

Client Services and Permissions Branch
135 St. Clair Ave. West, 1st Floor
Toronto Ontario M4V 1P5
Telephone outside Toronto 1-800-461-6290 or in Toronto 416-314-8001.

Instructions

1. Applicants are responsible for ensuring that they complete the most recent application form. Application forms and information about the required supporting documentation and technical requirements are available from the Client Services and Permissions Branch (the address and phone number are provided in the General Information on this page). As well, you can get this information from your local District Office of the Ministry of the Environment and Climate Change, and online at: https://www.ontario.ca/page/environmental-approvals
2. A complete application consists of:
   - a completed and signed application form;
   - all required supporting documents and technical requirements identified in:
     i. this form,
     ii. Ministry guidance,
     iii. the Applications for Environmental Compliance Approvals regulation, and
   - payment of the application fee (in Canadian funds) by certified cheque or money order made payable to the Minister of Finance, or credit card payment (for payments up to $10,000). For Transfer of Review, make the cheque or money order payable to the appropriate municipality. T**he Ministry may return or refuse incomplete applications to the applicant**. The Director may require additional information of any application initially accepted as complete.
3. Submit the complete application as follows:
   - One (1) paper copy (unless the application is a Transfer of Review), one (1) electronic copy and the fee to the Director, Client Services and Permissions Branch at the address provided in the General Information on this page.
   - If the application is a Transfer of Review, the applicant must submit two (2) copies of the completed application and the fee to the designated municipal authority.
4. The applicant must also send a copy of the application without the fee to the local Ministry District Office that has jurisdiction over the area where the facilities are located. DO NOT send payment to the District Office.
   - To locate the appropriate local Ministry District Office, visit the Ministry of the Environment and Climate Change website at: http://www.ontario.ca/environment-and-energy/ministry-environment-and-climate-change-regional-and-district-offices
5. For Waste Disposal Sites the applicant must also send a copy of the application without the fee to the Clerk's office of the local municipality (both upper and lower tier) in which the facility/proposed facility is located unless the application is for a revocation or an amendment that is environmentally insignificant or the applicant is a municipality. DO NOT send any payment information to the municipality.

Information collected by the Ministry of the Environment and Climate Change is subject to the *Freedom of Information and Protection of Privacy Act (FIPPA)*. If the applicant is of the view that any part of the application is confidential on the grounds that such information constitutes a trade secret or scientific, technical, commercial, financial or labour relations information, please make this known now. Otherwise, the Ministry may make the information available to the public without further notice to the applicant.

It is an offence under the EPA and OWRA to provide false or misleading information in this application and/or accompanying documents.

Complete the sections as shown below.

- Section 1: Applicant Information
- Section 2: Project Information
- Section 3: Regulatory Requirements
- Section 4: Site Information
- Section 5: Facility Information
- Section 6: Supporting Documentation
- Section 7: Payment Information
- Section 8: Authorization

Fields marked with an asterisk (*) are mandatory.

1. Applicant Information

1.1 Applicant Information

Applicant Type *

☑ Corporation ☐ Individual ☐ Federal Government ☐ Municipal Government

☐ Partnership ☐ Provincial Government ☐ Sole Proprietor

☐ Other (specify)

Applicant Name (Legal name of individual or organization as evidenced by legal documents) *

LAFARAGE CANADA INC

☑ Select if Business Name same as Applicant Name

Business Name *

LAFARAGE CANADA INC

Business Number *	Business Website Address
102930856	https://www.lafarge.ca/en

Primary North American Industry Classification System (NAICS) Code *

212323

Other NAICS Code

Separate list attached?

☐ Yes ☑ No

Business Activity Description

Aggregate mining / production

✓ Completion Status (1.1 Applicant Information)

1.2 Applicant Physical Address

Address Type? *

☑ Civic Address ☐ Survey Address

Civic Address

Unit Number	Street Number *	Street Name *
	7051	Wellington County Road 124

Survey Address

Enter Lot and Concession or Part and Reference Plan

Lot	Concession	Part	Reference Plan

Municipality/Unorganized Township *	County/District	
Guelph		

Province/State *	Country *	Postal/Zip Code *
Ontario	Canada	L4V 1S7

Telephone Number *	Fax Number	Mobile Number	Email Address *
905-728-7070 ext.		289-442-2270	faith.stweart@lafargeholcim.com

Geo Reference

Description of location	Map Datum	Zone	Accuracy Estimate	Geo-Referencing Method	UTM Easting	UTM Northing
Southwest corner of property	NAD83	17	5m	Google Earth	558,661.60	4,815,752.40
Physical location of front door or main entrance	NAD83	17	5m	Google Earth	558,618.68	4,816,316.90

✓ Completion Status (1.2 Applicant Physical Address)

1.3 Applicant Mailing Address

☐ Select if same as Physical Address

Unit Number	Street Number *	Street Name *
	7051	Wellington County Road

Delivery Designator	Delivery Identifier	Postal Station

Municipality/Unorganized Township *	County/District	
Guelph		

Province/State *	Country *	Postal/Zip Code *
Ontario	Canada	L4V 1S7

Telephone Number *	Fax Number	Mobile Number	Email Address *
905-738-7070 ext.		289-442-2270	faith.stewart@lafargeholcim.com

✓ Completion Status (1.3 Applicant Mailing Address)

2. Project Information

2.1 Project Name and Description

Project Name *

Lafarge Wellington Country Pit/Quarry

Project Description Executive Summary *

This amendment application is for the discharge of quarry water from the future below water quarry. The current permit manages the site drainage, stormwater management pond and the discharge to the Speed River. The proposed quarry discharge will ultimately be discharged to the Speed River and the Speed River Wetland Complex.

Supplemental Application Information (select information button for required information for this field) *

A pre-application consultation was conducted with the MECP Hamilton District Office (Mr. Michael Spencer) and Golder Associates (Craig De Vito) between March 13 and 14, 2018. The purpose of the correspondence was to discuss the ISW ECA application. During the discussion the site sewage works and the water handling operations were discussed.

✓ Completion Status (2.1 Project Name and Description)

2.2 Application Type

Type *

- ☐ New ECA
- ☑ Amendment to existing ECA
- ☐ Revocation of existing ECA
- ☐ Administrative amendment to existing ECA
- ☐ Application for renewal of limited operational flexibility
- ☐ Consolidation of existing ECAs

Is this application for the addition of a new project type to the site or a new municipal waste category/class code to the waste management systems or a new sewage facility type? *

☐ Yes ☑ No

Is this application for Transfer of Review? *

☐ Yes ☑ No

✓ Completion Status (2.2 Application Type)

2.3 Project Type

Project Type (Select all that apply) *	Limited Operational Flexibility?	Pilot Project?
☐ Air - Stationary	☐	☐
☐ Air - Mobile	☐	☐
☐ Noise	☐	☐
☐ Vibration	☐	☐
☐ Waste Disposal Site - Landfill site	N/A	☐
☐ Waste Disposal Site - Transfer site	☐	☐
☐ Waste Disposal Site - Processing site	☐	☐
☐ Waste Disposal Site - Composting site	N/A	☐
☐ Waste Disposal Site - Thermal Treatment site	N/A	☐
☑ Sewage - Industrial	☐	☐
☐ Sewage - Municipal	☐	☐
☐ Sewage - Private	☐	☐
☐ Waste Management System – General Waste Management System	N/A	☐
☐ Waste Management System - Hauled Sewage (Septage)	N/A	☐
☐ Waste Management System – Soil Conditioner for transport to a site for Application on Land	N/A	☐
☐ Waste Management System - Mobile Waste Processing	N/A	☐
☐ Cleanup of contaminated sites - Mobile	N/A	☐
☐ Cleanup of contaminated sites - Site specific	N/A	☐

✓ Completion Status (2.3 Project Type)

2.4 Approval Information

Application initiated by *

☑ Applicant
☐ S. 20.18 Order (attach copy)
☐ Condition of existing approval
☐ Provincial Officer Order (attach copy)
☐ Inspection Report (attach copy)
☐ Other (specify) _____

Current Environmental Compliance Approvals that may be changed or amended by this application: ☐ N/A

Environmental Compliance Approval Number *	Date of Issuance (yyyy/mm/dd) *
0290-6PHGPS	2006/11/20

Separate list attached?

☐ Yes ☑ No

Proposed Environmental Compliance Approvals related to this project: ☑ N/A

Project Type	Ministry Reference Number (if applicable)	Have Submitted	Have not Submitted
		☐	☐

Separate list attached?

☐ Yes ☐ No

✓ Completion Status (2.4 Approval Information)

2.5 Other Approval/Permits for Facility ☐ N/A

List all other instruments (approvals or permits) issued by the Ministry of the Environment and Climate Change or applied for under the *Environmental Protection Act*, *Environmental Assessment Act*, *Ontario Water Resources Act* and *Safe Drinking Water Act, 2002* and any Environmental Activity and Sector Registrations that are relevant to this application.

Instrument Type	Instrument Number/ Application Reference Number	Approval or Application Date (yyyy/mm/dd)
Permit to Take Water	2718-7S3RM7	2009/05/28

Separate list attached?

☐ Yes ☑ No

List all other instruments (approvals or permits) issued by an agency, municipality or another ministry that are relevant to this application.

Issuing Agency	Approval or Permit Name	Approval or Permit Number	Issued Date (yyyy/mm/dd)

Separate list attached?

☐ Yes ☐ No

✓ Completion Status (2.5 Other Approval/Permits for Facility)

2.6 Technical Contacts

Technical Contact 1

Area of Responsibility (Select all that apply) *

☐ Air ☐ Noise/Vibration ☑ Sewage ☐ Waste

Name of Technical Contact

Last Name *	First Name *
De Vito	Craig

Company *
Golder Associates

Address Information

☐ Select if same as Applicant Mailing Address

Civic Address

Unit Number	Street Number *	Street Name *
	210	Sheldon Drive

Delivery Designator	Delivery Identifier	Postal Station

Municipality/Unorganized Township *	County/District
Cambridge	

Province/State *	Country *	Postal/Zip Code *
Ontario	Canada	N1T1A8

Telephone Number *	Fax Number	Mobile Number	Email Address *
519-620-1222 ext. 6537		647-223-6508	Craig_DeVito@golder.com

✓ Completion Status (2.6 Technical Contacts)

3. Regulatory Requirements

3.1 Environmental Bill of Rights (EBR) Requirements

Is this a proposal for a prescribed instrument under the EBR? *

☑ Yes ☐ No

If yes, is this proposal exempted from the EBR requirements? *

☐ Yes ☑ No

If yes, please check one of the following (Please provide supporting information.)

☐ This proposal has been considered in a substantially equivalent process of public participation. (EBR, 1993, s.30.)

Was the public participation process carried out in fulfillment of the requirements related to an approval under the *Planning Act*?

☐ Yes ☐ No

If yes, was the *Planning Act* approval related to a plan of subdivision?

☐ Yes ☐ No

☐ This proposal is for an emergency situation. (EBR, 1993, s. 29.)

☐ This proposal is for an amendment to or revocation of an existing Environmental Compliance Approval that is not environmentally significant. (EBR, 1993, s. 22 (3).)

☐ This proposal has been subject to or exempted from EAA Requirements or considered in a decision of a tribunal. (EBR, 1993, s. 32.)

✓ Completion Status (3.1 Environmental Bill of Rights (EBR) Requirements)

3.2 *Environmental Assessment Act* (EAA) Requirements

Is the proposed undertaking subject to the requirements of the EAA? *

☐ Yes ☑ No

If yes, please select one of the following:

☐ The proposed undertaking has fulfilled the requirements of the EAA through the completion of a Class EA process

Name of Class EA _____

Schedule/Group/Category (if applicable) _____

If applicable, please submit a copy of the proof of completion (for example, Notice of Completion).

Was the undertaking subject of a Part II Order request(s)?

☐ Yes ☐ No

If yes, please submit a copy of the Director's or Minister's decision letter.

☐ The proposed undertaking has fulfilled all of the requirements for the EAA through:

Select all that apply:

☐ completion of an Environmental Screening Process pursuant to O. Reg. 101/07 of the EAA

☐ completion of an Environmental Screening Process pursuant to O. Reg. 116/01 of the EAA

Was the undertaking subject of an elevation request(s)?

☐ Yes ☐ No

If yes, please submit a copy of the Director's decision letter. If an appeal was made to the Director's decision, please also submit a copy of the Minister's decision letter.

☐ completion of an Environmental Screening Process pursuant to O. Reg. 231/08 of the EAA

Was the undertaking subject of an objection(s)?

☐ Yes ☐ No

If yes, please submit a copy of the Minister's decision letter.

☐ The proposed undertaking has fulfilled the requirements of the EAA through the completion of an individual Environmental Assessment.

Please submit a copy of the signed Notice of Approval.

Was the undertaking exempted from the requirements of the EAA? *

☐ Yes ☑ No

The proposed undertaking has fulfilled the requirements of the EAA through an exemption provided under:

Select one of the following

☐ Section _____ of Ontario Regulation No. _____ or

☐ Declaration/Exemption Order Number _____

If Regulation, Declaration Order or Exemption Order does not refer directly to this undertaking, please provide supporting documentation to explain why it applies to this facility

✓ Completion Status (3.2 *Environmental Assessment Act* (EAA) Requirements)

3.3 Consultation/Notification

Indigenous Consultation:

Is the proposed project/activity on Crown land or does/would it alter access to Crown land? *	☐ Yes ☑ No
Is the proposed project/activity in an open or forested area where hunting, trapping or plant gathering could occur? *	☐ Yes ☑ No
Does the proposed project/activity involve the clearing of forested land? *	☐ Yes ☑ No
Could the proposed project/activity impact a water body (e.g., direct discharge) or alter access to a water body? *	☐ Yes ☑ No
Could the proposed project/activity impact cultural heritage or archaeological resources, or access to them? *	☐ Yes ☑ No
Is the proposed project/activity adjacent or close to a First Nation Reserve? *	☐ Yes ☑ No
Is the applicant aware of any concerns from Indigenous communities about this proposed project/activity? *	☐ Yes ☑ No
Were there conditions placed, or direction provided, in another (or previous) permit or approval for consultation in relation to this project/activity? *	☐ Yes ☑ No
Based on the online Guide to Applying for an Environmental Compliance Approval, or direction provided by the ministry or another agency, are Indigenous consultation activities likely required as part of this application process? *	☐ Yes ☑ No

If Yes to the question above, please describe the consultation/notification activities undertaken for this application or as part of another process (e.g., EAA) in relation to the proposed project/activity, including a summary of the notification/ consultation, First Nation and Métis communities contacted, key issues raised and how they were addressed, any changes to the project as a result of these activities, and any planned consultation/notification activities in the future.

Please attach supporting documents (e.g., record of consultation, delegation letter and/or direction provided by the Crown, materials provided to communities, meeting notes and agendas, correspondence with communities as appropriate).

If the applicant has determined that consultation with First Nation and Métis communities is not likely required for the proposed project/activity, please provide a rationale why: *

Proposed project activities are not likely to have significant environmental impacts on the Speed River or the Speed River Wetland Complex. The approach of the study characterizes and assesses the current conditions and the potential effects of the project in a thorough, traceable manner, and proposes impact management measures to mitigate potential negative environmental effects.

Other Consultation/Notification:

Has the applicant had a ministry pre-application consultation in relation to the proposed project? *

☑ Yes ☐ No

If this application is for a waste disposal site, have the neighbour notification requirements been completed?

☐ Yes ☐ No

If yes, please attach a Public Consultation/Notification Report that includes the notice and list of recipients.

If no, please select the reason for not undertaking neighbour notification:

☐ Application is for an administrative amendment

☐ The proposal was subject to public consultation through an Environmental Assessment process

☐ other , please explain

Are there any other consultation/notification activities that have been undertaken to fulfill requirements by other legislation or through voluntary efforts? *

☐ Yes ☑ No

If yes, please:

1. describe the consultation/notification activities below; and
2. attach documents describing each of these consultation\notification activities, any changes to the project as a result of these activities and any planned consultation/notification activities in the future.

✓ Completion Status (3.3 Consultation/Notification)

4. Site Information

4.1 Site Address or Storage Location

Will the vehicles or equipment be stored at more than one location?

☐ Yes ☐ No

(If yes, please enter all vehicle or equipment storage locations below and attach separate list, as necessary.)

☐ Select if same as Applicant Physical Address

Address Type? *

☑ Civic Address ☐ Survey Address

Primary Civic Address

Unit Number	Street Number *	Street Name *
	7051	Wellington Country Road 124

Additional Civic Addresses

Unit Number	Street Number	Street Name

Separate list attached?

☐ Yes ☑ No

Primary Survey Address

Enter Lot and Concession or Part and Reference Plan

Lot	Concession	Part	Reference Plan

Additional Survey Address

Enter Lot and Concession or Part and Reference Plan

Lot	Concession	Part	Reference Plan

Separate list attached?

☐ Yes ☐ No

Municipality/Unorganized Township *	County/District	
Guelph		
Province/State *	**Country ***	**Postal/Zip Code ***
Ontario	Canada	N1H6J3

Non-address Information (includes any additional information to clarify the physical location)

Geo Reference (required)

☑ Select if same as Applicant Physical Geo Reference

Description of location	Map Datum *	Zone *	Accuracy Estimate *	Geo-Referencing Method *	UTM Easting *	UTM Northing *
Southwest corner of property	NAD83	17	5m	Google Earth	558,661.60	4,815,752.40
Physical location of front door or main entrance	NAD83	17	5m	Google Earth	558,618.68	4,816,316.90

✓ Completion Status (4.1 Site Address or Storage Location)

4.2 Site or Storage Location Information

Site Name *

Lafarge Wellington Country Pit/Quarry

Days and Hours of Operation *	Ministry of the Environment and Climate Change District Office *
6 days and 7:00 to 19:00	Hamilton District Office

Is the site (property) that is the subject of this application owned by the applicant? *

☑ Yes ☐ No

If no, please include the owner's name, address and a signed document indicating that the applicant has the authority to install and operate the proposed activity, or store vehicles or equipment on the land.

Is the applicant the operating authority of the site that is the subject of this application? *

☑ Yes ☐ No

If no, please include the operating authority name, address and phone number.

Is the site located in an area of development control as defined by the *Niagara Escarpment Planning and Development Act* (NEPDA)? *

☐ Yes ☑ No

If yes, please attach a copy of the NEPDA permit for proposed activity.

Is the site within an area covered by the Oak Ridges Moraine Conservation Plan? *

☐ Yes ☑ No

If yes, please attach proof of municipal planning approval for the proposed activity/work (for example, zoning by-law, letter from municipality, etc.).

✓ Completion Status (4.2 Site or Storage Location Information)

4.3 Site Zoning and Classification ☐ N/A

Current Land Use *	Official Plan Designation *	Current Zoning (Please attach zoning map, if available.) *
Extraction	Extraction	Extraction

Adjacent Land Use (select all that apply) *

☑ Industrial ☑ Agricultural ☐ Commercial ☐ Recreational ☐ Residential

☐ Other (specify) _____

Adjacent Land Zoning *

Agricultural Area, Rural Industrial, Environmental Protection

Does the current zoning permit the proposed activity? *

☑ Yes ☐ No

Does the applicant have correspondence from the municipality to confirm that the current zoning of the property permits the proposed use? *

☑ Yes ☐ No If yes, please attach correspondence from the municipality.

Does the official plan designation support the proposed activity? *

☑ Yes ☐ No ☐ N/A

✓ Completion Status (4.3 Site Zoning and Classification)

4.4 Point of Entry into Ontario ☐ N/A

(for waste management system vehicles that are stored at an address outside of Ontario)

City in closest proximity to the point of entry

Description of Point of Entry

✓ Completion Status (4.4 Point of Entry into Ontario)

4.5 Source Protection/Drinking Water Threats (sewage or waste disposal site applications only) ☐ N/A

Check the source protection area(s) where the activity is/will be located *

☐ Ausable Bayfield	☐ Cataraqui Region	☐ Catfish Creek
☐ Central Lake Ontario	☐ Credit Valley	☐ Crowe Valley
☐ Essex	☐ Ganaraska	☑ Grand River
☐ Grey Sauble	☐ Halton	☐ Hamilton
☐ Kawartha-Haliburton	☐ Kettle Creek	☐ Long Point
☐ Lakehead	☐ Lake Simcoe and Couchiching/Black River	☐ Lower Trent
☐ Lower Thames Valley	☐ Maitland Valley	☐ Mattagami
☐ Mississippi Valley	☐ Niagara	☐ North Bay Mattawa
☐ Northern Bruce Peninsula	☐ Nottawasaga Valley	☐ Rideau Valley
☐ Raisin Region	☐ South Nation	☐ Saugeen Valley
☐ Sault Ste. Marie	☐ Severn Sound	☐ Sudbury
☐ St. Clair Region	☐ Toronto and Region	☐ Otonabee-Peterborough
☐ Outside a source protection area	☐ Quinte	☐ Upper Thames River

Is the proposed activity located or planned to be located in a vulnerable area identified in a local assessment report source protection plan under the *Clean Water Act, 2006*? *

☐ Yes ☑ No

If yes, what is/are the vulnerable area(s)/zone(s)?

☐ Wellhead Protection Areas ☐ Surface Water Intake Protection Zones ☐ Highly Vulnerable Aquifers

☐ Significant Groundwater Recharge Areas

Is the activity being applied for identified as a significant drinking water threat in the assessment report for the local source protection area? *

☐ Yes ☑ No

✓ Completion Status (4.5 Source Protection/Drinking Water Threats)

4.6 Receiver of Effluent Discharge (sewage applications only) ☐ N/A

Intermediate Receiver Name *

Speed River

Watershed Name *

Grand River

Type of Receiver *

☑ Surface Water ☐ Groundwater ☐ Other (specify) _____

Has the facility received local Conservation Authority clearance? (for stormwater management facility discharging to the natural environment) *

☐ Yes ☑ No

If yes, please include a copy of the Conservation Authority clearance.

Final Receivers ☐ N/A

Will the proposed activity discharge sewage to any of the following critical receivers? *

☐ Lake Simcoe ☐ Rideau River ☐ Detroit River

☑ Great Lakes ☐ Rouge River ☐ Bay of Quinte

☐ Other (specify) _____

Is the receiver a Policy 2 receiver? *

☐ Yes ☑ No

Does the applicant have a Policy 2 deviation approval from the directors?

☐ Yes ☐ No

If yes, please attach a copy of the Director's approval.

✓ Completion Status (4.6 Receiver of Effluent Discharge)

5. Facility Information

5.1 Air Note** - If the application does not have air emissions please proceed to Section 5.2 Information

5.1.1 Summary of Equipment that Discharges Contaminants to the Air

Select Type of Equipment	Number of Pieces of Equipment
☐ Combustion equipment that uses natural gas, propane, no. 2 oil, landfill gas or sewage treatment gas for fuel for the purpose of providing comfort heating or emergency power, producing hot water or steam, or heating material in a system that does not discharge to the atmosphere (Total Heat input of all units: ≤ 50,000,000 kJ/hr)	N/A
☐ Storage tanks	N/A
☐ Welding operations that use a maximum of 10 kilograms of welding rod per hour	N/A
☐ Combustion equipment that uses waste-derived fuel for the purpose of providing comfort heating, burning ≤ 15 litres per hour	
☐ Heat cleaning ovens used for parts cleaning and associated parts washers or degreasing equipment, other than solvent degreasing equipment	
☐ Cooling towers	
☐ Equipment used to control emissions of contaminants, other than a fume incinerator	
☐ Laboratory fume hoods	
☐ Paint spray booths and associated equipment that have a design capacity of up to 8 litres per hour of paint	
☐ Grain dryers	
☐ Any other equipment not listed above with a flow rate of less than or equal to 1.5 m^3/second	
☐ Any other equipment not listed above with a flow rate of greater than 1.5 m^3/second	
☐ Equipment that is subject to an Environmental Compliance Approval, and from which there is no proposed increase in the discharge of any contaminant that was previously reviewed by the Director.	N/A

✓ Completion Status (5.1.1 Summary of Equipment that Discharges Contaminants to the Air)

5.1.2 Emission Summary and Dispersion Modelling (ESDM) Report

Is the review of an existing, approved ESDM required as part of this proposed application?

☐ Yes ☐ No

If yes, identify the number of emission sources described in the existing ESDM Report that emit contaminants in common with the sources forming the subject of the application (if none, enter zero).

Have all of these emission sources been described in an ESDM Report that was previously reviewed as part of an application for an existing Environmental Compliance Approval?

☐ Yes ☐ No

✓ Completion Status (5.1.2 ESDM Report)

5.1.3 O. Reg. 419/05 Requirements

Which of the following sections of O. Reg. 419/05 applies to the facility?

☐ s.19 (Schedule 2)

☐ s. 20 (Schedule 3)

☐ Does not apply. Please indicate reason _____

Has an instrument under O. Reg. 419/05 been issued?

☐ Yes ☐ No

If yes, what type(s) of instruments (including any notices, orders or approvals) has (have) been issued? (select all that apply)

☐ ss. 4(2) Adjacent Properties

☐ ss. 7(1) Specified Dispersion Models

☐ ss. 8(2) Negligible Sources

☐ ss. 10(2) Operating Conditions

☐ ss. 11(2) Refined Emission Rates

☐ ss. 13.1 Value of Dispersion Modeling Parameters

☐ ss. 13(1) Meteorological Data

☐ ss. 14(6) Area of Modelling Coverage

☐ ss. 20(4) Speed-up Request

☐ ss. 20(5) Speed-up Order

☐ s. 35 Site-specific Standard

☐ ss. 35(14) Site-specific Standard Order

☐ ss. 39(3) Technical Standard Registration (Industry Standard)

☐ ss. 39(4) Technical Standard Registration (Equipment Standard)

☐ Other (list all that have been issued) _____

Is an instrument under O. Reg. 419/05 being requested as part of this application?

☐ Yes ☐ No

If yes, what type(s) of notice, order or approval is (are) being requested?

☐ ss. 7(1) Specified Dispersion Models

☐ ss. 8(2) Negligible Sources

☐ ss. 10(2) Operating Conditions

☐ ss. 11(2) Refined Emission Rates

☐ ss. 13(1) Meteorological Data

☐ ss. 14(6) Area of Modelling Coverage

☐ ss. 20(4) Speed-up Request

☐ s. 32 Request for a Site-specific Standard Order

☐ ss. 39(1)(a) Application for Technical Standard Registration (Industry Standard)

☐ ss. 39(1)(b) Application for Technical Standard Registration (Equipment Standard)

☐ Other (list all that have been issued) _____

Please attach the form(s) requesting the notice(s) and/or order(s) and any additional supporting information.

Has an s. 30 Upper Risk Threshold (Schedule 6) been exceeded?

☐ Yes ☐ No

If yes, please include additional supporting information.

Is the facility located in a multi-tenant building?

☐ Yes ☐ No

If yes, additional information may be requested.

Are all of the contaminants to which the application relates represented in the Ministry of the Environment and Climate Change publication titled "Summary of Standards and Guidelines to support Ontario Regulation 419: Air Pollution- Local Air Quality' or have they been screened out based on the publication titled " Jurisdictional Screening Level (JSL) List, A Screening Tool for Ontario Regulation 419: Air Pollution - Local Air Quality"?

☐ Yes ☐ No

(If no, please attach Supporting Information for a Maximum Ground Level Concentration Acceptability Request for Compounds with no Ministry POI Limit - Supplement to Application for Approval, EPA S. 9).

✓ Completion Status (5.1.3 O. Reg. 419/05 Requirements)

✓ Completion Status (5.1 Air)

5.2 Noise Note** - If the application does not have noise emissions please proceed to Section 5.3

5.2.1 Noise Assessment Information

Has an Acoustic Assessment Report (AAR) been completed in relation to the proposed project/activity?

☐ Yes ☐ No

If yes, please attach the Acoustic Assessment Report

Does the AAR show that applicable limits are met?

☐ Yes ☐ No

If no, please attach the Acoustic Assessment Report including the Noise Abatement Action Plan

If no, is the application eligible for Primary or Secondary Noise Screening?

☐ Yes ☐ No

Note that if the proposed activity is not eligible for either of the screenings, an AAR must be submitted.

If yes, is the proposed activity eligible for the Primary Noise Screening?

☐ Yes ☐ No

If yes, is the actual separation distance between the facility and the nearest noise sensitive point of reception (POR) greater than the minimum required separation distance calculated from the Primary Noise Screening?

☐ Yes ☐ No

If yes, please attach the Primary Noise Screening form and supporting documentation.
Note that if the Primary Noise Screening is not successful then the applicant may attempt to proceed with the Secondary Noise Screening.

If no, does the Secondary Noise Screening Form show that the applicable sound level limits are met?

☐ Yes ☐ No

If yes, please attach the Secondary Noise Screening Form and supporting documentation.
Note that if meeting the applicable sound level limits cannot be demonstrated, then an AAR must be submitted.

✓ Completion Status (5.2.1 Noise Assessment)

5.2.2 Equipment Subject to Noise Review

Description	Number of Pieces of Equipment
☐ Arc Furnaces	
☐ Asphalt Plants	
☐ Blow-down Devices	
☐ Co-Generation Facilities	
☐ Crushing Operations	
☐ Flares	
☐ Gas Turbines	
☐ Pressure Blowers or Large Induced Draft Fans (flow rate > 47 m^3/second or static pressure > 1.25 kilopascals)	
☐ Any other equipment not listed above that has not previously been reviewed by the Director in connection with an application for an Environmental Compliance Approval with respect to the facility	
☐ Any other equipment not listed above that is identical to equipment for which a noise assessment was previously reviewed by the Director in connection with an application for an Environmental Compliance Approval with respect to the facility	

✓ Completion Status (5.2.2 Equipment Subject to Noise Review)

✓ Completion Status (5.2 Noise)

5.3 Sewage Works Information

Note** - If the application does not contain Sewage Works please proceed to Section 5.4

5.3.1 Facility Type - Sewage Works

Select the type of facility that is the subject of the application (select all that apply). *

☑ Sewage Treatment Plant (STP) ☐ Stormwater Management Facility

For the following, the applicant must complete and attach the relevant sections of the pipe data form:

☐ Storm Sewers ☐ Ditches ☐ Combined Sewers

☐ Force mains ☐ Sanitary Sewers ☐ Pumping Station

Sewage Treatment Plant Details

☐ Primary ☐ Secondary ☐ Tertiary

☐ Receives septage ☐ Constructed/Engineered Wetlands ☑ On-site system

☐ Lagoons (check all that apply below)

☐ Septage ☐ Municipal ☐ Other (specify) _____

Facility Type *

☐ Municipal or private facility

Category: ☐ New ☐ 1 ☐ 2 ☐ 3 ☐ 4

Please indicate the maximum design capacity of the municipal or private sewage treatment plant:

☐ ≤ 4,500 m^3/day ☐ > 4,500 m^3/day

☐ Facility for the treatment of leachate

Category: ☐ New ☐ 1 ☐ 2 ☐ 3 ☐ 4

☑ Facility for the treatment of industrial process wastewater

Category: * ☐ New ☑ 1 ☐ 2 ☐ 3 ☐ 4

☐ Facility for the disposal of non-contact cooling water

☐ Subsurface disposal

Please indicate the design capacity of the subsurface disposal:

☐ ≤ 15m³/day ☐ > 15 m³/day and < 50 m³/day ☐ > 50 m³/day

Stormwater Management Facility Details

Category: ☐ New ☐ 1 ☐ 2 ☐ 3 ☐ 4

Pond Type

☐ Wet Pond ☐ Dry Pond ☐ Other (specify) _____

What is the drainage area (in hectares) associated with the proposed activity? _____

Does the applicant own all, or part of the drainage area?

☐ Applicant owns all of the drainage area

☐ Applicant owns part of the drainage area

☐ Applicant does not own the drainage area

For the drainage area land that the applicant does not own, does the applicant have an agreement with the owner(s) of the drainage area?

☐ Yes ☐ No

What is the predominant type of land use in the drainage area?

☐ Rural or Agricultural ☐ Commercial or Industrial ☐ Residential

Is a Hydrogeological Assessment required? *

☐ Yes ☑ No

(If yes, please attach the hydrogeological assessment.)

Is a review of effluent criteria assessment for stormwater management, cooling water or soil remediation facilities required? *

☑ Yes ☐ No

(If yes, please attach the final effluent criteria accepted by the Regional Office of the Ministry.)

Is a review of effluent criteria assessment for municipal or private sewage, industrial process wastewater or leachate treatment plant required? *

☐ Yes ☑ No

(If yes, please attach the final effluent criteria accepted by the Regional Office of the Ministry.)

Note: The Hydrogeological Assessment, effluent criteria, and surface water assessment must be discussed and prepared with the Ministry's regional technical support section during a pre-application meeting(s) and consultation(s) with the Ministry. A proof of concurrence from technical support must be included as part of the ECA application package.

✓ Completion Status (5.3.1 Facility Type - Sewage Works)

5.3.2 Servicing

The works will provide sewage servicing for (select all that apply): *

☐ Residential

Residential Type

☐ Subdivision ☐ Condominium ☐ Institutional

☐ Other (specify) _____

Is there a Municipal Responsibility Agreement in place?

☐ Yes ☐ No ☐ N/A

(If yes, please attach a copy of the Municipal Responsibility Agreement.)

☐ Commercial

Commercial Type

☐ Hotel, Motel, Inn ☐ Campground, Park ☐ Rental Cabins

☐ Resort ☐ Shopping Malls ☐ Restaurant

☐ Highway Service Station/Gas Bars ☐ Other (specify) _____

☑ Industrial

Describe * Quarry sump and site drainage

✓ Completion Status (5.3.2 Servicing)

5.3.3 Sewage Servicing for Waste Disposal/Landfill Sites

Does/Will the sewage treatment facility receive waste disposal/landfill site leachate? *

☐ Yes ☑ No

If yes, please identify the site(s) below.

Name of Site Contributing Leachate	Environmental Compliance Approval Number	Volume of Leachate (m^3)
1.		

✓ Completion Status (5.3.3 Sewage Servicing for Waste Disposal/Landfill Sites)

✓ Completion Status (5.3 Sewage Works)

5.4 Waste Disposal Site

Note** - If the application is not for a waste disposal or processing site please proceed to Section 5.5

5.4.1 Facility Description - Waste Disposal Site (information on the nature of the proposed business or activity at this site)

Service Area	Total Area of Site (hectares)

Monitoring (select all that apply)

☐ Groundwater ☐ Surface Water ☐ Landfill Gas

☐ Leachate ☐ None

☐ Other (specify) _____

Type(s) of waste to be accepted at this site (select all that apply)

Subject:

☐ Hazardous Waste

☐ Liquid Industrial Waste

Non-subject:

☐ Municipal (non-hazardous)

☐ Other Liquid Waste

Municipal waste categories to be accepted at this site (select all that apply)

☐ All Categories ☐ Contaminated Soil ☐ Domestic Sources

☐ IC & I Sources ☐ Source Separated Organics ☐ Tires

☐ Leaf and Yard Waste ☐ Wood Waste ☐ Blue Box Materials

☐ Other (specify) _____

Other liquid waste categories to be accepted at this site (select all that apply)

☐ Processed Organics ☐ Hauled Sewage

☐ Waste from Food Processing/Preparation Operations ☐ Other (specify) _____

Hazardous Waste / Liquid Industrial Waste

Class Code	Class Code	Class Code	Class Code	Class Code

✓ Completion Status (5.4.1 Facility Description - Waste Disposal Site)

5.4.2 Waste Transfer/Processing/Composting - Complete this information if waste transfer and/or processing and/or composting take(s) place at this facility

Waste Type to be Transferred or Processed

☐ Hazardous waste or liquid industrial waste

Design Capacity

☐ ≤ 100 tonnes per day ☐ > 100 tonnes per day

☐ Waste other than hazardous waste and liquid industrial waste

Design Capacity

☐ ≤ 100 tonnes per day ☐ > 100 tonnes per day

Change to Operations

☐ No Change Proposed

☐ Change does not require fundamental design review

☐ Change requires fundamental design review

Liquid Waste

Maximum Storage Capacity (m^3)

Hazardous	Liquid Industrial	Other Liquid Waste

Maximum Residual for Final Disposal (m^3)

Hazardous		Liquid Industrial Waste		Other Liquid Waste	
Daily	Annually	Daily	Annually	Daily	Annually

Solid Waste

Maximum Storage Capacity (tonnes)

Hazardous	Non-Hazardous

Maximum Residual for Final Disposal (tonnes)

Hazardous		Non-hazardous	
Daily	Annually	Daily	Annually

Maximum Amount of Waste to be Received Daily

Liquid (m^3)			Solid (tonnes)	
Hazardous	Liquid Industrial	Other Liquid Waste	Hazardous	Non-hazardous

✓ Completion Status (5.4.2 Waste Transfer/Processing/Composting)

5.4.3 Thermal Treatment Facility - Complete this information if thermal treatment takes place at this facility

Waste Type for Thermal Treatment

☐ Hazardous waste or liquid industrial waste

Design Capacity

☐ ≤ 100 tonnes per day ☐ > 100 tonnes per day

☐ Waste other than hazardous waste and liquid industrial waste

Design Capacity

☐ ≤ 100 tonnes per day ☐ > 100 tonnes per day

Change to Operations

☐ No Change Proposed

☐ Change does not require fundamental design review

☐ Change requires fundamental design review

Liquid Waste

Maximum Storage Capacity (m^3)

Hazardous	Liquid Industrial	Other Liquid Waste

Maximum Residual for Final Disposal (m^3)

Hazardous		Liquid Industrial Waste		Other Liquid Waste	
Daily	Annually	Daily	Annually	Daily	Annually

Solid Waste

Maximum Storage Capacity (tonnes)

Hazardous	Non-Hazardous

Maximum Residual for Final Disposal (tonnes)

Hazardous		Non-hazardous	
Daily	Annually	Daily	Annually

Maximum Amount of Waste to be Received Daily

Liquid (m^3)			Solid (tonnes)	
Hazardous	Liquid Industrial	Other Liquid Waste	Hazardous	Non-hazardous

Maximum Daily Feed Rate (tonnes/m^3)

Hazardous Waste (tonnes)	Non-hazardous Waste (tonnes)	Liquid Industrial Waste (m^3)	Other Liquid Waste (m^3)

✓ Completion Status (5.4.3 Thermal Treatment Facility)

5.4.4 Landfill Site - Complete this information if this facility operates as a landfill site

Waste Types to be accepted at the Landfill

☐ Hazardous waste or liquid industrial waste

Design Capacity

☐ ≤ 40,000 m^3 ☐ > 40,000 m^3 ≤ 3 million m^3 ☐ > 3 million m^3

☐ Waste is only uncontaminated tree stumps, leaves, branches, concrete and rocks

Design Capacity

☐ ≤ 40,000 m^3 ☐ > 40,000 m^3 ≤ 3 million m^3 ☐ > 3 million m^3

☐ Waste other than hazardous waste and liquid industrial waste, other than uncontaminated tree stumps, leaves, branches, concrete and rocks.

Design Capacity

☐ ≤ 40,000 m^3 ☐ > 40,000 m^3 ≤ 3 million m^3 ☐ > 3 million m^3

Change to Operations

☐ No Change Proposed

☐ Change does not require fundamental design review or hydrogeological assessment

☐ Change requires fundamental design review or hydrogeological assessment

Note: The Hydrogeological Assessment, effluent criteria, and surface water assessment must be discussed and prepared with the Ministry's regional technical support section during a pre-application meeting(s) and consultation(s) with the Ministry. A proof of concurrence from technical support must be included as part of the ECA application package.

Maximum Landfilling Capacity (m^3)

Hazardous Waste	Non-hazardous Waste	Liquid Industrial Waste	Other Liquid Waste

Maximum Amount of Waste to be Received

Hazardous Waste (tonnes)		Non-hazardous Waste (tonnes)		Liquid Industrial Waste (m^3)		Other Liquid Waste (m^3)	
Daily	Annually	Daily	Annually	Daily	Annually	Daily	Annually

Landfill Information

Area to be Landfilled (hectares)	Total Site Area including Buffer Area (hectares)
Estimated Date of Closure (yyyy/mm/dd)	Population Served

Control Types (select all that apply)

☐ Leachate Collected and Treated Off-site ☐ Leachate Collected and Treated On-site

☐ Landfill Gas Collected and Flared ☐ Landfill Gas Collected for Energy Generation

☐ Other (specify) _____

✓ Completion Status (5.4.4 Landfill Site)

✓ Completion Status (5.4 Waste Disposal Site)

5.5 Waste Management Systems (Except Mobile Waste Processing)

Note**- If the application is not for a waste management system please proceed to Section 5.7.

5.5.1 Fleet List (all vehicles and equipment to be used in the operation of the Waste Management System)

Year	Make	Model	Vehicle Identification Number (VIN)	License Plate Number	Province/State

Separate list attached?

☐ Yes ☐ No

✓ Completion Status (5.5.1 Fleet List)

5.5.2 Vehicle Information

Are all the vehicles to be used owned by the applicant?

☐ Yes ☐ No

If no, please include additional information about ownership arrangements for each vehicle not owned by the applicant.

Has a minimum of $1,000,000.00 liability insurance been obtained for all vehicles for which it is required?

☐ Yes ☐ No

Describe any additional insurances that are held (for example, environmental impairment liability insurance).

✓ Completion Status (5.5.2 Vehicle Information)

5.5.3 General Waste Management System

Type(s) of Waste to be Transported by the General Waste Management System (select all that apply)

Subject:

☐ Hazardous Waste

☐ Liquid Industrial Waste

Non-subject:

☐ Municipal (non-hazardous)

☐ Other Liquid Waste

Non-subject Categories to be Transported by the General Waste Management System (select all that apply)

☐ Blue Box Materials

☐ Commercial

☐ Leaf/Yard Waste

☐ Spill Cleanup Material

☐ Tires

☐ Waste Wash Water

☐ Waste from Food Processing/ Preparation Operations

☐ Processed Organics (not for land application)

☐ Domestic Sources

☐ Non-Hazardous Solid Industrial

☐ Wood Waste

☐ Contaminated Soil

☐ Asbestos Waste in Bulk

☐ Grease Trap Waste

☐ Dewatered Catch Basin Clean-out Material

☐ Other (specify) _____

Subject Waste Categories to be Transported by the General Waste Management System

Hazardous Waste / Liquid Industrial Waste

Class Code	Class Code	Class Code	Class Code	Class Code

Separate list attached?

☐ Yes ☐ No

☐ All drivers are/will be trained in accordance with O. Reg. 347 and all pertinent environmental legislation.

☐ Each vehicle used to transport a specific subject waste class is suitable for that waste transportation in order to protect the health and safety of the public and the natural environment.

Note: For transporters of pathological waste and PCBs (waste classes 243 and 312) Operations Manual and Driver Training Manual must also be attached and Financial Assurance must be provided.

General Waste Management System - Disposal Site Information

What is the Final Destination of Waste to be Transported by the General Waste Management System? (select all that apply)

☐ A disposal site in Ontario approved by the Ministry of the Environment and Climate Change

☐ Disposal sites outside of Ontario approved by another regulatory agency

List the destination province(s)/state(s)

Province/State	Province/State	Province/State	Province/State

✓ Completion Status (5.5.3 General Waste Management System)

5.5.4 Soil Conditioner Waste Management System (includes non-agricultural source material (NASM) that is waste and processed organic waste (biosolids) destined for land application only)

Has the applicant received recommendation from Biosolids Utilization Committee (BUC) for land application of processed organic waste (biosolids) or NASM?

☐ Yes If yes, please provide a copy of the BUC recommendation.

☐ No If no, please clarify _____

Spreading equipment (land application only)

Equipment Type	Make and Model	Description

Separate list attached?

☐ Yes ☐ No

Method of system operation (land application only)

Estimated quantity to be handled on an annual basis (cubic metres/litres/tonnes)

Please describe the loading procedures:

Please describe the spreading methods:

Please describe the storage facilities (tanks, lagoons, etc.):

Soil Conditioner Waste Management System - Land Application Sites

What is the final destination of waste to be transported by the soil conditioner waste management system? (must include for land application only)

☐ Non-agricultural land ☐ Agricultural land ☐ Both agricultural and non-agricultural land

✓ Completion Status (5.5.4 Soil Conditioner Waste Management System)

5.5.5 Hauled Sewage (Septage) Waste Management System

Type(s) of hauled sewage (septage) to be transported

☐ Portable toilet waste ☐ Septic tank waste ☐ Holding tank waste

☐ Other (specify) _____

Spreading equipment (land application only)

Equipment Type	Make and Model	Description

Separate list attached?

☐ Yes ☐ No

Does this system include in-transit storage?

☐ Yes ☐ No

If yes:

a) What is the duration of storage? Please specify (Maximum period of in-transit storage should not exceed more than two weeks):

b) Is the storage tank a prefabricated tank with the capacity < 100,000 L, designed and constructed in accordance with a Class 5 Sewage System under the Ontario Building Code or CAN/CSA B66-05?

☐ Yes ☐ No If no, please provide a copy of the design of the storage tank signed and dated by a professional engineer.

Does this system include in-transit processing?

☐ Yes ☐ No

If yes:

a) Location of in-transit processing:

☐ In Vehicle ☐ In-storage Tank

b) Describe the method of in-transit processing:

Does this system use barge/boat to transport hauled sewage (septage)?

☐ Yes ☐ No

If yes:

a) Has a minimum of $1,000,000.00 liability insurance been obtained for the barge/boat for which it is required?

☐ Yes ☐ No

b) Does the barge/boat have an engine of 10 horsepower (hp) or more, for which a commercial vessel license is required from Transport Canada?

☐ Yes ☐ No If yes, please include a copy of the commercial vessel license.

Note: For in-transit storage or processing the applicant must include with the application the consent of the landowner, if the landowner is different than the applicant. A financial assurance estimate must be provided by applicants using in-transit storage or using in-transit processing where processing is conducted in the in-transit storage tanks.

Hauled Sewage (Septage) Waste Management System - Land Application Sites ☐ N/A

List the Environmental Compliance Approval Number(s) of all disposal site(s) approved by the Ministry of the Environment and Climate Change for land application of hauled sewage in association with this waste management system.

Instrument Type	Instrument Number	Approval or Application Date (yyyy/mm/dd)

✓ Completion Status (5.5.5 Hauled Sewage (Septage) Waste Management System)

✓ Completion Status (5.5 Waste Management Systems (Except Mobile Waste Processing))

5.6 Waste Management System - Mobile Waste Processing

Note**: If the application is not for the use and operation of mobile waste processing equipment, proceed to Section 5.7

5.6.1 Mobile Waste Management System Process and Equipment Description

Type(s) of Waste to be Processed (select all that apply)

Subject:

☐ Hazardous Waste

☐ Liquid Industrial Waste

Non-subject:

☐ Municipal (non-hazardous)

☐ Other Liquid Waste

Type of Waste to be Processed by the Unit(s)	Number of Units	Financial Assurance (per unit)	Financial Assurance Required
Non-hazardous Solid Waste		$5,000	
Hazardous Waste		$20,000	
Liquid Industrial Waste		$20,000	
Other Liquid Waste		$20,000	
Multiple Types of Waste from the Categories Above		$20,000	

Total Financial Assurance

Municipal (non-hazardous) Waste Categories to be Processed (select all that apply)

☐ Contaminated Soil at Cleanup Site ☐ Wood Waste ☐ Construction and Demolition Waste

☐ Asbestos Waste ☐ Tires ☐ Domestic Waste

☐ Other (specify) _____

Other Liquid Waste Categories to be Processed (select all that apply)

☐ Hauled Sewage ☐ Waste from Food Processing/Preparation Operations ☐ Processed Organic

☐ Other (specify) _____

Hazardous / Liquid Industrial Waste Types to be Processed

Class Code	Class Code	Class Code	Class Code	Class Code

✓ Completion Status (5.6.1 Mobile Waste Management System Process and Equipment Description)

5.6.2 Equipment Information - Please attach a separate list if more space is required.

Equipment List

Unit No.	Unit Type	Process Description	Equipment Type	Make	Model	Serial Number	Equipment Capacity (including unit of measurement)

Separate list attached?

☐ Yes ☐ No

✓ Completion Status (5.6.2 Equipment Information)

✓ Completion Status (5.6 Waste Management System - Mobile Waste Processing)

5.7 Cleanup of Contaminated Sites

Note** - If the application is not for a cleanup of a contaminated site please proceed to Section 6.

Type of Cleanup

☐ In-situ ☐ Ex-situ ☐ Both

Contaminated media to be treated:

☐ Groundwater ☐ Surface water ☐ Sediment ☐ Soil

Waste Type

Subject:

☐ Hazardous Waste

☐ Liquid Industrial Waste

Non-subject:

☐ Municipal (non-hazardous)

☐ Other Liquid Waste

Type of discharge

☐ Air ☐ Groundwater ☐ Storm or sanitary ☐ Surface water

☐ Noise

✓ Completion Status (5.7 Cleanup of Contaminated Sites)

6. Supporting Documentation and Technical Requirements

6.1 General

This is a list of supporting information to this application and is subject to the FIPPA and EBR.

Attachment	Required, Optional or N/A	Attached?	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential
Proof of legal name	Optional	☑ Yes ☐ No		☐
Enhanced EBR description	N/A	☐ Yes ☐ No		☐
Provincial Officer Notice	N/A	☐ Yes ☐ No		☐
Inspection Report	N/A	☐ Yes ☐ No		☐
Detailed project and process description	Required	☑ Yes ☐ No		☐
Pre-application Consultation Record	N/A	☐ Yes ☐ No		☐
Legal Survey(s)	N/A	☐ Yes ☐ No		☐
Site Plan(s)	Required	☑ Yes ☐ No		☐
Scaled area location plan(s) with geo-referencing points identified	Required	☑ Yes ☐ No		☐
Documentation in support of EBR Exception	N/A	☐ Yes ☐ No		☐
Proof of Compliance with EAA Requirements	N/A	☐ Yes ☐ No		☐
Proof of Consultation/Notification	N/A	☐ Yes ☐ No		☐
Financial Assurance Estimate	Optional	☐ Yes ☑ No	N/A	☐
Name, address and consent of land/ site owner for the installation and operation of the proposed activity or storage location of equipment or vehicle	N/A	☐ Yes ☐ No		☐
Name, address and phone number of the Operating Authority	N/A	☐ Yes ☐ No		☐
Copy of NEPDA Permit	N/A	☐ Yes ☐ No		☐
Copy/Proof of Municipal Planning Approval (ORMCA, general)	N/A	☐ Yes ☐ No		☐
Municipal Zoning Confirmation Letter	Required	☐ Yes ☑ No	Zoning plans are provided	☐
Zoning map	Required	☑ Yes ☐ No		☐
Conservation Authority Clearance	N/A	☐ Yes ☐ No		☐
Director's approval for Policy 2 Deviation	N/A	☐ Yes ☐ No		☐
Application Fee	Required	☑ Yes ☐ No		☐
A copy of this application has been sent to the Ministry Local District Office	Required	☑ Yes ☐ No		☐
Other (please describe)	Optional	☐ Yes ☐ No		☐

✓ Completion Status (6.1 General)

6.2 Air

Attachment	Required, Optional or N/A	Attached?	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential
Emission Summary and Dispersion Modelling (ESDM) Report prepared in accordance with s. 22 and of O. Reg. 419/05 (including signed checklist)	N/A	☐ Yes ☐ No		☐
Electronic copy of the Dispersion Modelling input and output files prepared in accordance with s. 26 of O. Reg. 419/05	N/A	☐ Yes ☐ No		☐
Supporting Information for a Maximum Ground Level Concentration Acceptability Request for Compounds with no Ministry POI Limit - Supplement to Application for Approval, EPA S. 9	N/A	☐ Yes ☐ No		☐
Copies of forms requesting O. Reg. 419/05 instruments and supporting documentation	N/A	☐ Yes ☐ No		☐
Other (please describe)	Optional	☐ Yes ☐ No		☐

✓ Completion Status (6.2 Air)

6.3 Noise and Vibration

Attachment	Required, Optional or N/A	Attached?	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential
Primary Noise Screening	N/A	☐ Yes ☐ No		☐
Secondary Noise Screening	N/A	☐ Yes ☐ No		☐
Acoustic Assessment Report including signed checklist (AAR)	N/A	☐ Yes ☐ No		☐
Vibration Assessment Report	N/A	☐ Yes ☐ No		☐
Noise Abatement Action Plan	N/A	☐ Yes ☐ No		☐
Other (please describe)	Optional	☐ Yes ☐ No		☐

✓ Completion Status (6.3 Noise and Vibration)

6.4 Sewage Works

Attachment	Required, Optional or N/A	Attached?	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential
Signed Municipal Responsibility Agreement	N/A	☐ Yes ☐ No		☐
Detailed description of the proposed activities/works	N/A	☐ Yes ☐ No		☐
Notice of Completion for the Environmental Study Report (ESR)	Optional	☐ Yes ☑ No	N/A	☐

Attachment	Required, Optional or N/A	Attached?	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential
Design Brief	Required	☑ Yes ☐ No		☐
Preliminary Engineering Report	Optional	☐ Yes ☑ No	N/A	☐
Final Plans	N/A	☐ Yes ☐ No		☐
Engineering Drawings and Specifications	Required	☑ Yes ☐ No		☐
Sewage quantity and quality characteristics	Required	☑ Yes ☐ No		☐
Stormwater Management Report	Required	☐ Yes ☑ No	Proposed works included in the SWMP	☐
Stormwater Management Plan	Required	☑ Yes ☐ No		☐
Hydrogeological Assessment with proof of concurrence from the Ministry's Regional technical support section	N/A	☐ Yes ☐ No		☐
Environmental Impact Analysis	Optional	☐ Yes ☑ No	N/A	☐
Final effluent criteria accepted with proof of concurrence from the Ministry's Regional Technical Support Section	Required	☐ Yes ☑ No	Proposed criteria and explanation included in cover report and SWMP	☐
Sewage Works Limited Operational Flexibility Requirements - Engineer's Report	N/A	☐ Yes ☐ No		☐
Sewage Works Limited Operational Flexibility Requirements - Declarations	N/A	☐ Yes ☐ No		☐
Pipe Design Data Form	Required	☐ Yes ☑ No	no pipe design is required	☐
Other (please describe)	Optional	☐ Yes ☐ No		☐

✓ Completion Status (6.4 Sewage)

6.5 Waste Disposal Sites

Attachment	Required, Optional or N/A	Attached?	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential
Design and Operations Report	N/A	☐ Yes ☐ No		☐
Stormwater Management Report	Optional	☐ Yes ☐ No		☐
Hydrogeological Assessment with proof of concurrence from the Ministry's Regional technical support section	N/A	☐ Yes ☐ No		☐
Assessment of Physical and Water Use Conditions	Optional	☐ Yes ☐ No		☐
Waste Limited Operational Flexibility Requirements - Engineer's Report	N/A	☐ Yes ☐ No		☐
Waste Limited Operational Flexibility Requirements - Declarations	N/A	☐ Yes ☐ No		☐
Copy of notification to adjacent landowners	N/A	☐ Yes ☐ No		☐

Attachment	Required, Optional or N/A	Attached?	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential
Other (please describe)	Optional	☐ Yes ☐ No		☐

✓ Completion Status (6.5 Waste Disposal Sites)

6.6 Waste Management Systems

Attachment	Required, Optional or N/A	Attached?	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential
Proof of vehicle and/or equipment ownerships	N/A	☐ Yes ☐ No		☐
Complete Fleet List (list of all vehicles, trailers and equipment used)	N/A	☐ Yes ☐ No		☐
Copy of the Liability Insurance for all vehicles for which insurance is required	N/A	☐ Yes ☐ No		☐
Copy of BUC recommendation	N/A	☐ Yes ☐ No		☐
Copy of the storage tank design	N/A	☐ Yes ☐ No		☐
Copy of commercial vehicle licence	N/A	☐ Yes ☐ No		☐
Description of the physical location where the vehicles transporting biomedical waste are being disinfected	Optional	☐ Yes ☐ No		☐
Drivers Training Manual (for PCB/ Biomedical Waste)	Optional	☐ Yes ☐ No		☐
A copy of the applicant's Operation Plan including detailed packaging and biomedical waste handling methods	Optional	☐ Yes ☐ No		☐
Contingency and Emergency Procedures Plan (for PCB/ Biomedical Waste/Hauled Sewage (Septage))	Optional	☐ Yes ☐ No		☐
Other (please describe)	Optional	☐ Yes ☐ No		☐

✓ Completion Status (6.6 Waste Management Systems)

6.7 Mobile Waste Processing ☐ N/A

Attachment	Required, Optional or N/A	Attached?	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential
Design and Operations Report - Mobile Waste Processing of General Waste	N/A	☐ Yes ☐ No		☐
Design and Operations Report - Mobile Waste Processing of Liquid Waste	N/A	☐ Yes ☐ No		☐
Other (please describe)	Optional	☐ Yes ☐ No		☐

✓ Completion Status (6.7 Mobile Waste Processing)

6.8 Cleanup of Contaminated Sites ☐ N/A

Attachment	Required, Optional or N/A	Attached?	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential
Design Report for Cleanup of Contaminated Sites	N/A	☐ Yes ☐ No		☐
Other (please describe)	Optional	☐ Yes ☐ No		☐

✓ Completion Status (6.8 Cleanup of Contaminated Sites)

6.9 Other Attachments ☐ N/A

Title	Reference	Confidential
		☐

Is there an attachment of an additional list of attachments?

☐ Yes ☐ No

If there is not enough space to list all of the attachments included in this application package, please include an additional listing of these attachments.

✓ Completion Status (6.9 Other Attachments)

6.10 Confidentiality

Attachment	Required, Optional or N/A	Attached?	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential
Explanation for confidentiality	N/A	☐ Yes ☐ No		☐

✓ Completion Status (6.10 Confidentiality)

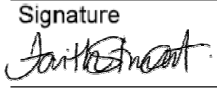
Please note: The collection of personal information in this application is necessary to administer the Ministry's approvals program, which is authorized pursuant to the *Environmental Protection Act* and the *Ontario Water Resources Act*. The personal information collected in this application will be used to administer the program, including for the purposes of the Ministry's compliance and enforcement activities under the aforementioned acts, and for the purposes of making information in respect of Environmental Compliance Approvals available to the public with the exception of payment information. Questions about the collection of the information can be directed to a Client Service Representative, Client Services and Permissions Branch, 135 St. Clair Avenue West, 1st Floor, Toronto ON M4V 1P5; Telephone outside Toronto 1-800-461-6290 or in Toronto 416-314-8001 or Fax 416-314-8452.

7. Authorization

7.1 Statement of the Applicant

I am authorized to prepare and submit this application and to make this certification. I have reviewed the complete application and I have made all inquiries that are necessary to declare to the best of my knowledge, information and belief:

- The information contained in this application is complete and accurate.
- The Technical Contact(s) identified in this application has/have been authorized to prepare certain technical material, and act on behalf of the applicant to discuss this application with the Ministry of the Environment and Climate Change and to provide additional information about this application to the Ministry on request.
- The information provided to the Technical Contact(s) in relation to this application is complete and accurate.

Name of Signing Authority (Please print) *		
Faith Stewart		
Title *		
Environment & Public Affairs Manager		
Telephone Number (289) 442-2270 ext.	Mobile Number 289-442-2270	Fax Number
Email Address faith.stewart@lafargeholcim.com		
Signature 		Date (yyyy/mm/dd) 2019/07/18

✓ Completion Status (7.1 Statement of the Applicant)

7.2 Statement of the Municipality ☐ N/A

I, the undersigned hereby declare on behalf of the Municipality, that the Municipality has no objection to the construction of the works in the Municipality.

Name (Please print)	
Title	Name of Municipality
Signature	Date (yyyy/mm/dd)

✓ Completion Status (7.2 Statement of the Municipality)

7.3 Statement of Technical Contacts

Technical Contact 1

I have been authorized by the applicant to prepare the technical materials for the area(s) of responsibility identified in section 2.6 that are included in the application. I have reviewed those technical materials and I have made all inquiries that are necessary to declare to the best of my knowledge, information and belief:

- The technical materials contained in this application in respect of the area(s) of responsibility identified in section 2.6 are complete and accurate.
- I have the relevant education and experience necessary to provide this certification.

Name of Technical Contact (Please print) *	
Craig De Vito	
Signature 	Date (yyyy/mm/dd) 2019/07/31

✓ Completion Status (7.3 Statement of Technical Contacts)

8. Payment Information - Application for an Environmental Compliance Approval

Please Note:

1. If this form has been completed by hand, the fee calculations must be completed and attached separately. The supplemental fee calculations do not need to be included if this form has been completed electronically.

2. If this form has been completed electronically, the fees for this application have been calculated based on the information provided. The Ministry may require additional information during the review of the application that could impact the total fee required.

3. All fees should be paid in Canadian funds, payable to the *Minister of Finance*, except fees for *Transfer of Review*, which are payable to the local municipality.

4. Credit card payments are accepted for payments under $10,000 only. **Never email credit card information.**

5. If payment is being made by certified cheque or money order, please staple the payment to this page.

6. The information collected in this section of the form is considered confidential and will only be used to process the application fee.

7. To protect credit card information, do not submit this page containing payment information via e-mail or any other electronic means if it includes credit card information. Credit card information should be submitted only by mail, facsimile, or hand-delivery. Applications containing payment information that are submitted via e-mail or any other electronic means will not be processed and will be destroyed.

Do not include this page in the copies of the application that are being provided to the Local Ministry District Office.

Amount Enclosed	Method of Payment *
	Certified Cheque ☐ Money Order ☐ VISA ☐ MasterCard

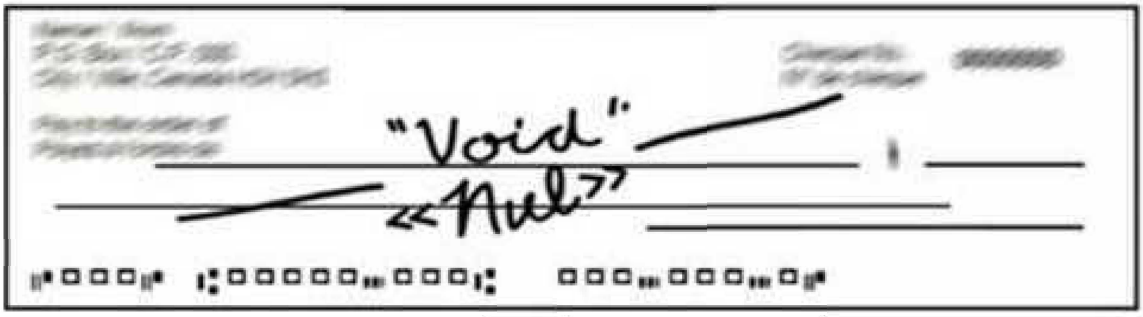
Credit Card Information (if paying by VISA or MasterCard)

Name of Cardholder (Please print)

Card Number	Expiry Date (mm/yy)
Card Holder's Signature	Date (yyyy/mm/dd)

✓ Completion Status (8 Payment Information)

If paying by certified cheque or money order, please attach it here.



Application Summary

For Office Use Only			
Reference Number	Payment Received ($)	Date (yyyy/mm/dd)	Initials

Applicant Name
LAFARAGE CANADA INC

Project Name
Lafarge Wellington Country Pit/Quarry

Project Description Executive Summary
This amendment application is for the discharge of quarry water from the future below water quarry. The current permit manages the site drainage, stormwater management pond and the discharge to the Speed River. The proposed quarry discharge will ultimately be discharged to the Speed River and the Speed River Wetland Complex.

Supplemental Application Information
A pre-application consultation was conducted with the MECP Hamilton District Office (Mr. Michael Spencer) and Golder Associates (Craig De Vito) between March 13 and 14, 2018. The purpose of the correspondence was to discuss the ISW ECA application. During the discussion the site sewage works and the water handling operations were discussed.

Application Status

Section	Completed?			
1. Application Information	✓	Yes	☐	No
2. Project Information	✓	Yes	☐	No
3. Regulatory Requirements	✓	Yes	☐	No
4. Site Information	✓	Yes	☐	No
5. Facility Information	✓	Yes	☐	No
6. Supporting Documentation	✓	Yes	☐	No
7. Payment Information	✓	Yes	☐	No
8. Authorization	✓	Yes	☐	No

Fee Summary

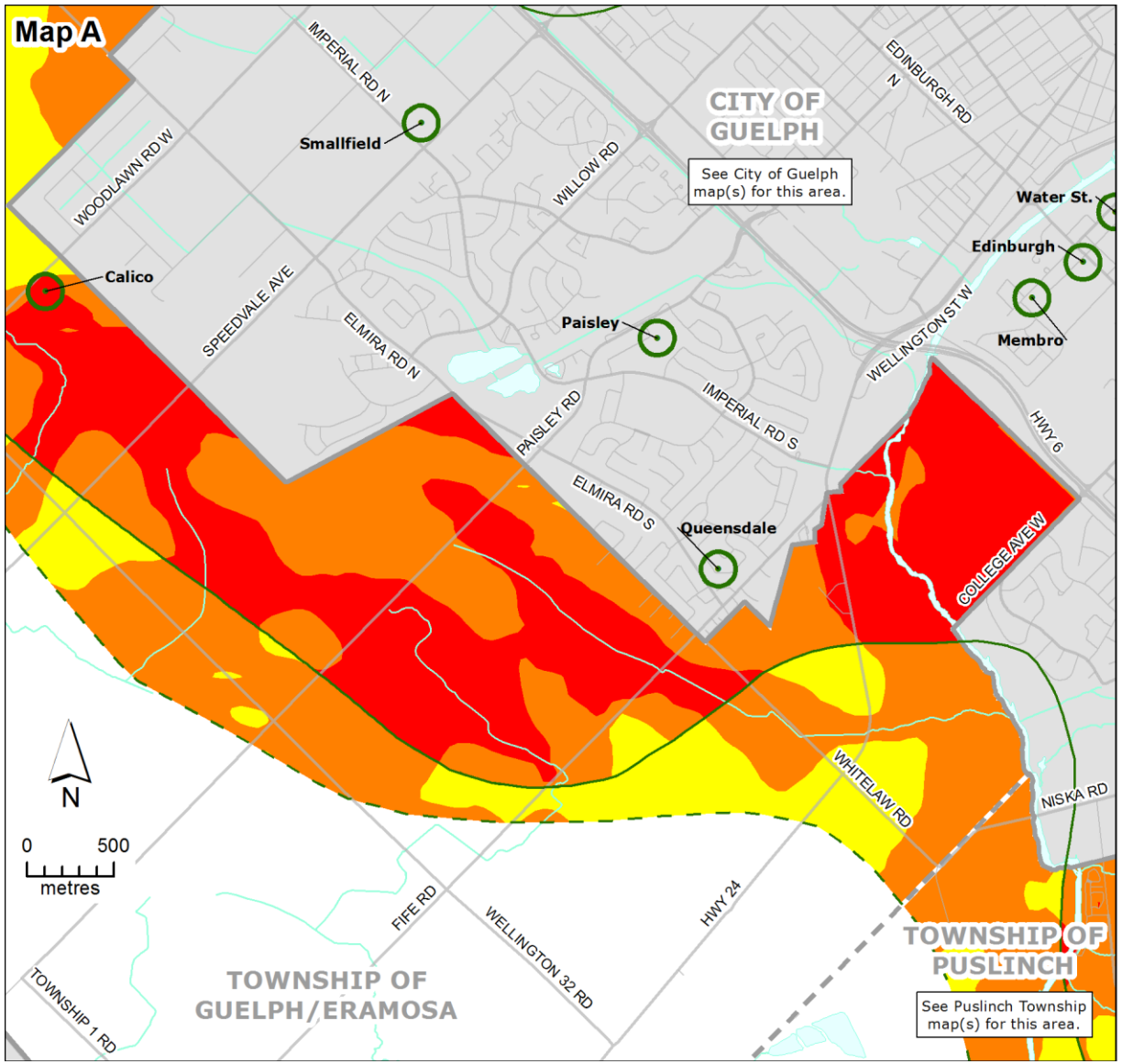
Activity	Amount ($)
Administrative Processing	$200.00
Review of EPA s. 9 activities	$0.00
Review of EPA s. 27 activities	$0.00
Review of OWRA s. 53 activities	$7,400.00
Total Fee	$7,600.00

The Ministry may request additional fees upon review of this application.
If this form is submitted in print version only and the smart calculation feature is not used, please attach the fee calculation separately.

APPENDIX E

Grand River Source Protection Plan

7.14 Schedule I: County of Wellington, Township of Guelph-Eramosa, Map A



DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability

Significant Drinking Water Threat Policy Categories		Vulnerability Scores on Map: 10	8	2,4,6
1.	Waste Disposal	■	■	
2.	Sewage Systems	■	■	
3, 4.	Agricultural Source Material	■		
6, 7.	Non-Agricultural Source Material*	■		
8, 9.	Commercial Fertilizer*	■		
10, 11.	Pesticide	■		
12, 13.	Road Salt*	■		
14.	Storage of Snow	■		
15.	Fuel	■		
16.	DNAPLs	■	■	■
17.	Organic Solvents	■		
18.	Aircraft De-icing	■		
21.	Livestock Area	■		
Local Threat	Oil Pipelines	■		

Note: This table provides a summary of the activities listed in the Clean Water Act (2006) that apply as Prescribed Drinking Water Threats (PDWT) within the Non-GUDI Wellhead Protection Zones shown on this map. For details refer to the text of the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.
*Application of Commercial Fertilizer, Non-Agricultural Source Material, and Road Salt may not be a significant drinking water threat in some areas due to the % managed land, livestock density, and/or % impervious surface calculations for these areas. See the text of the plan for further details.

- Well
- Road
- Minor River
- Lake / Main River
- Wellington County Boundary
- Lower Tier Municipal Boundary

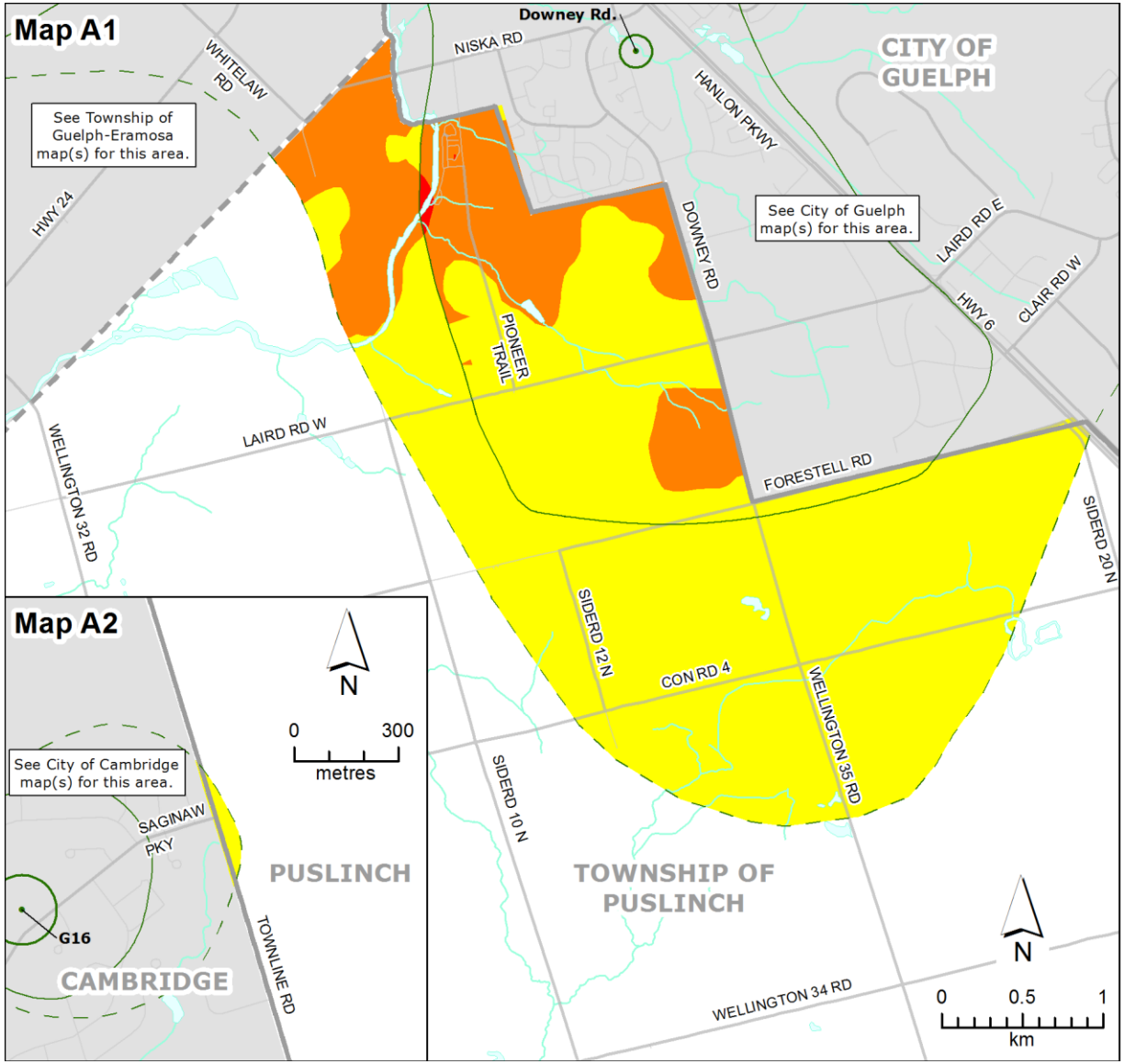
Wellhead Protection Zones:
- WHPA-A
- WHPA-B
- WHPA-C

Ontario

Grand River Conservation Authority

1. Updated November 14, 2014
2. Larger scale mapping of some map layers, including roads and vulnerability scores, is available at www.sourcewater.ca.
3. This map is for illustrative purposes only. Information contained hereon is not a substitute for professional review or a site survey and is subject to change without notice. The Grand River Conservation Authority takes no responsibility for, nor guarantees, the accuracy of the information contained on this map. Any interpretations or conclusions drawn from this map are the sole responsibility of the user.

7.22 Schedule Q: County of Wellington, Township of Puslinch, Map A1 & A2



DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability

Significant Drinking Water Threat Policy Categories		Vulnerability Scores on Map		
		10	8	2,4,6
1.	Waste Disposal			
2.	Sewage Systems			
3, 4.	Agricultural Source Material			
6, 7.	Non-Agricultural Source Material*			
8, 9.	Commercial Fertilizer*			
10, 11.	Pesticide			
12, 13.	Road Salt*			
14.	Storage of Snow			
15.	Fuel			
16.	DNAPLs			
17.	Organic Solvents			
18.	Aircraft De-icing			
21.	Livestock Area			
Local Threat	Oil Pipelines			

Note: This table provides a summary of the activities listed in the Clean Water Act (2006) that apply as Prescribed Drinking Water Threats (PDWT) within the Non-GUDI Wellhead Protection Zones shown on this map. For details refer to the text of the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.
*Application of Commercial Fertilizer, Non-Agricultural Source Material, and Road Salt may not be a significant drinking water threat in some areas due to the % managed land, livestock density, and/or % impervious surface calculations for these areas. See the text of the plan for further details.

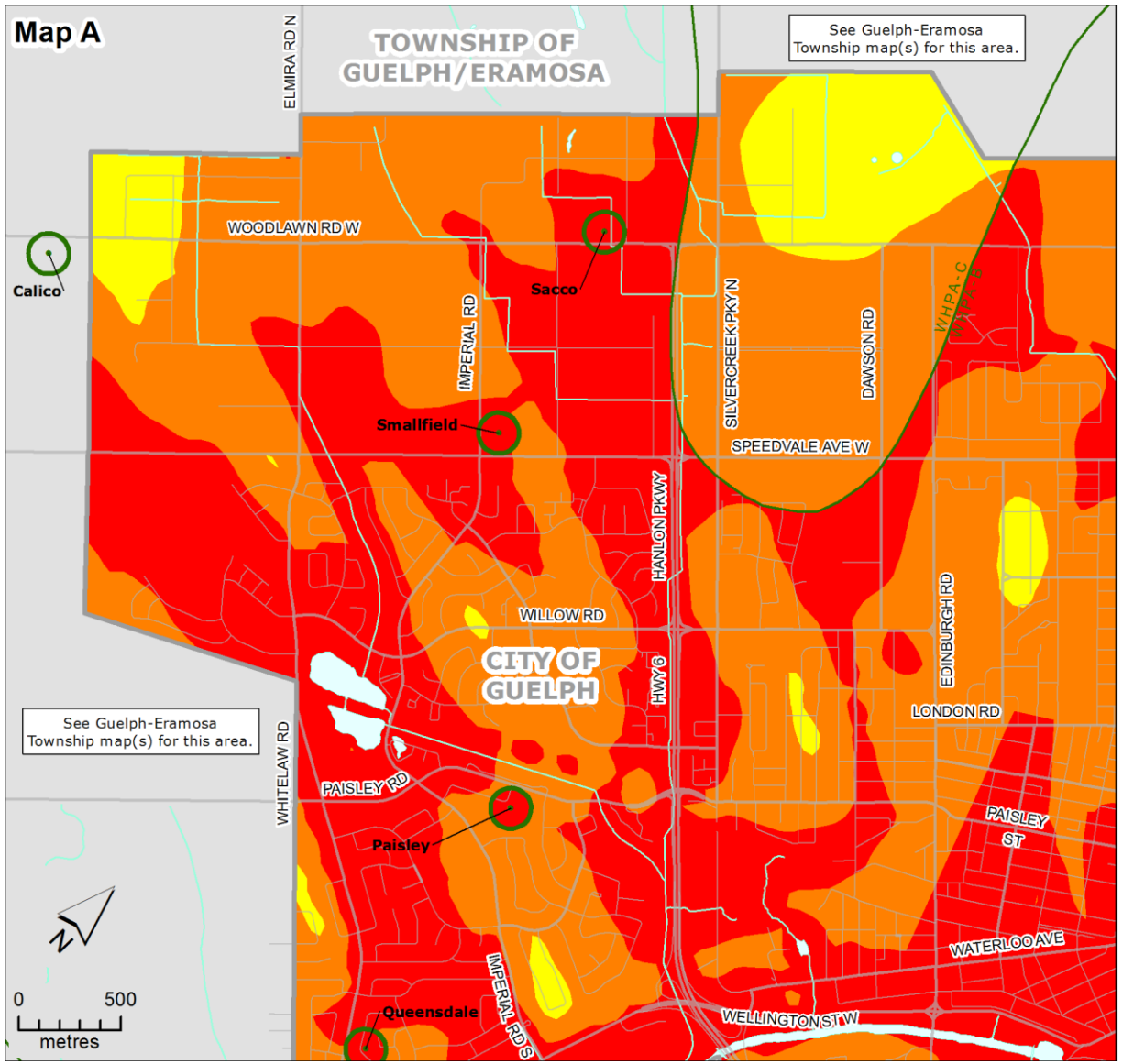
Well
Road
Minor River
Lake / Main River
Wellington County Boundary
Lower Tier Municipal Boundary

Wellhead Protection Zones:
WHPA-A
WHPA-B
WHPA-C

Ontario
Grand River Conservation Authority

1. Updated November 18, 2014
2. Larger scale mapping of some map layers, including roads and vulnerability scores, is available at www.sourcewater.ca.
3. This map is for illustrative purposes only. Information contained hereon is not a substitute for professional review or a site survey and is subject to change without notice. The Grand River Conservation Authority takes no responsibility for, nor guarantees, the accuracy of the information contained on this map. Any interpretations or conclusions drawn from this map are the sole responsibility of the user.

8.8 Schedule B: City of Guelph: Guelph Waterworks Well Supply, Map A



DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability

Significant Drinking Water Threat Policy Categories		Vulnerability Scores on Map		
		10	8	2,4,6
1.	Waste Disposal			
2.	Sewage Systems			
3, 4.	Agricultural Source Material			
6, 7.	Non-Agricultural Source Material*			
8, 9.	Commercial Fertilizer*			
10, 11.	Pesticide			
12, 13.	Road Salt*			
14.	Storage of Snow			
15.	Fuel			
16.	DNAPLs			
17.	Organic Solvents			
18.	Aircraft De-icing			
21.	Livestock Area			
Local Threat	Oil Pipelines			

Note: This table provides a summary of the activities listed in the Clean Water Act (2006) that apply as Prescribed Drinking Water Threats (PDWT) within the Non-GUDI Wellhead Protection Zones shown on this map. For details refer to the text of the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.
*Application of Commercial Fertilizer, Non-Agricultural Source Material, and Road Salt may not be a significant drinking water threat in some areas due to the % managed land, livestock density, and/or % impervious surface calculations for these areas. See the text of the plan for further details.

- Well
- Road
- Minor River
- Lake / Main River
- City of Guelph Boundary

Wellhead Protection Zones:
- WHPA-A
- WHPA-B
- WHPA-C

Ontario

Grand River Conservation Authority

1. Updated November 18, 2014
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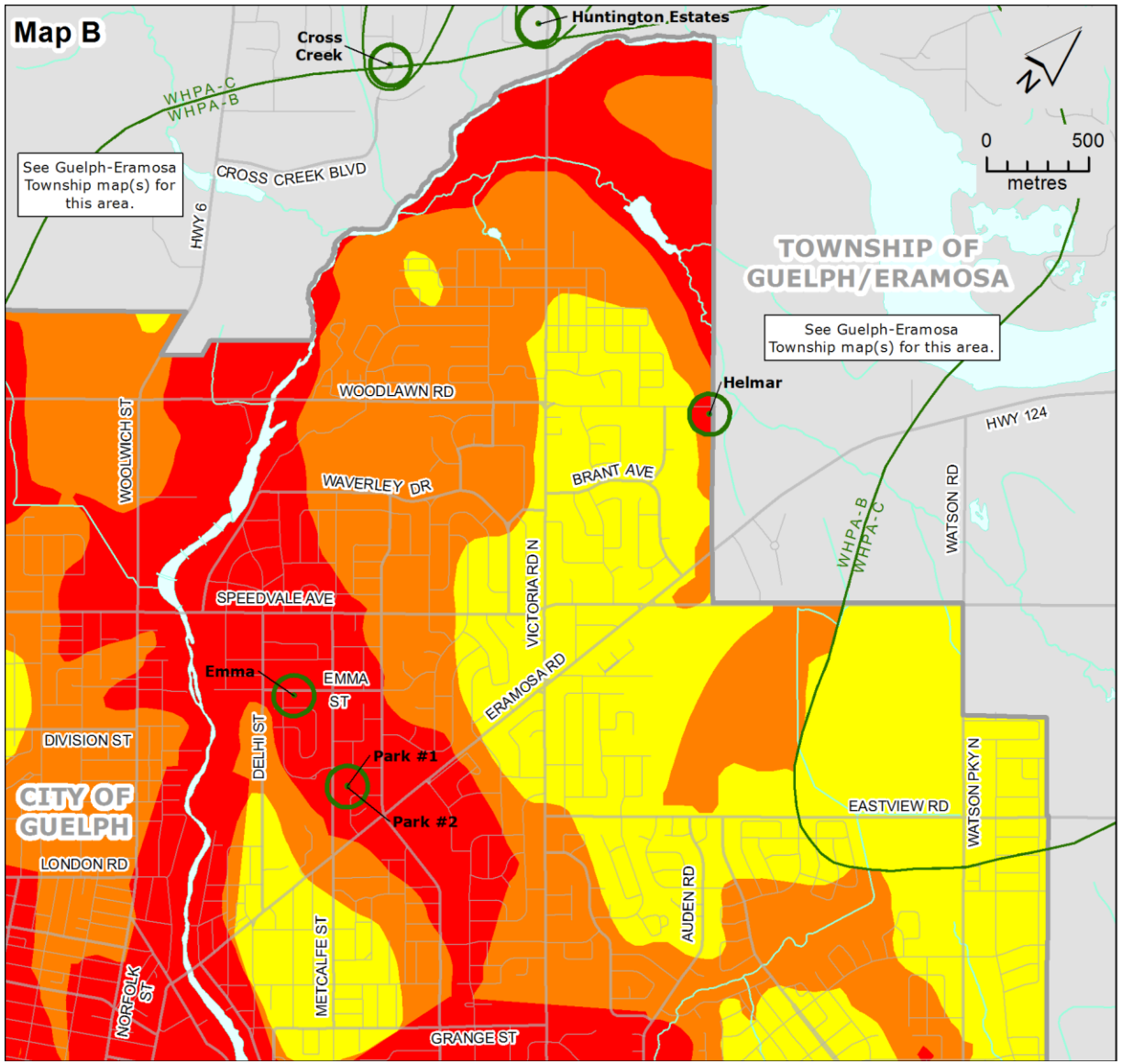
8.9 Schedule C: City of Guelph: Guelph Waterworks Well Supply, Map B



DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability

Significant Drinking Water Threat Policy Categories		Vulnerability Scores on Map		
		10	8	2,4,6
1.	Waste Disposal			
2.	Sewage Systems			
3, 4.	Agricultural Source Material			
6, 7.	Non-Agricultural Source Material*			
8, 9.	Commercial Fertilizer*			
10, 11.	Pesticide			
12, 13.	Road Salt*			
14.	Storage of Snow			
15.	Fuel			
16.	DNAPLs			
17.	Organic Solvents			
18.	Aircraft De-icing			
21.	Livestock Area			
Local Threat	Oil Pipelines			

Note: This table provides a summary of the activities listed in the Clean Water Act (2006) that apply as Prescribed Drinking Water Threats (PDWT) within the Non-GUDI Wellhead Protection Zones shown on this map. For details refer to the text of the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.
*Application of Commercial Fertilizer, Non-Agricultural Source Material, and Road Salt may not be a significant drinking water threat in some areas due to the % managed land, livestock density, and/or % impervious surface calculations for these areas. See the text of the plan for further details.

- Well
- Road
- Minor River
- Lake / Main River
- City of Guelph Boundary

Wellhead Protection Zones:
- WHPA-A
- WHPA-B
- WHPA-C

Ontario

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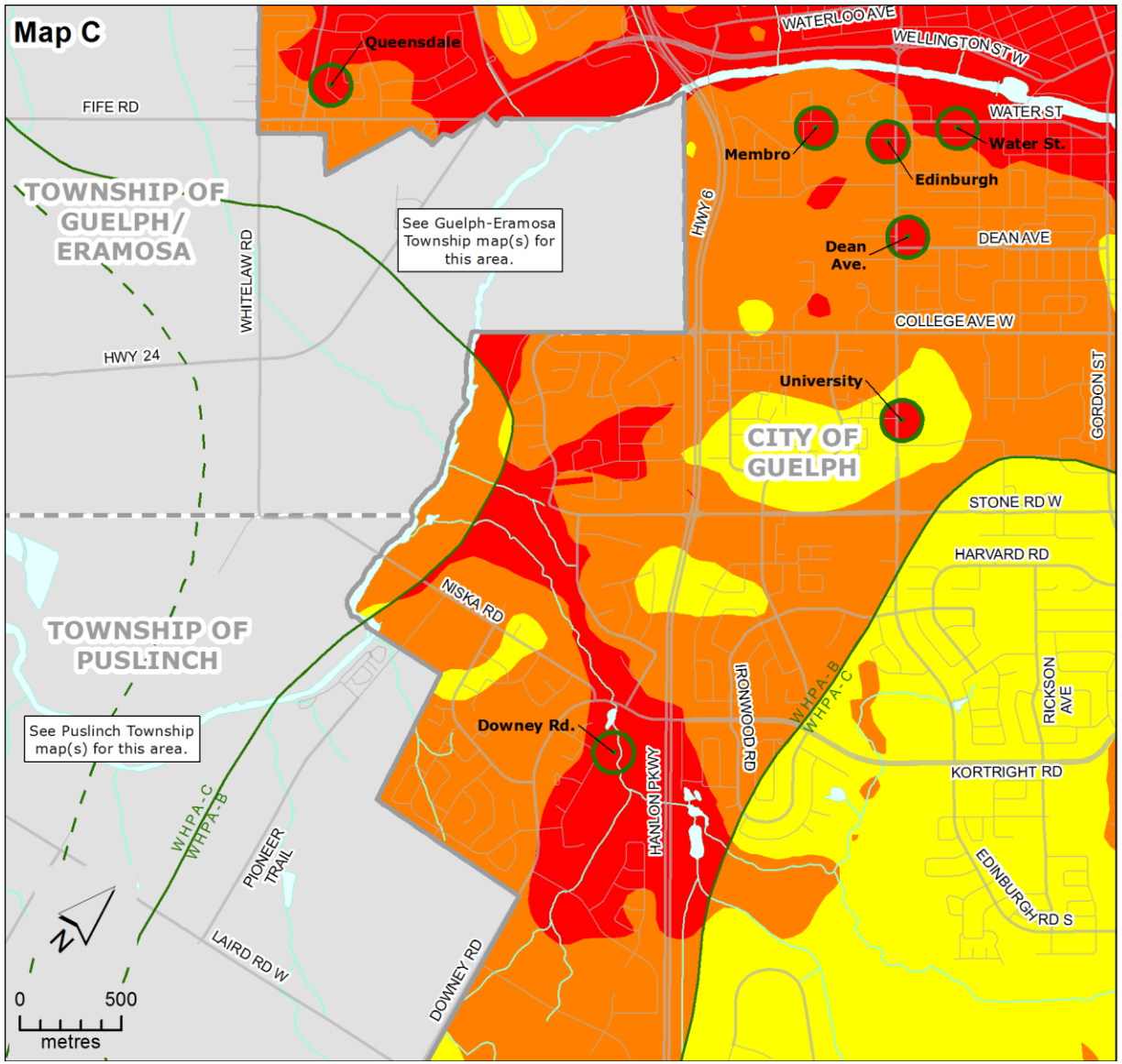
8.10 Schedule D: City of Guelph: Guelph Waterworks Well Supply, Map C



DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability

Significant Drinking Water Threat Policy Categories		Vulnerability Scores on Map		
		10	8	2,4,6
1.	Waste Disposal			
2.	Sewage Systems			
3, 4.	Agricultural Source Material			
6, 7.	Non-Agricultural Source Material*			
8, 9.	Commercial Fertilizer*			
10, 11.	Pesticide			
12, 13.	Road Salt*			
14.	Storage of Snow			
15.	Fuel			
16.	DNAPLs			
17.	Organic Solvents			
18.	Aircraft De-icing			
21.	Livestock Area			
Local Threat	Oil Pipelines			

Note: This table provides a summary of the activities listed in the Clean Water Act (2006) that apply as Prescribed Drinking Water Threats (PDWT) within the Non-GUDI Wellhead Protection Zones shown on this map. For details refer to the text of the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.
*Application of Commercial Fertilizer, Non-Agricultural Source Material, and Road Salt may not be a significant drinking water threat in some areas due to the % managed land, livestock density, and/or % impervious surface calculations for these areas. See the text of the plan for further details.

- Well
- Road
- Minor River
- Lake / Main River
- City of Guelph Boundary
- Other Municipal Boundary

Wellhead Protection Zones:
- WHPA-A
- WHPA-B
- WHPA-C

Ontario

Grand River Conservation Authority

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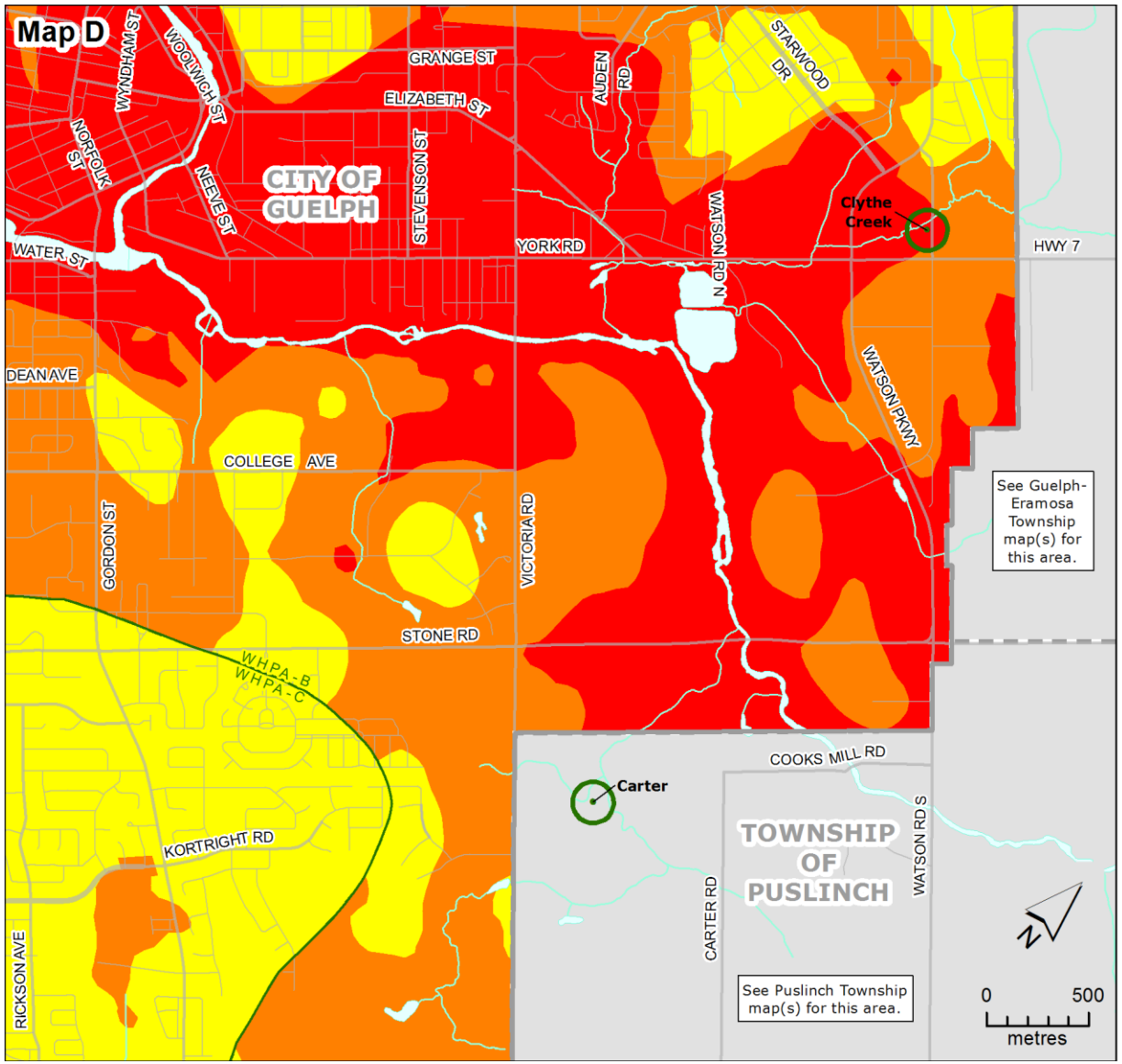
8.11 Schedule E: City of Guelph: Guelph Waterworks Well Supply, Map D



DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability

Significant Drinking Water Threat Policy Categories		Vulnerability Scores on Map		
		10	8	2,4,6
1.	Waste Disposal			
2.	Sewage Systems			
3, 4.	Agricultural Source Material			
6, 7.	Non-Agricultural Source Material*			
8, 9.	Commercial Fertilizer*			
10, 11.	Pesticide			
12, 13.	Road Salt*			
14.	Storage of Snow			
15.	Fuel			
16.	DNAPLs			
17.	Organic Solvents			
18.	Aircraft De-icing			
21.	Livestock Area			
Local Threat	Oil Pipelines			

Note: This table provides a summary of the activities listed in the Clean Water Act (2006) that apply as Prescribed Drinking Water Threats (PDWT) within the Non-GUDI Wellhead Protection Zones shown on this map. For details refer to the text of the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.
*Application of Commercial Fertilizer, Non-Agricultural Source Material, and Road Salt may not be a significant drinking water threat in some areas due to the % managed land, livestock density, and/or % impervious surface calculations for these areas. See the text of the plan for further details.

- Well
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- Lake / Main River
- City of Guelph Boundary
- Other Municipal Boundary

Wellhead Protection Zones:
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- WHPA-C

Ontario

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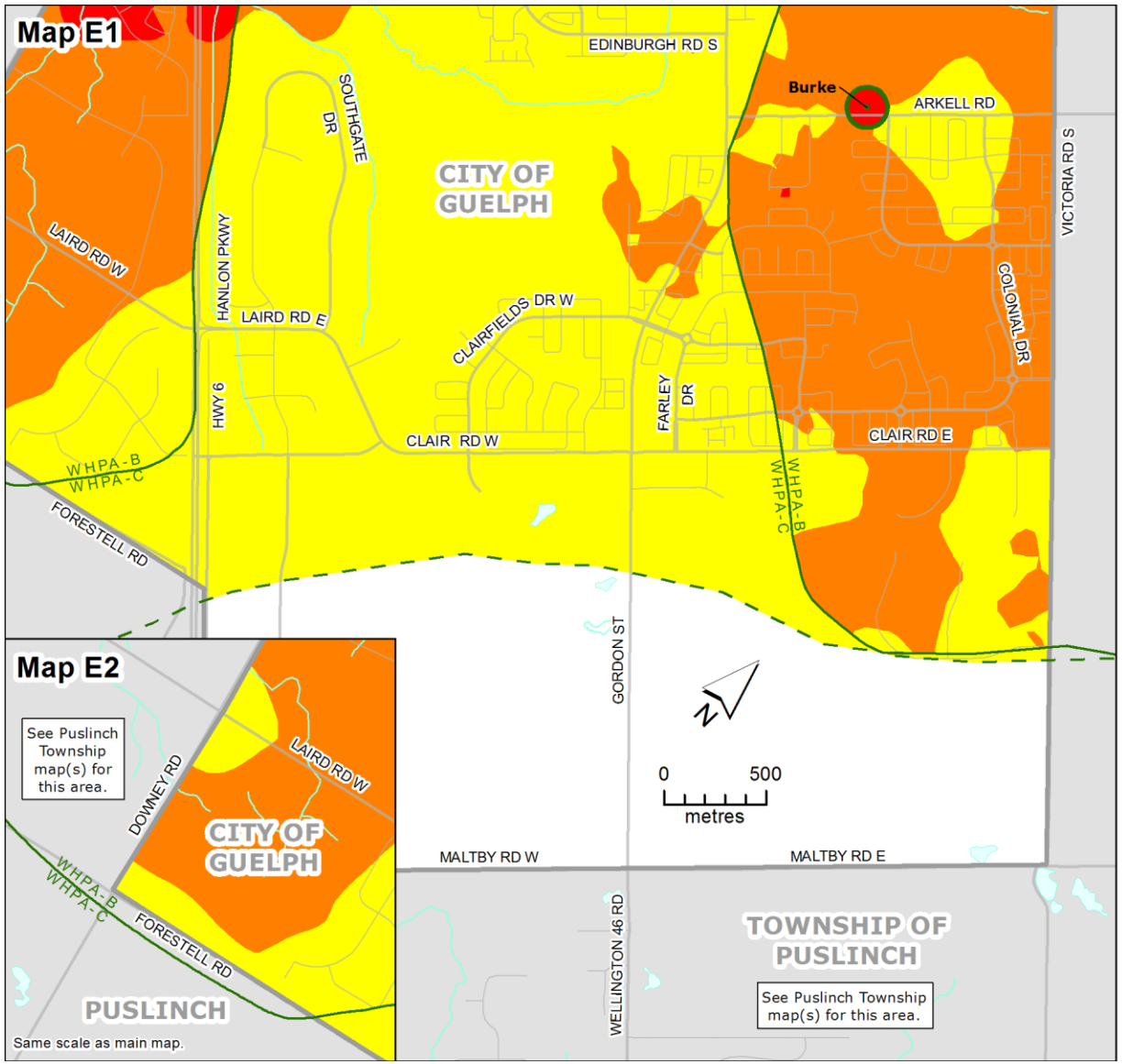
8.12 Schedule F: City of Guelph: Guelph Waterworks Well Supply, Map E



DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability

Significant Drinking Water Threat Policy Categories		Vulnerability Scores on Map		
		10	8	2,4,6
1.	Waste Disposal			
2.	Sewage Systems			
3, 4.	Agricultural Source Material			
6, 7.	Non-Agricultural Source Material*			
8, 9.	Commercial Fertilizer*			
10, 11.	Pesticide			
12, 13.	Road Salt*			
14.	Storage of Snow			
15.	Fuel			
16.	DNAPLs			
17.	Organic Solvents			
18.	Aircraft De-icing			
21.	Livestock Area			
Local Threat	Oil Pipelines			

Note: This table provides a summary of the activities listed in the Clean Water Act (2006) that apply as Prescribed Drinking Water Threats (PDWT) within the Non-GUDI Wellhead Protection Zones shown on this map. For details refer to the text of the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.
*Application of Commercial Fertilizer, Non-Agricultural Source Material, and Road Salt may not be a significant drinking water threat in some areas due to the % managed land, livestock density, and/or % impervious surface calculations for these areas. See the text of the plan for further details.

Well
Road
Minor River
Lake / Main River
City of Guelph Boundary

Wellhead Protection Zones:
WHPA-A
WHPA-B
WHPA-C

Ontario

Grand River Conservation Authority

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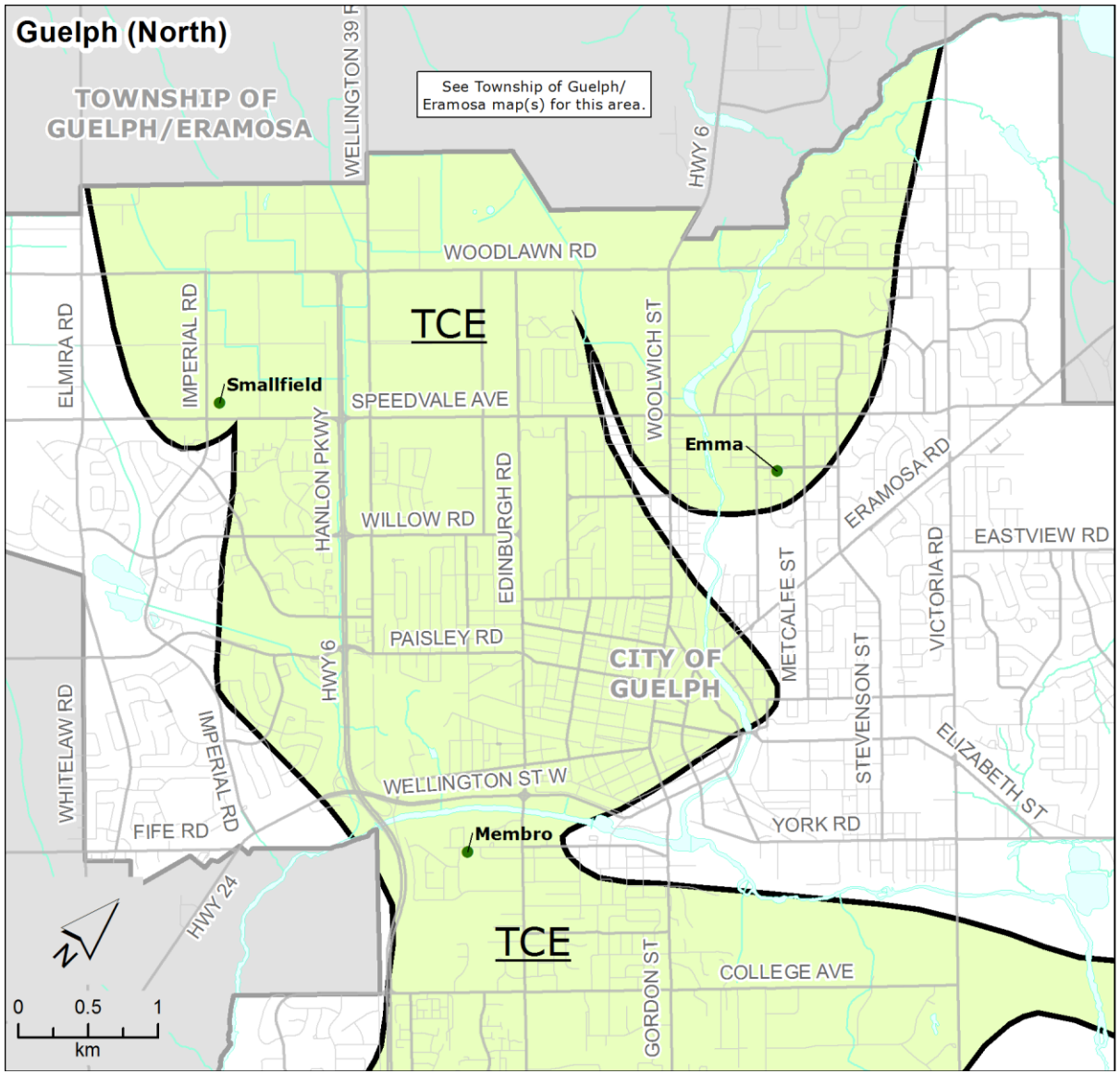
8.13 Schedule G: City of Guelph: Guelph Waterworks Issue Contributing Areas (North)



DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability

Significant Drinking Water Threat Policy Categories		Identified Issue			
		Chloride	Nitrate	Sodium	TCE
1.	Waste Disposal		✓		✓
2.	Sewage Systems	✓	✓	✓	✓
3, 4.	Agricultural Source Material		✓		
6, 7.	Non-Agricultural Source Material		✓		
8, 9.	Commercial Fertilizer		✓		
12, 13.	Road Salt	✓		✓	
14.	Storage of Snow	✓	✓	✓	
16.	DNAPLs				✓
21.	Livestock Area		✓		

Note: This table provides a summary of the activities listed in the Clean Water Act (2006) that apply as Prescribed Drinking Water Threats (PDWT) in the Issue Contributing Area(s) shown on this map. For details refer to the text of the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.

- Well with Identified Issue(s)
- Minor Rivers
- Lakes / Main Rivers
- Roads
- City of Guelph Boundary
- Issue Contributing Areas
- Issue — Associated Issue Parameter

Ontario

Grand River Conservation Authority

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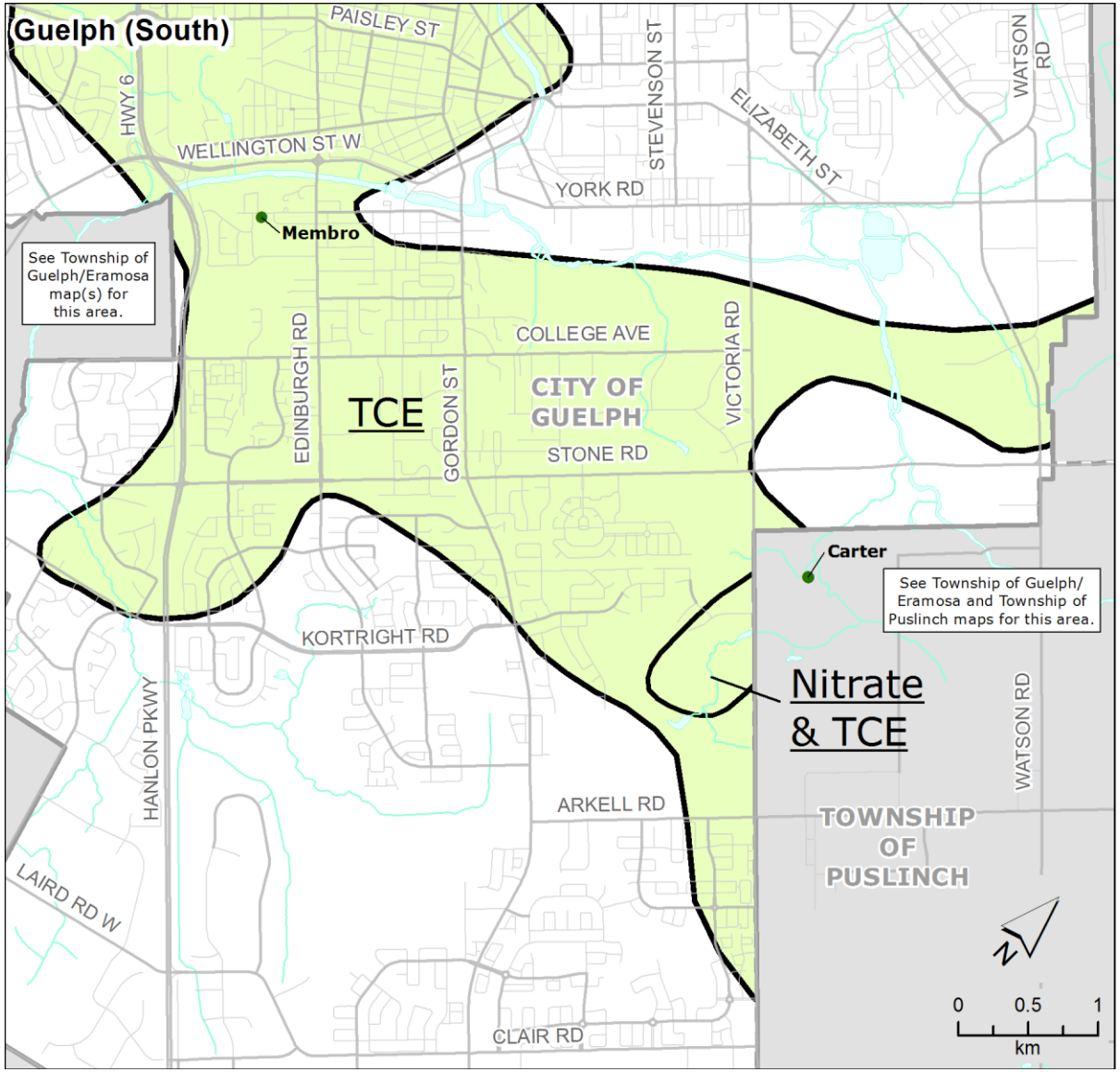
8.14 Schedule H: City of Guelph: Guelph Waterworks Issue Contributing Areas (South)



DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability

Significant Drinking Water Threat Policy Categories		Identified Issue			
		Chloride	Nitrate	Sodium	TCE
1.	Waste Disposal		✓		✓
2.	Sewage Systems	✓	✓	✓	✓
3, 4.	Agricultural Source Material		✓		
6, 7.	Non-Agricultural Source Material		✓		
8, 9.	Commercial Fertilizer		✓		
12, 13.	Road Salt	✓		✓	
14.	Storage of Snow	✓	✓	✓	
16.	DNAPLs				✓
21.	Livestock Area		✓		

Note: This table provides a summary of the activities listed in the Clean Water Act (2006) that apply as Prescribed Drinking Water Threats (PDWT) in the Issue Contributing Area(s) shown on this map. For details refer to the text of the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.

- Well with Identified Issue(s)
- Minor Rivers
- Lakes / Main Rivers
- Roads
- City of Guelph Boundary
- Other Municipal Boundary
- Issue Contributing Areas
- Issue — Associated Issue Parameter

Ontario

Grand River Conservation Authority

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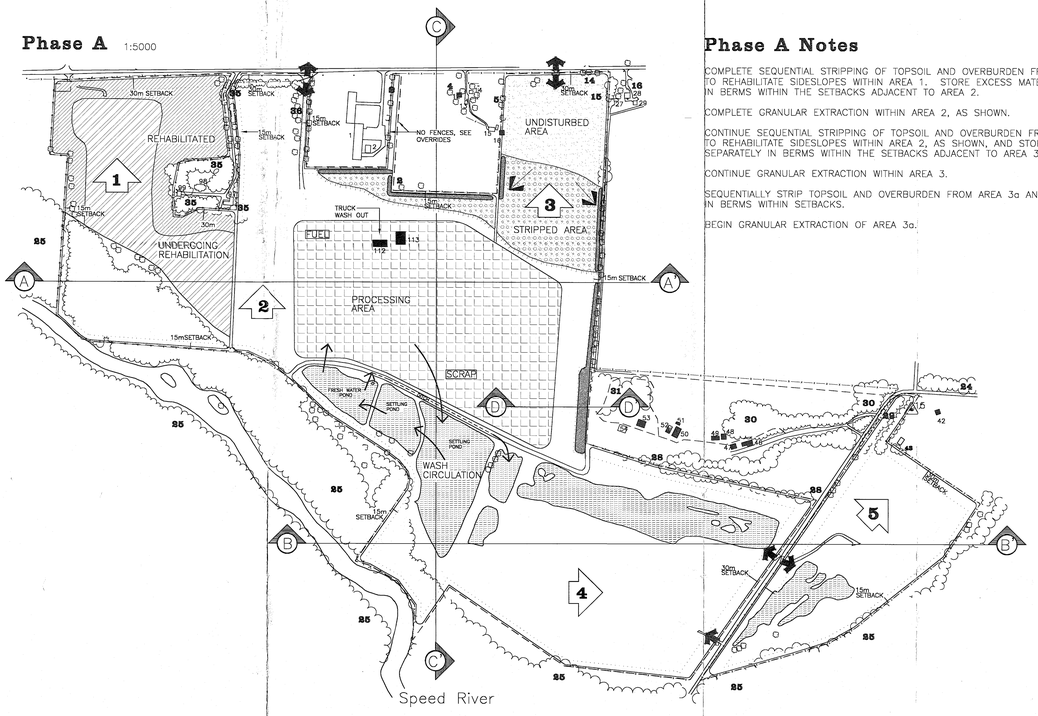
APPENDIX F

Operational Site Plans

Phase A 1:5000



Phase A Notes

COMPLETE SEQUENTIAL STRIPPING OF TOPSOIL AND OVERBURDEN FROM AREA 2 AND USE TO REHABILITATE SIDESLOPES WITHIN AREA 1. STORE EXCESS MATERIAL SEPARATELY IN BERMS WITHIN THE SETBACKS ADJACENT TO AREA 2.

COMPLETE GRANULAR EXTRACTION WITHIN AREA 2, AS SHOWN.

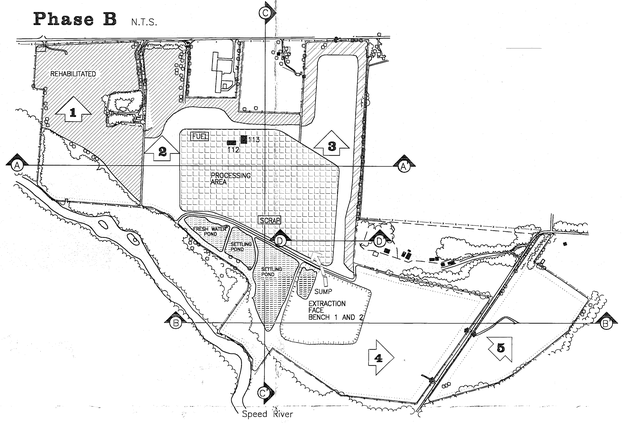
CONTINUE SEQUENTIAL STRIPPING OF TOPSOIL AND OVERBURDEN FROM AREA 3 AND USE TO REHABILITATE SIDESLOPES WITHIN AREA 2, AS SHOWN, AND STORE EXCESS MATERIAL SEPARATELY IN BERMS WITHIN THE SETBACKS ADJACENT TO AREA 3.

CONTINUE GRANULAR EXTRACTION WITHIN AREA 3.

SEQUENTIALLY STRIP TOPSOIL AND OVERBURDEN FROM AREA 3a AND STORE SEPERATELY IN BERMS WITHIN SETBACKS.

BEGIN GRANULAR EXTRACTION OF AREA 3a.

Phase B N.T.S.



Phase B Notes

COMPLETE SEQUENTIAL STRIPPING OF TOPSOIL AND OVERBURDEN FROM AREA 3.

COMPLETE GRANULAR EXTRACTION OF AREA 3a.

COMPLETE GRANULAR EXTRACTION WITHIN AREA 3.

BEGIN QUARRY EXTRACTION OF BENCH 1 AND 2 WITHIN AREA 4, IN DIRECTION SHOWN, TO DEPTH INDICATED ON FINAL REHABILITATION PLAN.

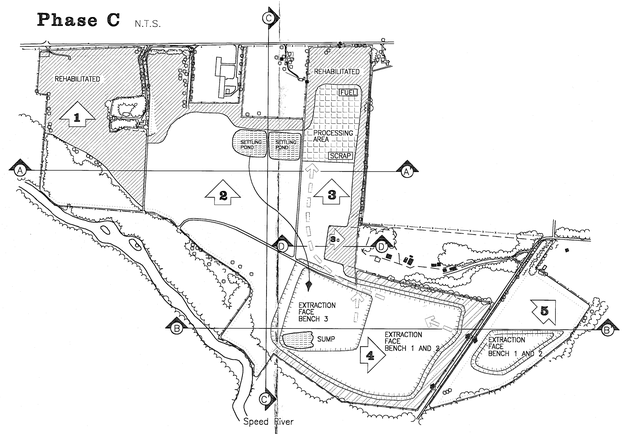
COMPLETE REHABILITATION OF SIDESLOPES WITHIN AREA 2, AS SHOWN. SIDESLOPES TO BE BACKFILLED WITH SILT AND OVERBURDEN FROM ON SITE SOURCES. STOCKPILED TOPSOIL STORED IN BERMS WILL BE SPREAD ON SIDESLOPES PRIOR TO SEEDING. SEE NOTE #5, DRAWING 3, FOR FURTHER DETAIL.

QUARRY WATER IS CIRCULATED THROUGH EXISTING SILT POND SYSTEM.

BEGIN REHABILITATION OF SIDESLOPES WITHIN AREA 3 USING TOPSOIL AND OVERBURDEN STORED IN BERMS.

BEGIN REHABILITATION OF SIDESLOPES WITHIN AREA 3a USING TOPSOIL AND OVERBURDEN STORED IN BERMS.

Phase C N.T.S.



Phase C Notes

COMPLETE QUARRY EXTRACTION OF BENCHES 1 AND 2 WITHIN AREA 4.

COMPLETE REHABILITATION OF AREA 3A AND SIDESLOPES WITHIN AREA 3 AS SHOWN. SIDESLOPES TO BE BACKFILLED WITH SILT AND OVERBURDEN FROM ON SITE SOURCES. STOCKPILED TOPSOIL STORED IN BERMS WILL BE SPREAD ON SIDESLOPES PRIOR TO SEEDING. SEE NOTE #5, DRAWING 3, FOR FURTHER DETAIL.

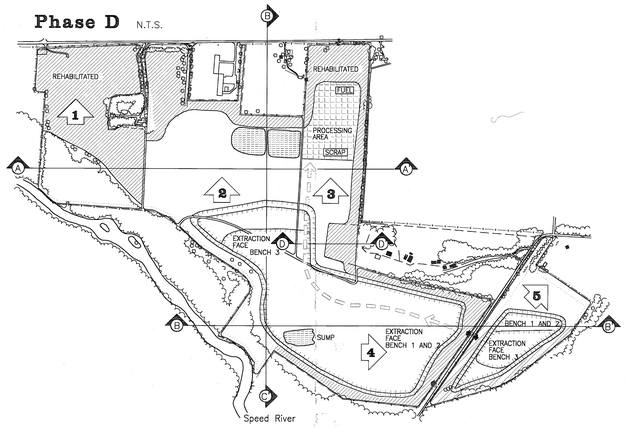
BEGIN REHABILITATION OF SIDESLOPES WITHIN AREA 4 USING TOPSOIL AND OVERBURDEN STORED IN BERMS.

BEGIN QUARRY EXTRACTION OF BENCH 3 WITHIN AREA 4 TO DEPTH INDICATED ON THE FINAL REHABILITATION PLAN.

REMOVE EXISTING SILT POND SYSTEM AND RECONSTRUCT THE SETTLING PONDS WITHIN AREA 2, AS SHOWN. FRESH WATER WILL FLOW BACK INTO EXISTING QUARRY SUMP AS SHOWN.

RELOCATE PROCESSING AREA TO AREA 3, AS SHOWN.

Phase D N.T.S.



Phase D Notes

COMPLETE QUARRY EXTRACTION OF BENCH 3 WITHIN AREA 4.

COMPLETE REHABILITATION OF SIDESLOPES WITHIN AREA 4. SIDESLOPES TO BE BACKFILLED WITH SILT AND OVERBURDEN FROM ON SITE SOURCES. STOCKPILED TOPSOIL STORED IN BERMS WILL BE SPREAD ON SIDESLOPES PRIOR TO SEEDING. SEE NOTE #5, DRAWING 3 FOR FURTHER DETAIL.

COMPLETE QUARRY EXTRACTION OF BENCHES 1 AND 2 WITHIN AREA 5.

BEGIN REHABILITATION OF SIDESLOPES WITHIN AREA 5 USING TOPSOIL AND OVERBURDEN STORED IN BERMS.

BEGIN QUARRY EXTRACTION OF BENCH 3 WITHIN AREA 5 TO DEPTH INDICATED ON FINAL REHABILITATION PLAN.

CONTINUE SEQUENTIAL QUARRY EXTRACTION THROUGH AREAS 3, 2, AND 1, RESPECTIVELY, TO DEPTHS INDICATED ON FINAL REHABILITATION PLAN.

REHABILITATION OF SIDESLOPES TO 3:1 SLOPES SHALL BE COMPLETED TO 1 METRE BELOW WATER TABLE (±298.0m A.S.L.). SIDESLOPES BELOW THE WATER TABLE SHALL BE REHABILITATED TO A VERTICAL FACE OR SLOPED AT 2:1 GRADE TO BOTTOM ON BENCH 1(SEE DRAWING 4 FOR FURTHER DETAILS

Phase E Notes (not shown)

COMPLETE QUARRY EXTRACTION OF BENCH 3 WITHIN AREA 5.

COMPLETE REHABILITATION OF SIDESLOPES WITHIN AREA 5. SIDESLOPES TO BE BACKFILLED WITH SILT AND OVERBURDEN FROM ON SITE SOURCES. STOCKPILED TOPSOIL STORED IN BERMS WILL BE SPREAD ON SIDESLOPES PRIOR TO SEEDING. SEE NOTE #5, DRAWING 3, FOR FURTHER DETAILS.

COMPLETE QUARRY EXTRACTION WITHIN AREAS 1, 2, AND 3.

REHABILITATE QUARRY FLOOR USING PILES OF CRUSHED STONE, STUMPS AND LOGS.

REMOVE ALL BUILDINGS AND EQUIPMENT FROM LICENSED PROPERTY.

COMPLETE REHABILITATION OF PROCESSING AREA AND HAUL ROUTES.

DISCONTINUE DEWATERING ACTIVITY.

Legend

- BOUNDARY OF LICENCED AREA
- SETBACK
- 1.2 m POST & WIRE FENCE
- STORAGE OF FUEL AND/OR SCRAP MATERIAL (SCRAP / FUEL)
- BERM
- DIRECTION OF EXTRACTION
- SECTION LINE
- HAUL ROUTE
- TOPSOIL/OVERBURDEN MOVEMENT
- WASH CIRCULATION ARROWS
- DITCH — WASH CIRCULATION DITCH
- UNDISTURBED AREA
- REHABILITATED AREA
- UNDERGOING REHABILITATION
- STRIPPED AREA
- OPEN WATER
- PROCESSING AREA
- EXISTING ENTRANCE/EXIT WITH 1.2m GATE
- EXISTING BUILDINGS
- EXTRACTION FACE
- 1.2m GATE
- OVERLAND DRAINAGE ARROW

Notes

1. THIS PLAN DEPICTS A SCHEMATIC OPERATIONS SEQUENCE FOR THESE PROPERTIES BASED UPON THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION. PHASES SHOWN ARE SCHEMATIC AND MAY VARY SLIGHTLY WITH DEMAND. PHASES DO NOT REPRESENT ANY SPECIFIC OR EQUAL TIME PERIOD. ANY MAJOR DEVIATIONS FROM THE OPERATIONS SEQUENCE SHOWN WILL REQUIRE APPROVAL OF MNR.
2. TOPOGRAPHIC INFORMATION WAS PREPARED THROUGH AIR PHOTO INTERPRETATION BY NORTHWAY MAP TECHNOLOGY, DON MILLS, ONT., DATED OCTOBER 5, 1992. TOPOGRAPHIC INFORMATION WITHIN THE 500m BOUNDARY OBTAINED FROM ONTARIO BASE MAPS 10-17-5550-48150, 10-17-5600-48150, 10-17-5550-48100, AND 10-17-5600-48100.
3. REFER TO DRAWING 1, EXISTING FEATURES, FOR DESCRIPTIONS OF EXISTING TREES.
4. REFER TO DRAWING 1, EXISTING FEATURES, FOR A DESCRIPTION OF BUILDINGS WITHIN THE LICENSED BOUNDARY AND WITHIN THE 500 METRE BOUNDARY.
5. SITE PLAN OVERRIDES ARE LISTED IN A TABLE ON DRAWING 1, EXISTING FEATURES.
6. THE LICENSED AREAS ARE PRESENTLY FENCED WITH A 1.2m POST AND WIRE FENCE EXCEPT FOR INSTANCES NOTED IN THE SITE PLAN OVERRIDE TABLE.
7. TOPSOIL AND OVERBURDEN SHALL BE STRIPPED AND STORED SEPARATELY IN BERMS OR STOCKPILES. BERMS AND STOCKPILES IF TOPSOIL SHALL BE GRADED TO STABLE SLOPES AND SEEDED TO PREVENT EROSION AND MINIMIZE DUST.
8. BERMS SHALL CREATE AN EFFECTIVE VISUAL BARRIER TO A MINIMUM OF 3.5m ABOVE EXISTING GRADE AND SIDE SLOPES SHALL NOT EXCEED 2:1. REFER TO TYPICAL BERM CROSS SECTION DETAIL ON DRAWING 3, PROGRESSIVE REHABILITATION AND FINAL REHABILITATION PLAN. ALL VEGETATION PLANTED DURING THE OPERATION OF THIS LICENCE WILL BE MAINTAINED IN A HEALTHY VIGOROUS GROWING CONDITION. DEAD PLANTS WILL BE REPLACED WITHIN TWO YEARS.
9. EXTRACTION OF AGGREGATES ABOVE THE WATER TABLE IS BY FRONT END LOADER. PERMANENT PROCESSING EQUIPMENT USED ON SITE CONSISTS OF 4 CRUSHERS, 5 SCREENS, STACKERS, A WASH PLANT AND AN ASPHALT PLANT. PROCESSING MAY INCLUDE INTERNAL HAULAGE BY CONVEYOR, CRUSHING, SCREENING, WASHING, BLENDING, STACKING AND LOADING FOR DELIVERY BY TRUCK. EXTRACTION OF AGGREGATES ABOVE THE WATER TABLE WILL TAKE PLACE IN 1 10m LIFT. STONE EXTRACTION SHALL EXTEND BELOW THE WATER TABLE TO A MAXIMUM DEPTH OF ±280.0m A.S.L., AND WILL CONSIST OF 3.6m BENCHES. UNDERWATER STONE EXTRACTION IS BY DRILLING AND BLASTING, DEWATERING, AND TRANSFER TO CONVEYOR OR TRUCKS IS BY FRONT END LOADER. REFER TO SECTIONS A-A', B-B',C-C' AND D-D' ON DRAWING 4 FOR FURTHER DETAILS.

   PROCESSING EQUIPMENT, STACKERS AND MATERIAL STOCKPILES WILL NOT EXCEED 20 METRES IN HEIGHT.

   THERE SHALL BE NO DIRECT OFFSITE DISCHARGE OF PROCESSING WATER.

   THE WASH PROCESS WILL CIRCULATE AS SHOWN ON THE PHASING DIAGRAMS. WASH WATER WILL BE CONTAINED IN SILTATION PONDS. DURING PHASES D, E AND F, FRESH WATER FOR THE PROCESSING PLANT WILL BE PUMPED FROM THE SUMP SHOWN IN AREA 4.

   CLEAN FILL MAY BE IMPORTED INTO THIS SITE FOR REHABILITATION PURPOSES.

   MATERIAL FROM OTHER LICENCED PROPERTIES OF STANDARD AGGREGATES MAY BE USED AT THIS SITE FOR BLENDING AND CUSTOM PRODUCTS. MATERIAL USED FOR RECYCLING SHALL BE STOCKPILED IN THE PROCESSING AREA. ALL MATERIALS USED FOR PROGRESSIVE AND FINAL REHABILITATION WORK WILL BE FROM AN ON-SITE SOURCE.
10. THE WATER TABLE ELEVATION ON THIS PROPERTY IS +\- 298 METRES A.S.L. BASED ON THE ORIGINAL SITE PLANS BY W.E.COATES AND ASSOC. AS WELL AS ON SITE WATER LEVELS.
11. FUEL STORAGE SHALL BE IN ABOVE AND BELOW GROUND CONTAINERS WITHIN PROCESSING AREA AND SHALL MEET THE REQUIREMENTS OF THE GASOLINE HANDLING ACT, 1980, AND THE GASOLINE HANDLING CODE AND REGULATIONS, 1980, OR AS AMENDED BY THE TECHNICAL STANDARDS AND SAFETY ACT (TSSA) AND LIQUID FUELS HANDLING CODE. REFUELLING SHALL BE WITHIN A CONTAINMENT PAD AND ANY SPILLS SHALL BE REMOVED AND DISPOSED OF AT AN APPROPRIATE FACILITY.
12. SCRAP WILL BE STORED ON SITE IN THE SCRAP STORAGE AREA AND DISPOSED OF ON A REGULAR BASIS. STUMPS AND LOGS MAY REMAIN ON SITE FOR FUTURE PROGRESSIVE AND FINAL UNDERWATER REHABILITATION.
13. DESPITE APPROVALS PROVIDED BY THIS SITE PLAN, COMPLIANCE WITH OTHER PROVINCIAL AND FEDERAL LEGISLATION IS REQUIRED.
14. REFER TO DRAWING 3, PROGRESSIVE REHABILITATION AND FINAL RE-HABILITATION PLAN, FOR FURTHER DETAIL ON REHABILITATION OF SIDESLOPES.

NO.	DATE	REVISION
3	JUNE 1994	AS PER M.N.R. COMMENTS
2	APRIL 1994	AS PER M.N.R. AND CLIENT COMMENTS
1	JUNE 1993	UPDATE TO AGGREGATE RESOURCES ACT.

NO.	DATE	REVISION	OWNER H.H. MNR
2	SEPT 2006	ADDED BUILDING #152 &153. DEMOLISHED BUILDING #109 AND #110. ADDED/REVISED NOTE OF BUILDING LIST. ADJUSTED NOTE OF NOTE#11.	
1	NOV 2000	FOREST OWNER 1 ADDED. PROCESSING AREA EXPANDED. INERT FILL FOR ROADS REDUCE INTERNAL SETBACK TO 15m.	

Pre Licence Review **Site Plan Amendments**

Harrington and Hoyle Ltd. LANDSCAPE ARCHITECTS
91 Anderson Avenue, Unit #2
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Telephone: (905) 294-8282
Fax: (905) 294-7623
Offices in Markham and Cambridge

PROJECT NAME

GUELPH PLANT

LICENCE NUMBER 5514

PARTS OF LOTS 4, 5, 6, 7, 8, AND 9, CONCESSIONS 1, 2, AND 3, DIVISION B, TOWNSHIP OF GUELPH, AND PARTS OF LOTS 7, 8, 9, 10, AND 11, CONCESSIONS 5 AND 6, TOWNSHIP OF PUSLINCH.

LAFARGE
LAFARGE CANADA INC.
7880 KEELE STREET
CONCORD, ONTARIO
L4K 4G7
Telephone: (905) 738-7070

SCALE 1:5000

0 125 250 400m

NORTH

ONTARIO ASSOCIATION OF LANDSCAPE ARCHITECTS MEMBER

DRAWING STATUS
FINAL

DRAWN BY	CHECKED BY	ISSUE DATE	PROJECT NO.
R.J.P.	M.M.	JUNE 1993	90-48

DRAWING TITLE
OPERATIONAL PLAN

DRAWING NO.
2 OF 4

THESE SITE PLANS MEET THE REQUIREMENTS OF THE AGGREGATE RESOURCES ACT. FEB 14/07

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