

## THE CORPORATION OF THE TOWNSHIP OF PUSLINCH 2016 COUNCIL MEETING

### **A G E N D A**

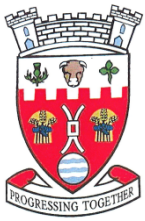
**DATE:** Wednesday, August 10, 2016

**CLOSED MEETING:** 6:30 P.M.

**REGULAR MEETING:** 7:00 P.M.

**# Denotes resolution prepared**

1. Call the Meeting to Order
2. Disclosure of Pecuniary Interest & the General Nature Thereof.
3. Adoption and Receipt of Minutes of the Previous Meeting.**#**
  - (a) Council Meeting – July 20, 2016
  - (b) Closed Council Meeting – July 20, 2016
  - (c) Special Council Meeting – July 21, 2016
  - (d) Public Meeting – June 23, 2016 – Hayden – Zoning By-law Amendment
4. Business Arising Out of the Minutes.
5. **PUBLIC MEETINGS**
  1. None
6. **COMMUNICATIONS**
  1. **Aberfoyle Pit #2 Licence No. 5609 – Dufferin Aggregates – Victoria & Wellington Road 34**
    - (a) Harden Environmental correspondence dated July 8, 2016 regarding the 2015 Monitoring Report Review
    - (b) GHD Limited – 2015 Annual Monitoring Report – Aberfoyle Pit No. 2



THE CORPORATION OF THE TOWNSHIP OF PUSLINCH  
August 10, 2016 MEETING

**2. Nestle Waters Canada – Renewal of Permit to Take Water ≠**

- (a) Harden Environmental correspondence dated June 13, 2016 – submission of comments to the 2016 renewal of the PTTW.

**Note: The Renewal of Permit to Take Water for Nestle Waters Canada has not yet been posted to the EBR**

**3. CBM Aggregates Lanci Pit Licence No. 624952 – 7129/7139/7145  
Concession 2 and 4284/4296 Sideroad 25 South**

- (a) Aeroustics correspondence dated June 30, 2016 regarding the 2016 Acoustical Audit.

**4. Puslinch Pit Licence No. 17600 CBM Aggregates – 4313 Sideroad 25 South**

- (a) Groundwater Science Corp. correspondence dated July 12, 2016 regarding a monitoring report update for the period March to June 2016.

**Stan Denhoed, Harden Environmental has reviewed the Report and notes the threshold limits have not been exceeded.**

**5. Mill Creek Pit Licence No. 5738 Dufferin Aggregates**

- (a) Monthly Monitoring Report – June 2016

**Stan Denhoed, Harden Environmental has reviewed the Report and notes the threshold limits have not been exceeded.**

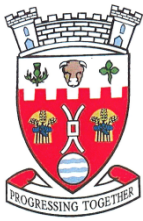
**6. Canada Post – Proposed Address Changes ≠**

- (a) Correspondence from Michael Chong, MP dated Wednesday July 27, 2016  
(b) Correspondence from David G Pietrobon dated Saturday July 30, 2016

**7. Union Gas Guelph Reinforcement Pipeline Project**

- (a) Correspondence from Stantec dated July 29, 2016. Notice of Project Commencement and preferred route – Wellington Rd 34 to Forestell





## THE CORPORATION OF THE TOWNSHIP OF PUSLINCH August 10, 2016 MEETING

### 8. Intergovernmental Affairs#

- (a) Various correspondence for review.

### 7. **DELEGATIONS / PRESENTATIONS #**

**7:45 p.m.** – Councillor Vacancy Appointment

- Statement on order of proceedings
- Motion to confirm nominees to be considered for appointment
- Presentation by each Nominee (Maximum 10 minutes to explain why a nominee should be appointed) followed by 4 questions
- Voting
- By-law to appoint a new member of Council will be completed upon consideration of all By-laws as noted under Section 14 – By-laws.

### 8. **REPORTS**

#### 1. **Puslinch Fire and Rescue Services**

None.

#### 2. **Finance Department #**

- (a) Report FIN-2016-019 Amendment to 2016 Final Tax Levy By-law

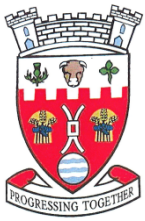
- (b) Report FIN-2016-020 – 2015 MPMP – To be distributed under separate cover on Monday, August 8, 2016)

**\* WITHDRAWN \***

#### 3. **Administration Department**

- (a) Service Level Meeting Dates

September 14, 2016 at 1:00 p.m.  
September 15, 2016 at 9:00 a.m.



## THE CORPORATION OF THE TOWNSHIP OF PUSLINCH August 10, 2016 MEETING

October 6, 2016 at 9:00 a.m.

### 4. **Planning and Building ≠**

- (a) County of Wellington Report dated August 3, 2016 – Zoning By-law Amendment – Hayden – 7128 Smith Road, Part of Lots 24 and 25, Concession 3

### 5. **Roads & Parks Department**

None.

### 6. **Recreation Department**

None.

### 7. **Mayor's Updates**

- (a) Correspondence from the Ministry of Municipal Affairs dated July 21, 2016.

### 9. **NOTICES OF MOTION**

None.

### 10. **COMMITTEE MINUTES**

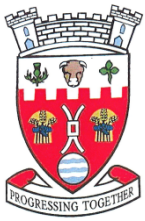
None.

### 11. **MUNICIPAL ANNOUNCEMENTS**

### 12. **UNFINISHED BUSINESS**

### 13. **CLOSED ITEMS ≠**

- (a) Confidential Verbal Report from Karen Landry, CAO/Clerk regarding litigation or potential litigation, including matters before administrative tribunals affecting the municipality or local board and advise that is subject to solicitor client privilege, including communications necessary for that purpose – Reid – 7827 Wellington Road 36 - Normal Farm Practices Board Hearing



## THE CORPORATION OF THE TOWNSHIP OF PUSLINCH August 10, 2016 MEETING

- (b) Confidential Verbal Report from Karen Landry, CAO/Clerk regarding litigation or potential litigation, including matters before administrative tribunals affecting the municipality or local board and advise that is subject to solicitor client privilege, including communications necessary for that purpose – 599 Arkell Road – OMB – Minor Variance Appeal

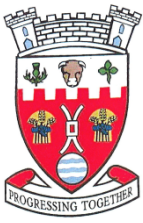
### 14. **BY-LAWS ≠**

- (a) By-law to amend By-law Number 19/85 - Tsounis Capital Investments Ltd – 40 Brock Rd S
- (b) By-law to amend By-law Number 19/85 – J2K Capital Inc – East of 227 Brock Rd
- (c) By-law to amend By-law Number 19/85 – Krayishnik and Tschanz – 6643 and 6637 Concession 2
- (d) By-law to amend By-Law 19/85 – Noor Associates Ltd – 7456 McLean Rd West
- (e) By-law to repeal By-law 37/16 being a By-law to authorize the entering into of an Agreement with John Hamilton (**Note: John Hamilton has advised he no longer wishes to proceed with the use of Township lands.**)
- (f) By-law to appoint a Deputy Clerk
- (g) By-law to amend the 2016 Tax Levy By-law 31/16
- (h) By-law to appoint a Councillor

### 15. **CONFIRMING BY-LAW ≠**

- (a) By-law to confirm the proceedings of Council for the Corporation of the Township of Puslinch.

### 16. **ADJOURNMENT ≠**



## **MINUTES**

**DATE:** Wednesday, July 20, 2016

**TIME:** 7:00 p.m.

The July 20, 2016 Regular Council Meeting was held on the above date and called to order at 7:00 p.m. in the Council Chambers, Aberfoyle.

### **1. ATTENDANCE:**

Mayor Dennis Lever  
Councillor Matthew Bulmer  
Councillor Susan Fielding  
Councillor Ken Roth

### **STAFF IN ATTENDANCE:**

1. Karen Landry, CAO/Clerk
2. Paul Creamer, Director of Finance/Treasurer
3. Don Creed, Director of Public Works and Parks
4. Steve Goode, Fire Chief
5. Luis Gomes, Deputy Fire Chief
6. Marissa Herner, Legislative Assistant
7. Michelle Cassar, Taxation and Office Administrator

### **OTHERS IN ATTENDANCE**

1. Bev Wozniak
2. Jean & Fred Stahlbaum
3. Doug Smith
4. Kevin Johnson
5. Karen Lever
6. Aldo Salis
7. Dennis O'Connor
8. Nick Noorzad
9. Rana Randhawa
10. Kathy White
11. Dianne O'Krafka
12. Bea Spiegel
13. Arsenios Tsounis
14. David Freure
15. Natalie Freure
16. Robert Buller
17. Paul O'Krafka
18. John Slood

### **2. DISCLOSURE OF PECUNIARY INTEREST & THE GENERAL NATURE THEREOF:**

None.

Mayor Lever advised there are two additional delegations – Diane O'Krafka and Paul O'Krafka to speak on item 8(3)(c) Report ADM-2016-011

### **3. ADOPTION OF THE MINUTES:**

- (a) Council Meeting – June 15, 2016
- (b) Special Council Meeting – June 15, 2016
- (c) Public Meeting Minutes – Zoning J2K Capital Inc – June 23, 2016
- (d) Public Meeting Minutes – Zoning – 2435953 Ontario Inc – June 23, 2016



(e) Public Meeting Minutes – Zoning – Krayishnik – May 19, 2016

Councillor Bulmer inquired about the Special Council meeting minutes. Under the Grant program section - events exempted from facility rental fees. Staff are to amend the minutes to include Remembrance Day.

**Resolution No. 2016-255:** Moved by Councillor Fielding and  
Seconded by Councillor Roth

That the minutes of the following meetings be adopted as written and distributed:

- (a) Council Meeting – June 15, 2016
- (b) Special Council Meeting – June 15, 2016, as amended

That the minutes of the following meetings be received:

- (c) Public Meeting Minutes – Zoning J2K Capital Inc – June 23, 2016
- (d) Public Meeting Minutes – Zoning – 2435953 Ontario Inc – June 23, 2016
- (e) Public Meeting Minutes – Zoning – Krayishnik – May 19, 2016

**CARRIED**

4. **BUSINESS ARISING OUT OF THE MINUTES:**

5. **PUBLIC MEETINGS:**

6. **COMMUNICATIONS:**

1. **Environmental Registry Alerts**

- (a) Permit to Take Water Decision Notice – DeCorso Enterprises Limited (Victoria Park East Golf Club) – 1096 Victoria Road South
- (b) Permit to Take Water Decision Notice – Ducks Unlimited Canada – Walnut Ridge Wetland – Lot 19, Concession 3
- (c) Issuance of Class A Licence – Cox Construction Limited – Part Lot 13, Concession 9 also **see Item 6 (7) (a)**

2. **Black Bridge Road Environmental Assessment Study**

- (a) City of Cambridge – Notice of Study Completion ≠

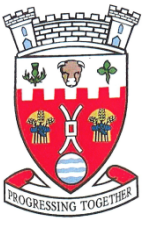
3. **City of Guelph and Guelph/Eramosa Township Water Systems (Tier 3)**

- (a) Ministry of Environment and Climate Change correspondence dated June 13, 2016 – Wellington County Municipal Peer Review Response regarding Water Quantity Risk Assessment Report ≠

4. **Mini Lakes – Wellington Common Elements Condominium Corporation 214 – 7541 Wellington Road 34**

- (a) Ministry of Environment – Issue Date: June 1, 2016 – Amended Environmental Compliance Approval – Number 2391-9KCJUS
- (b) R. J. Burnside – 2015 Operation & Maintenance Report – Mini Lakes – Communal Well Supply Drinking Water System ≠

**Stan Denhoed, Harden Environmental has reviewed the Report and does not have any comments.**



**5. Royal Canin Canada Company – 100 Beiber Road**

- (a) Harden Environmental correspondence dated June 20, 2016 regarding PTTW – 2016 Renewal – Royal Canin and attached Environmental Registry Alert #

**Harden Environmental's correspondence has been submitted to the Ministry.**

Councillor Bulmer would like some clarification about the downward trends in the aquifer. Mayor Lever inquired about the pumping well being used for monitoring instead of the monitoring well. Council asked that staff arrange for Stan Denhoed to present information at the September Council Meeting.

**Resolution No. 2016-256:** Moved by Councillor Roth and  
Seconded by Councillor Fielding

That Council receive the following:

- (a) Black Bridge Road Environmental Assessment Study – City of Cambridge – Notice of Study Completion

(b) City of Guelph and Guelph/Eramosa Township Water Systems (Tier 3) – Ministry of Environment and Climate Change correspondence dated June 13, 2016 – Wellington County Municipal Peer Review Response regarding Water Quantity Risk Assessment Report

(c) Mini Lakes – 7541 Wellington Rd 34 - Ministry of Environment – Issue Date: June 1, 2016 – Amended Environmental Compliance approval – Number 2391-9KCJUS

(d) Mini Lakes – 7541 Wellington Rd 34 – R.J. Burnside – 2015 Operation & Maintenance Report – Mini Lakes Communal Well Supply Drinking Water System.

(e) Royal Canin Company – 100 Beiber Rd – Harden Environmental correspondence dated June 20, 2016 regarding PTTW – 2016 Renewal – Royal Canin and attached Environmental Registry Alert

**CARRIED**

**6. Mill Creek Pit Licence No. 5738 – Dufferin Aggregates - 7115 Concession 2**

- (a) Monthly Monitoring Report – May 2016

**Stan Denhoed, Harden Environmental has reviewed the Report and notes there are no exceedences in the threshold limits.**

**7. Cox Construction Ltd. – Part Lot 13, Concession 4 – Licence No. 625710**

- (a) Ministry of Natural Resources and Forestry dated June 10, 2016 regarding Issuance of Aggregate Licence – **Note: Site Plan is available for viewing in the Clerk's Office**

**8. 4 Telfer Glen – Consent to Sever Application – Request for Release from Council Resolution – Block 54, Plan 802 (Buffer Block) and lifting of 30cm reserve (Block 50)**



- (a) WSP – MMM Group – Arthur Grabowski, Planner correspondence dated July 12, 2016 requesting release of requirement outlined in April 5, 1989 Council Resolution for Block 54 and lifting of 30 cm reserve (Block 50) located along Telfer Glen.

Refer to Item 7 (3).

## 9. Intergovernmental Affairs#

**Resolution No. 2016-257:** Moved by Councillor Roth and  
Seconded by Councillor Bulmer

That Council hereby supports the request by the Township of Addington Highlands and North Frontenac requesting the province to provide financial support for Municipal Fire Departments responses to medical calls.

**CARRIED**

**Resolution No. 2016-258** Moved by Councillor Fielding and  
Seconded by Councillor Roth

That the Intergovernmental Affairs correspondence items listed on the Council Agenda for July 20, 2016 Council meeting be received.

**CARRIED**

## 7. DELEGATIONS/PRESENTATIONS

1. Ms Carla Nell, Vice-President, Municipal and Stakeholder Relations, Municipal Property Assessment Corporation, presentation regarding 2016 Municipal Property Assessments  
#

**Resolution No. 2016-259:** Moved by Councillor Roth and  
Seconded by Councillor Fielding

That Council receive the presentation by Ms. Carla Nell, Vice-President, Municipal and Stakeholder Relations, Municipal Property Assessment Corporation regarding 2016 Municipal Property Assessments.

**CARRIED**

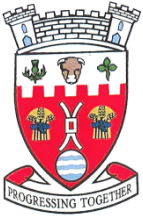
2. Barclay Nap, Wellington Federation of Agriculture Director (Puslinch) and Marc Reid, Wellington Federation of Agriculture Director presentation regarding reference book for Councillors #

**Resolution No. 2016-260:** Moved by Councillor Fielding and  
Seconded by Councillor Roth

That Council receive the presentation from Barclay Nap, Wellington Federation of Agriculture Director (Puslinch) and Marc Reid, Wellington Federation of Agriculture Director regarding reference book for Councillors.

**CARRIED**





3. Arthur Grabowski, Planner, WSP MMM Group regarding request to release Block 54, Plan 802 from 1989 Council resolution and to lift 30 cm reserve – Block 50 – **See Item 6(8)(a)**

**Resolution No. 2016-261:** Moved by Councillor Roth and  
Seconded by Councillor Fielding

That Council receive the correspondence dated July 12, 2016 from Arthur Grabowski, Planner, WSP MMM Group; and

That prior to Council considering the lifting of the .3m reserve in whole or in part and releasing the landscape buffering requirements outlined in the April 5, 1989 Council resolution that the following be provided to Council:

- Approval of the location of a proposed driveway entrance off Telfer Glen for the proposed severed parcel from Don Creed, Director of Public Works and Parks;
- Approval from MTO of the location of the proposed driveway entrance off Telfer Glen for the proposed severed parcel as it relates to its proximity to Highway 6;
- An explanation of how the proposed severed and retained lands will merge with Block 54;
- Confirmation regarding ownership of Block 54, and written support from the other owner(s) of Block 54 regarding the request to lift the .3m reserve and the release of the landscape buffer

**CARRIED**

4. Diane O’Krafka, resident at 4 Eagle Lane. Presentation regarding the Township transfer of land on Plan 386. Mrs. O’Krafka provided additional information about the ownership of the unopened road allowance and lake front piece of land.
5. Paul O’Krafka, resident at 4 Eagle Lane. Presentation regarding the Township transfer of land on Plan 386. Mr. O’Krafka provided information about the history of his property and the historic use about the land in question.

**Resolution No. 2016-262** Moved by Councillor Bulmer and  
Seconded by Councillor Roth

That Council receive the presentations by Diane and Paul O’Krafka.

**CARRIED**

**8. REPORTS:**

**1. Puslinch Fire and Rescue Services**

(a) Puslinch Fire and Rescue Services – June, 2016 Report ≠

Councillor Roth asked Chief Goode to create a report that explains which trucks are used to respond to the different types of calls.

Councillor Bulmer inquired if the Township is advising residents in every possible way about a fire ban. Councillor Bulmer requested staff to ensure the permit advises residents to check the website for updated conditions or restrictions on open air burning.





THE CORPORATION OF THE TOWNSHIP OF PUSLINCH  
July 20, 2016 COUNCIL MEETING

**Resolution No. 2016-263**

Moved by Councillor Fielding and  
Seconded by Councillor Bulmer

That Council receive the Puslinch Fire and Rescue Services Response Report for June, 2016.

**CARRIED**

**2. Finance Department**

- (a) Applications for Cancellation, Reduction or Refund of Taxes re: Chapter 25, Section 357, 358 – Municipal Act ≠

**Resolution No. 2016-264**

Moved by Councillor Bulmer and  
Seconded by Councillor Fielding

That Council does hereby authorize the applications for Cancellation, Reduction or Refund of Taxes chapter 25, section 357 or 358 of the Municipal Act, 2001 as follows:

Year	Application #	Roll #	Write Off Amount
2016	02/16	2-17800	\$ 907.59
2016	03/16	4-05400	\$ 304.17
2015	05/16	6-06100	\$ 40.71
2016	04/16	6-06100	\$ 1,097.09
2015	28/15	7-05700	\$ 27.95
2016	29/15	7-05700	\$ 635.30

**CARRIED**

**3. Administration Department**

- (a) Report ADM-2016-013 – Municipal Property Assessment Corporation – Request for Permission to Enter Lands Agreement – 7404 Wellington Road 34 ≠

**Resolution No. 2016-265:**

Moved by Councillor Fielding and  
Seconded by Councillor Bulmer

That Report ADM-2016-013 regarding Municipal Property Assessment Corporation (MPAC) – Request for Permission to Enter Lands Agreement – 7404 Wellington Road 34 – Township Office be received; and

That Council grant permission to MPAC for use of the lands for the purpose of parking a vehicle; and

That Council enact a By-law to authorize the Mayor and Clerk to execute an Agreement with MPAC for the purpose of parking a vehicle at the Township Office as outlined in Report ADM-2016-013.

**CARRIED**

- (b) Report ADM-2016-014 – Ministry of Transportation – Authorized Requester Agreement ≠

**Resolution No. 2016-266:**

Moved by Councillor Bulmer and  
Seconded by Councillor Fielding



That Report ADM-2016-014 regarding Ministry of Transportation – Authorized Requester Agreement be received; and

That Council enact a By-law to authorize the Mayor and Clerk to execute an Agreement with Ministry of Transportation to access and use Licensed Information as outlined in Report ADM-2016-014.

**CARRIED**

(c) Report ADM-2016-012 – Service Recognition Policy ~~≠~~

**Resolution No. 2016-267:** Moved by Councillor Fielding and  
Seconded by Councillor Bulmer

That Report ADM-2016-012 regarding the Service Recognition Policy be received; and

That the Service Recognition Policy attached to Report ADM-2016-012 be adopted as amended by removing Council from receiving monetary compensation for service recognition.

**CARRIED**

(d) Report ADM-2016-011 – Disposition of Unopened Road Allowance – Plan 386~~≠~~

Karen Landry read a letter as requested from Lorne Wallace dated July 18, 2016 a resident involved in this matter, indicating support for the staff recommendation. Council directed that the nominal fee be set at \$100.00

**Resolution No. 2016-268:** Moved by Councillor Bulmer and  
Seconded by Councillor Fielding

That Report ADM-2016-011 regarding disposition of unopen road allowances – Plan 386 be received; and

That Council declare the lands on Plan 386 more particularly described as Parts 1 to 9, Parts 12 - 13, and Part 15 on the draft Reference Plan attached to Report ADM-2016-011 as surplus; and

That Council enact a by-law to declare surplus, close and dispose of the lands on Plan 386 more particularly described as Parts 1 to 9, Parts 12 - 13, and Part 15 on the draft Reference Plan attached to Report ADM-2016-011 and to authorize the Mayor and Clerk to execute agreements and all ancillary documents required to facilitate the transfer of the subject lands to the abutting property owner(s) as outlined in Report ADM-2016-011; and

That Council authorize the transfer of the subject lands for nominal consideration; and

That Council direct staff to work with the applicable owners identified in Report ADM-2016-011 to acquire the travelled portion of the unopen road allowance to the Township for nominal consideration for the purpose of consolidating ownership of the travelled portion of the unopen road allowance; and

That upon obtaining agreement with the applicable owners to acquire Parts 10, 11 and 14 on the draft Reference Plan attached to Report ADM-2016-011, Council enact a By-law to acquire the subject lands



**CARRIED**

**4. Planning and Building Department**

(a) Chief Building Official Report – June 2016 ≠

**Resolution No. 2016-269:** Moved by Councillor Fielding and  
Seconded by Councillor Roth

That Council receive the Chief Building Official Report for June, 2016.

**CARRIED**

(b) Planning Report – Tsounis Capital Investments Ltd. – 40 Brock Road South –  
Zoning By-law Amendment ≠

**Resolution No. 2016-270:** Moved by Councillor Roth and  
Seconded by Councillor Fielding

That Council receive and support the Report – County of Wellington Planning and  
Development Department – Tsounis Capital Investments Ltd – 40 Brock Rd S –  
Zoning By-Law Amendment; and

That Council direct staff to bring forward a by-law to amend By-Law Number 19/85,  
as amended, in accordance with the draft By-law attached to the County of  
Wellington Planning and Development Department – Tsounis Capital Investments  
Ltd – 40 Brock Rd S - Zoning By-Law Amendment Report dated March 24, 2016.

**CARRIED**

(c) Planning Report – J2K Capital Inc. – East of 227 Brock Road (Wellington Road 46)  
– Zoning By-law Amendment ≠

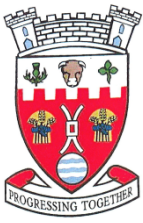
**Resolution No. 2016-271:** Moved by Councillor Fielding and  
Seconded by Councillor Roth

That Council receive and support the Report – County of Wellington Planning and  
Development Department – J2K Capital Inc – East of 227 Brock Rd – Zoning By-  
Law Amendment; and

That Council direct staff to bring forward a by-law to amend By-Law Number 19/85,  
as amended, in accordance with the draft By-law attached to the County of  
Wellington Planning and Development Department – J2K Capital Inc – East of 227  
Brock Rd - Zoning By-Law Amendment Report dated July 13, 2016.

**CARRIED**

(d) Planning Report – Krayishnik and Tschanz – 6643 and 6637 Concession Road 2 –  
Zoning By-law Amendment ≠



**Resolution No. 2016-272:** Moved by Councillor Roth and  
Seconded by Councillor Fielding

That Council receive and support the Report – County of Wellington Planning and Development Department – Krayishnik and Tschanz – 6643 and 6637 Concession 2 - Zoning By-Law Amendment; and

That Council direct staff to bring forward a by-law to amend By-Law Number 19/85, as amended, in accordance with the draft By-law attached to the County of Wellington Planning and Development Department – Krayishnik and Tschanz – 6643 and 6637 Concession 2 - Zoning By-Law Amendment Report dated July 8, 2016.

**CARRIED**

- (e) Planning Report – Noor Associates Ltd. – 7456 McLean Road West – Zoning By-law Amendment ≠

**Resolution No. 2016-273:** Moved by Councillor Roth and  
Seconded by Councillor Fielding

That Council receive and support the Report – County of Wellington Planning and Development Department – Noor Associates Ltd – 7456 McLean Road West - Zoning By-Law Amendment; and

That Council direct staff to bring forward a by-law to amend By-Law Number 19/85, as amended, in accordance with the draft By-law attached to the County of Wellington Planning and Development Department – Noor Associates Ltd – 7456 McLean Road West - Zoning By-Law Amendment Report dated July 13, 2016.

**CARRIED**

- (f) Report PD-2016-018 – Vacant Land Condominium Development Agreement – Slood Construction Limited – Fox Run Phase 2, Part Lot 19, Concession 8 and Part of Block 60, Plan 795 being Pars 1, 2 & 3, Reference Plan 61R-20083 ≠

**Resolution No. 2016-274:** Moved by Councillor Fielding and  
Seconded by Councillor Roth

That Report PD-2016-018 regarding a Vacant Land Condominium Development Agreement – Slood Construction Ltd. – Fox Run Phase 2, Part Lot 19, Concession 8, Part of Block 60, Plan 795 being Parts 1, 2 and 3, Reference Plan 61R-20083 be received; and  
That Council pass a by-law to authorize the entering into and execution of a Vacant Land Condominium Development Agreement with Slood Construction Ltd.

**CARRIED**

**5. Roads & Parks Department**



None.

## 6. Recreation Department

- (a) Report REC-2016-07 – Agreement with Whistle Stop Co-operative Pre-School Inc. – Preschool Program – Puslinch Community Centre – 23 Brock Road South ≠

Council requested staff to change the wording from 'cost associated' to 'value' for future reports.

**Resolution No. 2016-275:** Moved by Councillor Roth and  
Seconded by Councillor Fielding

That Report REC–2016–007 regarding the Agreement with Whistle Stop Co-Operative Pre-school Inc. – preschool program -Puslinch Community Centre – 23 Brock Road S. be received; and

That Council enact a by-law to authorize the Mayor and Clerk to execute the Agreement with Whistle Stop Co-operative Pre-School Inc.

**CARRIED**

- (b) Report REC-2016-08 – Agreement with Guelph Community Health Centre – Drop in Play Group Program – Puslinch Community Centre – 23 Brock Road South ≠

**Resolution No. 2016-276:** Moved by Councillor Fielding and  
Seconded by Councillor Roth

That Report REC–2016–008 regarding the Agreement with Guelph Community Health Centre –drop-in playgroup program- Puslinch Community Centre – 23 Brock Road S. be received; and

That Council enact a by-law to authorize the Mayor and Clerk to execute the Agreement with the Guelph Community Health Centre.

**CARRIED**

## 7. Mayor's Updates

None.

## 9. **NOTICE OF MOTION:**

None.

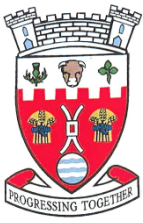
## 10. **COMMITTEE MINUTES**

- (a) Planning and Development Advisory (Committee of Adjustment) Minutes – June 14, 2016 ≠

- (b) Planning and Development Advisory Committee Minutes – June 14, 2016 ≠

**Resolution No. 2016-277:** Moved by Councillor Roth and  
Seconded by Councillor Fielding

That the minutes of the following meetings be received:



(a) Planning and Development Advisory (Committee of Adjustment) Minutes – June 14, 2016

(b) Planning and Development Advisory Committee Minutes – June 14, 2016

**CARRIED**

#### **11. MUNICIPAL ANNOUNCEMENTS**

- (a) Councillor Fielding advised the Puslinch Lake Home Tour raised \$18,500 for the Puslinch Lake Conservation Association.
- (b) Councillor Roth advised that the first week of rural garbage pickup went well.
- (c) Councillor Bulmer agreed with Councillor Roth regarding rural garbage pickup. Councillor Bulmer also complimented Roads staff and Cox Construction for the recent work completed on Watson Road.
- (d) Mayor Lever agreed about the rural waste pick up going well. Mayor Lever also advised that the Household Hazardous Waste Mobile Trailer is at the transfer station in Aberfoyle right now.

#### **12. UNFINISHED BUSINESS**

None.

#### **13. CLOSED MEETING**

**Council was in closed session from 6:03 p.m. to 6:27 p.m.**

**Council recessed from 6:28 p.m. to 7:00 p.m.**

##### **Resolution 2016-278**

Moved by Councillor Fielding and  
Seconded by Councillor Roth

That Council shall go into closed session under Section 239 of the Municipal Act for the purpose of:

- (a) Confidential Verbal Report from Karen Landry, CAO/Clerk regarding litigation or potential litigation, including matters before administrative tribunals affecting the municipality or local board and advise that is subject to solicitor client privilege, including communications necessary for that purpose – 599 Arkell Road – OMB – Minor Variance Appeal
- (b) Confidential Verbal Report from Karen Landry, CAO/Clerk regarding litigation or potential litigation, including matters before administrative tribunals affecting the municipality or local board and advise that is subject to solicitor client privilege, including communications necessary for that purpose – 6 Eagle Lane – OMB – Minor Variance Appeal
- (c) Confidential Verbal Report from Karen Landry, CAO/Clerk regarding litigation or potential litigation, including matters before administrative tribunals affecting the municipality or local board and advise that is subject to solicitor client privilege, including communications necessary for that purpose – Reid – 7827 Wellington Road 36 - Normal Farm Practices Board Hearing

**CARRIED**





- (a) Confidential Verbal Report from Karen Landry, CAO/Clerk regarding litigation or potential litigation, including matters before administrative tribunals affecting the municipality or local board and advise that is subject to solicitor client privilege, including communications necessary for that purpose – 599 Arkell Road – OMB – Minor Variance Appeal

**Resolution 2016-279**

Moved by Councillor Roth and  
Seconded by Councillor Fielding

That Council receive the Confidential Verbal Report from Karen Landry, CAO/Clerk, regarding litigation or potential litigation, including matters before administrative tribunals affecting the municipality or local board and advise that is subject to solicitor client privilege, including communications necessary for that purpose – 599 Arkell Road – OMB – Minor Variance Appeal; and

That staff proceed as directed.

**CARRIED**

- (b) Confidential Verbal Report from Karen Landry, CAO/Clerk regarding litigation or potential litigation, including matters before administrative tribunals affecting the municipality or local board and advise that is subject to solicitor client privilege, including communications necessary for that purpose – 6 Eagle Lane – OMB – Minor Variance Appeal

**Resolution 2016-280**

Moved by Councillor Bulmer and  
Seconded by Councillor Roth

That Council receive the Confidential Verbal Report from Karen Landry, CAO/Clerk, regarding litigation or potential litigation, including matters before administrative tribunals affecting the municipality or local board and advise that is subject to solicitor client privilege, including communications necessary for that purpose – 6 Eagle Lane – OMB – Minor Variance Appeal; and

That staff proceed as directed.

**CARRIED**

- (c) Confidential Verbal Report from Karen Landry, CAO/Clerk regarding litigation or potential litigation, including matters before administrative tribunals affecting the municipality or local board and advise that is subject to solicitor client privilege, including communications necessary for that purpose – Reid – 7827 Wellington Road 36 - Normal Farm Practices Board Hearing

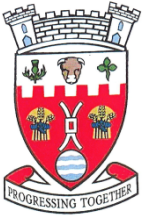
**Resolution 2016-281**

Moved by Councillor Roth and  
Seconded by Councillor Bulmer

That Council receive the Confidential Verbal Report from Karen Landry, CAO/Clerk, regarding litigation or potential litigation, including matters before administrative tribunals affecting the municipality or local board and advise that is subject to solicitor client privilege, including communications necessary for that purpose – Reid -7827 Wellington Rd 36 – Normal Farm Practices Board Hearing; and

That staff proceed as directed.

**CARRIED**



**Resolution 2016-282**

Moved by Councillor Bulmer and  
Seconded by Councillor Roth

That Council move into open session

**CARRIED**

**14. BY-LAWS:**

- (a) A By-law A by-law to authorize the entering into an Agreement with Whistle Stop Co-Operative Preschool Inc. – Puslinch Community Centre – 23 Brock Road South
- (b) A by-law to authorize the entering into an Agreement with Guelph Community Health Centre for drop in playgroup program – Puslinch Community Centre – 23 Brock Road South
- (c) A by-law to amend By-Law Number 19/85, as amended – 2016 Housekeeping Amendment to Zoning By-Law 19/85
- (d) A by-law to authorize the entering into an Agreement with Municipal Property Assessment Corporation – 7404 Wellington Road 34
- (e) A by-law to authorize the entering into an Agreement with the Ministry of Transportation – Authorized Requester Agreement
- (f) A by-law to authorize the entering into of a Vacant Land Condominium Agreement with Slood Construction Ltd.

Karen Landry advised that typographic errors to the By-laws printed with the agenda had been corrected.

**Resolution 2016-283**

Moved by Councillor Roth and  
Seconded by Councillor Bulmer

That the following By-laws be taken as read three times and finally passed in open Council:

- (a) By-law **040/16** to authorize the entering into an Agreement with Whistle Stop Co-Operative Preschool Inc. – Puslinch Community Centre – 23 Brock Road South
- (b) By-law **041/16** to authorize the entering into an Agreement with Guelph Community Health Centre for drop in playgroup program – Puslinch Community Centre – 23 Brock Road South
- (c) By-law **042/16** to amend By-Law Number 19/85, as amended – 2016 Housekeeping Amendment to Zoning By-Law 19/85
- (d) By-law **043/16** to authorize the entering into an Agreement with Municipal Property Assessment Corporation – 7404 Wellington Road 34
- (e) By-law **044/16** to authorize the entering into an Agreement with the Ministry of Transportation – Authorized Requester Agreement
- (f) By-law **045/16** to authorize the entering into of a Vacant Land Condominium Agreement with Slood Construction Ltd.

**CARRIED**

**15. CONFIRMING BY-LAW**

- (a) By-Law to confirm the proceedings of Council for the Corporation of the Township of Puslinch





**Resolution 2016-284:** Moved by Councillor Bulmer and  
Seconded by Councillor Roth

That the following By-law be taken as read three times and finally passed in open Council:

By-Law **046/16** being a by-law to confirm the proceedings of Council for the Corporation of the Township of Puslinch at its meeting held on the 20th day of July, 2016.

**CARRIED**

16. **ADJOURNMENT:**

**Resolution No. 2016-285:** Moved by Councillor Roth and  
Seconded by Councillor Bulmer

That Council hereby adjourns at 9:11 p.m.

**CARRIED**

\_\_\_\_\_  
Dennis Lever, Mayor

\_\_\_\_\_  
Karen Landry, CAO/Clerk



## **MINUTES**

**DATE:** Thursday, July 21, 2016

**TIME:** 1:00 p.m.

The July 21, 2016 Special Council Meeting was held on the above date and called to order at 1:00 p.m. in the Council Chambers, Aberfoyle.

### **1. ATTENDANCE:**

Mayor Dennis Lever  
Councillor Matthew Bulmer  
Councillor Ken Roth

### **STAFF IN ATTENDANCE:**

1. Karen Landry, CAO/Clerk
2. Paul Creamer, Director of Finance/Treasurer
3. Don Creed, Director of Public Works and Parks

### **OTHERS IN ATTENDANCE**

Kevin Johnson  
John Sepulis

### **2. DISCLOSURE OF PECUNIARY INTEREST & THE GENERAL NATURE THEREOF:**

None.

### **3. COMMUNICATIONS:**

None.

### **4. REPORTS:**

#### **1. Finance Department**

- (a) Report FIN-2016-017 – Breakdown of Current 10 Year Capital Plan ≠

#### **Resolution No. 2016-286:**

Moved by Councillor Roth and  
Seconded by Councillor Bulmer

That Report FIN-2016-017 – Breakdown of Current 10 Year Capital Plan be received.

#### **CARRIED**

#### **2. Recreation Department**

- (a) Report REC-2016-009 – Service Levels and Recreation and Parks Master Plan Recommendations 24 to 30 and 32 ≠

Council directed staff to request Monteith Brown to prepare for Council's consideration a Concept Plan that:

- Includes a Lit Ball Diamond
- The addition of a 9X9 soccer field
- The addition of a 11X11 soccer field



THE CORPORATION OF THE TOWNSHIP OF PUSLINCH  
July 21, 2016 COUNCIL MEETING

- Accessible playground area
- Removal of the Horseshoe Pit
- Removal of the cement block building (booth)
- No splash pad
- Tennis courts remaining where they are currently located
- Horse paddock and pull track remaining where they are currently located
- Consideration for the Fall Fair requirements

Council noted that no further action regarding Recommendation No. 28 of the Recreation and Parks Master Plan regarding Hard Surface Courts – Tennis is required at this time.

**Resolution No. 2016-287:** Moved by Councillor Bulmer and  
Seconded by Councillor Roth

That Report REC-2016-009 – Service Levels and Recreation and Parks Master Plan Recommendations 24 to 30 and 32 be received.

**CARRIED**

**3. Administration Department**

(a) Report ADM-2016-015 – 2016 Council Meeting Schedule Update ≠

**Resolution No. 2016-288:** Moved by Councillor Roth and  
Seconded by Councillor Bulmer

That Report ADM-2016-015 – 2016 Council Meeting Schedule Update be received;  
and

That the August 9, 2016 Council meeting be cancelled; and

That the following dates be added: September 14, 2016 at 1:00 p.m., September 15, 2016 at 9:00 a.m. and October 6, 2016 at 9:00 a.m.

**CARRIED**

**5. CONFIRMING BY-LAW**

(a) By-Law to confirm the proceedings of Council for the Corporation of the Township of Puslinch

**Resolution 2016-289** Moved by Councillor Bulmer and  
Seconded by Councillor Roth

That the following By-law be taken as read three times and finally passed in open Council:

By-Law **047/16** being a by-law to confirm the proceedings of Council for the Corporation of the Township of Puslinch at its meeting held on the 21st day of July, 2016.

**CARRIED**



6. **ADJOURNMENT:**

**Resolution No. 2016-299:**

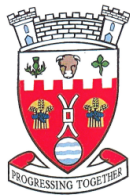
Moved by Councillor Roth and  
Seconded by Councillor Bulmer

That Council hereby adjourns at 2:13 p.m.

**CARRIED**

\_\_\_\_\_  
Dennis Lever, Mayor

\_\_\_\_\_  
Karen Landry, CAO/Clerk



## THE CORPORATION OF THE TOWNSHIP OF PUSLINCH PUBLIC MEETING MINUTES

**DATE:** Thursday June 23, 2016

**TIME:** 7:00 p.m.

**PLACE:** Puslinch Municipal Complex

**FILE NUMBER:** Zoning Amendment File D14/HAY  
Gerry and Chad Hayden

**MEMBERS:** Mayor Dennis Lever - Chair  
Councillor Ken Roth

The Chair welcomed those attending the Public Meeting.

No pecuniary interest was declared by any member of Council.

The Chair advised the purpose of the Public Meeting is to inform and provide the public with the opportunity to ask questions, or to express views with respect to the proposed Zoning By-law Amendment commenced by the applicant Gerry and Chad Hayden located at 7128 Smith Road.

The Chair advised that the members of Council are here to observe and listen to public comments; however, they will not provide a position on the matter.

The Chair informed attendees when Council makes a decision, should you disagree with that decision, the Planning Act provides you with an opportunity to appeal this application to the Ontario Municipal Board for a hearing. Please note that if a person or public body does not make oral submissions at a public meeting or written submissions to the Township of Puslinch before the decision is made, the person or public body is not entitled to appeal the decision of the Township of Puslinch to the Ontario Municipal Board. In addition, if a person or public body does not make an oral submission at a public meeting, or make written comments to the Township of Puslinch before the decision is made, the person or public body may not be added as a party to the hearing of an appeal before the Ontario Municipal Board unless, in the opinion of the Board, there are reasonable grounds to do so.

The Chair noted that the Planning Act requires that at least one Public Meeting be held for each development proposal.

The Chair instructed the format of the Public Meeting is as follows:

- The applicant will present the purpose and details of the application and any further relevant information.
- Following this the public can obtain clarification, ask questions and express their views on the proposal.
- Following this members of Council have the opportunity to obtain clarification and ask questions of the proposal.
- The applicant and staff will attempt to answer questions or respond to concerns this evening. If this is not possible, the applicant and/or staff will follow up and obtain this information. Responses will be provided when this matter is brought forward and evaluated by Council at a later date.

### **Presentations**

Rob Stovel of Stovel Planning Associates, agent, presented the application and indicated the proposed zone change to a site specific Agricultural Zone is to permit a landscape contractors office and yard with outdoor storage. The area of the amendment is on approximately 1 hectare of the property on which there is an existing 486 square metre building. The owners wish to expand the building in the future to permit more equipment storage.

Rob Stovel indicated the hours of operation are from 7:30 a.m. to 5 p.m. in the spring, summer and fall. Winter hours can be sporadic, depending on snowfalls. The business consists of two owners and eight seasonal employees, with five pick-up trucks, three trailers, five walking mowers and five riding mowers. A fenced off area will store the equipment.



## THE CORPORATION OF THE TOWNSHIP OF PUSLINCH PUBLIC MEETING MINUTES

Rob Stovel stated that a Site Plan is required for the development and that will address items such as screening, landscaping, parking and storage areas. The septic system has already been completed. Berming could be done with trees, parking provided along part of the property that abuts Wellington Road 34, storage areas for the stockpile of materials located at the rear of the property and trees planted such as white pine, white spruce and cedar trees. There is the concern that planting trees along the county road could produce adverse snow conditions on the road.

### **Question/Comments**

Kevin Johnson of 6647 Concession 2 asked if the parking along Wellington Road 34 will be blocked to prevent people from pulling out onto the road.

Rob Stovel stated they are proposing a fence or berm between the parking area and Wellington Road 34.

Bev Wozniak of 7088 Wellington Road 34 asked the zone change will apply to the old house on the property.

Rob Stovel indicated only a portion of the property is being rezoned and the intent is to sever off the portion of the property with the house that is not being rezoned.

Bev Wozniak noted the mapping circulated on the notice looked like there could be a severance and if so, the severance should be done in conjunction with the zoning amendment.

Bev Wozniak asked if the owners intend to construct a 200 square foot addition on the building and stated that since the development is for a commercial business, not an agricultural use, the zone amendment should be to a commercial designation and taxed accordingly.

Rob Stovel indicated that the Planning and Development Advisory Committee made comments to cap the total size of the development, allowing for a future addition.

Bev Wozniak questioned what types of outdoor storage materials such as landscape brush scraps, fertilizers, sand and salt, would be on the property and would the burning of materials be done on site. Salt could leach into the water and where will it be stored?

Gerry Hayden, owner, responded that there would not be burning on-site and they will be taking scraps to the dump. They are in the business of making things look nice and the property will reflect that. There will be materials stored on the property.

Bev Wozniak asked if there would be ditches put in for stormwater management, because currently there are none and a stormwater management pond is not proposed.

Bev Wozniak inquired if the MTO had been circulated for comment due to the proximity of the future highway expansion plans.

Kelly Patzer noted the circulation would be reviewed and MTO would be consulted for any comment.

Rob Stovel indicated that stormwater management will be addressed at Site Plan Control where a ditch design will be proposed.

Councillor Roth indicated he had received public comments about the bright outside lighting that is on at night and questioned if lighting requirements will be reviewed.

Rob Stovel responded there is existing lighting on the building and there is no intent to put up more lighting.

Councillor Roth questioned if lighting will be required in the future when equipment is stored outdoors.

Rob Stovel indicated that a lighting engineering could review the site for lighting requirements.

Mayor Lever noted the original plan submission detailed 15 parking spaces whereas the recent plan for the public meeting now shows 8 parking spaces.

Rob Stovel indicated that the plan has evolved and parking requirements for the project are 8 parking spaces.



## THE CORPORATION OF THE TOWNSHIP OF PUSLINCH PUBLIC MEETING MINUTES

Bev Wozniak asked if someone is living in the house on the property and would the mail for the business be sent to the house address on the property.

Gerry Hayden responded that the intent is to sever the business from the residential portion of the property so that there will be two separate addresses. A P.O. Box may be created for the business mail.

There were no further questions and the Chair called an end to the public meeting and advised that Council would not be taking action on this proposal tonight.

### **Adjournment**

The meeting adjourned at 7:52 p.m.



4622 Nassagaweya-Puslinch Townline R.R. 1 Moffat Ontario Canada L0P 1J0  
Phone: 519.826.0099 fax: 519.826.9099 www.hardenv.com

Groundwater Studies  
Geochemistry  
Phase I / II  
Regional Flow Studies  
Contaminant Investigations  
OMB Hearings  
Water Quality Sampling  
Monitoring  
Groundwater Protection  
Studies  
Groundwater Modelling  
Groundwater Mapping

Our File: 0132

July 8, 2016

Township of Puslinch  
7404 Wellington Road 34  
Guelph, ON  
N1H 6H9

Attention: Karen Landry,  
CAO - Clerk

CLERK'S DEPARTMENT	
TO	Cancel
Copy	
Please Handle	
For Your Information	
Council Agenda	August 10/16
File	EIS-DUF

Dear Ms. Landry:

**Re: Aberfoyle Pit #2  
2015 Monitoring Report Review**

We have reviewed the 2015 Aberfoyle Pit #2 report prepared by GHD Limited prepared on behalf of Dufferin Aggregates. There has been no aggregate extraction at this site between 2009 and 2015. Based on the data presented we make the following comments.

Water levels upgradient (OW1B-90 and OW7-05) and downgradient (OW2-90 and OW4-05) have stabilized and appear to be responding to natural seasonal variations.

Water levels in neighbouring private wells are also stable.

The monitoring of stations SW1-90, SW2-91, SW3-91 and SW4-91 resumed in February 2012. These stations represent water levels in the wetland adjacent to Pit # 2. Water levels in 2015 remained higher than those in the fall of 2013 and are within the historical range.

There are no significant changes in on-site water groundwater levels since the cessation of extraction in 2009.

There have been no significant changes in water quality caused by the extractive operations, based on a review of the water quality data obtained in 2015.

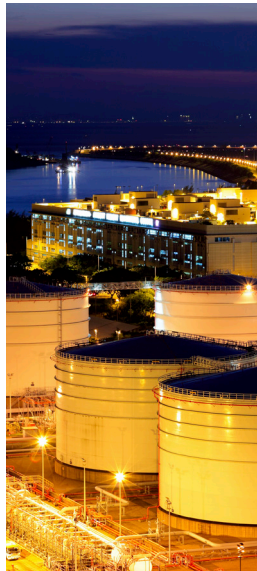
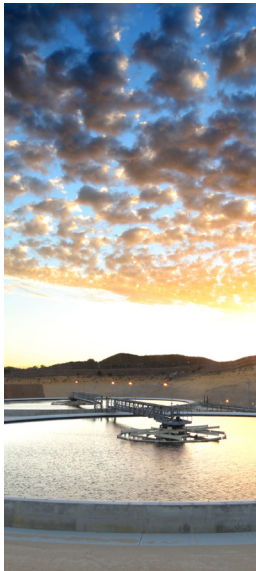




Sincerely  
Harden Environmental Services Ltd.

A handwritten signature in blue ink that reads 'Stan Denhoed'.

Stan Denhoed, P.Eng., M.Sc.  
Senior Hydrogeologist



## 2015 Annual Monitoring Report

Aberfoyle Pit No. 2  
Township of Puslinch

Dufferin Aggregates, A Division of CRH Canada Group Inc.



May 31, 2016

Reference No. 001644

Mr. Ron Van Ooteghem  
Dufferin Aggregates  
125 Brock Road South  
Aberfoyle, Ontario  
N1H 6H9

Dear Mr. Van Ooteghem:

**Re: 2015 Annual Monitoring Report  
Dufferin Aggregates Aberfoyle Pit No. 2  
Township of Puslinch**

Enclosed please find the 2015 Annual Monitoring Report for Dufferin Aggregates, Aberfoyle Pit No. 2, Township of Puslinch. This report was prepared in accordance with the monitoring program outlined in our August 1991 Final Monitoring Report, and subsequent follow-up correspondence/approvals from the Ministry of the Environment (now Ministry of the Environment and Climate Change), and the Ministry of Natural Resources (now Ministry of Natural Resources and Forestry).

If you should have any questions, please do not hesitate to contact us.

Yours truly,

GHD

A handwritten signature in blue ink that reads "Greg M. Pucovsky". The signature is fluid and cursive.

Greg M. Pucovsky, M.Sc., P. Geo.

GMP/ev/22

Encl.

cc: Seana Richardson, MNRF, Guelph (electronic copy)  
Lynnette Armour, MOECC, Guelph (electronic copy)  
Karen Landry, Township of Puslinch (electronic copy)  
Ron Van Ooteghem, Dufferin Aggregates (2 copies)  
GHD (1 copy)

## Table of Contents

1.	Introduction.....	1
2.	Geologic/Hydrogeologic Setting.....	2
3.	Hydraulic Monitoring Program.....	2
3.1	General .....	2
3.2	Precipitation Data.....	2
3.3	Hydraulic Monitoring .....	3
3.3.1	Groundwater Monitoring.....	3
3.3.2	Surface Water Monitoring.....	5
4.	Water Quality Monitoring Results.....	7
4.1	Background.....	7
4.2	Sampling Program .....	7
4.3	Water Quality Assessment.....	8
5.	Conclusions .....	11
6.	Recommendations .....	11
7.	References .....	12

## Figure Index

Figure 1.1	Site Location
Figure 3.1	Surface Water and Groundwater Monitoring Locations
Figure 3.2	Historical Annual Precipitation
Figure 3.3	Representative Groundwater Elevations
Figure 3.4	Private Well Groundwater Elevations
Figure 3.5	Surface Water Elevations (1)
Figure 3.6	Surface Water Elevations (2)
Figure 3.7	Surface Water Elevations (3)

## Table Index

Table 3.1	Well Construction Details
Table 3.2	Historical Annual Precipitation
Table 3.3	Historical and 2015 Groundwater Elevations
Table 3.4	Historical and 2015 Surface Water Elevations
Table 3.5	Chemistry Results for Monitoring Wells
Table 3.6	Chemistry Results for Private Domestic Wells

# Appendices

Appendix A	Section 9.0 of August 1991 Final Monitoring Report (Proposed Monitoring Program) and Follow-Up Correspondence/Approvals from MNR and MOE Correspondence from Harden Environmental
Appendix B	Stratigraphic and Instrumentation Logs
Appendix C	Laboratory Analyses

# 1. Introduction

GHD Limited (GHD) was retained by Dufferin Aggregates (a division of CRH Canada Group Inc.) to complete the 2015 groundwater sampling program and Annual Monitoring Report for Aberfoyle Pit No. 2. The Site is located on part of the west half of Lots 22 and 23, Concession 9, Township of Puslinch, in the County of Wellington (Figure 1.1).

The area licenced for extraction is 78.1 hectares (ha) (193 acres), of which an area of 68.0 ha (168 acres) will be extracted above the water table, and 53.4 ha (132 acres) below the water table. Prior to May 2000, Dufferin only extracted aggregate above the water table as per the phasing of operations on the Site plans approved by the Ministry of Natural Resources (MNR). Removal of aggregate below the water table was initially conducted between May 1 and December 15, 2000, using a large backhoe, although the majority of mining in 2000 occurred above the water table. Extraction of aggregate during the period of 2001 to 2003, inclusive, occurred from May to December, with mining occurring both above and below the water table. Mining operations only occurred above the water table during 2004. Extraction of aggregate occurred above and below the water table from May to December 2005, April to October 2006, April to November 2007, and May 1 to October 28, 2008. Extraction of aggregate did not occur between 2009 and 2015 inclusive. A Permit to Take Water is not required for the aggregate operation since pumping of groundwater does not occur at the Site.

The initial monitoring program for the Site was originally developed by CRA (now GHD), and provided in our November 1988 report entitled "Assessment of Mining Impact, Aberfoyle Pit No. 2, Puslinch Township, Wellington County". This program was subsequently approved by the Ministry of the Environment, now Ministry of the Environment and Climate Change (MOECC) as of June 24, 2014, and was initiated during the summer of 1990. A final monitoring program, as outlined in Section 9.0 of our August 1991 report entitled "Final Monitoring Report, Dufferin Aggregates Aberfoyle Pit No. 2, Township of Puslinch, County of Wellington" was subsequently prepared and approved, and was to be implemented prior to and during mining below the water table. The monitoring program outlined in the August 1991 Final Monitoring Report and subsequent amendments to the program (based on comments by the MOE and MNR) have been implemented by GHD and Dufferin. Appendix A contains the proposed monitoring program from Section 9.0 of the August 1991 Final Monitoring Report, and follow-up correspondence/approvals from MOE and MNR.

The primary purpose of the monitoring program is as follows:

- Collect water level and water quality information during mining of aggregate, to evaluate the effects of extraction on local shallow groundwater levels.
- Provide recommendations regarding the monitoring program as necessary.

The monitoring program in 2015 consisted of the following:

- Monthly hydraulic (water level) monitoring (on-Site monitoring wells and on and off-Site surface water locations) by Dufferin.
- Groundwater quality monitoring at five on-Site monitoring wells by GHD.

The following provides the results of historical and 2015 hydraulic monitoring, water quality, and an interpretation of the results.

## 2. Geologic/Hydrogeologic Setting

The Site occurs within the Horseshoe Moraines physiographic region as defined by Chapman and Putnam, 1984. The Paris and Galt moraines are the two major features which constitute this region. The Site occurs between these two moraines within a spillway channel, which consists of sand, or sand and gravel deposits. These deposits comprise the surficial unconfined (water table) aquifer beneath the Site, which attains a thickness of about 12 metres (m) in the central portion of the Site. The aquifer decreases in thickness towards the southwest. Available information indicates that groundwater flow within the water table aquifer occurs in a general southwesterly direction. The surficial water table aquifer is underlain by fine-grained material consisting of clayey silt to silty clay.

Overburden at the Site is underlain by dolostone bedrock of the Middle Silurian Guelph Formation. The Site occurs near the contact with dolostone of the underlying Amabel Formation. Bedrock occurs at a depth of about 15 to 30 m (50 to 100 feet) below the original ground surface in the vicinity of the Site, and decreases in elevation in a general southwesterly direction. The bedrock aquifer is primarily utilized as a source of domestic water supply in the area.

## 3. Hydraulic Monitoring Program

### 3.1 General

The hydraulic monitoring program consists of water level measurements in on-Site monitoring wells, off-Site private domestic wells, and at surface water locations, as presented on Figure 3.1. Well construction details for the monitoring wells are provided in Table 3.1, and stratigraphic and instrumentation logs are presented in Appendix B. Water level data collected since aggregate extraction below the water table began in May 2000 is compared with historical water level trends and precipitation data in order to assess potential impacts. Precipitation data is provided in Section 3.2. The hydraulic monitoring activities and a description of trends are discussed in Section 3.3.

### 3.2 Precipitation Data

Annual precipitation data was originally obtained from the Ontario Climate Centre, Toronto, Ontario, but more recently from the Environment Canada National Climate Archive website. Precipitation data for the period of 1970 to 1989 was obtained from the Guelph OAC and Arboretum stations. Precipitation data from the Waterloo-Wellington Airport station was used for the period of 1990 to 2015, supplemented by Waterloo-Wellington 2, since the Guelph station was no longer classified as an official station after 1989. Historical total annual precipitation data for the period of 1970 to 2015 inclusive is presented in Table 3.2 and illustrated on Figure 3.2.

Available precipitation results indicate that the 30-year average annual precipitation for the period of 1970 to 1999 is 895.8 millimetres (mm). The 30-year average annual precipitation for the most recent period (1980 to 2009) has not yet been updated by Environment Canada and thus is not available. During the period of background water level monitoring between 1990 and 1999, the average annual precipitation was 888.1 mm, which is only slightly lower (0.9 percent) than the

30-year mean. Therefore, the 10-year period of background water level monitoring is representative of long-term average precipitation levels. As illustrated on Figure 3.2, the maximum annual precipitation during the 1990 to 1999 period occurred in 1992 (1,056.9 mm) and the minimum in 1998 (656.5 mm).

Since 2000, when aggregate extraction below the water table was initiated, total annual precipitation has ranged from 632.0 to 1,209.3 mm. The average precipitation over this period (2000 to 2015) was 903.8 mm and thus still above the 10- and 30-year averages of 888.1 and 895.8 mm, respectively. There was a general increasing trend in precipitation between 2002 and 2006, followed by the lowest annual precipitation recorded in the past 40 years in 2007 (632.0 mm). The highest annual precipitation during the past 40 years was subsequently recorded in 2008 (1,209.3 mm). Precipitation subsequently declined in 2009 (944.2 mm) and 2010 (826.7 mm), increased in 2011 (1,043.7 mm), declined significantly in 2012 (753.8 mm), and then increased significantly in 2013 (1,075.4 mm). Total annual precipitation in 2014 declined to 928.7 mm and further declined in 2015 (769.8 mm). The total annual precipitation of 769.8 mm in 2015 occurred well below the 10- and 30-year averages of 888.1 and 895.8 mm, respectively.

### 3.3 Hydraulic Monitoring

#### 3.3.1 Groundwater Monitoring

Historical groundwater elevations for the monitoring wells and private wells are provided in Table 3.3. Water levels have been monitored since May 1990, with monthly levels generally taken since May 1999. The program currently consists of water level measurements at the following locations:

- Monitoring wells OW1A/B-90, OW2-90, OW3R-05, OW4R-05, OW5-90, OW6-90, OW7-05, and PW1-90.
- As per our recommendation in previous annual reports, the MOECC agreed as per an October 27, 2014 memorandum, that water levels in private wells Van Horsigh, Behmann, Hohenadel, and Cox (formerly Gauthier) are no longer required to be monitored. As such, these four private wells are no longer monitored as of December 2014.

All monitoring locations are installed in the sand and gravel (water table) aquifer with the exception of the Behmann, Hohenadel, and Cox (formerly Gauthier) wells. The Hohenadel well is installed in a confined sand and gravel unit. The Behmann well is also believed to be installed in a confined unit based on the measured depth (a well record is not available). The Cox (former Gauthier) well is installed in the Guelph Formation bedrock aquifer. The Gauthier well was reported as "sealed" during the period of August to November 2002.

Wells OW3R-05 and OW4R-05 were completed in September 2005 as replacement wells for OW3-90 and OW4-90. OW3-90 and OW4-90 were installed in the buffer zone so that they would not have to be removed during aggregate operations. However, with the exception of four monitoring events, well OW3-90 had been dry since installation and monitoring well OW4-90 had been continuously dry. The surficial sands and gravels at these two locations were only about 2 m thick, and underlain by fine-grained material. The new wells were installed further east of the dry wells where the sands and gravels are thicker, thus allowing monitoring of water levels in this material. OW3-90 and OW4-90 were subsequently sealed and abandoned during 2007. In addition,



new monitoring well OW7-05 was also installed in September 2005 to allow monitoring of groundwater levels within the eastern part of the Site.

Representative hydrographs for wells located in the upper sand and gravel are plotted against annual precipitation on Figure 3.3. The locations include OW1B-90 and OW7-05, located along the northeastern (upgradient) property boundary of the Site; OW2-90 and OW4R-05, located near the southwestern (downgradient) property boundary; and the Van Horsigh well to December 2014 located further cross-gradient of the Site. Water levels in the remaining private wells are plotted as of the last monitoring event in December 2014 on Figure 3.4.

Review of Figure 3.3 indicates that water levels in the upper sand and gravel wells typically exhibit a similar trend each year. In general, groundwater levels increase each year during the spring, with surplus precipitation relative to potential evaporation. Levels typically decrease toward the latter part of the year which is attributed to a water deficit, and often increase near the end of the year in response to increased precipitation during the fall.

Prior to extraction of aggregate below the water table, water levels generally increased during the period of early 1995 to early 1997, with a subsequent overall decline in levels until about October 1999. The overall trend in water levels generally follows the trend in total annual precipitation with some degree of lag time. For example, the decline in water levels between 1997 and 1999 can be attributed to the decline in precipitation from well above average in 1996 (1,043 mm) to average in 1997 (861.8 mm) and then to well below average in 1998 (656.5 mm).

During the 2000 to 2008 period (i.e., during extraction of aggregate below the water table), water level elevations upgradient of the extraction area (i.e., OW1B-90 and OW7-05) appear to have remained relatively stable, possibly moderated by the water levels in the adjacent active area pond. Water levels between 2009 and 2012 inclusive (no extraction period) generally exhibit an overall declining trend in response to declining annual precipitation between 2008 (1,209.3 mm) and 2010 (826.7 mm), and during 2012 (753.8 mm). Levels subsequently increased in response to significantly higher precipitation in 2013 (1,075.4 mm). Water levels subsequently exhibit an overall decreasing trend in 2014 and 2015 in response to lower precipitation in 2014 (928.7 mm) and 2015 (769.8 mm).

Water level elevations at locations downgradient of the extraction area (i.e., OW2-90 and OW4R-05) generally reflect trends in total annual precipitation. A somewhat greater degree of fluctuation in water levels at these locations is also observed between 2005 and 2009, possibly because water levels at these locations are not moderated by water levels in the active area pond. Between 2000 and 2003, water levels were relatively stable, with fluctuations being similar to those in the upgradient wells. Between 2004 and 2006, water levels generally increased in response to an increasing trend in precipitation between 2004 and 2006. Water levels declined during 2007 in response to below average precipitation in 2007, and then water levels increased to 2008 in response to higher precipitation.

Water levels between 2009 and 2012 inclusive (no extraction period) at the two downgradient locations generally exhibit an overall declining trend in response to declining annual precipitation between 2008 (1,209.3 mm) and 2010 (826.7 mm), and during 2012 (753.8 mm). The water levels in OW2-90 and OW4R-05 during late summer 2011 were the lowest since fall 2007 and thus approached historical lows. Water levels at these two locations subsequently increased in response to significantly higher precipitation in 2013 (1,075.4 mm). Water levels subsequently exhibit an overall decreasing trend in 2014 and 2015 in response to lower precipitation in 2014 (928.7 mm)

and 2015 (769.8 mm). Extraction of aggregate has not occurred at the Site since October 2008, and therefore any changes in water levels since that time can be attributed to climate or other influences. No significant deviations in seasonal or overall long-term water level trends are evident since aggregate extraction below the water table was initiated in May 2000. This is corroborated by an overall increasing trend in water levels at OW2-90 and OW4R-05 during the extraction period.

Water levels in the Van Horsigh private well are less variable than those in the monitoring wells, however, they show the same seasonal trends and generally the same longer term trends during the extraction period as the downgradient monitoring wells. An overall trend of increasing water levels is apparent in the Van Horsigh well from 1999 to 2014.

Figure 3.4 indicates that water levels in the lower (confined) sand and gravel wells (Behmann and Hohenadel) and the bedrock well Cox (formerly Gauthier) typically exhibit trends similar to those in the on-Site monitoring wells. Some of the apparent differences, particularly in the Behmann and Hohenadel wells are due to the wells being in use and the absence of data during certain time periods. Water levels between 2009 and 2012 inclusive (no extraction period) generally exhibit an overall declining trend in response to declining annual precipitation between 2008 (1,209.3 mm) and 2010 (826.7 mm), and during 2012 (753.8 mm). However, water levels at these three locations generally increased in response to significantly higher precipitation in 2013 (1,075.4 mm) and 2014 (928.7 mm).

It should be noted that aggregate was also historically extracted above and below the water table at the Tikal pit owned by CBM, located immediately northwest and adjacent to the Dufferin Aggregates Aberfoyle Pit No. 2 property. A pond is now located at the Tikal pit near the northwestern boundary of the Dufferin site. Review of available water level elevations for the closest Tikal monitoring well to OW1B-90, indicates a similar water level trend. In addition, for the most recent available Tikal data for the period from 2009 to 2011 inclusive (no extraction at Aberfoyle Pit No. 2), maximum and minimum water level elevations for these two locations are similar. It is our understanding that aggregate was not extracted from the Tikal pit during 2015 and is no longer extracted from this pit.

Based on the similarity of water level trends at the off-Site private domestic wells and the closest Tikal monitoring wells, trends in on-Site monitoring wells located near the Behmann and Hohenadel private wells, and since CBM was historically extracting aggregate closer to the Van Horsigh and Cox (formerly Gauthier) properties, it was recommended that monitoring of private domestic wells Van Horsigh, Behmann, Hohenadel, and Cox be discontinued. As previously noted for these wells, only the Van Horsigh well is believed to be completed in the water table aquifer. The MOECC subsequently agreed that monitoring of these four locations was no longer required as per the October 27, 2014 memorandum (Appendix A) which provided comments regarding the groundwater monitoring program. The private well owners were subsequently notified on December 18, 2014 that monitoring would no longer be conducted following the December 2014 monitoring event. Contact information was also provided in the event there were any further questions.

### 3.3.2 Surface Water Monitoring

Historical surface water elevation data are provided in Table 3.4. Water levels have been monitored since June 1990, with monthly levels generally taken since May 1999. The 2015 surface water monitoring program and historical locations no longer monitored are outlined below:

- The surface water monitoring program in 2015 consisted of monthly water level measurements at Pond 1, Pond 2, and SW6-03. Pond 1 receives water from an adjacent well. SW6-03 was

installed in 2003 to allow measurement of water levels within the on-Site Dufferin pond excavation.

- Historical surface water monitoring locations have included SW1-90, SW2-91, SW3-91, SW4-91, and WP1-93. These locations are utilized for monitoring of water levels within an area of non-permanent standing water, are not located within a defined water course, and were required to be monitored. However, the property owner denied access for monitoring beginning in June 2008, but subsequently provided access and monitoring was resumed in February 2012. WP1-93 was determined to be blocked, but the blockage was subsequently able to be removed during August 2015, and water level monitoring was resumed at this location in September 2015.
- Historical location SW5-01, located at the headwaters of Aberfoyle Creek, was an additional location recommended by the MOE in January 1992. Permission to monitor was obtained in 2001 and monitoring was conducted between November 2001 and February 2006, after which the property owner denied access for monitoring. CRA recommended in the 2013 Annual Monitoring Report that SW5-01 be formally deleted from the monitoring program, and the MOE agreed as per the December 30, 2013 memorandum (Appendix A) which provided comments regarding the surface water monitoring program.

Hydrographs for the surface water locations are provided on Figures 3.5, 3.6, and 3.7. Three separate hydrographs are provided for clarity which either group off-site locations in similar proximity, or on and off-site surface water locations that typically are not dry for a significant portion of each year.

Hydrographs for the surface water monitoring locations which are cross-gradient of the Site are presented on Figures 3.5 and 3.6. Review of these figures to May 2008 for all locations except Pond 2 (Figure 3.6) indicates that the locations generally exhibit similar water level trends. Monitoring could not be conducted between June 2008 and January 2012 at these locations as previously noted, but lower trending levels would be expected as lower total annual precipitation was recorded during 2 of the 3 years up to and including 2012. Surface water levels during the latter part of 2012 occurred within the lower end of the historical range of levels. It should be noted that limited data is available for SW2-91, SW3-91, and SW4-91 during the period of 2012 to 2015 inclusive, due to either frozen or dry conditions. A higher monthly minimum level was measured in 2013 and 2014 in response to significantly more precipitation in 2013 (1,075.4 mm) and 2014 (928.7 mm) in comparison to 2012 (753.8 mm). On an annual basis, maximum water elevations typically occur in the spring and minimum elevations in the fall or winter. The longer term water level trends correspond well with trends in annual precipitation.

Water levels in Pond 2 (Figure 3.6) also typically decline between spring and fall each year and subsequently recover. The range of water levels in Pond 2 is generally similar to those measured prior to below water table extraction with the exception of a large range in 2005 and 2014. Surface water levels between 2009 and 2012 inclusive (no extraction period) generally exhibit an overall declining trend in response to declining annual precipitation between 2008 (1,209.3 mm) and 2010 (826.7 mm), and during 2012 (753.8 mm). However, surface water levels at Pond 2 increased in 2013 in response to increased precipitation during 2013 (1,075.4 mm), and minimum and maximum levels at this location during 2013 were higher in comparison to the period of 2010 to 2012. The range of water levels was greater in 2014 in comparison to the period between 2009 and 2013 inclusive, likely in part to the high amount of precipitation in 2013 which resulted in the highest maximum surface water level at the end of 2013 since 2005. Water levels in Pond 2 exhibit an

overall decreasing trend in 2014 and 2015 in response to lower precipitation in 2014 (928.7 mm) and 2015 (769.8 mm).

As noted, access to WP1-93, SW2-91, SW3-91, and SW4-91 was not permitted by the property owner between June 2008 and January 2012. This is not considered to be limiting, as Pond 2 water levels are representative of water levels in this area. As previously indicated, access for monitoring was subsequently provided and monitoring was resumed. Frozen conditions occurred at SW2-91, SW3-91, and SW4-91 from January to March 2015 inclusive. Water levels could not be measured at these three locations during the period of May to December 2015 in light of significantly reduced precipitation during 2015 and thus dry condition.

The water levels at off-Site location SW5-01, at the headwaters of Aberfoyle Creek, are presented on Figure 3.7. Water levels measured between November 2001 and February 2006 generally increased over time. No evidence of deviation from seasonal or overall long-term surface water level trends has been observed since extraction below the water table began in May 2000. As previously noted, access to SW5-01 was no longer permitted by the property owner after February 2006, and this location was subsequently removed from the monitoring program.

## 4. Water Quality Monitoring Results

### 4.1 Background

The potential water quality influence of aggregate extraction below the water table is evaluated by comparing background water quality in the on-Site monitoring wells and off-Site private domestic wells, with water quality in these wells during aggregate operations. The groundwater quality is also compared to available MOE Ontario Drinking Water Standards, Objectives and Guidelines, revised June 2006. Section 4.2 presents the sampling program, and a summary of the results is provided in Section 4.3. Copies of all laboratory analyses for 2015 are provided in Appendix C.

### 4.2 Sampling Program

Prior to initial extraction of aggregate below the water table in May 2000, groundwater sampling was conducted to determine background water quality. In general, three sampling events were conducted for the monitoring wells (OW1A/B-90, OW2-90) and two or three events were conducted for the private domestic wells (Behmann, Hohenadel, Van Horsigh) between 1990 and 1999. Samples were subsequently collected twice per year during 2000 and 2001, and on an annual basis during the fall commencing in 2002.

Sampling was conducted on August 19, 2015. Groundwater samples were collected from on-Site monitoring wells OW1A-90, OW1B-90, OW2-90, OW3R-05, and OW4R-05. All water samples were analyzed for general chemistry and metal parameters. A duplicate general chemistry/metals sample was collected from OW4R-05 for Quality Assurance/Quality Control. Total petroleum hydrocarbon (TPH) analysis was also performed on samples from OW1B-90, OW2-90, and OW3R-05.

It was previously recommended that the Behmann, Hohenadel, and Van Horsigh private domestic wells be deleted from the monitoring program. The MOECC subsequently agreed as per an October 27, 2014 memorandum, and thus the private domestic wells were no longer monitored following the 2014 monitoring event. The water quality results for the monitoring wells and private domestic wells are presented in Tables 3.5 and 3.6, respectively.

Samples collected from the monitoring wells for analysis of metals parameters were filtered and preserved by the laboratory. Samples collected for general chemistry and TPH analysis were not filtered. All samples were stored in containers issued by the receiving laboratory, and placed in an ice-filled cooler for sample preservation. The samples were analyzed by ALS Laboratory Group, Waterloo, Ontario.

### 4.3 Water Quality Assessment

The following provides a summary of the water quality results for the on-Site monitoring wells. Historical and 2015 water quality data for the monitoring wells is provided in Table 3.5, and historical results to 2014 are summarized for the private domestic wells in Table 3.6.

#### *Upgradient Groundwater Quality*

Nested monitoring wells OW1A-90 (deeper water table) and OW1B-90 (shallower water table) are located in the northern part of the Site, and adjacent to the initial area of extraction below the water table. The water quality for these wells is considered to represent background conditions, based on groundwater flow in a general southwesterly direction beneath the Site.

Concentrations of conductivity, chloride, sodium, iron and calcium are typically higher at OW1B-90 than at OW1A-90 both historically and during 2015. In August 2015, parameter concentrations for well OW1B-90 met ODWSs with the exception of iron (1.02 milligrams per litre [mg/L]), which is considered to be naturally occurring. Iron concentrations prior to extraction below the water table ranged from 0.24 to 2.51 mg/L. As such, the iron level in 2015 occurred within the range of background levels. With the exception of chloride and sodium, all other parameter concentrations are also within the range of background concentrations.

Levels of chloride and sodium at OW1B-90 exhibited a general increasing trend until about 2008. The chloride level in 2008 (51 mg/L) subsequently declined and stabilized between 36.4 and 41.1 mg/L from 2010 to 2013 inclusive, and increased to 57.4 mg/L in 2014. The chloride level decreased to 43.7 mg/L in 2015. The chloride concentration between 1990 and 1999 (prior to extraction below the water table) ranged from 14 to 19 mg/L. Levels of sodium increased until about 2008 (20.0 mg/L) and subsequently stabilized between 17.8 and 21.0 mg/L from 2010 to 2013 inclusive. The sodium level increased to 27.0 mg/L in 2014, and decreased to 22.0 mg/L in 2015. The sodium concentration between 1990 and 1999 (prior to extraction below the water table) ranged from 3.4 to 8.4 mg/L. It should be noted that use of calcium chloride for dust control was discontinued at the Site as of spring 2008, and thus prior to cessation of extraction.

All historical levels of TPH (gas/diesel) at OW1B-90 were non-detect prior to 2012. However, the concentration of TPH (gas/diesel) at this location was 440 micrograms per litre (µg/L) in December 2012, but TPH (heavy oils) was non-detect. In light of the detected level of TPH (gas/diesel) in 2012, monitoring well OW1B-90 was resampled on April 12, 2013 for both TPH (gas/diesel) and TPH (heavy oils), and both levels were non-detect. Levels of TPH (gas/diesel) and TPH (heavy oils) at OW1B-90 were also non-detect in November 2013 and September 2014. The level of TPH (gas/diesel) at OW1B-90 was non-detect in 2015, and the TPH (heavy oils) level of 2.4 mg/L was only slightly above the detection limit.

With the exception of iron (0.973 mg/L), concentrations of all other parameters at deeper well OW1A-90 met their respective ODWSs. Elevated total phosphorus concentrations have been measured in this well since December 2003, which are significantly higher than the concentrations



measured in shallower well OW1B-90. However, in September 2014, the total phosphorus concentration in OW1A-90 was 0.357 mg/L, the lowest measured level since 2002. The phosphorus level increased to 0.595 mg/L in 2015. Similarly for OW1B-90, the phosphorus level of 0.041 mg/L in September 2014 was the lowest measured level since 2002 with the exception of January 2010. The phosphorus level at OW1B-90 decreased slightly to 0.039 mg/L in 2015. Total phosphorus levels at OW1A-90 and OW1B-90 have exhibited a declining trend since 2012. There is not an overall increasing trend in concentrations at these two locations. It should be noted that there is no ODWS for phosphorus in groundwater.

The background chloride concentration at OW1A-90 ranged from 2.7 to 9 mg/L between 1990 and 1999. Between 2002 and 2008, chloride levels increased from 2.2 to 20 mg/L and were a maximum in 2008. The chloride level subsequently declined to 9.7 mg/L in 2010, gradually increased to 15.3 mg/L in 2014, and increased further to 17.4 mg/L in 2015. With the exception of chloride, phosphorus and iron, concentrations of all other parameters at OW1A-90, including sodium, occurred within the historical range of concentrations. TPH (gas/diesel) and TPH (heavy oils) are not analyzed at OW1A-90.

### ***Cross-Gradient and Downgradient Groundwater Quality***

#### ***Monitoring Wells (2015)***

Monitoring wells OW2-90, OW3R-05, OW4R-05 are located in the water table aquifer and close to the southwestern (downgradient) property boundary.

Concentrations of all parameters at OW2-90 met their respective ODWSs during the August 2015 monitoring event. Parameter concentrations were also usually less than or within the range of background concentrations. There are no overall historical (prior to 2013) increasing trends in the concentrations of any parameters. Chloride levels have steadily declined since 2007, and were less than 5 mg/L between 2010 and 2013. The chloride level increased somewhat to 10.8 mg/L in 2014 and 11.2 mg/L in 2015, which corresponded with an increase in sodium. An increasing trend in chloride and sodium occurs between 2013 and 2015. Concentrations of TPH (gas/diesel) and TPH (heavy oils) were non-detect in 2015.

OW3R-05 and OW4R-05 were initially sampled in 2005 (i.e., no data is available prior to extraction below the water table). The concentration of all parameters at these locations met their respective ODWSs during the August 2015 monitoring event. All parameter concentrations were within or below the range of historical (2005 to 2014) concentrations. An overall trend of increasing levels is not apparent. The maximum chloride levels at both locations occurred in 2008, and subsequently decreased and stabilized between January 2010 and August 2015. The chloride level at OW3R-05 stabilized between 13.3 and 15.2 mg/L, and at OW4R-05 between 11.6 and 14.7 mg/L between January 2010 and August 2015. Chloride levels were higher at both locations during 2015 in comparison to 2014. The concentrations of TPH (gas/diesel) and TPH (heavy oils) were non-detect at OW3R-05 in August 2015. These parameters are not analyzed at OW4R-05.

#### ***Private Domestic Wells (Final 2014)***

The Behmann and Hohenadel wells are deep overburden wells located downgradient of the Site. The Hohenadel well is installed in a confined sand and gravel unit underlying the till. The Behmann well is also believed to be installed in a confined unit based on the measured depth (a water well record is not available).

With the exception of iron (0.478 mg/L), parameter concentrations in the Behmann well met their respective ODWSs during the September 2014 monitoring event. However, the measured level of iron in 2014 occurs within the range of background concentrations (0.53 to 0.87 mg/L), and was lower in comparison to 2013. All other parameter concentrations were also within or lower than the range of background concentrations, with the exception of sulphate (45.8 to 51 mg/L background; 57.5 mg/L in 2014), and magnesium (31.6 to 32.1 mg/L background; 38.3 mg/L in 2014). Levels of the above two parameters were only slightly above the background range. The sulphate level has been stable between 50 and 58 mg/L since 2001. The chloride level in the Behmann well has only varied from 11.2 to 15.4 mg/L between 2000 and 2014, and thus has been stable. All measured chloride levels occurred within or below the background range of 12.2 to 16 mg/L. There is no overall increasing trend in parameter concentrations.

Parameter concentrations in the Hohenadel well met their respective ODWSs during the September 2014 monitoring event. Parameter concentrations were also less than or within the range of background concentrations, with the exception of chloride (1.54 to 5 mg/L background; 14.2 mg/L in 2014). The chloride level has stabilized between about 12 and 16 mg/L since 2005, including during the period of no extraction between 2009 and 2014. There appears to be a gradual increase in the concentrations until 2008, but a decrease and general stabilization thereafter. There is no overall increasing trend in parameter concentrations.

The Van Horsigh well is a shallow overburden well, likely installed in the surficial sand and gravel, and is located about 0.6 km west and cross-gradient of Aberfoyle Pit No. 2. Concentrations of all measured parameters at this location met their respective ODWSs during the September 2014 monitoring event, however, chloride, sodium, and nitrate concentrations are notably elevated relative to other monitoring locations. Chloride, nitrate and sodium levels occurred within or below background and historical ranges during September 2014. Based on the flow direction and location of the well near County Road 34, it is most likely that groundwater quality in this area has been and continues to be impacted by road salting activities. As such, mining of aggregate at the Site has not impacted groundwater quality in the shallow Van Horsigh overburden well.

Of the three private wells monitored for water quality, only the Van Horsigh well is a shallow overburden well, likely installed in the surficial sand and gravel. The water quality trends in the wells installed within deeper underlying units, and distant Van Horsigh well are not indicative of influences due to extraction of aggregate from the surficial unit.

### ***Summary of Groundwater Quality***

Water quality monitoring was conducted at monitoring wells OW1A/B-90, OW2-90, OW3R-05 and OW4R-05 during August 2015. Parameter concentrations generally met ODWSs and occur within the background (pre-extraction below the water table) range of concentrations. Exceptions include:

- Elevated chloride and sodium at shallow, upgradient well OW1B-90. The chloride and sodium concentrations are elevated relative to background concentrations. These concentrations are believed to be related to the application of road salt upgradient of the Site. The iron concentration exceeds the ODWS, but occurs within the range of background and historical concentration. As such, the measured iron level is believed to be naturally occurring.
- Elevated total phosphorus and iron concentrations at deeper upgradient well OW1A-90. The total phosphorus concentration has been elevated relative to background concentrations since December 2003. However, the August 2015 phosphorus level at OW1A-90 occurred within the



historical range of levels. An overall increasing trend in total phosphorus concentrations is not observed. There is no ODWS for phosphorus. The source of the elevated total phosphorus is not known. The iron level exceeds the ODWS but occurred within the historical range of levels.

- With the exception of a TPH (heavy oils) level slightly above the detection limit at O1B-90, levels of TPH (gas/diesel) and TPH (heavy oils) were non-detect during the August 2015 sampling event.

Based on the available data, the water quality at the monitored locations does not appear to be impacted by mining of aggregate at the Site.

## 5. Conclusions

Based on the results of the 2015 annual monitoring program, the following conclusions are provided:

- The period of background water level measurements (1990 to 1999) reflects long-term average precipitation levels. Precipitation between 2000 and 2006 has exhibited a general increasing trend, followed by the lowest (2007) and highest (2008) annual precipitation recorded during the past 40 years. Precipitation declined in 2009 and 2010, increased in 2011, declined significantly in 2012 to the lowest amount since 2007, and subsequently increased significantly in 2013. Total annual precipitation decreased during 2014 (928.7 mm) and further decreased in 2015 (769.8 mm). The total annual precipitation in 2015 (769.8 mm) was below the 10-year background period from 1990 to 1999 (888.1 mm), below the average precipitation from 2000 to 2015 (903.8 mm), and also below the 30-year average of 895.8 mm (1970 to 1999).
- Water levels in the on-Site monitoring wells, off-Site private domestic wells (historical), and surface water locations are influenced by seasonal fluctuations in precipitation. In general, water level trends correspond well with trends in total annual precipitation. The historical water level trends in the private domestic wells are similar to those at the downgradient property boundary of the Site. Groundwater levels have not been adversely affected by extraction of aggregate below the water table from 2000 to 2008.
- The groundwater quality results indicate that the measured parameter concentrations generally occur within the historical range of concentrations and met available ODWSs. With the exception of a TPH (heavy oils) level only slightly above the detection limit at O1B-90, levels of TPH (gas/diesel) and TPH (heavy oils) were non-detect at the monitored locations during the August 2015 sampling event. Water quality in the area has not been impacted since initiation of aggregate extraction below the water table in 2000.

## 6. Recommendations

Based on the results of the 2015 annual monitoring program, the following recommendation is provided:

- With the exception of the four off-Site private domestic wells and surface water location SW5-01 which are no longer required to be monitored, the 2015 hydraulic and water quality monitoring program be continued during 2016.

## 7. References

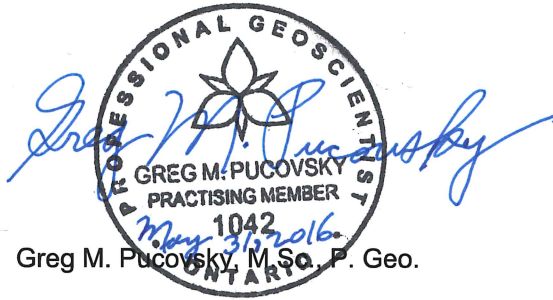
- Conestoga-Rovers & Associates, March 2015. 2014 Annual Monitoring Report - Dufferin Aggregates Aberfoyle Pit No. 2, Township of Puslinch
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- Ontario Ministry of the Environment, June 2003, revised June 2006. Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines

All of Which is Respectfully Submitted,

GHD

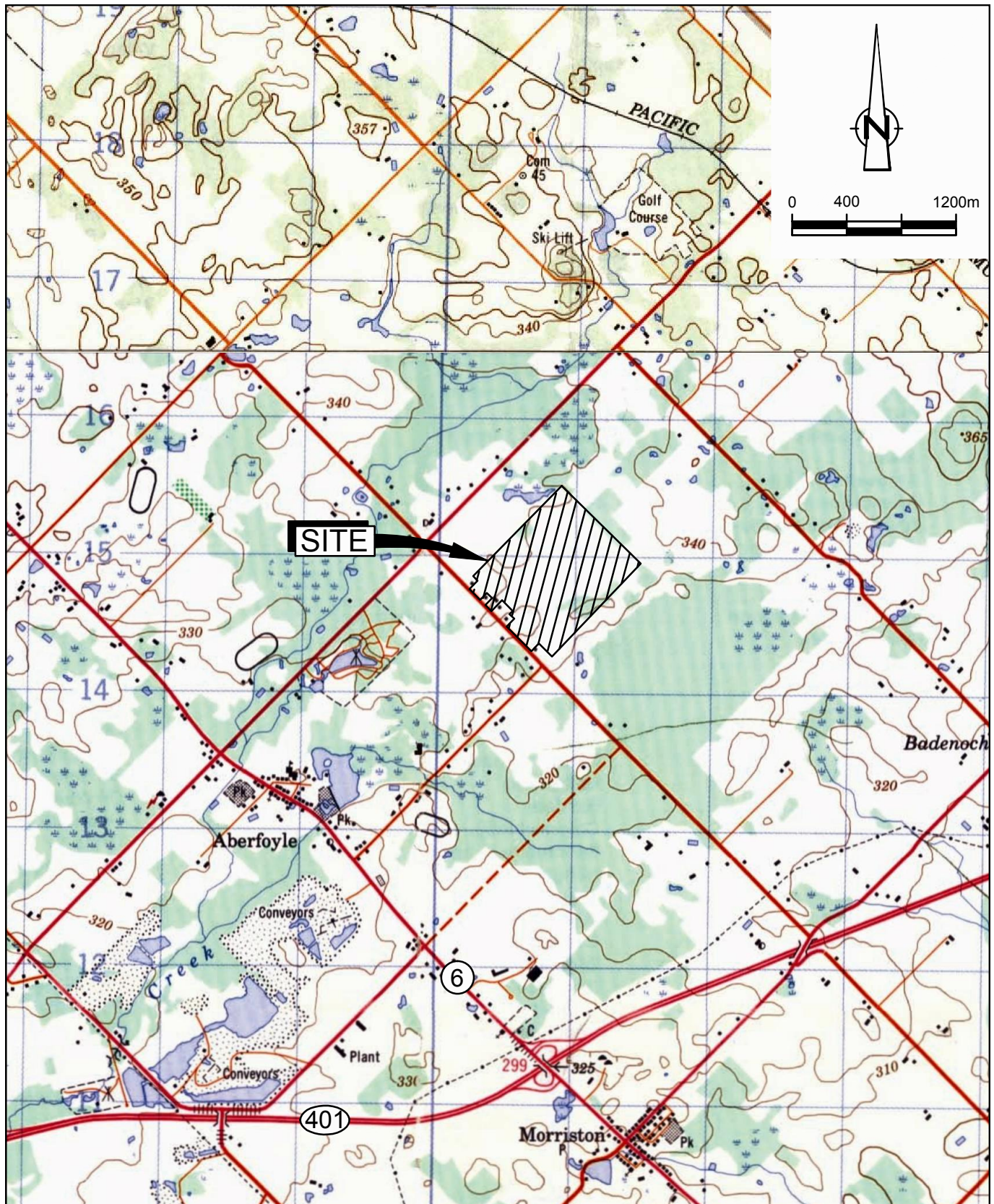
*Wendy Best*

Wendy Best, B.Sc., P. Geo.



Greg M. Pucovsky, M.Sc., P. Geo.





SOURCE: 40 P/8 CAMBRIDGE AND 40 P/8 GUELPH

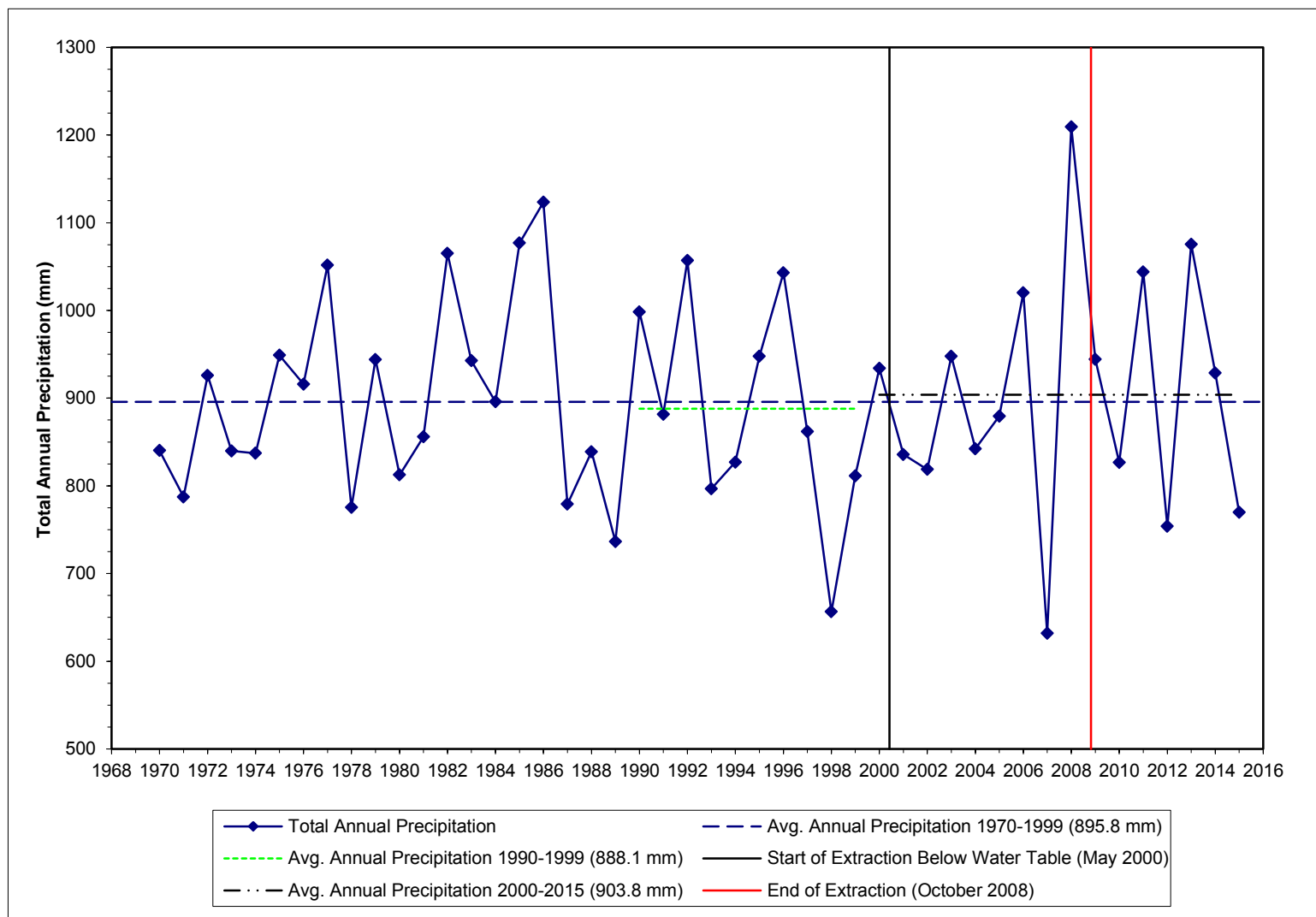
figure 1.1

**SITE LOCATION**  
**ABERFOYLE PIT No. 2**  
*Dufferin Aggregates*



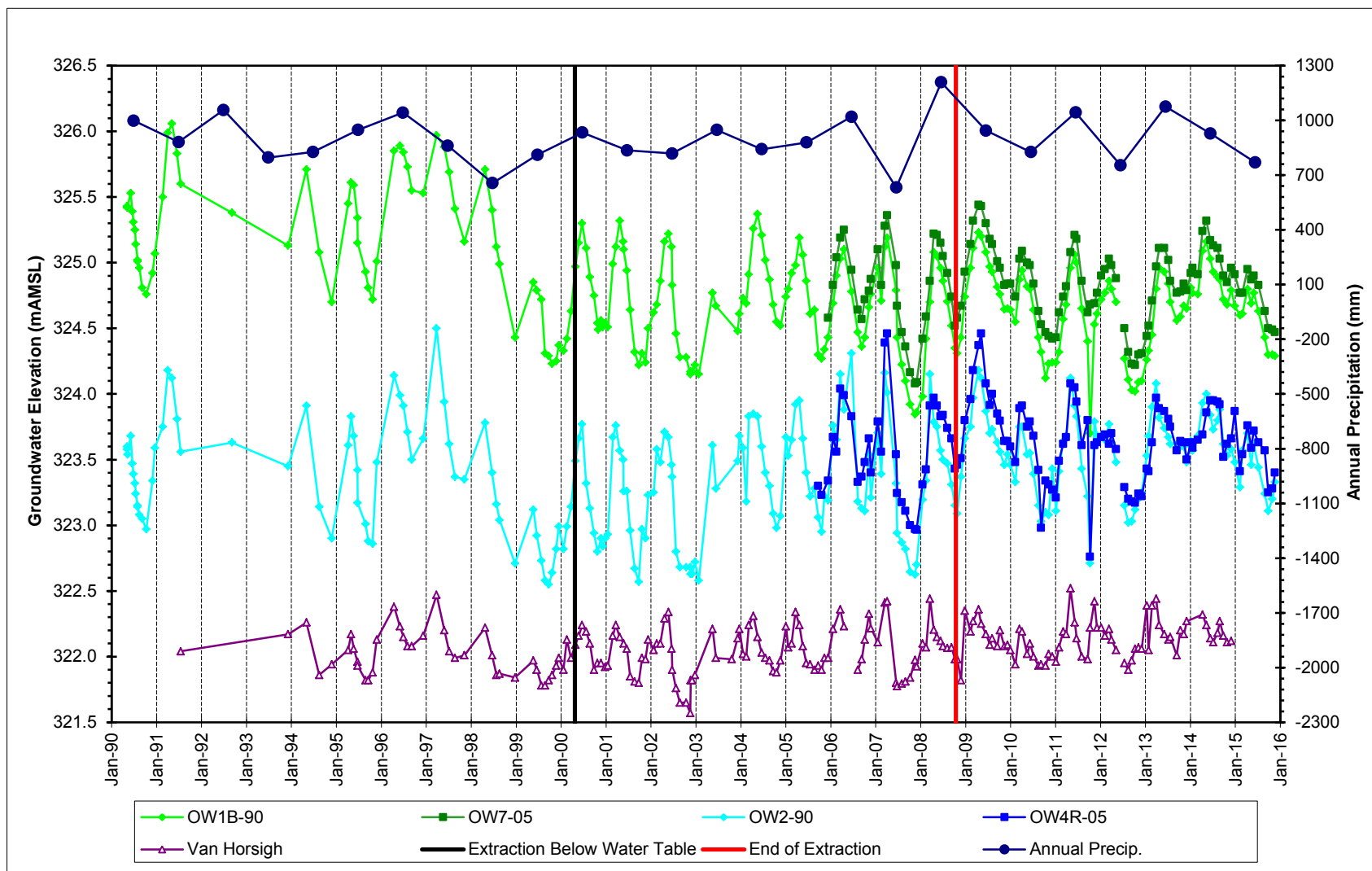






**figure 3.2**  
**HISTORICAL ANNUAL PRECIPITATION**  
**ABERFOYLE PIT No. 2**  
*Dufferin Aggregates*



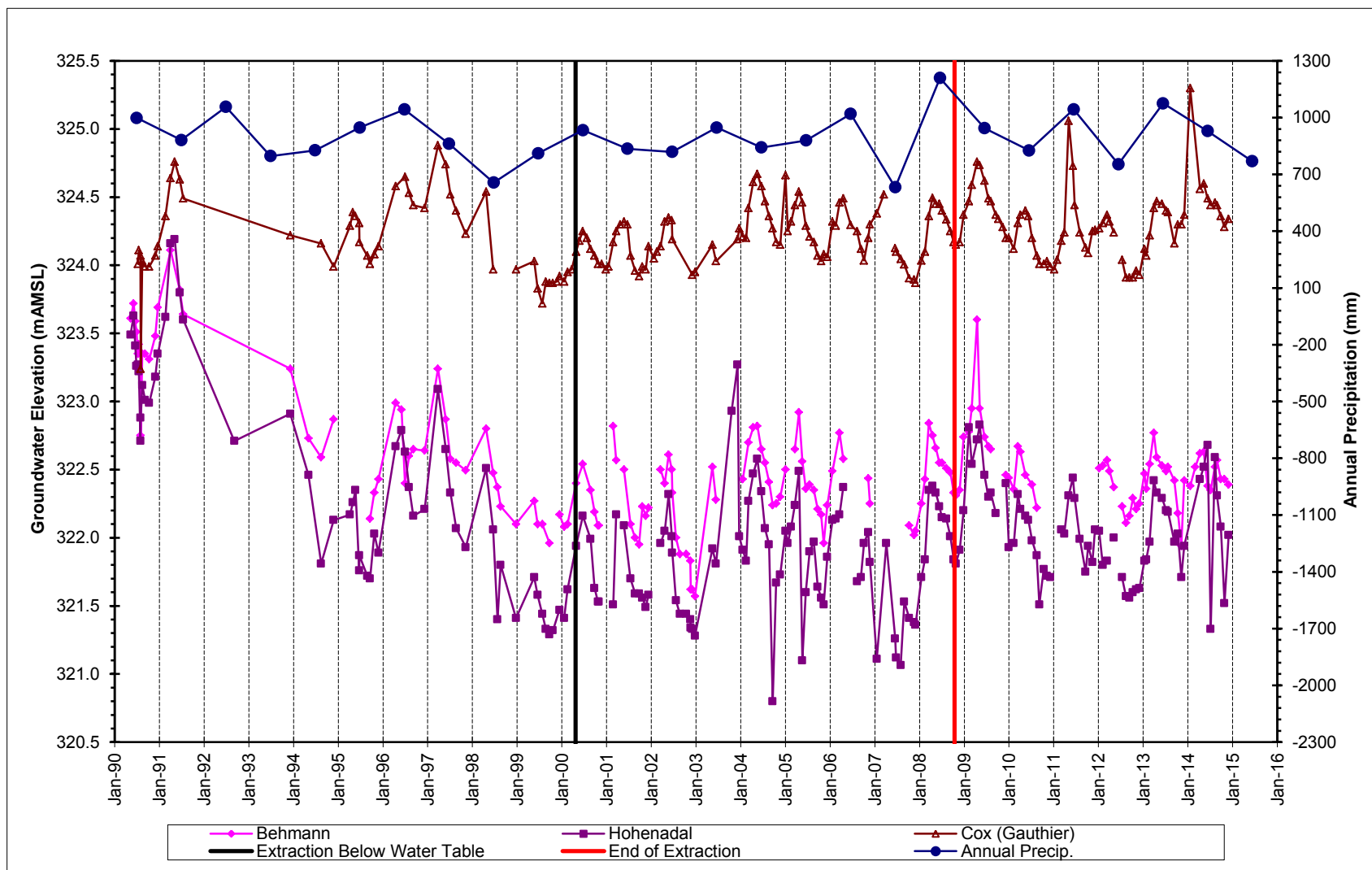


**Notes:**

All monitoring wells are installed in the sand and gravel (water table) aquifer. The Van Horsch well (~ 2.4 m deep) may be installed in sand and gravel.

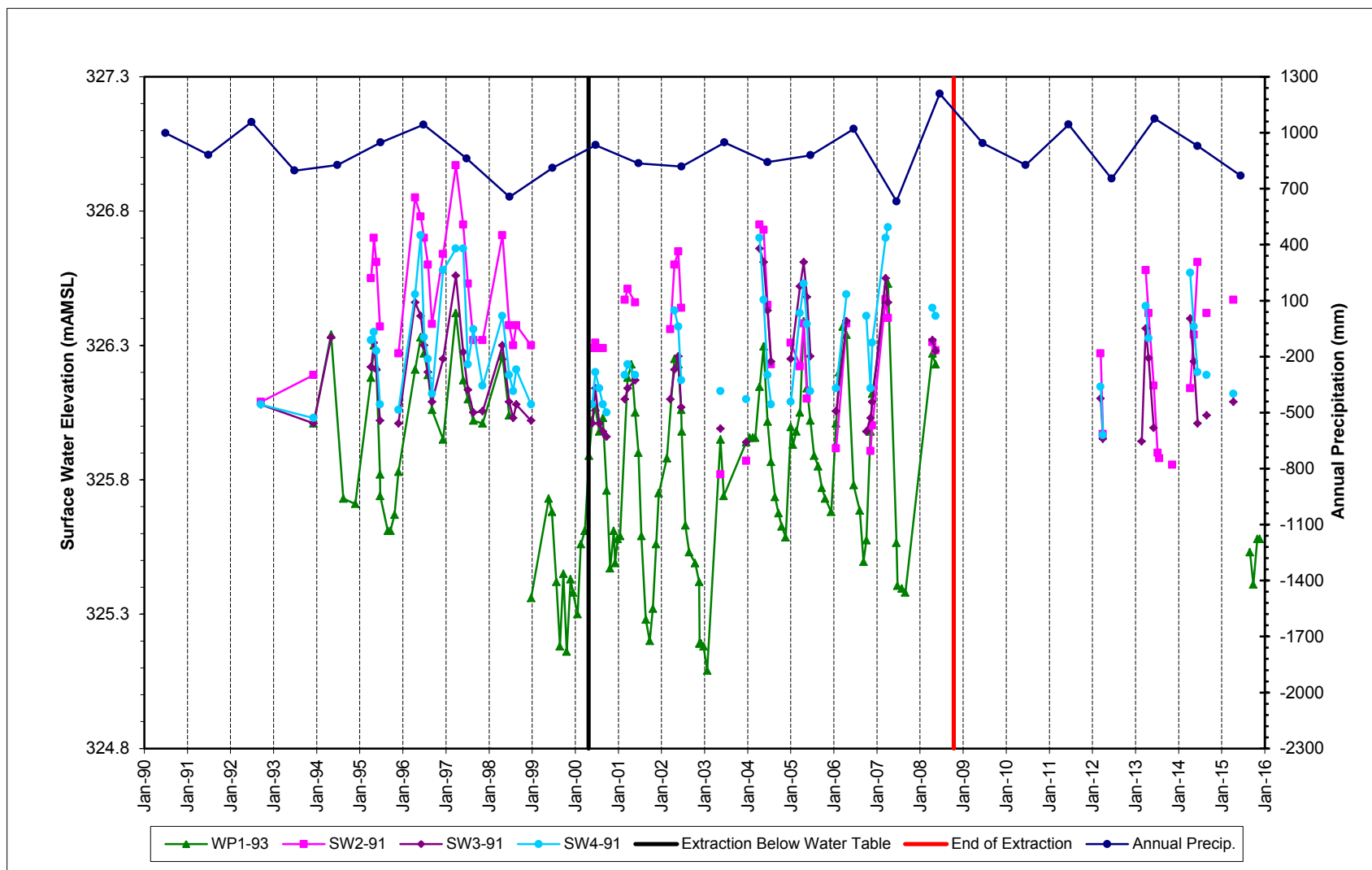
**figure 3.3**  
**REPRESENTATIVE GROUNDWATER ELEVATIONS**  
**ABERFOYLE PIT No. 2**  
***Dufferin Aggregates***





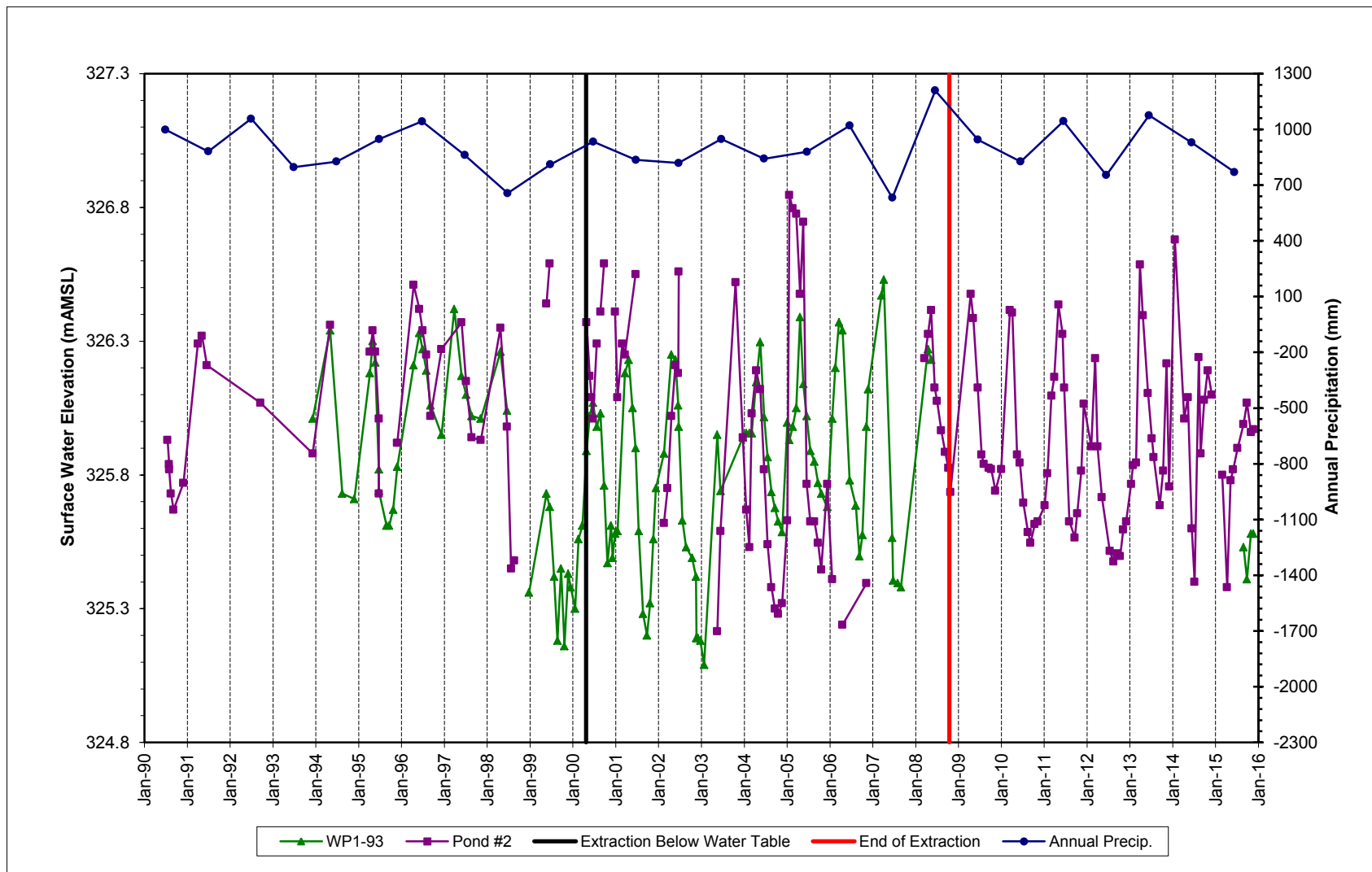
Notes:  
 The Hohenadel well is installed in a confined sand and gravel unit.  
 The Behmann well, based on its depth, is also likely installed in a confined overburden unit.  
 The Cox (former Gauthier) well is installed in Guelph Formation bedrock.

**figure 3.4**  
**PRIVATE WELL GROUNDWATER ELEVATIONS**  
**ABERFOYLE PIT No. 2**  
*Dufferin Aggregates*



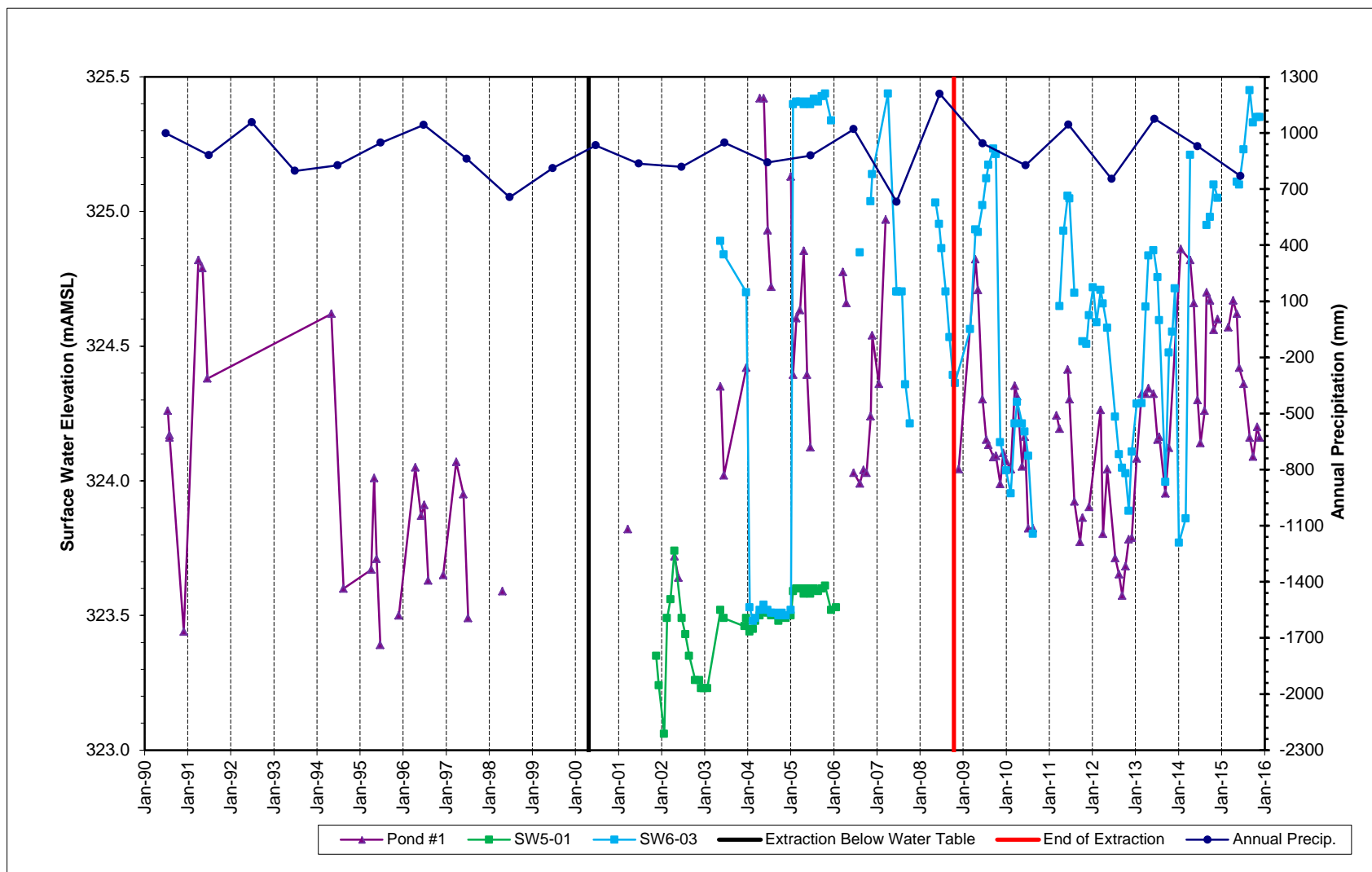
Note:  
 Data gaps indicate frozen or "dry" (water level below bottom of t-bar) conditions;  
 SW2-91 t-bar was not in place between July to December 2002, therefore no water level taken.  
 WP1-93 not monitored Jun. 2008 to Jan. 2012 at request of owner, blocked since Feb. 2012  
 SW2, SW3 and SW4 not monitored Jun. 2008 to Jan. 2012 at request of owner;

**figure 3.5**  
**SURFACE WATER ELEVATIONS (1)**  
**ABERFOYLE PIT No. 2**  
*Dufferin Aggregates*



Note:  
Data gaps indicate frozen or "dry" (water level below bottom of t-bar or staff gauge) conditions.  
WP1-93 not monitored after May 2008 at request of owner.

**figure 3.6**  
**SURFACE WATER ELEVATIONS (2)**  
**ABERFOYLE PIT No. 2**  
***Dufferin Aggregates***



No longer monitored at owners request

**figure 3.7**  
**SURFACE WATER ELEVATIONS (3)**  
**ABERFOYLE PIT No. 2**  
*Dufferin Aggregates*

Table 3.1

**Well Construction Details  
Aberfoyle Pit No. 2  
Dufferin Aggregates**

Monitoring Well No.	Ground Surface Elevation (m)	Reference Elevation (m)	Total Depth Drilled (m)	Screened Interval		Screened Material
				Depth (m bgs)	Elevation (m)	
Surficial (Water Table) Aquifer						
OW1A-90	329.89	330.67	20.42	18.29-19.81	311.60-310.08	Sand and Gravel
OW1B-90	329.92	330.83	11.28	9.14-10.67	320.78-319.25	Sand
OW2-90	325.83	326.84	9.75	5.18-6.71	320.65-319.12	Sand and Gravel
OW3-90 (abandoned)	334.01	334.85	10.67	4.88-6.40	329.13-327.61	Sand and Gravel
OW3R-05 (BH05-1) <sup>(1)</sup>	324.27	325.21	13.4	3.4-6.6 <sup>(1)</sup>	320.87-317.67 <sup>(1)</sup>	Sand and Gravel
OW4-90 (abandoned)	334.94	335.78	9.3	7.16-8.69	327.78-326.25	Silt (Till)
OW4R-05 (BH05-3) <sup>(1)</sup>	339.51	340.38	26.8	20.0-23.4 <sup>(1)</sup>	319.51-316.11 <sup>(1)</sup>	Sand and Gravel
OW5-90	325.53	326.57	19.2	11.89-13.41	313.58-312.06	Sand
OW6-90	325.49	326.46	14.94	11.58-13.20	313.91-312.37	Sand
PW1-90	325.47	326.52	13.41	11.89-13.41	313.58-312.06	Sand
OW7-05 (BH05-2) <sup>(1)</sup>	333.41	334.38	23.8	11.2-14.3 <sup>(1)</sup>	322.21-319.11 <sup>(1)</sup>	Gravelly Sand
Van Horsigh <sup>(2)</sup>	323.39	323.90	2.46	0 - 2.46	323.39-320.93	Unknown
Confined Overburden						
Hohenadel, J. <sup>(3)</sup>	339.17	338.01	26.82	~25.91-26.82	~313.26-312.35	Gravel
Behmann <sup>(4)</sup>	328.07	328.35	≥ 21.37	?-≥ 21.37	?-≤306.70	Unknown
Bedrock (Guelph Formation)						
Cox (former Gauthier) <sup>(5)</sup>	325.10	325.92	22.16	19.20-22.16	305.90-302.94	Bedrock

## Notes:

- (1) Installed by Jagger Hims Limited. Screened intervals based on estimate from borehole logs.
- (2) Depth of Van Horsigh well measured during water well inventory conducted by CRA in June 1991.
- (3) Water Well Record for J. Hohenadel property is 67-05092 based on information obtained during water well inventory conducted by CRA in May 1990. The screened interval was assumed to extend from the top of the sand and gravel to the total depth drilled (3 feet).
- (4) Depth of Behmann well was measured during water well inventory conducted by CRA in May 1990. The actual depth of the well may be greater than that measured since the measured value may represent the top of the pump or other obstruction.
- (5) Drilling of the Cox (former Gauthier) well was supervised by CRA in July 1990.

Table 3.2

**Historical Annual Precipitation  
Aberfoyle Pit No. 2  
Dufferin Aggregates**

<b>Year</b>	<b>Total Annual Precipitation (mm)</b>	
1970	840.2	
1971	787.4	
1972	926	
1973	839.8	
1974	837.1	
1975	948.9	
1976	915.9	
1977	1051.7	
1978	775.4	
1979	944.1	
1980	812.5	
1981	855.8	
1982	1064.9	
1983	942.7	
1984	895.8	
1985	1076.9	
1986	1123.4	
1987	779.1	
1988	838.8	
1989	736.5	
1990	998.4	
1991	881.4	
1992	1056.9	
1993	796.8	
1994	827.0	
1995	947.6	
1996	1043.0	
1997	861.8	
1998	656.5	
1999	811.4	
2000	933.9	
2001	835.8	
2002	818.7	
2003	947.7	
2004	842.3	
2005	879.4	
2006	1020.0	
2007	632.0	
2008	1209.3	
2009	944.2	
2010	826.7	
2011	1,043.7	
2012	753.8	
2013	1,075.4	
2014	928.7	
2015	769.8	
Average Precipitation (1970 to 1999)		895.8
Average Precipitation (1990 to 1999)		888.1
Average Precipitation (2000 to 2015)		903.8
		30-year mean
		prior to extraction below water table
		after start of extraction below water table*

\* extraction below water table conducted between May 2000 and October 2008.

Source of Precipitation Data:

1970 - Nov. 1973: Guelph OAC station (Stone Road)  
 Dec. 1973 - Jul. 197 Estimated for Guelph based on weighted average of Waterloo-Wellington, Fergus and Georgetown stations.  
 Aug. 1975 - 1989: Guelph Arboretum station  
 1990 - 2009\*: Waterloo-Wellington Airport (Guelph not classified as an official station after 1989).  
 2010 - 2015\*: Kitchener/Waterloo

\* Since 2004, the data used for Jan to Mar, part of Apr and Nov-Dec is from Station 6149389 (Waterloo-Wellington 2). This station backs onto the airport. It is manually operated and more accurate for the winter months during which it is operated (Nov. to mid-Apr.).

Table 3.3  
Historical and 2015 Groundwater Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Well	Ground Elevation (m AMSL)	Measuring Point Elevation (m AMSL)	7-May-90	8-May-90	11-May-90	5-Jun-90	19-Jun-90	28-Jun-90	10-Jul-90	17-Jul-90	31-Jul-90	1-Aug-90	15-Aug-90	7-Sep-90	11-Oct-90	30-Nov-90	20-Dec-90	21-Feb-91	3-Apr-91	7-May-91	18-Jun-91	17-Jul-91
Monitoring Well No.																						
OW1-76	333.23	333.75	--	dry	--	325.59	325.39	325.40	--	dry	--	325.39	dry	--	dry	--	325.45	325.53	326.11	326.28	325.39	325.75
OW9-76	332.45	333.30	dry	dry	--	dry	324.21	324.21	dry	dry	dry	dry	dry	--	dry	dry	dry	325.51	324.25	324.27	324.21	324.21
OW1A-90	329.89	330.67	325.43	325.42	--	325.53	325.39	325.32	325.24	325.14	325.02	324.92	324.96	324.82	324.77	324.92	325.07	325.51	325.98	326.06	325.85	325.61
OW1B-90	329.92	330.83	325.43	325.42	--	325.53	325.39	325.31	325.25	325.14	325.02	325.01	324.96	324.81	324.76	324.92	325.07	325.50	325.99	326.06	325.83	325.60
OW2-90	325.83	326.84	323.60	323.58	323.54	323.68	323.47	323.39	323.32	323.24	323.15	323.14	323.08	323.05	322.97	323.34	323.59	323.75	324.18	324.12	323.81	323.56
OW3-90	334.01	334.85	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
OW4-90	334.94	335.78	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
OW5-90	325.53	326.57	--	--	--	--	--	324.16	324.27	324.07	324.07	324.06	324.00	323.91	323.84	324.02	324.18	324.40	324.98	325.11	324.66	324.06
OW6-90	325.49	326.46	--	--	--	--	--	324.54	324.63	324.52	324.46	324.44	324.39	324.29	324.24	324.40	324.57	324.88	325.36	325.49	325.12	324.88
PW1-90	325.47	326.52	--	--	--	--	--	324.14	324.13	324.02	323.93	323.92	323.87	323.77	323.71	323.89	324.05	324.35	324.85	324.98	324.62	324.38
OW3R-05 (BH05-1)	324.27	325.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW4R-05 (BH05-3)	339.51	340.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW7-05 (BH05-2)	333.41	334.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Private Well Location																						
Behmann	328.07	328.26	--	--	323.61	323.72	323.59	323.51	323.35	323.42	323.35	322.75	323.35	323.35	323.31	323.48	323.69	--	324.11	--	323.82	323.64
Hohenadal	339.17	338.01	--	--	323.49	323.63	323.41	323.26	323.27	323.22	322.71	322.88	323.12	323.01	322.99	323.18	323.35	323.62	324.16	324.19	323.80	323.60
Gauthier (now Cox)	325.10	325.92	--	--	--	--	--	--	324.01	324.11	324.07	323.24	324.03	323.99	323.99	324.07	324.14	324.36	324.64	324.76	324.63	324.49
Van Horsigh	323.39	323.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	322.04

Notes:

mAMSL - metres above mean sea level

-- - water level not measured

323.59\* - water level taken on second date noted

F - frozen

(1) - inaccessible

S&A - Monitoring well was properly sealed and abandoned



Table 3.3  
Historical and 2015 Groundwater Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Well	Ground Elevation (m AMSL)	Measuring Point Elevation (m AMSL)	7-Sep-92	8-Dec-93	6-May-94	18-Aug-94	28-Nov-94	11-Apr-95	5-May-95	26-May-95	26-Jun-95	27-Jun-95	31-Aug-95	22-Sep-95	27-Oct-95	30-Nov-95	19-Apr-96	6-Jun-96	4-Jul-96	6-Aug-96	10-Sep-96	12-Dec-96
Monitoring Well No.																						
OW1-76	333.23	333.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW9-76	332.45	333.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW1A-90	329.89	330.67	325.38	325.13	325.71	325.07	324.70	325.45	325.60	325.58	325.33	326.15	324.93	324.79	324.72	325.00	325.85	325.87	325.83	325.73	325.55	325.53
OW1B-90	329.92	330.83	325.38	325.13	325.71	325.08	324.70	325.45	325.61	325.59	325.34	325.15	324.93	324.81	324.72	325.01	325.85	325.89	325.84	325.73	325.55	325.53
OW2-90	325.83	326.84	323.63	323.45	323.91	323.14	322.90	323.61	323.83	323.68	323.42	323.17	323.01	322.88	322.86	323.48	324.14	323.99	323.91	323.71	323.50	323.66
OW3-90	334.01	334.85	327.71	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
OW4-90	334.94	335.78	dry	dry	dry	dry	dry	dry	dry	--	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
OW5-90	325.53	326.57	--	--	--	--	323.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW6-90	325.49	326.46	--	--	--	--	323.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PW1-90	325.47	326.52	--	--	--	--	323.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW3R-05 (BH05-1)	324.27	325.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW4R-05 (BH05-3)	339.51	340.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW7-05 (BH05-2)	333.41	334.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Private Well Location																						
Behmann	328.07	328.26	--	323.24	322.73	322.59	322.87	--	--	--	--	--	--	322.14	322.33	322.43	322.99	322.94	322.40	322.60	322.65	322.64
Hohenadal	339.17	338.01	322.71	322.91	322.46	321.81	322.13	322.17	322.26	322.35	321.76	321.87	321.72	321.70	322.03	321.89	322.67	322.79	322.63	322.37	322.16	322.21
Gauthier (now Cox)	325.10	325.92	322.11	324.22	--	324.16	323.99	324.29	324.39	324.36	324.31	324.17	324.07	324.01	324.08	324.14	324.58	--	324.65	324.53	324.44	324.42
Van Horsigh	323.39	323.90	--	322.17	322.26	321.86	321.94	322.05	322.17	322.06	321.96	321.93	321.82	321.82	321.88	322.13	322.38	322.23	322.15	322.08	322.08	322.16

Notes:

mAMSL - metres above mean sea level

-- - water level not measured

323.59\* - water level taken on second date noted

F - frozen

(1) - inaccessible

S&A - Monitoring well was properly sealed and abandoned

Table 3.3  
Historical and 2015 Groundwater Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Well	Ground Elevation (m AMSL)	Measuring Point Elevation (m AMSL)	31-Mar-97 (2-Apr-97)	2-Jun-97	11-Jul-97	27-Aug-97	13-Nov-97	30-Apr-98	26-Jun-98	31-Jul-98	26-Aug-98	30-Dec-98	28-May-99	25-Jun-99	2-Aug-99	31-Aug-99	30-Sep-99	28-Oct-99	30-Nov-99	21-Dec-99
Monitoring Well No.																				
OW1-76	333.23	333.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW9-76	332.45	333.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW1A-90	329.89	330.67	325.96	325.88	325.69	325.41	325.16	325.71	325.40	325.13	325.01	324.52	324.87	324.74	324.65	324.35	324.30	324.23	324.25	324.37
OW1B-90	329.92	330.83	325.97	325.88	325.69	325.41	325.16	325.71	325.40	325.12	324.99	324.43	324.85	324.79	324.72	324.31	324.29	324.23	324.25	324.37
OW2-90	325.83	326.84	324.50	323.94	323.62	323.37	323.35	323.78	323.40	323.16	323.04	322.71	323.12	322.92	322.73	322.58	322.55	322.64	322.82	322.99
OW3-90	334.01	334.85	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
OW4-90	334.94	335.78	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
OW5-90	325.53	326.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW6-90	325.49	326.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PW1-90	325.47	326.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW3R-05 (BH05-1)	324.27	325.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW4R-05 (BH05-3)	339.51	340.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW7-05 (BH05-2)	333.41	334.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Private Well Location																				
Behmann	328.07	328.26	323.24*	322.87	322.58	322.55	322.50	322.80	322.48	322.37	322.23	322.10	322.27	322.10	322.10	--	321.96	--	--	322.17
Hohenadal	339.17	338.01	323.09*	322.65	322.33	322.07	321.93	322.51	322.06	321.40	321.80	321.41	321.71	321.58	321.44	321.33	321.29	321.32	--	321.47
Gauthier (now Cox)	325.10	325.92	324.88*	324.74	324.52	324.40	324.23	324.54	323.97	--	--	323.97	324.03	323.83	323.72	323.88	323.87	323.87	323.88	323.92
Van Horsigh	323.39	323.90	322.47*	322.20	322.04	321.99	322.01	322.22	322.01	321.86	321.87	321.84	321.97	321.90	321.78	321.78	321.82	321.86	321.93	321.99

Notes:  
mAMSL - metres above mean sea level  
-- - water level not measured  
323.59\* - water level taken on second date noted  
F - frozen  
(1) - inaccessible  
S&A - Monitoring well was properly sealed and abandoned

Table 3.3  
Historical and 2015 Groundwater Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Well	Ground Elevation (m AMSL)	Measuring Point Elevation (m AMSL)	28-Jan-00	25-Feb-00 (28-Feb-00)	30-Mar-00	5-May-00	31-May-00 (16-Jun-00)	28-Jun-00	31-Jul-00 (11-Aug-00)	31-Aug-00	2-Oct-00 (21-Sep-00)	31-Oct-00 (3-Nov-00)	6-Nov-00	30-Nov-00	13-Dec-00
Monitoring Well No.															
OW1-76	333.23	333.75	--	--	--	--	--	--	--	--	--	--	--	--	--
OW9-76	332.45	333.30	--	--	--	--	--	--	--	--	--	--	--	--	--
OW1A-90	329.89	330.67	324.34	324.42	324.59	324.97	325.16	325.31	325.13	324.89	324.72	324.54	324.51	324.57	324.52
OW1B-90	329.92	330.83	324.33	324.42	324.63	324.97	325.15	325.30	325.11	324.89	324.75	324.54	324.49	324.56	324.51
OW2-90	325.83	326.84	322.82	322.99	323.14	323.49	323.66	323.77	323.32	323.13	322.94	322.80	--	322.90	322.84
OW3-90	334.01	334.85	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	--	dry	dry
OW4-90	334.94	335.78	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	--	dry	dry
OW5-90	325.53	326.57	--	--	--	--	--	--	--	--	--	323.64*	323.63	323.73	--
OW6-90	325.49	326.46	--	--	--	--	--	--	--	--	--	323.49*	323.49	323.58	--
PW1-90	325.47	326.52	--	--	--	--	--	--	--	--	--	323.70*	323.71	323.81	--
OW3R-05 (BH05-1)	324.27	325.21	--	--	--	--	--	--	--	--	--	--	--	--	--
OW4R-05 (BH05-3)	339.51	340.38	--	--	--	--	--	--	--	--	--	--	--	--	--
OW7-05 (BH05-2)	333.41	334.38	--	--	--	--	--	--	--	--	--	--	--	--	--
Private Well Location															
Behmann	328.07	328.26	322.08	322.10*	--	322.40	322.54*	--	322.35*	--	322.19*	322.09*	--	--	--
Hohenadal	339.17	338.01	321.41	321.62*	--	321.94	322.16*	--	321.99*	--	321.63*	321.53*	--	--	--
Gauthier (now Cox)	325.10	325.92	323.88	323.95	323.97	324.10	324.18	324.25	324.20	324.12	324.07	324.01	--	324.01	--
Van Horsigh	323.39	323.90	321.90	322.13	321.99	322.09	322.16	322.24	322.19	322.10	321.90	321.95	--	321.95	--

Notes:  
mAMSL - metres above mean sea level  
-- - water level not measured  
323.59\* - water level taken on second date noted  
F - frozen  
(1) - inaccessible  
S&A - Monitoring well was properly sealed and abandoned

Table 3.3  
Historical and 2015 Groundwater Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Well	Ground Elevation (m AMSL)	Measuring Point Elevation (m AMSL)	3-Jan-01	24-Jan-01	5-Mar-01 (21-Mar-01)	29-Mar-01 (30-Mar-01)	30-Apr-01	29-May-01	1-Jun-01 (25-May-01)	28-Jun-01	24-Jul-01	30-Aug-01	2-Oct-01	29-Oct-01 (6-Nov-01)	26-Nov-01	18-Dec-01
Monitoring Well No.																
OW1-76	333.23	333.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW9-76	332.45	333.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW1A-90	329.89	330.67	324.54	324.51	325.00	325.13	325.31	325.16	325.10	324.94	324.65	324.32	324.22	324.31	324.24	324.50
OW1B-90	329.92	330.83	324.54	324.51	324.99	325.12	325.32	325.16	325.10	324.94	324.64	324.32	324.22	324.31	324.24	324.50
OW2-90	325.83	326.84	322.90	322.93	323.67	323.76	323.63	323.50	323.26	323.26	322.96	322.67	322.57	322.97	322.90	323.23
OW3-90	334.01	334.85	dry	dry	dry	dry	327.71	327.71	--	--	--	--	--	--	dry	--
OW4-90	334.94	335.78	dry	dry	dry	dry	dry	dry	--	--	--	--	--	--	dry	--
OW5-90	325.53	326.57	323.62	323.60	324.11	324.20	324.25	324.24	324.19	324.03	323.78	323.56	323.48	323.59	323.55	323.82
OW6-90	325.49	326.46	323.67	323.66	324.16	324.27	324.32	324.70	324.22	324.06	323.80	323.60	323.50	323.64	323.59	323.87
PW1-90	325.47	326.52	323.61	323.59	324.11	324.19	324.23	324.19	324.15	323.98	323.73	323.53	323.43	323.57	323.53	323.80
OW3R-05 (BH05-1)	324.27	325.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW4R-05 (BH05-3)	339.51	340.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW7-05 (BH05-2)	333.41	334.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Private Well Location																
Behmann	328.07	328.26	--	--	332.48*	322.57*	--	--	322.50*	--	322.10	322.00	321.95	322.23*	322.16	322.22
Hohenadal	339.17	338.01	--	--	321.51	322.17*	--	--	322.09*	--	321.70	321.59	321.59	321.56*	321.49	321.58
Gauthier (now Cox)	325.10	325.92	323.97	323.99	324.17	324.25	324.30	--	324.32	324.30	324.07	323.96	323.92	323.99*	323.97	324.14
Van Horsigh	323.39	323.90	321.92	321.93	322.16	322.24	322.15	--	322.10	322.06	321.85	321.81	321.80	321.99*	321.98	322.13

Notes:

mAMSL - metres above mean sea level

-- - water level not measured

323.59\* - water level taken on second date noted

F - frozen

(1) - inaccessible

S&A - Monitoring well was properly sealed and abandoned

Table 3.3  
Historical and 2015 Groundwater Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

		Measuring Point																					
Well	Ground Elevation (m AMSL)	Elevation (m AMSL)	1-Feb-02 (for Jan.)	25-Feb-02	27-Mar-02	30-Apr-02	1-Jun-02	27-Jun-02	1-Jul-02	1-Aug-02	2-Sep-02	23-Oct-02	26-Nov-02	29-Nov-02	12-Dec-02	3-Jan-03	3-Feb-03	26-May-03	23-Jun-03	30-Oct-03	17-Dec-03 (for Nov.)	31-Dec-03	
Monitoring Well No.																							
OW1-76	333.23	333.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
OW9-76	332.45	333.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
OW1A-90	329.89	330.67	324.63	324.69	324.87	325.18	325.23	325.12	324.84	324.47	324.29	324.29	324.16	324.16	324.16	324.22	324.15	324.77	324.67	--	324.49	324.62	
OW1B-90	329.92	330.83	324.62	324.68	324.86	325.16	325.22	325.12	324.83	324.46	324.28	324.28	324.15	324.17	324.17	324.22	324.15	324.77	324.67	--	324.48	324.61	
OW2-90	325.83	326.84	323.25	323.58	323.48	323.71	323.67	323.46	323.37	322.80	322.68	322.68	322.68	322.63	322.63	322.72	322.58	323.61	323.28	--	323.49	323.68	
OW3-90	334.01	334.85	--	--	--	--	--	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	327.98	
OW4-90	334.94	335.78	--	--	--	--	--	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	
OW5-90	325.53	326.57	323.84	324.00	324.07	324.37	324.39	324.29	324.05	323.71	323.60	323.60	323.47	323.41	323.41	323.46	323.34	324.14	323.95	323.57	323.95	324.13	
OW6-90	325.49	326.46	323.89	324.06	324.13	324.44	324.45	324.39	324.12	323.72	323.62	323.62	323.52	323.47	323.47	323.52	323.41	324.16	323.98	323.63	324.41	324.15	
PW1-90	325.47	326.52	323.81	323.99	324.06	324.35	324.37	324.29	324.02	323.65	323.55	323.55	323.45	323.39	323.39	323.44	323.34	324.08	323.92	--	323.91	324.08	
OW3R-05 (BH05-1)	324.27	325.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
OW4R-05 (BH05-3)	339.51	340.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
OW7-05 (BH05-2)	333.41	334.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Private Well Location																							
Behmann	328.07	328.26	F	--	322.50	322.40	322.61	322.50	322.33	322.00	321.88	321.88	321.83	321.62	321.62	321.57	--	322.52	322.28	--	--	319.51	
Hohenadal	339.17	338.01	--	--	321.96	322.05	322.32	322.01	321.89	321.54	321.44	321.44	321.40	321.34	321.33	321.28	318.27	321.92	321.81	322.93	323.27	322.01	
Gauthier (now Cox)	325.10	325.92	324.05	324.10	324.14	324.32	324.35	324.33	324.19	sealed	sealed	sealed	sealed	sealed	323.93	323.95	--	324.15	324.03	sealed	324.19	324.27	
Van Horsigh	323.39	323.90	322.05	322.10	322.10	322.29	322.34	322.06	321.90	321.76	321.65	321.65	321.57	321.82	321.82	321.86	--	322.21	321.99	321.98	322.14	322.21	

Notes:

mAMSL - metres above mean sea level

-- - water level not measured

323.59\* - water level taken on second date noted

F - frozen

(1) - inaccessible

S&A - Monitoring well was properly sealed and abandoned

Table 3.3  
Historical and 2015 Groundwater Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Well	Ground Elevation (m AMSL)	Measuring Point Elevation (m AMSL)	29-Jan-04	25-Feb-04	16-Mar-04	23-Apr-04	27-May-04	29-Jun-04	29-Jul-04	31-Aug-04	30-Sep-04	28-Oct-04	30-Nov-04	13-Jan-05 (for Dec.)	31-Jan-05	28-Feb-05	31-Mar-05	2-May-05 (for Apr.)	30-May-05	28-Jun-05	29-Jul-05
Monitoring Well No.																					
OW1-76	333.23	333.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW9-76	332.45	333.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW1A-90	329.89	330.67	324.77	324.69	324.91	325.26	325.37	325.21	325.03	324.87	324.69	324.55	324.53	324.75	324.81	324.92	324.98	325.19	324.86	324.87	324.61
OW1B-90	329.92	330.83	324.73	324.69	324.91	325.26	325.37	325.21	325.02	324.87	324.68	324.55	324.52	324.74	324.80	324.92	324.98	325.19	325.06	324.86	324.61
OW2-90	325.83	326.84	323.59	323.18	323.83	323.85	323.83	323.60	323.40	323.30	323.09	322.98	323.07	323.67	323.53	323.65	323.92	323.95	323.66	323.40	323.22
OW3-90	334.01	334.85	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
OW4-90	334.94	335.78	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
OW5-90	325.53	326.57	324.03	323.99	324.36	324.61	324.70	324.54	324.37	324.25	324.04	323.90	323.91	324.25	324.13	324.22	324.38	324.67	324.50	324.22	324.09
OW6-90	325.49	326.46	324.54	324.46	324.81	325.08	325.18	325.02	324.87	324.74	324.50	324.36	324.36	324.69	324.58	324.67	324.83	325.14	324.98	324.69	324.48
PW1-90	325.47	326.52	324.01	323.95	324.31	324.57	324.66	324.50	324.35	324.22	324.00	323.86	323.86	324.20	324.08	324.18	324.33	324.62	324.46	324.18	324.04
OW3R-05 (BH05-1)	324.27	325.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW4R-05 (BH05-3)	339.51	340.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW7-05 (BH05-2)	333.41	334.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Private Well Location																					
Behmann	328.07	328.26	322.43	F	322.70	322.81	322.82	322.65	322.55	322.41	322.24	322.25	322.30	322.50	F	F	322.65	322.92	322.56	322.36	322.39
Hohenadal	339.17	338.01	321.91	321.83	322.27	322.47	322.58	322.34	322.07	321.95	320.80	321.67	321.73	322.05	321.96	322.08	322.24	322.49	321.10	321.60	321.90
Gauthier (now Cox)	325.10	325.92	324.21	324.20	324.42	324.61	324.67	324.58	324.47	324.36	324.27	324.17	324.15	324.66	324.25	324.32	324.44	324.54	324.46	324.29	324.21
Van Horsigh	323.39	323.90	322.02	322.00	322.24	322.31	322.15	322.03	321.99	321.97	321.89	321.88	321.97	322.23	322.07	322.10	322.34	322.24	322.08	321.95	321.94

Notes:  
mAMSL - metres above mean sea level  
-- - water level not measured  
323.59\* - water level taken on second date noted  
F - frozen  
(1) - inaccessible  
S&A - Monitoring well was properly sealed and abandoned

Table 3.3

Historical and 2015 Groundwater Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Well	Ground Elevation (m AMSL)	Measuring Point Elevation (m AMSL)	2-Sep-05 (for Aug.)	3-Oct-05 (for Sep.)	31-Oct-05	22-Nov-05	21-Dec-05	1-Feb-06 (for Jan.)	Feb-06	Mar-06	Apr-06	May-06	30-Jun-06	Jul-06	21-Aug-06	22-Sep-06	17-Oct-06	21-Nov-06	5-Dec-06
Monitoring Well No.																			
OW1-76	333.23	333.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW9-76	332.45	333.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW1A-90	329.89	330.67	324.65	324.30	324.28	324.34	324.43	324.70	324.91	325.04	325.09	--	324.80	--	324.47	324.36	324.45	324.65	325.07
OW1B-90	329.92	330.83	324.64	324.30	324.27	324.34	324.43	324.69	324.90	325.03	325.10	--	324.78	--	324.47	324.36	324.43	324.66	324.76
OW2-90	325.83	326.84	323.28	323.06	322.95	323.22	323.19	323.76	323.65	324.15	323.88	--	324.31	--	323.18	323.13	323.11	323.54	323.21
OW3-90	334.01	334.85	dry	--	--	dry	--	dry	dry	dry	dry	--	dry	--	dry	dry	dry	dry	dry
OW4-90	334.94	335.78	dry	--	--	dry	--	--	--	--	--	--	--	--	--	dry	--	dry	dry
OW5-90	325.53	326.57	324.07	323.84	323.78	323.84	323.89	324.17	325.31	324.52	324.53	--	324.20	--	323.92	323.87	323.93	324.08	324.20
OW6-90	325.49	326.46	324.46	324.30	324.23	323.90	324.34	324.23	324.38	324.59	324.62	--	324.28	--	323.99	323.93	323.86	324.15	324.26
PW1-90	325.47	326.52	324.02	323.80	323.74	323.83	323.84	324.16	325.29	324.51	324.32	--	324.19	--	323.92	323.95	323.81	324.27	324.15
OW3R-05 (BH05-1)	324.27	325.21	--	323.52	323.45	--	323.56	323.94	F	F	323.23	--	323.87	--	323.50	323.56	323.54	323.79	323.89
OW4R-05 (BH05-3)	339.51	340.38	--	323.30	323.23	--	323.34	323.67	323.56	324.04	323.99	--	323.83	--	323.33	323.37	323.48	323.66	323.40
OW7-05 (BH05-2)	333.41	334.38	324.52	--	324.48	324.51	324.58	324.83	325.04	325.19	325.25	--	324.95	--	324.64	324.57	324.72	324.79	324.88
Private Well Location																			
Behmann	328.07	328.26	322.35	322.21	322.17	321.96	322.24	322.49	--	322.77	322.58	--	--	--	--	--	--	322.44	322.25
Hohenadal	339.17	338.01	321.97	321.64	321.56	321.51	321.86	322.13	322.14	322.17	322.37	--	--	--	321.68	321.71	321.96	322.04	321.82
Gauthier (now Cox)	325.10	325.92	324.17	324.07	324.03	324.08	324.06	324.32	324.29	324.46	324.49	--	324.30	--	324.25	324.12	324.04	324.20	324.30
Van Horsigh	323.39	323.90	321.90	321.93	321.90	321.99	321.99	322.21	--	322.36	322.23	--	--	--	321.90	321.98	322.13	322.33	322.22

Notes:

mAMSL - metres above mean sea level

-- - water level not measured

323.59\* - water level taken on second date noted

F - frozen

(1) - inaccessible

S&A - Monitoring well was properly sealed and abandoned



Table 3.3  
Historical and 2015 Groundwater Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Well	Ground Elevation (m AMSL)	Measuring Point Elevation (m AMSL)	30-Jan-07	28-Feb-07	29-Mar-07	18-Apr-07	1-May-07	29-Jun-07	7-Jul-07	14-Aug-07	12-Sep-07	22-Oct-07	30-Nov-07	12-Dec-07	30-Jan-08	28-Feb-08	31-Mar-08	30-Apr-08	26-May-08	25-Jun-08	15-Jul-08	20-Aug-08
Monitoring Well No.																						
OW1-76	333.23	333.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW9-76	332.45	333.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW1A-90	329.89	330.67	324.96	324.74	325.12	325.19	--	324.80	324.44	324.26	324.12	323.92	323.86	323.87	324.25	324.43	324.71	325.11	325.05	324.97	324.87	324.72
OW1B-90	329.92	330.83	324.96	324.71	325.12	325.19	--	324.79	324.43	324.23	324.10	323.92	323.85	323.86	323.98	324.42	324.70	325.08	325.05	324.96	324.86	324.71
OW2-90	325.83	326.84	323.71	323.39	324.16	324.01	--	323.32	322.94	322.87	322.82	322.65	322.63	322.70	323.20	323.34	324.15	323.79	323.75	323.57	323.50	323.47
OW3-90	334.01	334.85	F	--	--	--	--	--	--	--	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A
OW4-90	334.94	335.78	F	--	--	--	--	--	--	--	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A
OW5-90	325.53	326.57	324.33	324.13	324.53	324.60	--	324.17	323.89	323.77	323.66	323.53	323.47	323.50	323.84	323.94	324.38	324.02	324.49	324.44	324.37	324.26
OW6-90	325.49	326.46	324.40	324.17	324.61	324.70	--	324.25	323.96	323.83	323.72	323.59	323.53	323.52	323.90	324.01	324.40	324.59	324.54	324.49	324.43	324.33
PW1-90	325.47	326.52	324.31	324.01	324.52	324.59	--	324.16	323.88	323.76	323.65	323.52	323.46	323.45	323.83	323.93	324.34	324.27	324.44	324.38	324.34	324.25
OW3R-05 (BH05-1)	324.27	325.21	324.02	F	324.36	--	--	323.82	323.45	323.37	323.29	323.18	323.15	323.14	323.50	323.58	324.11	324.19	324.12	324.04	324.01	323.92
OW4R-05 (BH05-3)	339.51	340.38	323.79	323.56	324.39	324.46	--	323.54	323.25	323.18	323.11	323.00	322.97	322.97	326.31	323.43	323.91	323.97	323.91	323.83	323.84	323.74
OW7-05 (BH05-2)	333.41	334.38	325.10	324.83	325.28	325.36	--	324.98	324.67	324.47	324.36	324.17	324.08	324.09	324.42	324.59	324.86	325.22	325.21	325.15	325.05	324.92
Private Well Location																						
Behmann	328.07	328.26	F	F	--	--	--	--	--	--	--	322.09	322.02	322.05	322.25	322.43	322.84	322.75	322.66	322.55	322.55	322.51
Hohenadal	339.17	338.01	321.11	(1)	--	321.96	--	321.26	321.12	321.07	321.53	321.41	321.38	321.36	321.71	321.84	322.35	322.38	322.33	322.23	322.15	322.14
Gauthier (now Cox)	325.10	325.92	324.38	--	324.52	--	--	324.13	324.10	324.05	324.01	323.91	323.90	323.87	324.04	324.10	324.36	324.50	324.45	324.45	324.40	324.34
Van Horsigh	323.39	323.90	322.11	--	322.41	322.42	--	321.80	321.78	321.80	321.81	321.84	321.98	321.93	322.10	322.07	322.44	322.21	322.15	322.12	322.08	322.07

Notes:  
mAMSL - metres above mean sea level  
-- - water level not measured  
323.59\* - water level taken on second date noted  
F - frozen  
(1) - inaccessible  
S&A - Monitoring well was properly sealed and abandoned

Table 3.3  
Historical and 2015 Groundwater Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Well	Ground Elevation (m AMSL)	Measuring Point Elevation (m AMSL)	22-Sep-08	20-Oct-08	7-Nov-08	8-Dec-08	9-Jan-09	23-Feb-09	17-Mar-09	30-Apr-09	21-May-09	29-Jun-09	31-Jul-09	19-Aug-09	30-Sep-09	21-Oct-09	26-Nov-09	22-Dec-09
Monitoring Well No.																		
OW1-76	333.23	333.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW9-76	332.45	333.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW1A-90	329.89	330.67	324.54	324.37	324.34	324.46	324.76	324.94	325.14	325.24	325.22	325.17	325.00	324.95	324.83	324.78	324.67	324.66
OW1B-90	329.92	330.83	324.52	324.35	324.31	324.43	324.74	324.96	325.11	325.23	325.20	325.08	324.97	324.93	324.82	324.76	324.65	324.65
OW2-90	325.83	326.84	323.31	323.15	323.09	323.37	323.66	323.75	323.97	324.18	324.12	323.87	323.70	323.73	323.63	323.56	323.46	323.54
OW3-90	334.01	334.85	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A
OW4-90	334.94	335.78	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A
OW5-90	325.53	326.57	324.12	323.98	323.95	324.07	324.31	324.45	324.62	324.87	324.90	324.70	324.58	324.55	324.38	324.30	324.18	324.15
OW6-90	325.49	326.46	324.19	324.05	324.02	324.10	324.34	324.53	324.70	324.93	324.93	324.75	324.63	324.60	324.45	324.37	324.35	324.22
PW1-90	325.47	326.52	324.11	323.96	323.94	324.03	324.26	324.43	324.61	324.82	324.85	324.65	324.54	324.51	324.37	324.30	324.17	324.14
OW3R-05 (BH05-1)	324.27	325.21	323.78	323.59	323.56	323.65	324.01	324.08	324.34	324.66	324.71	324.36	324.22	324.21	324.00	323.92	323.81	323.76
OW4R-05 (BH05-3)	339.51	340.38	323.66	323.43	323.46	323.51	323.80	323.96	324.18	324.37	324.46	324.08	323.92	324.00	323.85	323.80	323.64	323.64
OW7-05 (BH05-2)	333.41	334.38	324.74	324.52	324.58	324.67	324.93	325.14	325.32	325.44	325.43	325.30	325.18	325.14	325.01	324.96	324.83	324.84
Private Well Location																		
Behmann	328.07	328.26	322.48	322.33	322.31	322.35	322.65	322.69	322.86	323.51	322.86	322.65	322.58	322.56	--	--	--	322.37
Hohenadal	339.17	338.01	322.01	321.84	321.81	321.91	322.20	322.81	322.54	322.72	322.83	322.46	322.30	322.33	322.18	--	--	<322.40
Gauthier (now Cox)	325.10	325.92	324.25	324.17	324.15	324.17	324.37	324.47	324.59	324.76	324.74	324.62	324.49	324.47	324.37	324.34	324.28	324.20
Van Horsigh	323.39	323.90	322.07	321.98	321.98	321.82	322.35	322.19	322.27	322.36	322.25	322.17	322.09	322.14	322.08	322.20	322.08	322.09

Notes:  
mAMSL - metres above mean sea level  
-- - water level not measured  
323.59\* - water level taken on second date noted  
F - frozen  
(1) - inaccessible  
S&A - Monitoring well was properly sealed and abandoned

Table 3.3  
Historical and 2015 Groundwater Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Well	Ground Elevation (m AMSL)	Measuring Point Elevation (m AMSL)	15-Jan-10	24-Feb-10	30-Mar-10	19-Apr-10	31-May-10	23-Jun-10	23-Jul-10	31-Aug-10	22-Sep-10	28-Oct-10	23-Nov-10	21-Dec-10	21-Jan-11	14-Feb-11	20-Mar-11	14-Apr-11	19-May-11	23-Jun-11	07-Jul-11
Monitoring Well No.																					
OW1-76	333.23	333.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW9-76	332.45	333.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW1A-90	329.89	330.67	324.65	324.57	324.89	324.94	324.83	323.80	324.68	324.17	324.32	324.26	324.13	324.60	324.24	324.37	324.57	324.66	324.97	325.06	325.01
OW1B-90	329.92	330.83	324.64	324.55	324.87	324.94	324.82	324.80	324.64	324.43	324.32	324.12	324.23	324.24	324.24	324.32	324.57	324.68	324.96	325.06	325.00
OW2-90	325.83	326.84	323.46	323.33	323.75	323.75	323.54	323.55	323.39	323.15	323.03	323.10	323.08	323.43	323.11	323.41	323.64	323.68	324.12	323.91	323.83
OW3-90	334.01	334.85	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A
OW4-90	334.94	335.78	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A
OW5-90	325.53	326.57	324.12	324.02	324.33	324.40	324.31	324.35	324.55	324.02	323.91	323.87	323.79	323.74	323.74	324.01	324.09	324.15	324.47	324.58	324.47
OW6-90	325.49	326.46	324.19	324.09	324.41	324.40	324.36	324.39	324.57	324.05	323.94	323.89	323.85	323.83	323.76	323.95	324.11	324.16	324.53	324.62	324.53
PW1-90	325.47	326.52	324.13	324.02	324.33	324.35	324.27	324.30	324.53	323.97	323.86	323.83	323.78	323.74	323.71	323.89	324.06	324.10	324.46	324.54	324.44
OW3R-05 (BH05-1)	324.27	325.21	323.68	323.56	324.01	324.02	323.88	323.92	324.00	323.53	323.44	323.44	323.38	323.34	323.29	323.55	323.71	323.73	324.15	324.20	324.09
OW4R-05 (BH05-3)	339.51	340.38	323.60	323.48	323.89	323.91	323.75	323.79	323.68	323.42	322.98	323.34	323.31	323.27	323.21	323.49	323.62	323.67	324.08	324.05	323.94
OW7-05 (BH05-2)	333.41	334.38	324.84	324.74	325.03	325.09	325.00	324.98	324.84	324.63	324.53	324.47	324.44	324.42	324.43	324.62	324.74	324.82	325.08	325.21	325.18
Private Well Location																					
Behmann	328.07	328.26	322.35	322.27	322.58	322.54	322.37	--	322.30	322.13	--	--	--	--	--	--	--	--	--	--	--
Hohenadal	339.17	338.01	321.93	321.96	322.32	322.21	322.16	322.13	321.98	321.87	321.51	321.77	321.72	321.71	--	--	322.06	322.03	322.31	322.44	322.29
Gauthier (now Cox)	325.10	325.92	324.20	324.12	324.31	324.37	324.40	324.36	324.20	324.07	324.01	324.01	324.03	323.99	323.97	324.04	324.18	324.24	325.06	324.73	324.44
Van Horsigh	323.39	323.90	322.05	321.94	322.21	322.19	322.02	322.10	322.00	321.93	321.94	321.93	322.02	322.00	321.96	322.07	322.19	322.17	322.52	322.26	322.14

Notes:  
mAMSL - metres above mean sea level  
-- - water level not measured  
323.59\* - water level taken on second date noted  
F - frozen  
(1) - inaccessible  
S&A - Monitoring well was properly sealed and abandoned

Table 3.3  
Historical and 2015 Groundwater Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Well	Ground Elevation (m AMSL)	Measuring Point Elevation (m AMSL)	19-Aug-11	05-Oct-11	26-Oct-11	30-Nov-11	21-Dec-11	24-Jan-12	23-Feb-12	28-Mar-12	17-Apr-12	24-May-12	Jun-12	30-Jul-12	31-Aug-12	28-Sep-12	26-Oct-12	22-Nov-12	18-Dec-12
Monitoring Well No.																			
OW1-76	333.23	333.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW9-76	332.45	333.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW1A-90	329.89	330.67	324.65	324.40	323.72	324.52	324.61	324.72	324.76	324.87	324.80	324.71	--	324.28	324.11	324.03	324.02	324.10	324.10
OW1B-90	329.92	330.83	324.65	324.40	323.70	324.53	324.61	324.72	324.77	324.86	324.80	324.70	--	324.27	324.11	324.03	324.02	324.09	324.10
OW2-90	325.83	326.84	323.43	323.22	322.71	323.79	323.68	323.68	323.65	323.77	323.63	323.48	--	323.15	323.02	323.03	323.12	323.20	323.25
OW3-90	334.01	334.85	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A
OW4-90	334.94	335.78	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A
OW5-90	325.53	326.57	324.19	323.96	323.36	324.17	324.07	324.20	324.17	324.26	324.21	324.15	--	323.87	323.72	323.67	323.69	323.72	323.72
OW6-90	325.49	326.46	324.22	323.99	324.13	324.18	324.13	324.09	324.24	324.30	324.23	324.19	--	323.91	323.76	323.69	323.70	323.73	323.74
PW1-90	325.47	326.52	324.14	323.91	323.31	324.12	324.06	324.15	324.16	324.22	324.17	324.10	--	323.83	323.69	323.64	323.64	323.67	323.69
OW3R-05 (BH05-1)	324.27	325.21	323.70	323.46	322.89	323.75	323.70	323.76	323.80	323.88	323.78	323.64	--	323.38	323.25	323.23	323.25	323.29	323.31
OW4R-05 (BH05-3)	339.51	340.38	323.61	323.80	322.76	323.61	323.63	323.67	323.69	323.62	323.70	323.58	--	323.29	323.20	323.18	323.17	323.24	323.22
OW7-05 (BH05-2)	333.41	334.38	324.86	324.62	324.68	324.69	324.77	324.90	324.95	325.03	324.98	324.88	--	324.50	324.32	324.23	324.22	324.30	324.31
Private Well Location																			
Behmann	328.07	328.26	--	--	--	322.37	322.38	322.42	322.44	322.48	322.40	322.28	--	322.14	322.02	322.07	322.20	322.12	322.16
Hohenadal	339.17	338.01	321.99	321.75	321.94	321.82	322.06	322.05	321.80	321.83	--	322.00	--	321.71	321.57	321.56	321.60	321.62	321.63
Gauthier (now Cox)	325.10	325.92	324.24	324.13	324.09	324.25	324.26	324.27	324.31	324.37	324.32	324.24	--	324.04	323.91	323.91	323.91	323.96	323.93
Van Horsigh	323.39	323.90	322.00	321.98	322.22	322.42	322.22	322.22	322.16	322.21	322.13	322.05	--	321.95	321.90	321.97	322.06	322.07	322.06

Notes:  
mAMSL - metres above mean sea level  
-- - water level not measured  
323.59\* - water level taken on second date noted  
F - frozen  
(1) - inaccessible  
S&A - Monitoring well was properly sealed and abandoned

Table 3.3  
Historical and 2015 Groundwater Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Well	Ground Elevation (m AMSL)	Measuring Point Elevation (m AMSL)	29-Jan-13	13-Feb-13	12-Mar-13	15-Apr-13	09-May-13	21-Jun-13	25-Jul-13	09-Aug-13	30-Sep-13	29-Oct-13	27-Nov-13	20-Dec-13	23-Jan-14	7-Feb-14	21-Mar-14	28-Apr-14	29-May-14	30-Jun-14	24-Jul-14
Monitoring Well No.																					
OW1-76	333.23	333.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW9-76	332.45	333.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW1A-90	329.89	330.67	324.27	324.34	324.46	324.80	324.96	324.94	324.83	324.74	324.57	324.60	324.66	324.64	324.74	324.77	324.76	325.09	325.15	325.02	324.92
OW1B-90	329.92	330.83	324.26	324.33	324.45	324.80	324.96	324.93	324.84	324.70	324.56	324.59	324.67	324.65	324.81	324.77	324.76	325.09	325.16	325.03	324.93
OW2-90	325.83	326.84	323.53	323.68	323.90	324.08	323.82	323.74	323.67	323.62	323.62	323.60	323.60	323.48	323.64	323.57	323.68	323.93	324.00	323.84	323.73
OW3-90	334.01	334.85	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A
OW4-90	334.94	335.78	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A
OW5-90	325.53	326.57	--	323.95	324.17	324.33	324.39	324.41	324.37	324.24	324.13	324.15	324.14	324.16	324.17	324.17	324.22	324.51	324.67	324.50	324.44
OW6-90	325.49	326.46	324.06	324.13	324.16	324.36	324.42	324.46	324.42	324.25	324.16	324.15	324.16	324.17	324.18	324.16	324.11	324.40	324.70	324.55	324.48
PW1-90	325.47	326.52	324.01	324.09	324.11	324.28	324.34	324.36	324.31	324.16	324.09	324.11	324.11	324.13	324.13	324.12	324.30	324.59	324.63	324.45	324.39
OW3R-05 (BH05-1)	324.27	325.21	--	323.44	323.77	324.01	323.98	323.99	323.93	323.77	323.65	323.67	323.69	323.58	323.70	323.64	323.74	323.83	323.98	324.07	324.01
OW4R-05 (BH05-3)	339.51	340.38	323.43	323.41	323.63	323.97	323.89	323.87	323.81	323.75	323.57	323.64	323.63	323.50	323.63	323.59	323.65	323.69	323.86	323.95	323.95
OW7-05 (BH05-2)	333.41	334.38	324.44	324.52	324.71	324.97	325.11	325.11	325.02	324.86	324.77	324.78	324.84	324.79	324.92	324.96	324.91	325.24	325.32	325.17	325.13
Private Well Location																					
Behmann	328.07	328.26	322.38	322.27	322.45	322.68	322.50	322.44	322.40	322.43	322.33	322.09	321.85	322.33	--	322.38	322.52	322.62	322.63	322.38	322.35
Hohenadal	339.17	338.01	321.83	321.84	321.97	322.42	322.33	322.29	322.20	322.19	321.97	322.03	321.71	321.94	--	--	--	322.43	322.52	322.68	321.33
Gauthier (now Cox)	325.10	325.92	324.12	324.07	324.22	324.42	324.47	324.45	324.40	324.39	323.16	324.30	324.30	324.37	--	325.30	--	324.56	324.60	324.49	324.44
Van Horsigh	323.39	323.90	322.39	322.05	322.39	322.44	322.24	322.17	322.13	322.15	321.01	322.20	322.17	322.27	--	--	--	322.32	322.24	322.14	322.11

Notes:

mAMSL - metres above mean sea level

-- - water level not measured

323.59\* - water level taken on second date noted

F - frozen

(1) - inaccessible

S&A - Monitoring well was properly sealed and abandoned

Table 3.3  
Historical and 2015 Groundwater Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Well	Ground Elevation (m AMSL)	Measuring Point Elevation (m AMSL)	29-Aug-14	15-Sep-14	15-Oct-14	14-Nov-14	18-Dec-14	15-Jan-15	27-Feb-15	18-Mar-15	29-Apr-15	29-May-15	19-Jun-15	27-Jul-15	16-Sep-15	15-Oct-15	18-Nov-15	9-Dec-15
Monitoring Well No.																		
OW1-76	333.23	333.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW9-76	332.45	333.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW1A-90	329.89	330.67	324.88	324.85	324.71	324.67	324.75	324.67	324.60	324.60	324.79	324.69	324.83	324.64	324.42	324.29	324.30	324.29
OW1B-90	329.92	330.83	324.89	324.87	324.72	324.68	324.79	324.67	324.60	324.61	324.80	324.69	324.77	324.63	324.43	324.30	324.30	324.29
OW2-90	325.83	326.84	323.80	323.88	323.62	323.53	323.58	323.48	323.29	323.57	323.70	323.46	323.62	323.44	323.24	323.11	323.20	323.33
OW3-90	334.01	334.85	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A
OW4-90	334.94	335.78	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A	S&A
OW5-90	325.53	326.57	324.40	324.39	324.27	324.18	324.20	324.05	323.98	324.13	324.24	324.16	324.25	324.17	323.97	323.85	323.83	323.78
OW6-90	325.49	326.46	324.45	324.46	324.32	324.19	324.15	324.10	324.00	324.13	324.26	324.19	324.27	324.19	324.00	323.86	323.83	323.78
PW1-90	325.47	326.52	324.34	324.39	324.24	324.12	324.15	324.04	323.93	324.08	324.19	324.12	324.20	324.12	323.92	323.80	323.78	323.72
OW3R-05 (BH05-1)	324.27	325.21	323.98	324.02	323.82	323.72	323.80	323.84	323.43	323.60	323.82	323.64	323.90	323.66	323.43	323.34	323.35	323.44
OW4R-05 (BH05-3)	339.51	340.38	323.94	323.92	323.52	323.62	323.66	323.87	323.41	323.54	323.76	323.59	323.72	323.63	323.57	323.25	323.28	323.40
OW7-05 (BH05-2)	333.41	334.38	325.11	325.03	324.90	324.85	324.96	324.91	324.77	324.77	324.95	324.87	324.90	324.83	324.63	324.50	324.49	324.47
Private Well Location																		
Behmann	328.07	328.26	322.52	322.57	322.43	322.43	322.39	--	--	--	--	--	--	--	--	--	--	--
Hohenadal	339.17	338.01	322.59	322.31	322.08	321.52	322.02	--	--	--	--	--	--	--	--	--	--	--
Gauthier (now Cox)	325.10	325.92	324.46	324.44	324.36	324.28	324.34	--	--	--	--	--	--	--	--	--	--	--
Van Horsigh	323.39	323.90	322.18	322.27	322.16	322.11	322.12	--	--	--	--	--	--	--	--	--	--	--

Notes:

mAMSL - metres above mean sea level

-- - water level not measured

323.59\* - water level taken on second date noted

F - frozen

(1) - inaccessible

S&A - Monitoring well was properly sealed and abandoned

Table 3.4

Historical and 2015 Surface Water Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Surface Water Location	Measuring Point Elevation (m AMSL)	7-Jun-90	19-Jun-90	28-Jun-90	10-Jul-90	17-Jul-90	31-Jul-90	1-Aug-90	15-Aug-90	7-Sep-90	11-Oct-90	30-Nov-90	20-Dec-90	21-Feb-91	3-Apr-91	7-May-91	18-Jun-91	17-Sep-92	8-Dec-93
SW1-90	326.36	326.10	325.91	dry	dry	325.52	dry	dry	dry	325.13	325.24	325.42	325.69	F	326.16	326.21	326.16	--	326.16
SW2-91	326.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	326.09	326.19
SW3-91	327.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	326.08	326.01
SW4-91	327.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	326.08	326.03
SW5-01	324.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW6-03	325.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pond 1	325.48	--	--	--	--	324.26	324.17	324.16	--	--	--	323.44	--	--	324.82	324.79	324.38	--	--
Pond 2	326.69	--	--	--	--	325.93	325.84	325.82	325.73	325.67	--	325.77	F	F	326.29	326.32	326.21	326.07	325.88
WP1-93	326.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	326.01

Notes:  
Pond 1 located on Gauthier (now Cox) property  
SW5-01 is Hayden Pond  
SW6-03 located near OW1A/B-90  
m AMSL - metres Above Mean Sea Level  
Pond 2 located on Whittle property  
-- - water level not measured  
\* - water level measured on second date indicated  
F - frozen



Table 3.4

Historical and 2015 Surface Water Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Surface Water Location	Measuring Point Elevation (m AMSL)	6-May-94	18-Aug-94	28-Nov-94	11-Apr-95	5-May-95	26-May-95	26-Jun-95	27-Jun-95	31-Aug-95	22-Sep-95	27-Oct-95	30-Nov-95	19-Apr-96	6-Jun-96	4-Jul-96	6-Aug-96	10-Sep-96	12-Dec-96
SW1-90	326.36	--	326.03	dry	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2-91	326.87	--	dry	dry	326.55	326.70	326.61	326.37	dry	dry	dry	dry	326.27	326.85	326.78	326.70	326.60	326.38	326.64
SW3-91	327.10	326.33	dry	dry	326.22	326.31	326.21	326.02	dry	dry	dry	dry	326.01	326.46	326.41	326.30	326.20	326.09	326.25
SW4-91	327.14	--	dry	dry	326.32	326.35	326.28	326.08	dry	dry	dry	dry	326.06	326.49	326.71	326.33	326.25	326.12	326.58
SW5-01	324.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW6-03	325.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pond 1	325.48	324.62	323.60	--	323.67	324.01	323.71	323.39	--	--	--	--	323.50	324.05	323.87	323.91	323.63	dry	323.65
Pond 2	326.69	326.36	dry	dry	326.26	326.34	326.26	326.01	325.73	dry	dry	dry	325.92	326.51	326.42	326.34	326.25	326.02	326.27
WP1-93	326.98	326.34	325.73	325.71	326.18	326.30	326.22	325.82	325.74	325.61	325.61	325.67	325.83	326.21	326.33	326.27	326.19	326.06	325.95

Notes:  
Pond 1 located on Gauthier (now Cox) property  
SW5-01 is Hayden Pond  
SW6-03 located near OW1A/B-90  
m AMSL - metres Above Mean Sea Level  
Pond 2 located on Whittle property  
-- - water level not measured  
\* - water level measured on second date indicated  
F - frozen

Table 3.4

Historical and 2015 Surface Water Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Surface Water Location	Measuring Point Elevation (m AMSL)	31-Mar-97	2-Apr-97	2-Jun-97	11-Jul-97	27-Aug-97	13-Nov-97	30-Apr-98	26-Jun-98	31-Jul-98	26-Aug-98	30-Dec-98	28-May-99	25-Jun-99	2-Aug-99	31-Aug-99	30-Sep-99	28-Oct-99	30-Nov-99	21-Dec-99
SW1-90	326.36	--	--	--	--	326.26	326.26	325.71	326.05	326.26	326.30	--	dry	dry	dry	dry	dry	dry	dry	dry
SW2-91	326.87	326.97	--	326.75	326.53	326.32	326.32	326.71	326.38	326.30	326.38	326.30	dry	dry	dry	dry	dry	dry	dry	dry
SW3-91	327.10	326.56	--	326.28	326.14	326.05	326.06	326.24	326.03	325.97	326.02	325.96	dry	dry	dry	dry	dry	dry	dry	dry
SW4-91	327.14	326.66	--	326.66	326.23	326.36	326.15	326.22	326.00	325.94	326.02	325.89	dry	dry	dry	dry	dry	dry	dry	dry
SW5-01	324.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW6-03	325.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pond 1	325.48	--	324.07	323.95	323.49	dry	dry	323.59	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
Pond 2	326.69	--	F	326.37	326.15	325.94	325.93	326.35	325.98	325.45	325.48	dry	326.44	326.59	dry	dry	dry	dry	dry	dry
WP1-93	326.98	326.42	--	326.17	326.10	326.02	326.01	326.26	326.04	dry	dry	325.36	325.73	325.68	325.42	325.18	325.45	325.16	325.43	325.38

Notes:  
Pond 1 located on Gauthier (now Cox) property  
SW5-01 is Hayden Pond  
SW6-03 located near OW1A/B-90  
m AMSL - metres Above Mean Sea Level  
Pond 2 located on Whittle property  
-- - water level not measured  
\* - water level measured on second date indicated  
F - frozen

Table 3.4

Historical and 2015 Surface Water Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Surface Water Location	Measuring Point Elevation (m AMSL)	28-Jan-00	25-Feb-00	28-Feb-00	30-Mar-00	5-May-00	31-May-00	16-Jun-00	28-Jun-00	31-Jul-00	11-Aug-00	31-Aug-00	2-Oct-00	31-Oct-00	30-Nov-00	13-Dec-00
SW1-90	326.36	dry	dry	--	dry	dry	326.06	--	326.16	326.26	--	326.21	326.26	dry	dry	--
SW2-91	326.87	dry	dry	--	dry	dry	326.29	--	326.31	326.29	--	326.29	dry	dry	dry	--
SW3-91	327.10	dry	dry	--	dry	dry	326.01	--	326.14	326.01	--	325.98	325.96	dry	dry	--
SW4-91	327.14	dry	dry	--	dry	dry	326.08	--	326.20	326.14	--	326.08	326.05	dry	dry	--
SW5-01	324.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW6-03	325.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pond 1	325.48	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	--	--
Pond 2	326.69	dry	dry	dry	dry	326.37	326.17	326.09	326.01	326.29	dry	326.41	326.59	dry	--	--
WP1-93	326.98	325.30	325.56	--	325.61	325.89	326.02	--	326.07	325.98	--	326.03	325.76	325.47	325.61	325.49

Notes:  
Pond 1 located on Gauthier (now Cox) property  
SW5-01 is Hayden Pond  
SW6-03 located near OW1A/B-90  
m AMSL - metres Above Mean Sea Level  
Pond 2 located on Whittle property  
-- - water level not measured  
\* - water level measured on second date indicated  
F - frozen

Table 3.4

Historical and 2015 Surface Water Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Surface Water Location	Measuring Point Elevation (m AMSL)	3-Jan-01	24-Jan-01	5-Mar-01	29-Mar-01 (30-Mar-01)	30-Apr-01	1-Jun-01	28-Jun-01	24-Jul-01	30-Aug-01	2-Oct-01	29-Oct-01 (6-Nov-01)	26-Nov-01	18-Dec-01
SW1-90	326.36	dry	--	326.04 F	325.98	--	325.90	muck	dry (muck)	dry	dry	dry	dry	dry
SW2-91	326.87	dry	--	326.47 F	325.51	>327.21	326.46	dry	dry	dry	dry	dry	dry	dry
SW3-91	327.10	dry	--	326.10 F	326.08	--	326.11	dry	dry	dry	dry	dry	dry	dry
SW4-91	327.14	dry	--	326.19 F	326.04	--	326.00	dry	dry	dry	dry	dry	dry	dry
SW5-01	324.06	--	--	--	--	--	--	--	--	--	--	--	323.35	323.24
SW6-03	325.48	--	--	--	--	--	--	--	--	--	--	--	--	--
Pond 1	325.48	--	--	--	323.82*	--	--	dry	dry	dry	dry	dry	dry	dry
Pond 2	326.69	326.41	326.09 (snow)	326.29 (snow)	326.25	--	--	326.55	dry	dry	dry	dry*	dry	dry
WP1-93	326.98	325.58	325.59	325.98 F	326.18	326.23	326.05	325.90	325.59	325.28	325.20	325.32	325.56	325.75

Notes:  
Pond 1 located on Gauthier (now Cox) property  
SW5-01 is Hayden Pond  
SW6-03 located near OW1A/B-90  
m AMSL - metres Above Mean Sea Level  
Pond 2 located on Whittle property  
-- - water level not measured  
\* - water level measured on second date indicated  
F - frozen

Table 3.4

Historical and 2015 Surface Water Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Surface Water Location	Measuring Point Elevation (m AMSL)	1-Feb-02 (for Jan.)	25-Feb-02	27-Mar-02	30-Apr-02	3-Jun-02	27-Jun-02	1-Jul-02	1-Aug-02	2-Sep-02	23-Oct-02	26-Nov-02	29-Nov-02	12-Dec-02	3-Jan-03	3-Feb-03	26-May-03	23-Jun-03	30-Oct-03	17-Dec-03 (for Nov.)	31-Dec-03
SW1-90	326.36	dry	dry	fallen	--	--	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	--	--	--	--	--
SW2-91	326.87	dry	dry	326.36	326.60	326.65	326.44	fallen	fallen	fallen	fallen	fallen	dry	fallen	dry	dry	325.89	dry	--	--	325.94
SW3-91	327.10	dry	dry	326.04	326.15	326.20	326.01	dry	dry	dry	dry	dry	dry	dry	dry	dry	325.93	dry	--	--	325.88
SW4-91	327.14	dry	dry	F	326.24	326.18	325.98	dry	dry	dry	dry	dry	dry	dry	dry	dry	325.94	dry	--	--	325.91
SW5-01	324.06	323.06 F	323.49	323.56	323.74	--	--	323.49	323.43	323.35	323.26	323.26	--	323.23 F	323.23 F	323.23 F	323.52	323.49	--	323.46	323.49
SW6-03	325.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pond 1	325.48	dry	dry	dry	323.72	323.64	dry	dry	dry	dry	dry	dry	--	dry	--	--	324.35	324.02	--	--	324.42
Pond 2	326.69	F	325.62	325.75	326.02	326.21	326.18	326.56	dry	dry	dry	dry	--	dry	dry	dry	325.22	325.59	326.52	--	325.68
WP1-93	326.98	F	325.88	F	326.25	326.23	326.06	325.98	325.63	325.53	325.49	325.42	325.19	325.19	325.18	325.09	325.95	325.74	--	--	325.98

Notes:

- Pond 1 located on Gauthier (now Cox) property
- SW5-01 is Hayden Pond
- SW6-03 located near OW1A/B-90
- m AMSL - metres Above Mean Sea Level
- Pond 2 located on Whittle property
- - water level not measured
- \* - water level measured on second date indicated
- F - frozen

Table 3.4

Historical and 2015 Surface Water Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Surface Water Location	Measuring Point Elevation (m AMSL)	29-Jan-04	25-Feb-04	16-Mar-04	23-Apr-04	27-May-04	29-Jun-04	29-Jul-04	31-Aug-04	30-Sep-04	28-Oct-04	30-Nov-04	13-Jan-05	31-Jan-05	28-Feb-05	31-Mar-05	2-May-05	30-May-05	28-Jun-05	29-Jul-05
SW1-90	326.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2-91	326.87	dry	dry	F	326.41	326.39	326.11	325.89	dry	dry	dry	dry	325.97	F	F	326.29	326.45	326.17	dry	dry
SW3-91	327.10	dry	dry	F	326.60	326.55	326.37	326.18	dry	dry	dry	dry	326.19	F	F	326.46	326.55	326.42	326.20	dry
SW4-91	327.14	dry	dry	F	326.51	326.28	326.00	325.89	dry	dry	dry	dry	325.90	F	F	326.23	326.34	326.19	325.94	dry
SW5-01	324.06	323.65	323.64	323.61	323.59	323.57	323.58	323.59	323.59	323.61	323.59	323.60	323.59	323.59	323.60	323.60	323.58	323.60	323.58	323.60
SW6-03	325.48	--	--	325.06	324.89	324.94	324.85	324.68	324.54	324.36	324.22	324.19	324.24	F	F	F	324.84	324.73	324.32	324.54
Pond 1	325.48	dry	dry	F	324.77	324.77	324.28	324.07	dry	dry	dry	dry	324.48	324.39	324.60	324.63	324.85	324.39	324.12	dry
Pond 2	326.69	325.67	325.53	325.03	325.19	325.26	325.56	325.54	325.38	325.30	dry	325.32	325.63	325.59	325.54	325.52	325.22	325.49	325.51	325.37
WP1-93	326.98	325.99	325.99	325.99	326.18	326.33	326.05	325.90	325.77	325.71	325.66	325.62	326.03	325.93	325.98	326.05	326.39	326.14	326.02	325.89

Notes:  
Pond 1 located on Gauthier (now Cox) property  
SW5-01 is Hayden Pond  
SW6-03 located near OW1A/B-90  
m AMSL - metres Above Mean Sea Level  
Pond 2 located on Whittle property  
-- - water level not measured  
\* - water level measured on second date indicated  
F - frozen

Table 3.4

Historical and 2015 Surface Water Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Surface Water Location	Measuring Point Elevation (m AMSL)	2-Sep-05 (for Aug.)	3-Oct-05 (for Sep.)	31-Oct-05	22-Nov-05	21-Dec-05	1-Feb-06 (for Jan.)	Feb-06	Mar-06	Apr-06	May-06	30-Jun-06	Jul-06	21-Aug-06	22-Sep-06	17-Oct-06	21-Nov-06	5-Dec-06
SW1-90	326.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2-91	326.87	dry	dry	dry	dry	dry	325.99	F	F	326.45	--	dry	--	dry	dry	dry	325.98	326.07
SW3-91	327.10	dry	dry	dry	dry	dry	326.00	F	F	326.33	--	dry	--	dry	dry	325.92	325.97	326.03
SW4-91	327.14	dry	dry	dry	dry	dry	325.95	F	F	326.30	--	dry	--	dry	dry	326.22	325.95	326.12
SW5-01	324.06	323.59	323.60	323.61	323.50	323.52	323.53	No Longer Monitored at Request of Owner				--	--	--	--	No Longer Monitored at Request of Owner		
SW6-03	325.48	324.59	324.61	324.54	dry	--	--	F	--	--	--	--	--	324.45	--	--	324.64	324.74
Pond 1	325.48	dry	dry	dry	324.07	dry	F	F	324.78	324.66	--	324.03	--	323.99	324.04	324.03	324.24	F
Pond 2	326.69	325.37	325.29	325.19	325.05	325.51	325.41	324.29	F	F	--	--	--	--	--	--	325.40	F
WP1-93	326.98	325.85	325.77	325.73	325.65	325.68	326.01	326.20	326.37	326.34	--	325.78	--	325.69	325.50	325.58	325.98	326.12

Notes:  
Pond 1 located on Gauthier (now Cox) property  
SW5-01 is Hayden Pond  
SW6-03 located near OW1A/B-90  
m AMSL - metres Above Mean Sea Level  
Pond 2 located on Whittle property  
-- - water level not measured  
\* - water level measured on second date indicated  
F - frozen

Table 3.4

Historical and 2015 Surface Water Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Surface Water Location	Measuring Point Elevation (m AMSL)	30-Jan-07	28-Feb-07	29-Mar-07	18-Apr-07	1-May-07	29-Jun-07	7-Jul-07	14-Aug-07	12-Sep-07	22-Oct-07	30-Nov-07	12-Dec-07	30-Jan-08	28-Feb-08	31-Mar-08	30-Apr-08	26-May-08
SW1-90	326.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2-91	326.87	F	F	326.54	326.47	--	dry	dry	dry	dry	dry	dry	dry	dry	dry	--	326.31	326.28
SW3-91	327.10	F	F	326.49	326.40	--	dry	dry	dry	dry	dry	dry	dry	dry	dry	--	326.32	326.28
SW4-91	327.14	F	F	326.51	326.55	--	dry	dry	dry	dry	dry	dry	dry	dry	dry	not acc.	326.44	326.41
SW5-01	324.06		--	--	--	--	--	--	--	No Longer Monitored at Request of Owner				--	--	--	--	--
SW6-03	325.48	F	F	F	325.04	--	324.30	324.30	324.30	323.96	dry	F	--	F	F	SG Missing	SG Missing	325.03
Pond 1	325.48	324.36	F	324.97	--	--	dry	dry	dry	dry	dry	Not Accessible (owner has area taped off)				not acc.	not acc.	not acc.
Pond 2	326.69	F	F	--	--	--	dry	dry	dry	1.87	1.920	1.920	1.920		F	326.24	326.33	326.42
WP1-93	326.98	F	F	326.47	326.53	--	325.57	325.41	325.40	325.38	--	--	--	--	--	--	326.27	326.23

Notes:

Pond 1 located on Gauthier (now Cox) property

SW5-01 is Hayden Pond

SW6-03 located near OW1A/B-90

m AMSL - metres Above Mean Sea Level

Pond 2 located on Whittle property

-- - water level not measured

\* - water level measured on second date indicated

F - frozen



Table 3.4

Historical and 2015 Surface Water Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Surface Water Location	Measuring Point Elevation (m AMSL)	25-Jun-08	15-Jul-08	20-Aug-08	22-Sep-08	20-Oct-08	7-Nov-08	8-Dec-08	9-Jan-09	23-Feb-09	17-Mar-09	30-Apr-09	21-May-09	29-Jun-09	31-Jul-09	19-Aug-09	30-Sep-09	21-Oct-09	26-Nov-09	22-Dec-09
SW1-90	326.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2-91	326.87	No Longer Monitored at Request of Owner				--	--	--	No Longer Monitored at Request of Owner				--	--	--	--	--	--	--	--
SW3-91	327.10	No Longer Monitored at Request of Owner				--	--	--	No Longer Monitored at Request of Owner				--	--	--	--	--	--	--	--
SW4-91	327.14	No Longer Monitored at Request of Owner				--	--	--	No Longer Monitored at Request of Owner				--	--	--	--	--	--	--	--
SW5-01	324.06	No Longer Monitored at Request of Owner				--	--	--	No Longer Monitored at Request of Owner				--	--	--	--	--	--	--	--
SW6-03	325.48	324.95	324.86	324.70	324.53	324.39	324.36	324.46 F	324.46 F	324.42 F	324.56	324.93	324.92	325.02	325.12	325.17	325.23	325.21	324.14	324.04 F
Pond 1	325.48	Not Accessible (owner has area taped off)				not acc.	not acc.	324.04	324.07 F	324.45 F	not acc.	324.82	324.71	324.30	324.15	324.13	324.09	324.09	323.99	324.10
Pond 2	326.69	326.13	326.08	325.97	325.89	325.83	325.74	325.87 F	325.84 F	326.35 F	326.50 F	326.48	326.39	326.13	325.88	325.84	325.83	325.82	325.74	325.86 F
WP1-93	326.98	No Longer Monitored at Request of Owner				--	--	--	No Longer Monitored at Request of Owner				--	--	--	--	--	--	--	--

Notes:

- Pond 1 located on Gauthier (now Cox) property
- SW5-01 is Hayden Pond
- SW6-03 located near OW1A/B-90
- m AMSL - metres Above Mean Sea Level
- Pond 2 located on Whittle property
- - water level not measured
- \* - water level measured on second date indicated
- F - frozen

Table 3.4

Historical and 2015 Surface Water Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Surface Water Location	Measuring Point Elevation (m AMSL)	15-Jan-10	24-Feb-10	30-Mar-10	19-Apr-10	31-May-10	23-Jun-10	23-Jul-10	31-Aug-10	22-Sep-10	28-Oct-10	23-Nov-10	21-Dec-10	21-Jan-11	14-Feb-11	20-Mar-11	14-Apr-11	19-May-11	23-Jun-11	7-Jul-11
SW1-90	326.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2-91	326.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW3-91	327.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW4-91	327.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW5-01	324.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW6-03	325.48	324.04	323.95	324.21	324.29	324.21	324.18	324.09	323.80	<324.48	<324.48	<324.48	--	<324.91 F	<324.91 F	324.56 F	324.65	324.93	325.06	325.05
Pond 1	325.48	324.07	324.04	324.35	324.31	324.05	324.16	323.82	323.82	--	--	--	--	--	--	324.24	324.19	too deep	324.41	324.30
Pond 2	326.69	325.82	325.79 F	326.42	326.41	325.88	325.85	325.70	325.59	325.55	325.62	325.63	F	325.69	325.81	326.10 F	326.17	326.44	326.33	326.13
WP1-93	326.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

Pond 1 located on Gauthier (now Cox) property

SW5-01 is Hayden Pond

SW6-03 located near OW1A/B-90

For September to November 2010: Water receded too far from staff gauge to measure (water level assumed to be >1.500 m below top of staff gauge plate)

m AMSL - metres Above Mean Sea Level

Pond 2 located on Whittle property

-- - water level not measured

\* - water level measured on second date indicated

F - frozen

Table 3.4

Historical and 2015 Surface Water Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Surface Water Location	Measuring Point Elevation (m AMSL)	19-Aug-11	5-Oct-11	26-Oct-11	30-Nov-11	21-Dec-11	24-Jan-12	23-Feb-12	28-Mar-12	17-Apr-12	24-May-12	Jun-12	30-Jul-12	31-Aug-12	28-Sep-12	26-Oct-12	22-Nov-12	18-Dec-12
SW1-90	326.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2-91	326.87	--	--	--	--	--	--	325.99 F	326.27	325.97	dry	--	dry	dry	dry	dry	dry	dry
SW3-91	327.10	--	--	--	--	--	--	326.07 F	326.10	325.95	dry	--	dry	dry	dry	dry	dry	dry
SW4-91	327.14	--	--	--	--	--	--	326.04 F	326.15	325.97	dry	--	dry	dry	dry	dry	dry	dry
SW5-01	324.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW6-03	325.48	324.70	<324.48	324.52	324.51	324.61	324.72	324.59	324.71	324.66	324.57	--	324.24	324.10	324.05	324.03	323.89	324.11
Pond 1	325.48	323.92	323.77	323.86	--	323.90	324.21 F	324.19 F	324.26	323.80	324.04	--	323.71	323.65	323.57	323.68	323.78	323.79
Pond 2	326.69	325.63	325.57	325.66	325.82	326.07	325.98 F	325.91	326.24	325.91	325.72	--	325.52	325.48	325.51	325.50	325.60	325.63
WP1-93	326.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:  
Pond 1 located on Gauthier (now Cox) property  
Pond 2 located on Whittle property  
SW5-01 is Hayden Pond  
SW6-03 located near OW1A/B-90  
m AMSL - metres Above Mean Sea Level  
-- - water level not measured  
F - frozen

Table 3.4

Historical and 2015 Surface Water Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Surface Water Location	Measuring Point Elevation (m AMSL)	29-Jan-13	13-Feb-13	12-Mar-13	15-Apr-13	9-May-13	21-Jun-13	25-Jul-13	9-Aug-13	30-Sep-13	29-Oct-13	27-Nov-13	23-Jan-14	7-Feb-14	21-Mar-14	28-Apr-14	29-May-14	30-Jun-14	24-Jul-14
SW1-90	326.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2-91	326.87	dry	--	dry	326.58	326.42	326.15	325.90	325.88	dry	dry	325.86	--	--	--	326.21	326.41	326.68	--
SW3-91	327.10	dry	--	325.94	326.36	326.25	325.99	dry	dry	dry	dry	325.96	--	--	--	326.34	326.18	325.95	--
SW4-91	327.14	dry	--	dry	326.45	326.33	dry	dry	dry	dry	dry	326.01	--	--	--	326.38	326.37	326.01	--
SW5-01	324.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW6-03	325.48	324.29	324.31 F	324.29	324.65	324.84	324.86	324.76	324.60	324.00	324.48	324.55	324.68	--	324.77	325.21	--	--	--
Pond 1	325.48	324.08	324.05 F	324.32	324.32	324.34	324.32	324.15	324.16	323.95	324.12	324.17 F	--	324.86	--	324.82	324.66	324.30	324.14
Pond 2	326.69	325.77	325.84	325.85	326.59	326.40	326.11	325.94	325.87	325.69	325.82	326.22	--	326.68	--	326.01	326.09	325.60	325.40
WP1-93	326.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:  
Pond 1 located on Gauthier (now Cox) property  
Pond 2 located on Whittle property  
SW5-01 is Hayden Pond  
SW6-03 located near OW1A/B-90  
m AMSL - metres Above Mean Sea Level  
-- - water level not measured  
F - frozen

Table 3.4

Historical and 2015 Surface Water Elevations  
Aberfoyle Pit No. 2  
Dufferin Aggregates

Surface Water Location	Measuring Point Elevation (m AMSL)	29-Aug-14	15-Sep-14	15-Oct-14	14-Nov-14	18-Dec-14	15-Jan-15	27-Feb-15	18-Mar-15	29-Apr-15	29-May-15	19-Jun-15	27-Jul-15	16-Sep-15	15-Oct-15	18-Nov-15	9-Dec-15
SW1-90	326.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2-91	326.87	--	326.49	--	--	--	--	--	--	326.47	--	--	--	--	--	--	--
SW3-91	327.10	--	325.98	--	--	--	--	--	--	326.09	--	--	--	--	--	--	--
SW4-91	327.14	--	326.00	--	--	--	--	--	--	326.12	--	--	--	--	--	--	--
SW5-01	324.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW6-03	325.48	--	324.95	324.98	325.10	325.05	--	--	--	--	325.11	325.10	325.23	325.45	325.33	325.35	325.35
Pond 1	325.48	324.26	324.70	324.67	324.56	324.60	--	--	324.57	324.67	324.62	324.42	324.36	324.16	324.09	324.20	324.16
Pond 2	326.69	326.24	325.88	326.08	326.19	326.10	--	--	325.80	325.38	325.78	325.82	325.90	325.99	326.07	325.96	325.97
WP1-93	326.98	--	--	--	--	--	--	--	--	--	--	--	--	325.53	325.41	325.58	325.58

Notes:

- Pond 1 located on Gauthier (now Cox) property
- Pond 2 located on Whittle property
- SW5-01 is Hayden Pond
- SW6-03 located near OW1A/B-90
- m AMSL - metres Above Mean Sea Level
- - water level not measured
- F - frozen

**Table 3.5**  
**Chemistry Results for Monitoring Wells**  
**Aberfoyle Pit No. 2**  
**Dufferin Aggregates**

Parameter	MOE	OW1A-90											
	ODWS <sup>(1)</sup>	6/28/1990	5/26/1995	7/30/1999	8/24/2000	12/13/2000	5/29/2001	11/26/2001	11/29/2002	12/31/2003	12/30/2004	11/22/2005	11/21/2006
pH	6.5 - 8.5	7.7	7.3	7.6	6.84	7.16	7.28	7.21	7.37	7.68	7.34	7.06	7.03
Conductivity (µmhos/cm)	--	500	400	339	463	458	458	440	449	416	602	425	494
Chloride (as Cl)	250	9	2.7	7.52	2.37	<3.0	<3.0	<3.0	2.2	3.4	3.7	4	5
Sulphate (as SO <sub>4</sub> )	500	30	25.6	15.5	25.5	20.9	16.3	17	19.4	22.7	20.2	19	14
Nitrate (as N)	10.0	<0.05	<0.10	0.8	<0.04	0.34	0.29	0.12	<0.2	<0.2	0.3	<0.1	<0.1
Nitrite (as N)	1.0	<0.05	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.2	<0.2	<0.2	<0.1	<0.1
Total Phosphorus	--	0.02	0.05	0.11	0.01	0.12	<0.01	0.008	0.015	2.92	0.75	2.50	1.05
Calcium (as Ca)	--	69.7	67.5	60.7	356	413	67.9	58.9	53.1	51.3	52.7	64.5	53.2
Iron (as Fe)	0.3	0.64	0.77	<0.01	0.413	0.302	0.155	0.1	0.10	0.09	<0.03	0.06	0.09
Magnesium (as Mg)	--	24.8	33.3	30.6	39.9	36.4	35.4	30.2	28.5	28.4	28.9	35.6	30.7
Potassium (as K)	--	3.25	1.24	1.2	1.97	1.9	1.1	1.3	1.1	0.9	1.1	2	<1
Sodium (as Na)	200	3.6	4.49	6.5	6.34	6.4	5.2	5.1	5.0	4.9	4.9	5.4	5.0
TPH (Gas/Diesel) (µg/L)	--	--	--	--	--	--	--	<100	--	--	--	--	--
TPH (Heavy Oils)	--	--	--	--	--	--	--	<1	--	--	--	--	--

## Notes:

All concentrations expressed in mg/L unless otherwise noted.

(1) Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, Ontario Ministry of the Environment, June 2003, revised June 2006.

**Table 3.5**  
**Chemistry Results for Monitoring Wells**  
**Aberfoyle Pit No. 2**  
**Dufferin Aggregates**

Parameter	MOE	OW1A-90								
	ODWS <sup>(1)</sup>	12/27/2007	12/8/2008	1/15/2010	12/21/2010	12/21/2011	12/18/2012	11/27/2013	9/15/2014	8/19/2015
pH	6.5 - 8.5	7.00	7.35	7.43	6.97	7.57	8.45	8.06	7.49	7.52
Conductivity (µmhos/cm)	--	530	523	558	410	539	751	559	556	447
Chloride (as Cl)	250	7	20	9.7	10.7	11.5	13.0	13.4	15.3	17.4
Sulphate (as SO <sub>4</sub> )	500	40	23	20.5	21.6	21.9	22.0	21.5	22.3	23.1
Nitrate (as N)	10.0	<0.1	0.3	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.020
Nitrite (as N)	1.0	0.4	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.010
Total Phosphorus	--	0.42	1.40	0.962	1.07	0.516	1.04	0.565	0.357	0.595
Calcium (as Ca)	--	62.6	57.0	65.3	63.0	66.5	70.4	65.4	66.2	67.2
Iron (as Fe)	0.3	<0.05	<0.05	<0.050	<0.050	<0.050	1.07	0.957	1.01	0.973
Magnesium (as Mg)	--	22.4	37.0	34.7	34.4	34.2	38.3	32.9	31.9	35.6
Potassium (as K)	--	<1	<1	1.1	<1.0	<1.0	1.2	<1.0	<1.0	1.18
Sodium (as Na)	200	4.2	6.0	5.11	5.28	6.00	6.22	5.89	6.22	6.91
TPH (Gas/Diesel) (µg/L)	--	--	--	--	--	--	--	--	--	--
TPH (Heavy Oils)	--	--	--	--	--	--	--	--	--	--

## Notes:

All concentrations expressed in mg/L unless otherwise noted.

(1) Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, Ontario Ministry of the Environment, June 2003, revised June 2006.



**Table 3.5**  
**Chemistry Results for Monitoring Wells**  
**Aberfoyle Pit No. 2**  
**Dufferin Aggregates**

Parameter	MOE	OW1B-90												
	ODWS <sup>(1)</sup>	6/28/1990	8/12/1993	5/26/1995	7/30/1999	8/24/2000	12/13/2000	5/29/2001	11/26/2001	11/29/2002	12/31/2003	12/30/2004	11/22/2005	11/21/2006
pH	6.5 - 8.5	7.5	6.6	7.0	6.99	7.01	6.86	6.95	6.87	7.17	7.47	7.2	6.96	6.89
Conductivity (µmhos/cm)	--	570	300	500	398	587	596	604	574	546	518	769	492	564
Chloride (as Cl)	250	14	--	16.3/16.2	19.0/16.7	12.8	13.8	10.9/11.1	15.3	22.9	22.6	39.4	35	44
Sulphate (as SO <sub>4</sub> )	500	69	--	27.2/27.1	10.4/8.82	71.8	39.9	52.8/53.8	52.1	50.3	57.4	22.4	23	15
Nitrate (as N)	10.0	<0.05	--	<0.10/<0.10	0.38/0.67	<0.04	0.17	0.18/<0.04	<0.04	<0.2	<0.2	<0.2	<0.1	<0.1
Nitrite (as N)	1.0	0.08	--	<0.10/<0.10	<0.10/<0.10	<0.10	<0.10	<0.10/<0.10	<0.10	<0.2	<0.2	<0.2	<0.1	<0.1
Total Phosphorus	--	0.105	--	0.03/0.03	0.13/0.13	0.19	0.07	<0.01/<0.01	0.032	0.030	0.044	0.13	0.13	0.05
Calcium (as Ca)	--	78.6	--	80.4/81.0	95.9/95.4	156	122	130/108	94.6	77.0	76.7	74.1	87.5	71.8
Iron (as Fe)	0.3	2.51	--	0.28/0.24	1.43/1.40	1.67	2.18	2.08/2.09	2.04	1.68	1.64	1.52	0.82	0.90
Magnesium (as Mg)	--	24.3	--	25.2/25.3	26.6/26.4	47.2	39.3	34.9/34.7	29.3	23.9	24.8	23.7	28.7	24.3
Potassium (as K)	--	3.37	--	1.44/1.42	0.8/0.7	1.54	1.0	0.9/0.9	0.9	0.6	0.6	0.7	1	<1
Sodium (as Na)	200	3.4	--	6.93/6.93	8.4/8.4	10.2	7.5	7.6/7.3	5.7	7.4	8.9	13.1	16.0	17.7
TPH (Gas/Diesel) (µg/L)	--	--	<20/<20	<10/<10	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
TPH (Heavy Oils)	--	--	--/--	--	<1	<1	<1	<1	<1	<3	<1	<1	<1	1/<1 <sup>(2)</sup>

Notes:

All concentrations expressed in mg/L unless otherwise noted.

(1) Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, Ontario Ministry of the Environment, June 2003, revised June 2006.

(2) 1/<1 (TPH) - November 21, 2006/February 1, 2007.

**Table 3.5**  
**Chemistry Results for Monitoring Wells**  
**Aberfoyle Pit No. 2**  
**Dufferin Aggregates**

Parameter	MOE	OW1B-90								
	ODWS <sup>(1)</sup>	12/27/2007	12/8/2008	1/15/2010	12/21/2010	12/21/2011	12/18/2012	11/27/2013	9/15/2014	8/19/2015
pH	6.5 - 8.5	6.83	7.05	7.19	6.85	7.51	8.86	7.47	7.24	7.26
Conductivity (µmhos/cm)	--	634	581	613	449	597	1,040	583	634	461
Chloride (as Cl)	250	41	51	39.7	36.4	39.8	38.7	41.1/41.0	57.4	43.7
Sulphate (as SO <sub>4</sub> )	500	13	12	4.5	9.0	9.2	18.0	9.0/9.1	<3.0	3.67
Nitrate (as N)	10.0	<0.1	0.4	<0.10	<0.10	<0.10	<0.10	<0.10/<0.10	<0.10	<0.020
Nitrite (as N)	1.0	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10/<0.10	<0.10	<0.010
Total Phosphorus	--	0.07	0.07	0.0230	0.076	0.064	0.068	0.048/0.054	0.041	0.039
Calcium (as Ca)	--	74.5	70.9	79.4	71.2	81.9	79.4	81.7/78.2	73.0	71.9
Iron (as Fe)	0.3	1.77	1.45	0.991	0.929	0.936	1.58	1.18/1.14	1.040	1.02
Magnesium (as Mg)	--	24.6	27.2	23.2	24.0	25.6	26.8	26.0/24.7	1.04	24.0
Potassium (as K)	--	<1	<1	1.1	<1.0	1.1	<1.0	1.3/1.2	1.1	1.04
Sodium (as Na)	200	17.6	20.0	18.9	17.8	21.0	20.8	20.3/20.5	27.0	22.0
TPH (Gas/Diesel) (µg/L)	--	<100	<100	<100	<100	<100	440 /<100 <sup>(2)</sup>	<100	<100	<100
TPH (Heavy Oils)	--	<1	<1	<1.0	<1.0	2.3	<1.0/<1.0 <sup>(2)</sup>	<2.0	<2.0	2.4

Notes:

All concentrations expressed in mg/L unless otherwise noted.

(1) Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, Ontario Ministry of the Environment, June 2003, revised June 2006.

(2) 440/<100 (TPH) - December 18, 2012/April 12, 2013.

**Table 3.5**  
**Chemistry Results for Monitoring Wells**  
**Aberfoyle Pit No. 2**  
**Dufferin Aggregates**

Parameter	MOE	OW2-90												
	ODWS <sup>(1)</sup>	6/28/1990	8/12/1993	5/26/1995	7/30/1999	8/24/2000	12/13/2000	5/29/2001	11/26/2001	11/29/2002	12/31/2003	12/30/2004	11/22/2005	11/21/2006
pH	6.5 - 8.5	7.8	7.2	7.1	7.14	7.21	7.00	7.12	6.88	7.04	7.21	7.36	6.94	6.49
Conductivity (µmhos/cm)	--	540	200	400	431	532	525	534	651	588	693	684	504	695
Chloride (as Cl)	250	37	--	4.29	32.4	21.7/22.0	14.3/14.0	6.6	7.7	18.9	7.4	17.9	13	5
Sulphate (as SO <sub>4</sub> )	500	32	--	21.3	48.4	22.3/22.3	28.7/30.1	15.9	16.1	25.8	24.6	31.2	24	16
Nitrate (as N)	10.0	<0.05	--	1.06	1.9	0.31/0.30	0.80/0.72	0.78	2.12	0.8	4.7	0.4	0.6	2.6
Nitrite (as N)	1.0	0.07	--	<0.10	<0.10	<0.10/<0.10	<0.10/<0.10	<0.10	<0.10	<0.2	<0.2	<0.2	<0.1	<0.1
Total Phosphorus	--	<0.005	--	0.03	0.17	0.13/0.13	0.17/0.17	<0.01	0.006	0.004	0.335	0.31	0.49	<0.03
Calcium (as Ca)	--	69.7	--	78.9	99.2	172/177	169/192	98.9	107	81.7	117	73.3	107	111
Iron (as Fe)	0.3	2.28	--	<0.02	<0.01	0.024/0.017	<0.005/<0.005	0.016	<0.01	<0.03	<0.03	<0.03	0.10	0.20
Magnesium (as Mg)	--	19.9	--	24.4	28.3	46.8/48.6	44.1/48.8	30.5	32.2	25.9	33.9	23.6	34.7	32.9
Potassium (as K)	--	4.7	--	1.44	1.1	2.26/2.18	1.4/1.5	1.1	1.8	1.2	1.6	1.2	2	2
Sodium (as Na)	200	3.2	--	2.21	3.7	3.34/3.31	3.5/3.6	2.5	1.9	3.4	1.5	3.5	3.8	1.2
TPH (Gas/Diesel) (µg/L)	--	--	<20	<10	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
TPH (Heavy Oils)	--	--	--	--	<1	<1	<1	<1	<1	<1	<1	<1	3/<1 <sup>(2)</sup>	2/<1 <sup>(3)</sup>

Notes:

All concentrations expressed in mg/L unless otherwise noted.

(1) Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, Ontario Ministry of the Environment, June 2003, revised June 2006.

(2) 3/<1 (TPH) - November 22, 2005/May 14, 2006.

(3) 2/<1 (TPH) - November 21, 2006/February 1, 2007.

**Table 3.5**  
**Chemistry Results for Monitoring Wells**  
**Aberfoyle Pit No. 2**  
**Dufferin Aggregates**

Parameter	MOE	OW2-90								
	ODWS <sup>(1)</sup>	12/27/2007	12/8/2008	1/15/2010	12/21/2010	12/21/2011	12/18/2012	11/27/2013	9/15/2014	8/19/2015
pH	6.5 - 8.5	6.70	7.09	7.29	6.73	7.49	7.98	7.41	7.32	6.97
Conductivity (µmhos/cm)	--	738	569	586	468	586	1170	549	507	397
Chloride (as Cl)	250	25	20	7.0	4.4	<2.0	2.9	3.8	10.8	11.2
Sulphate (as SO <sub>4</sub> )	500	25	20	24.8	19.8	12.8	14.1	11.3	12.0	14.6
Nitrate (as N)	10.0	1.1	0.7	0.25	0.48	2.38	0.47	0.26	<0.10	<0.020
Nitrite (as N)	1.0	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.010
Total Phosphorus	--	0.03	0.19	0.0042	0.039	0.065	0.111	<0.030	<0.030	<0.030
Calcium (as Ca)	--	107	77.9	88.0	85.7	93.1	91.5	89.0	70.9	71.5
Iron (as Fe)	0.3	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010
Magnesium (as Mg)	--	33.1	28.9	26.7	28.5	27.2	29.1	28.0	21.5	24.6
Potassium (as K)	--	1	1	1.2	1.1	1.1	1.3	1.2	1.0	1.10
Sodium (as Na)	200	2.0	2.9	3.84	2.80	1.78	2.28	2.75	4.17	4.99
TPH (Gas/Diesel) (µg/L)	--	<100	<100	<100	<100	<100	<100	<100	<100	<100
TPH (Heavy Oils)	--	<1	<1	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0

## Notes:

All concentrations expressed in mg/L unless otherwise noted.

(1) Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, Ontario Ministry of the Environment, June 2003, revised June 2006.

**Table 3.5**  
**Chemistry Results for Monitoring Wells**  
**Aberfoyle Pit No. 2**  
**Dufferin Aggregates**

Parameter	MOE	OW3R-05										
	ODWS <sup>(1)</sup>	11/22/2005	11/21/2006	12/27/2007	12/8/2008	1/15/2010	12/21/2010	12/21/2011	12/18/2012	11/27/2013	9/15/2014	8/19/2015
pH	6.5 - 8.5	7.08	6.96	6.98	7.34	7.35	7.09	7.76	8.33	7.72	7.43	7.17
Conductivity (µmhos/cm)	--	410	446	512	476	492	372	471	901	444	438	360
Chloride (as Cl)	250	12	13	12	25	13.7	15.2	14.5	14.2	14.5	13.3	14.8
Sulphate (as SO <sub>4</sub> )	500	42	42	48	54	46.9	45.9	40.1	39.8	37.9	30.3	33.8
Nitrate (as N)	10.0	0.3	0.2	0.1	0.4	0.12	<0.10	<0.10	0.17	<0.10	<0.10	0.036
Nitrite (as N)	1.0	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.010
Total Phosphorus	--	1.01	1.25	0.46	0.55	0.389	0.195	0.089	0.250	<0.030	<0.030	<0.030
Calcium (as Ca)	--	72.0	63.5	68.6	59.6	66.6	61.2	68.8	63.1	61.0	52.6	57.5
Iron (as Fe)	0.3	0.07	0.11	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010
Magnesium (as Mg)	--	24.6	21.1	23.9	24.9	21.7	22.1	24.6	25.7	24.3	20.9	24.1
Potassium (as K)	--	1	<1	1	<1	<1.0	<1.0	1.0	1.1	<1.0	<1.0	0.965
Sodium (as Na)	200	4.4	3.2	5.8	5.6	4.78	4.97	5.62	5.74	5.33	4.81	5.75
TPH (Gas/Diesel) (µg/L)	--	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
TPH (Heavy Oils)	--	<1	5/1 <sup>(2)</sup>	<1	<1	<1.0	<1.0	1.3	<1.0	<2.0	<2.0	<2.0

## Notes:

All concentrations expressed in mg/L unless otherwise noted.

(1) Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, Ontario Ministry of the Environment, June 2003, revised June 2006.

(2) 5/1 (TPH) - November 21, 2006/February 1, 2007.

**Table 3.5**  
**Chemistry Results for Monitoring Wells**  
**Aberfoyle Pit No. 2**  
**Dufferin Aggregates**

Parameter	MOE	OW4R-05										
	ODWS <sup>(1)</sup>	11/22/2005	11/21/2006	12/27/2007	12/8/2008	1/15/2010	12/21/2010	12/21/2011	12/18/2012	11/27/2013	9/15/2014	8/19/2015
pH	6.5 - 8.5	6.98	7.03	7.07	7.34	7.50	7.12	7.83	8.05	7.77	7.46	7.31
Conductivity (µmhos/cm)	--	409	475	489	470	417	315	407	520	389	400	339
Chloride (as Cl)	250	17	33	22/22	38	13.3	13.3	13.1	14.0/14.0	12.1	11.6/11.6	14.7/14.7
Sulphate (as SO <sub>4</sub> )	500	33	36	40/40	43	34.4	33.6	31.0	33.3/33.4	29.4	27.3/27.4	31.5/31.5
Nitrate (as N)	10.0	0.5	0.6	0.4/0.4	0.7	0.24	0.16	0.14	0.16/0.17	0.16	0.15/0.15	0.113/0.113
Nitrite (as N)	1.0	<0.1	<0.1	<0.1/<0.1	<0.1	<0.10	<0.10	<0.10	<0.10/<0.10	<0.10	<0.10/<0.10	<0.010/<0.010
Total Phosphorus	--	0.32	0.32	0.42/0.04	0.60	0.165	0.178	0.030	0.059/0.106	0.192	0.109/0.100	0.058/0.053
Calcium (as Ca)	--	78.6	64.1	62.6/62.4	54.3	55.9	52.8	59.1	55.2/55.7	54.0	48.6/49.1	53.5/53.7
Iron (as Fe)	0.3	0.08	0.11	<0.05/<0.05	<0.05	<0.050	<0.050	<0.050	<0.050/<0.050	<0.050	<0.050/<0.050	<0.010/<0.010
Magnesium (as Mg)	--	26.9	23.4	22.4/20.8	22.5	19.3	18.7	20.8	21.6/22.3	21.3	18.7/19.4	22.3/22.3
Potassium (as K)	--	2	<1	<1/<1	<1	<1.0	<1.0	<1.0	1.1/1.1	1.0	<1.0/1.0	1.06/1.07
Sodium (as Na)	200	3.5	2.4	4.2/4.3	4.8	4.36	4.55	4.57	5.33/5.30	4.35	4.45/4.39	5.59/5.51
TPH (Gas/Diesel) (µg/L)	--	--	--	--	--	--	--	--	--	-	--	--
TPH (Heavy Oils)	--	--	--	--	--	--	--	--	--	-	--	--

Notes:

All concentrations expressed in mg/L unless otherwise noted.

(1) Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, Ontario Ministry of the Environment, June 2003, revised June 2006.

(2) 5/1 (TPH) - November 21, 2006/February 1, 2007.

Table 3.6

**Chemistry Results For Private Domestic Wells  
Aberfoyle Pit No. 2  
Dufferin Aggregates**

Parameter	MOE	Behmann											
	ODWS <sup>(1)</sup>	6/28/1990	8/10/1999	8/24/2000	12/13/2000	5/29/2001	11/26/2001	11/29/2002	12/31/2003	12/30/2004	11/22/2005	11/21/2006	12/27/2007
pH	6.5 - 8.5	7.6	7.38	7.58	7.26	7.09	7.27	7.28	7.72	7.26	6.97	6.96	7.20
Conductivity (µmhos/cm)	--	600	531	569	567	556	546	580	597	722	485	242	586
Chloride (as Cl)	250	16	12.2	12.9	11.2	11.8	12.6	14.4/14.4	14.6	15.3	14	13/13	13
Sulphate (as SO <sub>4</sub> )	500	51	45.8	54.1	67.3	43.9	50.6	50.1/49.4	51.4	54.4	53	56/56	52
Nitrate (as N)	10.0	<0.05	<0.10	<0.04	0.33	<0.04	<0.04	<0.2/<0.2	<0.2	<0.2	<0.1	<0.1/0.1	<0.1
Nitrite (as N)	1.0	<0.05	<0.10	<0.10	<0.10	<0.10	<0.10	<0.2/<0.2	<0.2	<0.2	<0.1	<0.1/<0.1	<0.1
Total Phosphorus	--	0.014	0.11	0.01	0.05	<0.01	0.006	0.009/0.007	<0.002	0.006	<0.03	<0.03/0.07	<0.03
Calcium (as Ca)	--	63.3	69.1	73.3	74.8	80.7	70.3	64.8/65.2	64.0	60.7	69.6	53.4/63.0	67.4
Iron (as Fe)	0.3	0.53	0.87	0.287	0.061	0.563	0.43	1.02/1.01	1.05	0.72	0.07	0.46/0.52	<0.05
Magnesium (as Mg)	--	31.6	32.1	43.6	38.5	44.7	37.3	33.4/33.3	36.5	34.3	40.9	31.6/36.4	34.8
Potassium (as K)	--	2.82	0.8	1.78	1.2	1.2	1.5	1.1/1.1	1.1	1.2	2	<1/1	1
Sodium (as Na)	200	5.5	8.7	9.65	7.8	8.2	8.0	7.5/7.5	8.6	7.9	9.9	7.6/8.9	7.9

## Notes:

All concentrations expressed in mg/L unless otherwise noted.

(1) Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, Ontario Ministry of the Environment, June 2003, revised June 2006.

Table 3.6

**Chemistry Results For Private Domestic Wells  
Aberfoyle Pit No. 2  
Dufferin Aggregates**

Parameter	MOE ODWS <sup>(1)</sup>	Behmann						
		12/8/2008	1/15/2010	12/21/2010	12/21/2011	12/18/2012	11/27/2013	9/15/2014
pH	6.5 - 8.5	7.42	7.41	7.20	7.88	8.09	7.56	7.43
Conductivity (µmhos/cm)	--	533	566	434	574	1090	543	627
Chloride (as Cl)	250	15	13.9	13.4	13.5	13.4	13.8	13.7
Sulphate (as SO <sub>4</sub> )	500	57	54.6	54.7	56.8	53.7	56.2	57.5
Nitrate (as N)	10.0	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrite (as N)	1.0	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Phosphorus	--	0.04	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Calcium (as Ca)	--	55.8	66.3	61.3	65.4	60.9	56.1	62.2
Iron (as Fe)	0.3	<0.05	<0.050	<0.050	0.483	0.949	0.579	0.478
Magnesium (as Mg)	--	35.5	34.5	36.5	41.4	34.5	33.3	38.3
Potassium (as K)	--	1	1.3	1.2	1.3	1.2	1.1	1.2
Sodium (as Na)	200	9.0	8.34	8.70	9.61	8.14	8.01	9.19

## Notes:

All concentrations expressed in mg/L unless otherwise noted.

(1) Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, Ontario Ministry of the Environment, June 2003, revised June 2006.



Table 3.6

**Chemistry Results For Private Domestic Wells  
Aberfoyle Pit No. 2  
Dufferin Aggregates**

Parameter	MOE	Hohenadel												
	ODWS <sup>(1)</sup>	6/28/1990	5/26/1995	8/10/1999	8/24/2000	12/13/2000	5/29/2001	11/26/2001	11/29/2002	12/31/2003	12/30/2004	11/22/2005	11/21/2006	12/27/2007
pH	6.5 - 8.5	7.8	7.1	7.35	7.59	7.07	7.1	7.12	7.27	7.57	7.25	6.89	7.19	7.15
Conductivity (µmhos/cm)	--	420	500	422	523	526	527	503	528	488	671	436	203	522
Chloride (as Cl)	250	5	4.88	1.54	8.44	6.8	6.1	8.5	9.6	11.9	13.1/13.2	12	14	15
Sulphate (as SO <sub>4</sub> )	500	22	41.6	15.9	46.0	54.5	35.1	42.0	43.7	45.7	46.8/47.3	46	48	48
Nitrate (as N)	10.0	<0.05	<0.10	0.2	<0.04	0.33	0.11	0.09	<0.2	<0.2	0.2/0.2	0.2	<0.1	<0.1
Nitrite (as N)	1.0	<0.05	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.2	<0.2	<0.2/<0.2	<0.1	<0.1	<0.1
Total Phosphorus	--	NS	<0.01	0.11	<0.01	0.01	<0.01	<0.004	<0.002	<0.002	<0.002/<0.002	<0.03	<0.03	<0.03
Calcium (as Ca)	--	36.9	82.2	51.6	82.8	87.6	96.9	82	73.0	72.4	69.9/69.6	80.5	65.9	70.3
Iron (as Fe)	0.3	0.57	0.57	0.14	0.172	0.370	0.524	0.15	0.17	0.13	0.11/0.10	0.07	0.33	<0.05
Magnesium (as Mg)	--	27.2	28.6	22.1	32.7	30.7	34.5	28.5	26.1	26.1	25.1/25.0	29.7	25.0	25.3
Potassium (as K)	--	2.63	1.28	0.6	1.31	1.0	0.9	1.2	0.9	0.9	1.0/1.0	2	<1	1
Sodium (as Na)	200	5.3	2.35	5.2	2.88	2.9	3.2	2.8	2.7	2.9	2.9/2.9	3.9	2.7	4.1

## Notes:

All concentrations expressed in mg/L unless otherwise noted.

(1) Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, Ontario Ministry of the Environment, June 2003, revised June 2006.

Table 3.6

**Chemistry Results For Private Domestic Wells  
Aberfoyle Pit No. 2  
Dufferin Aggregates**

Parameter	MOE ODWS <sup>(1)</sup>	Hohenadel						
		12/28/2008	1/15/2010	12/21/2010	12/21/2011	12/18/2012	11/27/2013	9/15/2014
pH	6.5 - 8.5	7.38	7.45	7.74	8.01	--	7.64	7.51
Conductivity (µmhos/cm)	--	472	495	359	469	--	449	471
Chloride (as Cl)	250	16	15.4/15.1	13.8/13.8	14.0	14.0	14.1	14.2
Sulphate (as SO <sub>4</sub> )	500	52	47.6/47.7	45.3/45.3	42.1	39.9	40.2	38.1
Nitrate (as N)	10.0	<0.1	<0.10/<0.10	<0.10/<0.10	<0.10	<0.10	<0.10	<0.10
Nitrite (as N)	1.0	<0.1	<0.10/<0.10	<0.10/<0.10	<0.10	<0.10	<0.10	<0.10
Total Phosphorus	--	0.06	<0.030/<0.030	<0.030/<0.030	<0.030	<0.030	<0.030	<0.030
Calcium (as Ca)	--	57.9	67.6/67.4	61.9/60.0	65.5	61.5	60.3	58.7
Iron (as Fe)	0.3	<0.05	<0.050/<0.050	<0.050/<0.050	0.292	<0.050	0.058	0.230
Magnesium (as Mg)	--	25.0	24.4/22.7	22.6/21.6	25.6	21.2	22.2	21.7
Potassium (as K)	--	<1	1.1/1.1	1.0/<1.0	1.0	1.0	<1.0	<1.0
Sodium (as Na)	200	5.0	4.35/4.20	4.73/4.48	5.40	4.73	5.20	5.14

## Notes:

All concentrations expressed in mg/L unless otherwise noted.

(1) Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, Ontario Ministry of the Environment, June 2003, revised June 2006.

Table 3.6

**Chemistry Results For Private Domestic Wells  
Aberfoyle Pit No. 2  
Dufferin Aggregates**

Parameter	MOE	Van Horschigh											
	ODWS <sup>(1)</sup>	5/26/1995	7/30/1999	8/24/2000	12/13/2000	5/29/2001	11/26/2001	11/29/2002	12/31/2003	12/30/2004	11/22/2005	11/21/2006	12/27/2007
pH	6.5 - 8.5	7.1	7.35	7.49	7.46	7.4	7.39	7.28	7.76	7.49	7.05	7.24	7.23
Conductivity (µmhos/cm)	--	700	658	693	857	715	824	1020	671	876	929	842	1,170
Chloride (as Cl)	250	133	168	80.6	162	89.6	151	162	99.0/100	131	237	138	196
Sulphate (as SO <sub>4</sub> )	500	15.8	15.7	14.8	15.3	10	14.7	15.7	16.1/16.2	16.2	17	15	17
Nitrate (as N)	10.0	0.84	0.99	1.89	1.71	3.01	2.77	1.5	1.7/1.7	1.6	1.4	1.9	1.8
Nitrite (as N)	1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.2	<0.2/<0.2	<0.2	<0.1	<0.1	<0.1
Total Phosphorus	--	<0.01	0.10	<0.01	<0.01	<0.01	<0.004	<0.002	0.004/0.002	<0.002	0.08	<0.03	<0.03
Calcium (as Ca)	--	83.8	86.9	81.5	78.6	92.9	74.9	70.4	67.0/65.4	69.6	84.6	67.8	86.3
Iron (as Fe)	0.3	0.14	<0.01	0.031	0.032	0.014	0.02	<0.03	<0.03/<0.03	<0.03	0.09	0.13	<0.05
Magnesium (as Mg)	--	22.1	17.8	21.8	19.6	23.8	18	17.2	18.0/17.4	17.8	22.7	18.8	23.2
Potassium (as K)	--	1.06	1.0	1.38	1.1	0.8	1.2	0.8	0.6/0.6	0.8	2	<1	<1
Sodium (as Na)	200	67.2	107	52.0	77.2	49.1	99.2	100	59.5/57.9	76.4	122	78.5	105

## Notes:

All concentrations expressed in mg/L unless otherwise noted.

(1) Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, Ontario Ministry of the Environment, June 2003, revised June 2006.

Table 3.6

**Chemistry Results For Private Domestic Wells  
Aberfoyle Pit No. 2  
Dufferin Aggregates**

Parameter	MOE ODWS <sup>(1)</sup>	Van Horsigh						
		12/8/2008	1/15/2010	12/21/2010	12/21/2011	12/18/2012	11/27/2013	9/15/2014
pH	6.5 - 8.5	7.38	7.55	6.83	7.90	7.20	7.77	7.24
Conductivity (µmhos/cm)	--	858	1160	1000	840	1660	--	876
Chloride (as Cl)	250	151	227	188	113/113	211	135	93.7
Sulphate (as SO <sub>4</sub> )	500	21	17.4	19.4	19.7/19.7	19.2	19.1	18.0
Nitrate (as N)	10.0	2.2	1.24	1.30	1.19/1.20	0.89	1.03	0.55
Nitrite (as N)	1.0	<0.1	<0.10	<0.10	<0.10/<0.10	<0.10	<0.10	<0.10
Total Phosphorus	--	0.04	<0.030	<0.030	<0.030/<0.030	<0.030	<0.030	<0.030
Calcium (as Ca)	--	70.1	94.4	72.3	79.9/77.8	78.2	78.0	87.8
Iron (as Fe)	0.3	<0.05	<0.050	<0.050	<0.050/<0.050	<0.050	<0.050	<0.050
Magnesium (as Mg)	--	22.6	23.2	18.6	22.3/21.8	17.6	20.8	24.8
Potassium (as K)	--	<1	<1.0	<1.0	1.0/1.0	1.1	1.1	1.2
Sodium (as Na)	200	91	128	146	87.8/89.3	133	89.6	67.8

## Notes:

All concentrations expressed in mg/L unless otherwise noted.

(1) Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, Ontario Ministry of the Environment, June 2003, revised June 2006.

# Appendices

Appendix A  
Section 9.0 of August 1991  
Final Monitoring Report  
(Proposed Monitoring Program) and  
Follow Up Correspondence/Approvals  
from MNR and MOE  
Correspondence from Harden Environmental

**FINAL MONITORING REPORT  
DUFFERIN AGGREGATES  
ABERFOYLE PIT NO. 2**

**Township of Puslinch, County of Wellington**

**AUGUST 1991  
REF. NO. 1644 (4)**

**CONESTOGA-ROVERS & ASSOCIATES**

## 9.0 PROPOSED MONITORING PROGRAM

A comprehensive monitoring program will be implemented during the operation of the Site particularly below the water table, in order to evaluate the potential impact on surface water and groundwater levels.

The proposed monitoring program will consist of monitoring of existing on-Site monitoring nest OW1A-90, OW1B-90, OW2-90, OW3-90 and OW4-90 and the shallow domestic well designated as domestic well No. 18 in the door-to-door survey. This well, located approximately 600 m (1970 feet ) northwest of the Site is completed in the water table aquifer to a depth of 3 m (10 feet). The shallow domestic well designated as domestic well No. 19 in the door-to-door survey could not be included in the monitoring program because this well cannot be made accessible. Although the Behmann and J. Hohenadel domestic wells do not appear to be completed in the water table aquifer but in the deeper confined sands and gravels, it is proposed to monitor groundwater levels at these locations. It is proposed to install a shallow monitoring well in the wetland to provide hydraulic data for the shallow water table aquifer at this location. All the groundwater monitoring locations are shown on Figure 8.1.

The proposed monitoring program will include monitoring of the surface water levels at the locations shown on Figure 8.1. These surface water monitoring locations include monitoring locations SW1, SW2, SW3 and SW4-91 located in the wetland area. In addition, it is



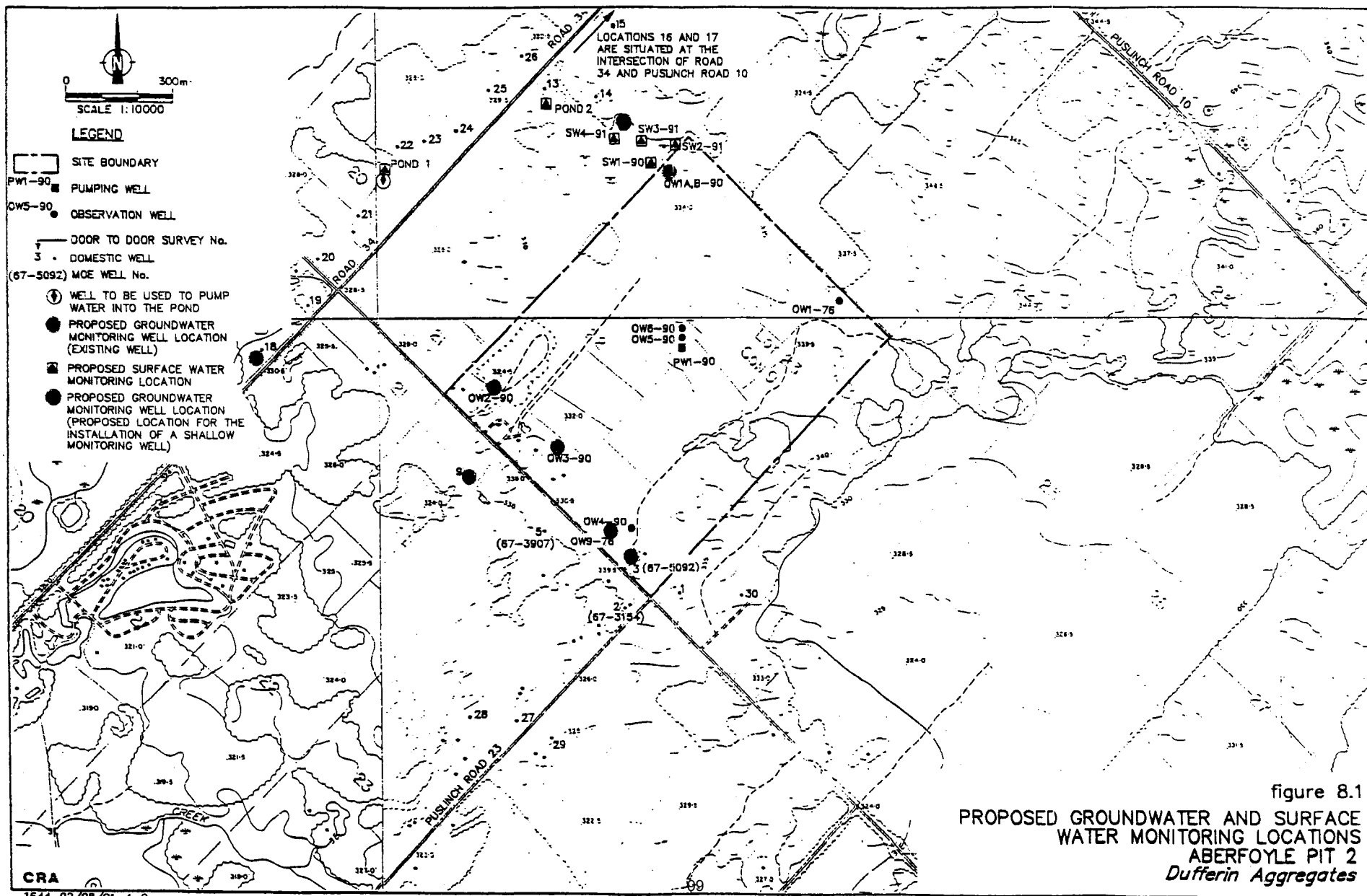


figure 8.1  
PROPOSED GROUNDWATER AND SURFACE  
WATER MONITORING LOCATIONS  
ABERFOYLE PIT 2  
Dufferin Aggregates

proposed to monitor ponds designated as 1 and 2 located in the Gauthier and Wittle properties, respectively.

It is proposed to collect groundwater and surface water level data on a monthly basis prior to and during the initial year of the mining operation below the water table. It should be noted that the frequency of water level data collection thereafter will be assessed and revised accordingly. In the unlikely event of adverse impact on water levels, the operation below the water table would decrease or cease until such time that levels recovered sufficiently.



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Environment

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du  
Centre-Ouest

September 15, 1992

400 Clyde Road  
P.O. Box 219  
Cambridge, Ontario  
N1R 5W6  
519/822-8121

400, chemin Clyde  
C.P. 219  
Cambridge (Ontario)  
N1R 5W6  
519/822-8121

Mr. A.D. Carr, Area Supervisor  
Ministry of Natural Resources  
Box 21048  
605 Beaverdale Road  
Cambridge, Ontario N3C 2W1

**COPY**  
MINISTRY OF ENVIRONMENT  
400 CLYDE ROAD  
P. O. BOX 219  
CAMBRIDGE, ONT. N1R 5W6

Dear Mr. Carr:

**RE: SITE PLAN AMENDMENT REQUEST- DUFFERIN AGGREGATES  
ABERFOYLE PIT #2, TOWNSHIP OF PUSLINCH**

In response to your letter of August 28, 1992, the Ministry of the Environment have completed a review of the Final Monitoring Report by Conestoga-Rovers and Site Plans by Skelton, Brumwell, supporting the above amendment request.

Dufferin Aggregates wish to extract materials from below the water table utilizing a dragline such that dewatering by pumping will not occur. As aggregate is extracted below the water table, groundwater will flow into the excavation equal to the volume of aggregate removed. Conestoga-Rovers have concluded that this activity will cause a limited cone of water table depression, thus changing the natural direction of shallow groundwater flow in a manner similar to a pumping well. However this interruption will be temporary (for the duration of aggregate removal), and should not adversely affect nearby surface or groundwater supplies.

Our Technical Assessment Section in Hamilton has reviewed the report by Conestoga-Rovers with respect to the above. Comments prepared by Mr. J. Wills are attached. We concur with Mr. Wills comments and request that Dufferin Aggregates address these issues prior to mining below the water table.

In addition, the Cambridge District Office provides the following comments regarding the plan amendment request which must be addressed by Dufferin Aggregates prior to such removal:

**FINAL MONITORING REPORT**

**1. Section 9.0, Page 35**

The scope of the monitoring program should include water quality analyses for general chemistry compounds as illustrated on Table 7.1 of the report, and a total petroleum hydrocarbon scan at the sampling locations.

The frequency of water quality monitoring must be proposed by the consultant and should include semi-annual events for the initial two (2) years. In addition, the consultant should select a representative number of monitoring wells and private wells for each sampling event, allowing for a systematic rotation to include different wells in subsequent rounds.

2. Section 10.0 Page 38.

In the unlikely event that any water supply was adversely affected by on-Site mining as determined by the Ministry of the Environment, a new well shall be constructed by Dufferin Aggregates for the private owner in an expeditious manner. A temporary alternate potable water supply shall be supplied to the affected private owner by Dufferin Aggregates as necessary.

DWG 75194-2 of 5

3. (D)-Drainage and Siltation

Permanent swales conveying surface drainage to adjacent property should be designed to minimize erosion and/or sediment transport.

Surface drainage as sheet-flow from the Site to adjacent property should be controlled by means of properly installed and maintained siltation fence or hay bale dykes until a good vegetative cover over such areas has been established.

4. (H)-Fuel Storage

Petroleum waste materials should be stored on an impermeable pad with containment walls. Dufferin Aggregates should be registered with the Ministry as a waste generator of these materials. Wastes should be transported by a licensed hauler to a licensed disposal site.

5. (L)-Monitoring Program

In conjunction with the Final Monitoring Report, monitoring results should be forwarded to the MOE on a semi-annual basis for the initial two years and thereafter according to the frequency of water quality analyses as agreed to by MOE.

Such submissions should also include the Consultants' interpretation of the data, and any recommendations for revisions to the monitoring scope or operation procedures, which may be necessary.

Should any of the on-Site observation well(s) become damaged or disabled during the course of operations, such well(s) shall be repaired or re-installed by Dufferin Aggregates in a timely manner.

Once the observation wells are no longer required as determined by the Ministry of the Environment, these wells shall be properly closed by Dufferin Aggregates according to Ministry requirements.

6. (M)-Dust Suppressant

Chemical dust suppressants must not be used in any area of the pit where the application may cause contamination of the groundwater. Other methods of dust control (eg. water spraying) must be used in sensitive areas.

GENERAL

7. Spill Response Plan

Potential groundwater contamination from spills is a serious concern when mining below the water table. Any spill or release is to be reported immediately to the MOE's Spills Action Centre (SAC) by telephone at 1-800-268-6060.

Dufferin Aggregates must develop a detailed Spill Response Plan for submission to the MOE which addresses the reporting and prompt clean-up of spills.

8. Pesticide Usage

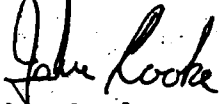
Dufferin Aggregates should refrain from using pesticides or herbicides in the licensed pit area where surface water drainage is directed to the below water table excavation.

Summary

This Ministry has no objection to this Site Plan Amendment request by Dufferin Aggregates subject to the above comments being properly addressed and implemented.

We trust the above is satisfactory to your needs at this time, however should there be any questions regarding the above please contact us.

Yours truly



John Cooke,  
Area Supervisor

encl.

cc

  
Dan Joyner, MOE  
FILE IN-50-07-21



119 King St W  
12th Floor - Box 2112  
Hamilton Ontario  
L8N 3Z9  
416/521-7640

119, rue King ouest  
12<sup>e</sup> étage - Casier 2112  
Hamilton (Ontario)  
L8N 3Z9  
416/521-7640

January 4, 1992

**To:** John Cooke  
District Supervisor, Abatement  
Cambridge District Office

**From:** Jamie Wills  
Hydrogeologist  
West central Region

**Re:** Final Monitoring Report, Dufferin Aggregates  
Aberfoyle Pit No. 2  
Township of Puslinch, County of Wellington

As requested, I have completed my review of the above report and offer the following general and specific comments for your consideration.

#### General Comments

Conestoga-Rovers & Associates Limited (CRA) believe that, based on their understanding of the hydrogeology and in view of the proposed aggregate extraction method, the aggregate mine should not result in prolonged or significant groundwater quantity or quality interference on surrounding properties. In support of this belief, CRA discuss several issues which I have summarized in brief below.

- (1) The proposed method of aggregate extraction involves draglining rather than dewatering thus minimizing the volume of groundwater removed from the ground.
- (2) The proposed pit will be operational for only approximately six (6) months and thus any off-site temporal water table fluctuations associated with the aggregate extraction should dissipate quickly once the aggregate extraction terminates.
- (3) Most of the domestic wells proximal to the proposed pit draw water from the bedrock aquifer which is separated from the water table aquifer by an aquitard. Therefore, due to the aquitard one would not expect the bedrock wells to be significantly effected by temporal fluctuations of the water table.

(4) A reconnaissance investigation (Ecoplans Limited) of the wetland to the north (N) of the property indicates that no adverse effects to the wetland are anticipated as a result of temporal water table fluctuations associated with the aggregate extraction.

(5) A contingency plan has been designed such that if the aggregate extraction adversely affects either groundwater or surface waters on surrounding properties, the extraction process below the water table will be adjusted appropriately.

In general, I am in agreement with the conclusions, recommendations and contingency plan indicated by CRA. However, in addition to the proposed groundwater and surface water monitoring program, it may be prudent to also monitor the headwaters of Aberfoyle Creek located adjacent to the southeast (SE) property boundary. Such an area may be within the cone of influence of the proposed aggregate test pit.

#### **Specific Comments**

(1) In Table 3.2, the ground elevation (m AMSL) of wells OW5-90, OW6-90, and PW1-90 are listed as 325.53 m, 325.49 m, and 325.47 respectively. However, a review of Ontario Ministry of Natural Resources (MNR) maps (Sheets 10 17 5700 48100 and 10 17 5700 48150) indicate that the ground elevation in the vicinity of these wells is approximately 335 m AMSL - a difference of approximately 10 m to that reported by CRA. The ground elevation of all other wells listed in the table are comparable to those indicated on the MNR maps. If the elevations listed on the MNR maps are correct, this infers that there is a local groundwater flow divide on the property such that the majority of groundwater flow in the water table aquifer is to the west (W) and northwest (NW) rather than in a southerly (S) direction away from the northern (N) swamp as reported by CRA (P20, paragraph 5). Such an westerly (W) overburden groundwater flow direction would be consistent with the bedrock groundwater flow direction reported by CRA (P21, last paragraph). In view of this apparent inconsistency between the ground elevations (and therefore possibly groundwater levels) reported by CRA and those obtained from the MNR maps, it would seem prudent to confirm the ground surface elevations of the above wells with regards to further assessing groundwater flow direction in the water table aquifer, and any implications of such a groundwater flow system.

(2) Page 20, paragraph 5 states "The available water level data indicates that the general direction of groundwater flow within the Water table Aquifer Unit occurs in a general southerly direction away from the wetland". Please refer to specific comment (1).



(3) Page 24, paragraph three indicates that the aquifer performance data obtained from the 72 hour pumping test is not significantly different from that reported in the November 1988 CRA report. Since CRA did not include the 1988 data in the August 1991 report, I am unable to make such a comparative aquifer performance data assessment.

(4) Page 26, second paragraph, second sentence which states "The measured decline in OW2-90 was considered to be partially due to a boundary effect likely caused by a reduction in aquifer thickness". It would be useful to the reader if the authors could expand on the evidence which supports this belief.

(5) Page 34, second paragraph which states "The water quality analyses obtained during this investigation are consistent with analyses from wells located at Dufferin Aggregates Pit No. 1 as presented in Table 4.4 of the November 1980 CRA Hydrogeological Investigation and Test Well Evaluation Report.". It would be useful to the reader if the referenced data was included in the August 1991 report to allow the reader to make an independent assessment.

If any of the above is unclear, or if I may be of further assistance please do not hesitate to contact me at (416) 521-7718.



Jamie Wills

cc: B. Blackport      MOE  
A. McLarty      MOE

November 11, 1992

Reference No. 1644

Mr. John Cooke, Area Supervisor  
Ontario Ministry of the Environment  
400 Clyde Road  
P.O. Box 219  
Cambridge, Ontario  
N1R 5W6

Dear Mr. Cooke:

Re: Response to MOE Comments Regarding the  
Final Monitoring Report and Site Plans  
Dufferin Aggregates Aberfoyle Pit No. 2, Township of Puslinch

In support of the Site Plan Amendment, the Final Monitoring Report prepared by CRA and Site Plans prepared by Skelton, Brumwell & Associates Inc. were submitted for review to the Ministry of the Environment (MOE). The MOE Technical Assessment Section in Hamilton reviewed the Final Monitoring Report and the Cambridge District Office reviewed the Final Monitoring Report and the Site Plans. Comments by the MOE concerning the report and the site plans were directed to the Ministry of Natural Resources and received by CRA on September 18, 1992.

Attachment A to this letter provides responses to the comments by the Cambridge District Office. Attachment B provides responses to the comments by the Technical Assessment Section in Hamilton.

A copy of the attached responses is also being forwarded to the MNR. On completion of your review and concurrence with these responses, it would be greatly appreciated if your office could request a letter of concurrence from the MNR.

November 11, 1992

Reference No. 1644

- 2 -

If you should have any questions or require further information, please do not hesitate to contact our office at your convenience.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES



Greg M. Pucovsky, M.Sc.

GIL/jw

c.c. Tony White - Dufferin Aggregates  
Anne Guiot - Skelton, Brumwell & Associates Inc.  
Robin Smith - Skelton, Brumwell & Associates Inc.  
Bob Gibson - MNR

**ATTACHMENT A**

**RESPONSE TO MOE CAMBRIDGE DISTRICT OFFICE  
COMMENTS REGARDING THE FINAL MONITORING REPORT AND SITE PLANS  
DUFFERIN AGGREGATES ABERFOYLE PIT NO. 2  
TOWNSHIP OF PUSLINCH, COUNTY OF WELLINGTON**

**RESPONSE TO MOE COMMENTS REGARDING THE  
FINAL MONITORING REPORT AND SITE PLAN  
IN SUPPORT OF THE SITE PLAN AMENDMENT REQUEST  
DUFFERIN AGGREGATES ABERFOYLE PIT NO.2  
TOWNSHIP OF PUSLINCH**

**FINAL MONITORING REPORT**

**1. Comment**

**Section 9.0. Page 35**

*The scope of the monitoring program should include water quality analyses for general chemistry compounds as illustrated on Table 7.1 of the report, and a total petroleum hydrocarbon scan at the sampling locations.*

*The frequency of water quality monitoring must be proposed by the consultant and should include semi-annual events for the initial two (2) years. In addition, the consultant should select a representative number of wells and private wells for each sampling event, allowing for a systematic rotation to include different wells in subsequent rounds.*

**Response**

The scope of the monitoring program will include water quality analyses for general chemistry parameters as illustrated on Table 7.1 of the report and also a total petroleum hydrocarbon scan.

Since one set of groundwater and surface water samples have already been collected and analyzed in 1990, it is recommended that a semi-annual sampling event only be conducted for the initial year and annually thereafter. It should also be noted that the analytical results from each sampling event will be carefully evaluated and the sampling frequency, if necessary, will be adjusted.

On-Site monitoring wells OW1A-90, OW1B-90 and OW2-90 will be sampled during all the events. Monitoring wells OW3-90 and OW4-90 have been historically dry but will be checked during the sampling events. If sufficient volumes of water are present in these wells, samples will be collected and analyzed.

Private wells designated as nos. 3, 9 and 18 on Figure 8.1 of the Final Monitoring Report will be sampled. These wells are completed in the overburden. In addition, the wetland piezometer to be installed in the property owned by Mr. Whittle will be sampled. A systematic rotation of the

private wells will be implemented to include sampling of two of the above-noted wells per sampling event.

The purpose of installing monitoring wells OW5-90 and OW6-90 and pumping well PW1-90 was to obtain test pumping data. It is considered that these wells are not longer useful. Thus, it is proposed to retrieve the well construction material from these wells. The wells are completed in surficial sand and gravel and thus sealing according to Ontario Regulation 612/84 should not be necessary.

2. Comment

Section 10.0, Page 38

*In the unlikely event that any water supply was adversely affected by on-Site mining as determined by the Ministry of the Environment, a new well shall be constructed by Dufferin Aggregates for the private owner in an expeditious manner. A temporary alternate potable water supply shall be supplied to the affected private owner by Dufferin Aggregates as necessary.*

Response

It is agreed that in the unlikely event that any water supply was adversely affected by on-Site mining as determined by the Ministry of the Environment, a temporary alternate potable water supply (i.e. trucked water) would initially be supplied to the affected owner. A new bedrock well would subsequently be constructed by Dufferin Aggregates for the private owner in an expeditious manner thereafter.

3. Comment

DWG 75194-2 of 5

(D) - Drainage and Siltation

*Permanent swales conveying surface drainage to adjacent property should be designed to minimize erosion and/or sediment transport.*

*Surface drainage as sheet-flow from the Site to adjacent property should be controlled by means of a properly installed and maintained siltation fence or hay bale dykes until a good vegetative cover over such areas has been established.*

### **Response**

All the work at grade has been completed and a vegetative cover is in place at the pit. Erosion at the pit is not considered an issue and as such, a siltation fence or hay bale dykes are not required. A representative from the MNR will visit the pit to inspect the existing conditions.

#### **4. Comment**

##### **(H) - Fuel Storage**

*Petroleum waste materials should be stored on an impermeable pad with containment walls. Dufferin Aggregates should be registered with the Ministry as a waste generator of these materials. Wastes should be transported by a licensed hauler to a licensed disposal site.*

### **Response**

Dufferin Aggregates is registered with the MOE as a generator of petroleum waste materials. It is expected that the only petroleum product stored in the pit will be the fuel required to operate the working equipment. The fuel will be stored in an above-ground storage tank which will be placed on an impermeable pad.

#### **5. Comment**

##### **(L) - Monitoring Program**

*In conjunction with the Final Monitoring Report, monitoring results should be forwarded to the MOE on a semi-annual basis for the initial two years and thereafter according to the frequency of water quality analyses as agreed to by MOE.*

*Such submissions should also include the Consultants' interpretation of the data, and any recommendations for revisions to the monitoring scope or operation procedures, which may be necessary.*

*Should any of the on-Site observation well(s) become damaged or disabled during the course of operations, such well(s) shall be repaired or re-installed by Dufferin Aggregates in a timely manner.*

*Once the observation wells are no longer required as determined by the Ministry of the Environment, these wells shall be properly closed by Dufferin Aggregates according to Ministry requirements.*

### Response

It is agreed that in conjunction with the Final Monitoring Report, monitoring results will be forwarded to the MOE on a semi-annual basis for the initial year and yearly thereafter.

The submissions will include interpretation of the data, and any recommendations for revisions to the scope of monitoring or operating procedures, which may be necessary.

If any of the on-Site monitoring well(s) become damaged during the course of operations, the well(s) will be repaired or replaced by Dufferin Aggregates in a timely manner.

Once the monitoring wells are no longer required, the wells completed in fine grained material will be properly sealed by Dufferin Aggregates according to Ministry requirements (Ontario Regulation 612/84).

### 6. Comment

#### (M) - Dust Suppressant

*Chemical dust suppressants must not be used in any area of the pit where the application may cause contamination of the groundwater. Other methods of dust control (e.g. water spraying) must be used in sensitive areas.*

### Response

Water and/or dust suppressants will be used in accordance with MOE requirements to control dust. Calcium chloride may be used as a dust suppressant in the pit.

### 7. Comment

#### Spill Response Plan

*Potential groundwater contamination from spills is a serious concern when mining below the water table. Any spill or release is to be reported immediately to the MOE's Spills Action Centre (SAC) by telephone at 1-800-268-6060.*



*Dufferin Aggregates must develop a detailed Spill Response Plan for submission to the MOE which addresses the reporting and prompt clean-up of spills.*

**Response**

Any spill or release will be reported immediately to the MOE's Spills Action Centre (SAC).

Dufferin Aggregates is in the process of developing a detailed Spill Response Plan that will be submitted to the MOE prior to commencement of the 1993 operation. This plan will address the reporting and clean-up of spills.

8. **Comment**

**Pesticide Usage**

*Dufferin Aggregates should refrain from using pesticides or herbicides in the licensed pit area where surface water drainage is directed to the below water table excavation.*

**Response**

Dufferin Aggregates will refrain from using pesticides or herbicides in the licensed pit area.

**ATTACHMENT B**

**RESPONSE TO COMMENTS FROM THE  
MOE TECHNICAL ASSESSMENT SECTION IN HAMILTON  
TO THE FINAL MONITORING REPORT  
DUFFERIN AGGREGATES ABERFOYLE PIT NO. 2  
TOWNSHIP OF PUSLINCH, COUNTY OF WELLINGTON**

**RESPONSES TO THE COMMENTS BY THE  
MOE TECHNICAL ASSESSMENT SECTION  
IN HAMILTON TO THE FINAL MONITORING REPORT  
DUFFERIN AGGREGATES ABERFOYLE PIT NO.2  
TOWNSHIP OF PUSLINCH, COUNTY OF WELLINGTON**

**GENERAL COMMENTS**

**1. Comment**

*In general, I am in agreement with the conclusions, recommendations and contingency plan indicated by CRA. However, in addition to the proposed groundwater and surface water monitoring program, it may be prudent to also monitor the headwaters of Aberfoyle Creek located adjacent to the southeast (SE) property boundary. Such an area may be within the cone of influence of the proposed aggregate test pit.*

**Response**

The surface water level at one location within the headwaters of Aberfoyle Creek located adjacent to the southeast property boundary will also be monitored.

**SPECIFIC COMMENTS**

**1. Comment**

*In Table 3.2, the ground elevation (m AMSL) of wells OW5-90, OW6-90 and PW1-90 are listed as 325.53 m, 325.49 m and 325.47 respectively. However, a review of Ontario Ministry of Natural Resources (MNR) maps (Sheets 10 17 5700 48100 and 10 17 5700 48150) indicate that the ground elevation in the vicinity of these wells is approximately 335 m AMSL - a difference of approximately 10 m to that reported by CRA. The ground elevation of all other wells listed in the table are comparable to those indicated on the MNR maps. If the elevations listed on the MNR maps are correct, this infers that there is a local groundwater flow divide on the property such that the majority of groundwater flow in the water table aquifer is to the west (W) and northwest (NW) rather than in a southerly (S) direction away from the northern (N) swamp as reported by CRA (P20, paragraph 5). Such a westerly (W) overburden groundwater flow direction would be consistent with the bedrock groundwater flow direction reported by CRA (P21, last paragraph). In view of this apparent inconsistency between the ground elevations (and therefore possibly groundwater levels) reported by*

*CRA and those obtained from the MNR maps, it would seem prudent to confirm the ground surface elevations of the above wells with regards to further assessing groundwater flow direction in the water table aquifer, and any implications of such a groundwater flow system.*

**Response**

The ground elevations of wells OW5-90, OW6-90 and PW1-90 reported as 325.53 m AMSL, 325.49 m AMSL and 325.47 m AMSL, respectively, in Table 3.2 are correct. The elevations cited in the Ontario Ministry of Natural Resources (MNR) maps were originally correct, but the ground elevations are now approximately 10 m lower due to extraction of aggregate above the water table within a significant portion of the Site.

The general direction of groundwater flow within the Water Table Aquifer Unit is generally southerly, away from the wetland.

**2. Comment**

*Page 20, paragraph 5 states "The available water level data indicates that the general direction of groundwater flow within the Water Table Aquifer Unit occurs in a general southerly direction away from the wetland". Please refer to specific comment (1).*

**Response**

As indicated in the response to comment 1, groundwater flow within the Water Table Aquifer Unit is generally in a southerly direction, away from the wetland.

**3. Comment**

*Page 24, paragraph three indicates that the aquifer performance data obtained from the 72 hour pumping test is not significantly different from that reported in the November 1988 CRA report. Since CRA did not include the 1988 data in the August 1991 report, I am unable to make such a comparative aquifer performance data assessment.*

**Response**

The data included in the November 1988 CRA report is included as Attachment B.1.

4. Comment

*Page 26, second paragraph, second sentence which states "The measured decline in OW2-90 was considered to be partially due to a boundary effect likely caused by a reduction in aquifer thickness". It would be useful to the reader if the authors could expand on the evidence which supports this belief.*

Response

The measured decline in water levels in OW2-90 is considered to reflect the presence of an impermeable boundary caused by the reduction in aquifer thickness. The lateral reduction in aquifer thickness is shown in the steepening of the drawdown curve for OW2-90. The surficial sands and gravels decrease in thickness from approximately 19.0 m at OW5-90 to approximately 6.0 m at OW2-90. In addition, the surficial material is only 2.0 meters thick at OW3-90 and OW4-90.

5. Comment

*Page 34, second paragraph which states "The water quality analyses obtained during this investigation are consistent with analyses from wells located at Dufferin Aggregates Pit No. 1 as, presented in Table 4.4 of the November 1980 CRA Hydrogeological Investigation and Test Well Evaluation Report." It would be useful to the reader if the reference data was included in the August 1991 report to allow the reader to make an independent assessment.*

Response

Table 4.4 of the November 1980 CRA Hydrogeological Investigation and Test Well Evaluation Report is provided in Attachment B.2.

**ATTACHMENT B.1**  
**DATA FROM THE NOVEMBER 1988 CRA REPORT**

## TRANSMISSIVITY

Based on grain size distribution curves for samples collected during the 1976 test drilling program, an average Hazen hydraulic conductivity of about 9 m/day was calculated. However, the hydraulic conductivity may be as high as 90 m/day, a value similar to that obtained for an overburden well located southwest of Aberfoyle.

Transmissivity is calculated according to the formula:

$$T = Kb$$

where:

$$\begin{aligned} T &= \text{Transmissivity (m}^2/\text{day)} \\ K &= \text{Hydraulic Conductivity (m/day)} \\ b &= \text{Average saturated thickness (m)} \end{aligned}$$

$$\begin{aligned} T &= (9 \text{ m/day}) \times (9 \text{ m}) \\ &= 81 \text{ m}^2/\text{day} \\ &= 5400 \text{ Igpd/ft} \end{aligned}$$

Similarly, using a hydraulic conductivity of 90 m/day, the transmissivity would be 54,000 Igpd/ft.

## CALCULATION OF DRAWDOWN - INITIAL CONDITION

This equation 
$$s = \frac{Q}{4\pi T} W(u)$$

$$\text{Where } u = \frac{r^2 S}{4Tt}$$

where:

$$\begin{aligned} r &= 1800 \text{ ft} = 549 \text{ m} \\ S &= 0.1 \text{ and } 0.2 \text{ (assumed)} \\ T &= 80 \text{ and } 800 \text{ m}^2/\text{day (assumed)} \\ t &= 100 \text{ days*} \\ Q &= 160 \text{ Igpm} = 1048 \text{ m}^3/\text{day} \end{aligned}$$

\* assume no recharge during 100 days of summer.

- i) for  $T = 80 \text{ m}^2/\text{day}$  and  $S = 0.2$   
 $u = 1.88$  and  $W(u) = 0.056$   
so  $s = 1.04 \times 0.056 = 0.06 \text{ m (0.2 feet)}$
- ii) for  $T = 800 \text{ m}^2/\text{day}$  and  $S = 0.1$   
 $u = 0.094$  and  $W(u) = 1.87$   
so  $s = 0.10 \times 1.87 = 0.2 \text{ m (0.65 feet)}$

Assume that the initial excavation below the water table can be approximated by a well located central to the site and pumping at a rate of 160 Igpm.

The above calculated impact would be less during normal conditions and would be less if the total site extraction rate of 500,000 tons per year does not all take place below the water table.

#### CALCULATION OF DRAWDOWN - FINAL CONDITION

Assume can be approximated by considering removal of 160 Igpm over the whole area of the dewatered pit for 100 days of drought and 95 days of average water surplus.

Aquifer impact over final 6.5 month operating period is calculated as follows:

Equivalent Rate of Water Extraction - Recharge - Water Surplus Over Open Body of Water

$$= \frac{160 \times 195 \times 1440 \text{ ft}^3}{6.24} - \frac{64 \times 43560 \times 9.7 \times 95 \text{ ft}^3}{12 \times 365}$$

$$\frac{130 \times 43560 \times 5.7 \times 95 \text{ ft}^3}{12 \times 365}$$

$$= 5.9 \times 10^6 \text{ ft}^3$$

over the area of the excavation (130 acres)

$$= 1.03 \text{ foot drawdown at the boundary of the pond.}$$

At the property boundary impact would be substantially reduced.



**ATTACHMENT B.2**

**TABLE 4.4 OF THE NOVEMBER 1980  
CRA HYDROGEOLOGICAL INVESTIGATION  
AND TEST EVALUATION REPORT**

TABLE 4.4

WATER QUALITY ANALYSIS  
TW 3-80

---

DATE	05/27/80	05/27/80	06/05/80
ANALYST	C.R. & A.	Beak	C.R. & A.
PARAMETER			
Alkalinity	259		265
Cadmium			<0.01
Calcium as Ca	85		85
Chloride as Cl	20		59
Conductivity (umhos/cm)	510		610
Copper	0.2		0.02
Hardness as CaCO <sub>3</sub>	322		324
Iron as Fe	0.4		0.04
Lead		0.02	
Magnesium as Mg*	27		27
Nickel		0.02	
Nitrogen-Ammonia		<0.05	
-Nitrate	0.1	0.05	<0.1
-Nitrite		<0.005	
-Kjeldahl		<0.05	
Oxygen-Dissolved	8.5		
pH	7.5		7.0
Phosphate-Total P		<0.01	
Solids - suspended at 105°C			<0.01
- dissolved at 105°C			0.40
- suspended at 550°C			<0.01
- dissolved at 550°C			0.23
Sulphate as SO <sub>4</sub>	30		30

\* Calculated Result

N.B. All results mg/l except pH, conductivity and turbidity

Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED

651 Colby Drive,  
Waterloo, Ontario, Canada N2V 1C2  
(519) 884-0510

---

November 18, 1992

Reference No. 1644

Mr. John Cooke, Area Supervisor  
Ontario Ministry of the Environment  
400 Clyde Road  
P.O. Box 219  
Cambridge, Ontario  
N1R 5W6

Dear Mr. Cooke:

Re: Clarification to MOE Comment Regarding  
Water Quality Monitoring  
Dufferin Aggregates Aberfoyle Pit No. 2

We provide hereunder clarification of the MOE comment regarding monitoring of water quality at the above noted site. With regard to Table 7.1, we recommend that dissolved rather than total iron be analyzed at the locations and that total phosphorus and temperature only be monitored for the surface water sample. In addition, the total petroleum hydrocarbon scan should only be conducted at locations OW1B-90, OW2-90 and OW3-90.

If you should have any questions or require further information, please do not hesitate to contact our office at your convenience.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES



Greg M. Pucovsky, M.Sc.

GMP/cm/1

c.c. Tony White - Dufferin Aggregates  
Robin Smith - Skelton, Brumwell & Associates Inc.  
Bob Gibson - MNR



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Environment

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Centre-Ouest

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November 18, 1992

Mr. A.D. Carr, Area Supervisor  
Ministry of Natural Resources  
Box 21048  
605 Beaverdale Road  
Cambridge, Ontario N3C 2W1

320 Pinebush Road  
P.O. Box 219  
Cambridge, Ontario  
N1R 5T8  
519/622-8121

320, chemin Pinebush  
C.P. 219  
Cambridge (Ontario)  
N1R 5T8  
519/622-8121

**COPY**  
MINISTRY OF ENVIRONMENT  
320 PINEBUSH ROAD  
P. O. BOX 219  
CAMBRIDGE, ONT. N1R 5T8

Dear Mr. Carr:

**RE: SITE PLAN AMENDMENT REQUEST- DUFFERIN AGGREGATES  
ABERFOYLE PIT #2, TOWNSHIP OF PUSLINCH**

As you are aware, the Ministry of the Environment provided comments to your office on September 15, 1992 regarding the above plan amendment request.

Please be advised that we received a written response from Conestoga-Rovers & Associates dated November 11, 1992 addressing these comments. Upon review of CRA's letter, we must clarify Attachment A item #6- Dust Suppressant as follows:

*Calcium chloride should be used only when absolutely necessary, under strict controls for application and subsequent to notifying the Cambridge District Office at (519) 622-8121.*

This is due to a concern for chloride impact to groundwater and was discussed with CRA by telephone on November 17, 1992.

On November 18, 1992 CRA amended its' initial response to water quality monitoring per Attachment A item #1. This Ministry has no objection to CRA's amendment of November 18, 1992.

Subject to the above, this Ministry has no other outstanding items which need to be addressed at this time.

We trust the above is satisfactory to your needs, however should there be any questions regarding the above please contact us.

Yours truly

*John Cooke*  
John Cooke,  
Area Supervisor

encl.

cc. ~~Mr. Greg McCann, Conestoga-Rovers~~

Dan Joyner, MOE  
FILE IN-50-07-21



Conestoga-Rovers & Associates

651 Colby Drive

Waterloo, Ontario N2V 1C2

(519) 884-0510 Office (519) 884-0525 Fax

June 24, 1999

Reference No. 1644

Mr. John Cooke  
Ministry of the Environment  
1 Stone Road West  
4<sup>th</sup> Floor  
Guelph, Ontario  
N1G 4Y2

Dear Mr. Cooke:

Re: Dufferin Aggregates  
Aberfoyle Pit No. 2  
Township of Puslinch

Conestoga-Rovers & Associates (CRA) previously liaised with the Ministry of the Environment during 1992 with respect to an application to mine aggregate material below the water table at Aberfoyle Pit No. 2 in the Township of Puslinch. Approval was subsequently received to mine aggregate below the water table. Dufferin Aggregates has historically mined above the water table at this site and conducted a hydraulic monitoring program. In addition, CRA has collected groundwater samples in order to establish background water quality.

The MOE indicated in a January 4, 1992 internal memorandum that it may be prudent to monitor the headwaters of Aberfoyle Creek located adjacent to the southeast property boundary. CRA, in conjunction with Dufferin Aggregates, located a suitable off-Site hydraulic monitoring location, as shown on attached Figure 1. However, during subsequent correspondence and liaison with the current property owner, an agreement with the owner could not be reached to allow access for monitoring. Monitoring of the creek further downstream of this property and adjacent to the road would not be representative of the headwater area. As such, it is requested that this off-Site monitoring location be deleted from the long-term monitoring program.

In addition, monitoring wells OW3-90 and OW4-90 were completed near the base of surficial sands and gravels which overlie fine-grained silt till and within the silt till, respectively. These locations have historically been dry. As such, it is requested that locations OW3-90 and OW4-90 be deleted from the long-term monitoring program.

June 24, 1999

2

Reference No. 1644

If you should have any questions, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES



Greg M. Pucovsky, M.Sc.

GP/lb/1

c.c.: Sarah Lowe, Dufferin Aggregates  
Sergio Carbone, Dufferin Aggregates  
Paul Odom, MOE (Hamilton)

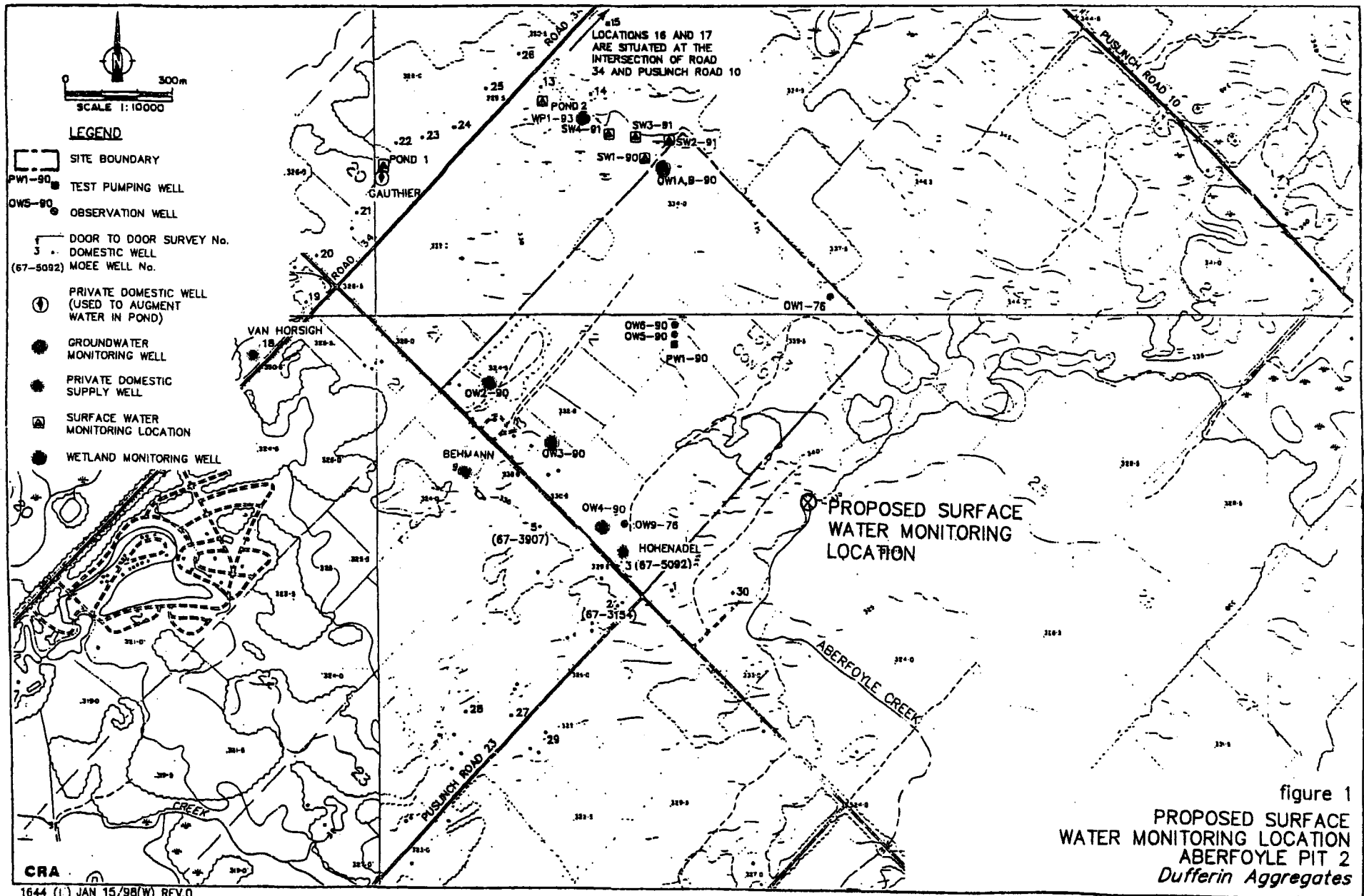


figure 1  
 PROPOSED SURFACE  
 WATER MONITORING LOCATION  
 ABERFOYLE PIT 2  
 Dufferin Aggregates



**CONESTOGA-ROVERS  
& ASSOCIATES**

651 Colby Drive, Waterloo, Ontario, N2V 1C2  
Telephone: (519) 884-0510 Fax: (519) 884-0525  
www.CRAworld.com

September 29, 2014

Reference No. 001644

Ms. Kristy Sutherland  
Ministry of Natural Resources  
1 Stone Road West, 1st Floor  
Guelph, Ontario N1G 4Y2

Ms. Lynnette Armour  
Ministry of the Environment  
1 Stone Road West, 4th Floor  
Guelph, Ontario N1G 4Y2

Dear Ms. Sutherland and Ms. Armour:

Re: 2013 Annual Monitoring Report  
Dufferin Aggregates Aberfoyle Pit No. 2

Conestoga-Rovers & Associates (CRA), on behalf of Dufferin Aggregates, completed the 2013 Annual Monitoring Report for Aberfoyle Pit No. 2, Township of Puslinch. The report was provided to the Ministry of Natural Resources and the Ministry of the Environment offices in Guelph, Ontario. Based on the results of the 2013 Annual Monitoring program, the following recommendations were provided:

- The Van Horsigh, Behmann, Hohenadel, and Cox (formerly Gauthier) private wells be deleted from the monitoring program. The Van Horsigh private well is a shallow overburden well, and the Behmann and Hohenadel wells are deep overburden wells. Historical monitoring results indicate that water levels and water quality at these locations have not been affected by mining of aggregate at the site. In addition, the existing overburden monitoring wells located near the southwestern property boundary (OW2-90, OW3R-05, and OW4R-05) are suitably located to enable evaluation of water levels and overburden groundwater quality between the mining operation and off-Site private wells. The Cox (formerly Gauthier) well is installed in Guelph Formation bedrock. Water level fluctuations at this location are also similar to those in on-Site monitoring wells, and water quality is not monitored at this location.
- Surface water monitoring location SW5-01 be deleted from the monitoring program since the property owner has refused permission to access his property since February 2006.

In light of the above, we request formal permission to delete the above-noted private wells and surface water location from the monitoring program. Since the surface water location has not been accessible since 2006, this location has already been deleted from the monitoring program.

If you should have any questions, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Greg M. Pucovsky, M.Sc., P. Geo.

GP/jh/1

cc: Ron Van Ooteghem, Dufferin Aggregates



December 30, 2013

## MEMORANDUM

TO: Lynnette Armour  
Environmental Officer  
Guelph District Office

FROM: Sarah Day  
Surface Water Specialist  
Technical Support Section, West Central Region

RE: Dufferin Aggregates Aberfoyle Pit 2 2012 Annual Monitoring Report

I have reviewed the following document for surface water issues with regard to the Dufferin Aggregates Aberfoyle Pit 2, Township of Puslinch, County of Wellington:

- 2012 Annual Monitoring Report Aberfoyle Pit No. 2 Township of Puslinch, Conestoga-Rovers & Associates (May 2013)

### Background

The Dufferin Aggregate Aberfoyle Pit 2 is located on Lots 22 and 23, Concession 9, Township of Puslinch. The area licensed for extraction is 78.1 ha of which 68.0 ha will be extracted above the water table and 53.4 ha below the water table. Removal of the aggregate began May 1, 2000 and occurred between May to December from 2001 to 2003, 2005; April to October 2006; April to November 2007; and May to October 2008. Extraction of aggregates from either above or below the water table has not occurred from 2009 to 2012.

The original monitoring program was initiated in the summer of 1990 and a final monitoring program proposed in 1991. The final monitoring program consisted of monthly water level measurements at 4 locations (SW1-90, SW2-91, SW3-91 and SW4-91) in the wetland at the northern corner of the property, as well as at two ponds located on private property just north (Pond 2) and northwest (Pond 1) of the property along Wellington 34 Road. It was also recommended in 1992 that a surface water monitoring location be included on the headwaters of Aberfoyle Creek (SW5-01) located to the

southeast of the property. It appears that surface water monitoring location WP1-93 (located in the northern wetland) and SW6-03 (located in the on-site pond) were added to the monitoring program at some point but no information was provided as to when or why. Locations SW1-90, SW2-91, SW3-91, SW4-91 and WP1-93 were not monitored between 2008 and 2011 as property access had been denied however monitoring resumed in 2012. WP1-93 was determined to be blocked and no longer suitable for monitoring. Access to SW5-01 has been denied since 2006.

Mill Creek is a coldwater system within the area of the Aberfoyle Pit 2 and has been identified by MNR as having brown trout, creek chub, brook trout, rock bass, fathead minnow, white sucker, brook stickleback, rainbow darter, central mudminnow, common shiner, bluntnose minnow and eastern blacknose dace fish species present. The wetland areas located to the north, northwest and southeast of the site are a part of the Provincially Significant Mill Creek Puslinch Wetland Complex.

### **Comments and Recommendations**

#### **Reporting and Documentation**

1. Information on when WP1-93 and SW6-03 were added to the surface water monitoring program and the rationale for their inclusion needs to be provided.
2. It is not apparent from the mapping what SW1-90, SW2-91, SW3-91, SW4-91 and WP1-93 are monitoring. Are these locations located within a creek or are they just monitoring standing water within the wetland and no defined water course?
3. Additional information needs to be provided on how WP1-93 is blocked and why it is no longer suitable to monitor.
4. It is not clear from Figure 3.1 if the pond outlined in the northern portion of the property is the CBM Tikal Pit pond. Furthermore there is no mapping of the Aberfoyle Pit 2 pond. Figure 3.1 should be updated to include all surface water features, both natural and manmade.
5. Data for Pond 1 and SW6-03 were not included in Figure 3.5, 3.6 or 3.7.
6. Data points plotted in Figure 3.5 for SW2-91, SW3-91 and SW4-91 in 2012 include points when conditions were dry. This is misleading as it was thought that these were actual water level points.
7. A measurement was not obtained in June at any of the surface water monitoring locations. An explanation needs to be provided on why this did not occur.

## Surface Water Impacts

1. There is minimal data available for 2012, only 2 non-frozen measurements (Mar and Apr) at SW2-91, SW3-91 and SW4-91 therefore no conclusion can be made on potential impact except that the 2 measurements fall within the historical range.
2. The on-site pond, as well as the two off-site ponds (Pond 1 and 2), have data for the majority of 2012. Data for the ponds appear to fall within their historical ranges. However, it should be noted that there has consistently been water in the ponds in the summer from 2009 to 2012 (i.e. since extraction stopped) while historical data prior to 2009 indicates dry conditions occurred in the summer from 1999 to 2008. It is possible that this may be a result of climatic conditions however annual precipitation data provided in the figures does not indicate that 2009 to 2012 has been any wetter than the years prior.
3. The existing monitoring program does not require thermal data to be collected. There is the potential that the on-site ponds created as a result of extraction could influence the thermal regime of nearby surface water receivers. It is suggested that the extent of the thermal plume in groundwater be determined and if this plume reaches either Mill Creek or Aberfoyle Creek.
4. The proponent is requesting that SW5-01 be removed from the monitoring program due to access issues. This is acceptable however, should ownership of the property change, then SW5-01 should be reinstated into the surface water monitoring program, pending an access agreement with the new land owners.

Should you have any questions or comments or require additional information, please feel free to contact me at (905) 521-7304 or Sarah.Day@ontario.ca.

Regards,

Sarah Day, M.Sc.

Cc Belinda Koblik, Supervisor, Water Resources Unit  
Paul Odom, Surface Water Group Leader

The purpose of the preceding review is to provide advice to the Ministry of the Environment regarding surface water conditions based on a review of the information provided in the above referenced documents. The conclusions, opinions and recommendations of the reviewer are based on information provided by others, except where otherwise specifically noted. The Ministry cannot guarantee that the information that is provided by others is accurate or complete. A lack of specific comment by the reviewer is not to be construed as endorsing the content or views expressed in the reviewed material.



119 King Street West  
12<sup>th</sup> Floor  
Hamilton, Ontario L8P 4Y7  
Tel.: 905 521-7640  
Fax: 905 521-7820

119 rue King ouest  
12<sup>e</sup> étage  
Hamilton (Ontario) L8P 4Y7  
Tél.: 905 521-7640  
Télééc.: 905 521-7820

## Memorandum

**Date:** October 27, 2014

**To:** Lynnette Armour  
Senior Environmental Officer, Guelph District Office (GDO)

**From:** Abdul Quyum  
Hydrogeologist, Water Resources Unit, Technical Support Section (TSS)

**Re:** Dufferin Aggregates – Aberfoyle Pit  
Township of Puslinch, County of Wellington

---

I have reviewed the following report for groundwater issues:

- *2013 Annual Monitoring Report, Dufferin Aggregates, Aberfoyle Pit No. 2, Conestoga-Rovers & Associates, dated September 2014.*

The purpose of the review was to assess impact on the overburden aquifer water level and groundwater quality caused by below the water table aggregate mining operations.

### **Background:**

The site is located southeast of Victoria Road South and Wellington Road 34 East intersection, in the Township of Puslinch, Ontario. The site is currently approved for above and below water table extraction of sand and gravel aggregate. The below water table extraction does not involve pit dewatering. The below water table aggregate extraction operations commenced in 2000. As part of the approval to initiate aggregate mining below the water table, a groundwater monitoring program was developed and provided to the Ministry of the Natural Resources (MNR) in August 1991. The monitoring program was reviewed and endorsed by the MOE in 1992.

### **Hydrogeological Setting:**

The geology consists of sand, and sand and gravel deposits. A surficial unconfined aquifer of about 12 m thick exists within the shallow sand and gravel deposits. The groundwater in the surficial overburden aquifer flows to the southwest. The overburden at the site is underlain by dolostone of the Guelph Formation which occurs at a depth of 15 to 30 m below the original ground surface.

### **Comments:**

The review comments are outlined below:

1. The spatial and temporal trend of water level variation in the upper unconfined overburden aquifer follows the precipitation trend, i.e. an increase in water level with an increase in the amount of annual rainfall. Prior to the aggregate mining below the water table, the water level varied in the 1.5 to 2.0 m range between 1990 and 2000. Between 2000 and 2008 when aggregate mining below the water table occurred, the range of water elevation

variations (1.5 to 2 m) were comparable to the range of water elevation variations when aggregate extraction was limited to above water table. A marginally increasing trend in water level was observed during aggregate extraction below the water table until 2007 when the water level generally declined across the site. The observed decline in water level in 2007 correlated well with the below average rainfall received in 2007. Since 2007, a recovery in water level to the historical water level range has been observed. The below water table aggregate extraction operations do not appear to have caused unacceptable impact on the surficial overburden aquifer water levels.

2. The review of the groundwater quality data does not indicate that the surficial overburden groundwater quality has been influenced by the below water table aggregate mining operations. The groundwater quality at the Horsigh off-site shallow well was found different than the on-site groundwater quality in terms of chloride. The chloride concentrations at this off-site well were significantly elevated (80.6 to 237 mg/L) compared to the chloride level (10.9 to 44 mg/L) at upgradient monitor OW1B-90. Considering the inferred flow direction and the location of this off-site well close to the Wellington Road 34 and shallow depth, the chloride impact at this location is likely related to winter road maintenance operations.
3. With respect to the removal of off-site wells from the monitoring program, I found the consultant's recommendation reasonable and acceptable because a) dedicated on-site monitoring wells for hydraulic monitoring are available along the western property boundary, and b) the water quantity and quality have not been negatively influenced by the above and below water table mining operations. Moreover, the water level data collected from off-site private wells are generally influenced by operation of these wells. For this reason, I consider water elevation data collected from on-site observation wells more reliable than the private water supply wells for evaluation of impact on water quantity and quality on off-site receptors.

### **Conclusions:**

There is no long-term negative or unacceptable impact on the surficial overburden aquifer due to below water table mining operations. The on-site and off-site groundwater quantity and quality does not appear to have been influenced by aggregate mining operations. The groundwater level and quality monitoring should continue at all on-site wells. The removal of off-site private wells from the current monitoring program is acceptable.

I trust that the above comments will be of benefit. If you have any questions, I can be reached at 905-521-7817 or [abdul.quyum@ontario.ca](mailto:abdul.quyum@ontario.ca)

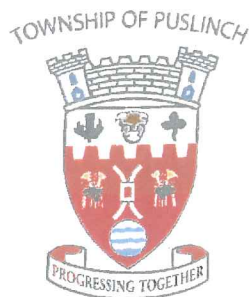
### **Statement of Limitations:**

The purpose of the preceding review is to provide advice to the Ministry of the Environment regarding subsurface conditions based on a review of the information provided in the above referenced document and data gathered in the investigation undertaken by the ministry. The conclusions, opinions and recommendations of the reviewer are based on information provided by others. The Ministry cannot guarantee that the information that has been provided by others is accurate or complete. A lack of specific comment by the reviewer is not to be construed as endorsing the content or views expressed in the reviewed material.



Abdul Quyum, M.A.Sc., P.Eng., P.Geo. (ab)  
Hydrogeologist





## Township of Puslinch

7404 Wellington Road #34

Guelph, ON, N1H 6H9

T: (519) 763 – 1226

F: (519) 763 – 5846

[www.puslinch.ca](http://www.puslinch.ca)

February 6<sup>th</sup> 2015

### **Sent Via Regular Mail**

#### **Attention Mr. Ron. Van Ooteghem**

Dufferin Aggregates

125 Brock Road South

Aberfoyle, ON, N1H 6H9

Dear Mr. Van Ooteghem:

**Re: Dufferin Aggregates Aberfoyle Pit No.2**

**Township of Puslinch**

**2013 Monitoring Report Review**

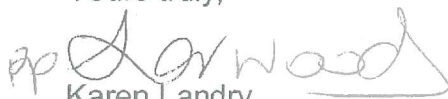
**File No: E13/DUF**

Enclosed please find a copy of correspondence from Harden Environmental Services Inc. dated December 18<sup>th</sup>, 2014 with respect to the above matter.

The Township respectfully requests that the removal of each private well be agreed to by the individual resident.

If you have any questions regarding the above, please contact Karen Landry, Clerk/CAO [klandry@puslinch.ca](mailto:klandry@puslinch.ca) (519) 763-1226 ext.214.

Yours truly,

  
Karen Landry  
Clerk/CAO

KL/nl

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4622 Nassagaweya-Puslinch Townline R.R. 1 Moffat Ontario Canada L0P 1J0  
Phone: 519.826.0099 fax: 519.826.9099 www.hardenv.com

Groundwater Studies

Geochemistry

Phase I / II

Regional Flow Studies

Contaminant Investigations

OMB Hearings

Water Quality Sampling

Monitoring

Groundwater Protection  
Studies

Groundwater Modelling

Groundwater Mapping

Our File: 0132

December 18, 2014

Township of Puslinch  
7404 Wellington Road 34  
Guelph, ON  
N1H 6H9

Attention: Karen Landry,  
CAO - Clerk

Dear Ms. Landry:

**Re: Aberfoyle Pit #2  
2013 Monitoring Report Review**

We have reviewed the 2013 Aberfoyle Pit #2 report prepared by Conestoga Rovers and Associates prepared on behalf of Dufferin Aggregates. There has been no aggregate extraction at this site between 2009 and 2013. Based on the data presented we make the following comments.

The monitoring of stations SW1-90, SW2-91, SW3-91 and SW4-91 resumed in February 2012. These stations represent water levels in the wetland adjacent to Pit # 2. Water levels in the wetland measured at SW2-91 have shifted lower in comparison to pre-below-water-table extraction. The shift is in the range of twenty to thirty centimeters as observed from the seasonal low water elevations (see attached figure). When below-water-table extraction commences, there will likely be additional water level change in the wetland.

The 2013 Monitoring report again recommends the removal of the Van Horsigh, Behmann, Hohenadel and Cox private wells from the monitoring program. We concur that on-site monitoring wells can adequately address changes in the groundwater flow system. The removal of the each private well should, however, be agreed to by the individual resident.

The Tikal Pond is located between the Dufferin Pit No. 2 extraction area

CLERK'S DEPARTMENT	
O RV GP LA (MNR)	
Trace Points	
Water Information	
Water Agency	FEB 15

AM (MNR)



and the Cox well. It is our opinion that continued monitoring of this well is not necessary since it is unlikely that activities on the Dufferin Pit No. 2 site could impact either the quantity or quality of groundwater in the Cox well.

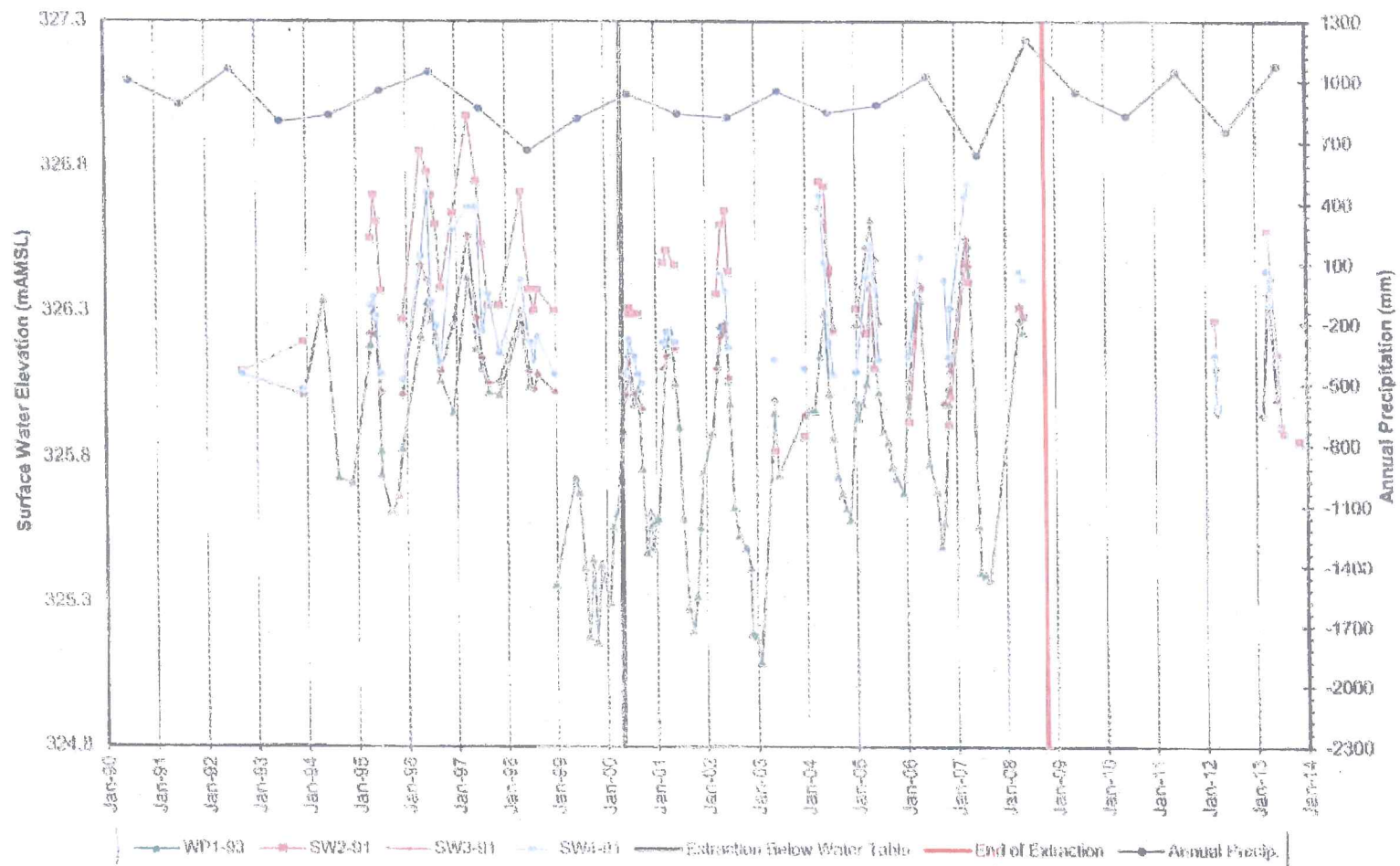
There are no significant changes in on-site water groundwater levels since the cessation of extraction in 2009.

There have been no significant changes in water quality from the extractive operations, based on a review of the water quality data obtained in 2013.

Sincerely  
Harden Environmental Services Ltd.

Stan Denhoed, P.Eng., M.Sc.  
Senior Hydrogeologist





Note:  
 Data gaps indicate frozen or "dry" (water level below bottom of l-bar) conditions;  
 SW2-91 l-bar was not in place between July to December 2002; therefore no water level taken.  
 WP1-93 not monitored Jun. 2008 to Jan. 2012 at request of owner, blocked since Feb. 2012  
 SW2, SW3 and SW4 not monitored Jun. 2008 to Jan. 2012 at request of owner;

**figure 3.5**  
**SURFACE WATER ELEVATIONS (1)**  
**ABERFOYLE PIT No. 2**  
**Dufferin Aggregates**

## Appendix B

# Stratigraphic and Instrumentation Logs

# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-01)

PROJECT NAME: ABERFOYLE PIT #2

PROJECT NO.: 1644

CLIENT: DUFFERIN AGGREGATES







LOCATION: AS PER PLAN

HOLE DESIGNATION: OW1A-90

DATE COMPLETED: MAY 2, 1990  
(Page 1 of 2)

DRILLING METHOD: 3 3/4" HSA

CRA SUPERVISOR: B. PARKER

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE		
				NUMBER	STATE	VALUE
	REFERENCE POINT (Top of Riser) GROUND SURFACE	330.674 329.89				
1.0	SW-GW(SAND/GRAVEL), little to some silt, dense, fine to medium grained, well graded, brown, moist, cobbles					
2.0				1SS	X	39
3.0	Some silt, very dense			2SS	X	>50
4.0						
5.0	Dense 2.5cm seam SP, medium to coarse sand, trace silt and clay, medium to coarse grained, wet	325.32		3SS	X	44
6.0	SM(SAND), and silt, trace gravel, medium dense, fine to medium grained, poorly graded, brown, wet	324.40		4SS	X	23
7.0	SW(SAND), little to some silt, little gravel, very dense, very fine to medium grained, well graded, brown-grey, wet	323.33		5SS	X	50
8.0				6SS	X	39
9.0	Medium dense			7SS	X	28
10.0						
11.0	Dense			8SS	X	31
12.0				9SS	X	31
13.0						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS  WATER FOUND  STATIC WATER LEVEL 

# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-01)

PROJECT NAME: ABERFOYLE PIT #2

PROJECT NO.: 1644

CLIENT: DUFFERIN AGGREGATES

LOCATION: AS PER PLAN

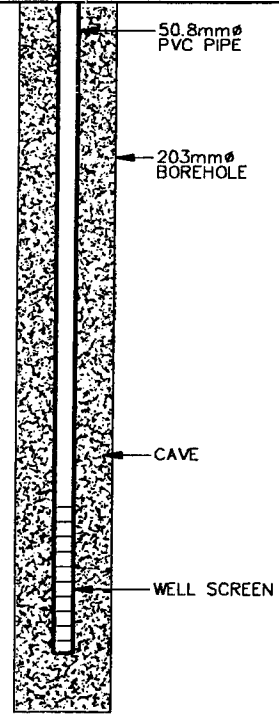
HOLE DESIGNATION: OW1A-90

(Page 2 of 2)  
DATE COMPLETED: MAY 2, 1990

DRILLING METHOD: 3 3/4" HSA

CRA SUPERVISOR: B. PARKER

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE		
				NUMBER	STATE	VALUE
14.0				10SS	X	33
15.0	Medium dense			11SS	X	11
16.0	Harder drilling	313.73		12SS	X	14
17.0	SW-GW(SAND/GRAVEL), medium dense, medium to coarse grained, well graded, grey, wet, cobbles			13SS	X	32
18.0	Dense			14SS	X	>50
19.0	Very dense			15SS	X	<50
20.0	ML(SILT)TILL, little clay, trace sand and gravel, hard, low plasticity, massive, grey-brown, moist	309.92 309.46				
21.0	END OF HOLE @ 20.42 m BGS.					
22.0						
23.0						
24.0						
25.0						
26.0						



**SCREEN DETAILS:**  
 Screened Interval:  
 18.29m to 19.81m BGS  
 Length - 1.52m  
 Diameter - 50.8mm  
 Slot # 10  
 Material - PVC  
 Sand pack interval:  
 6.1m to 20.42m BGS  
 Material - Natural

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS



WATER FOUND



STATIC WATER LEVEL

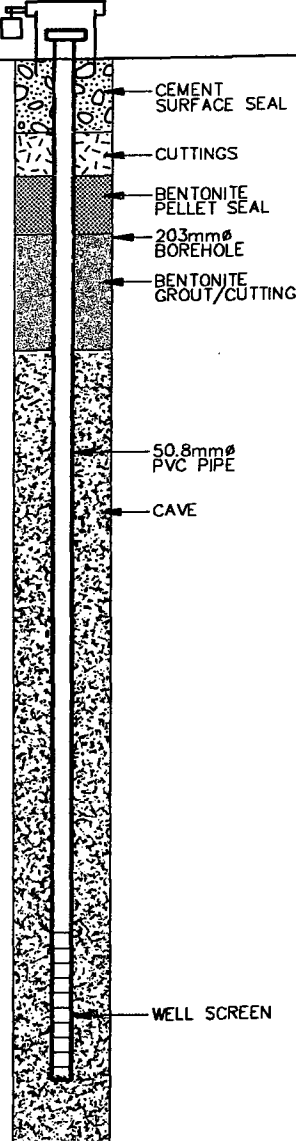


# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)




(L-02)

PROJECT NAME: ABERFOYLE PIT #2  
PROJECT NO.: 1644  
CLIENT: DUFFERIN AGGREGATES  
LOCATION: AS PER PLAN

HOLE DESIGNATION: OW1B-90  
DATE COMPLETED: MAY 2, 1990  
DRILLING METHOD: 3 3/4" HSA  
CRA SUPERVISOR: B. PARKER

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE		
				NUMBER	STATE	VALUE
	REFERENCE POINT (Top of Riser) GROUND SURFACE	330.834 329.92	 <p>CEMENT SURFACE SEAL</p> <p>CUTTINGS</p> <p>BENTONITE PELLET SEAL</p> <p>203mm Ø BOREHOLE</p> <p>BENTONITE GROUT/CUTTINGS</p> <p>50.8mm Ø PVC PIPE</p> <p>CAVE</p> <p>WELL SCREEN</p>			
1.0	Stratigraphy as per OW1A-90					
2.0						
3.0						
4.0						
5.0						
6.0						
7.0						
8.0						
9.0						
10.0						
11.0		318.64				
12.0	END OF HOLE @ 11.28 m BGS.					
13.0						

**SCREEN DETAILS:**  
Screened Interval:  
9.14m to 10.67m BGS  
Length - 1.52m  
Diameter - 50.8mm  
Slot # 10  
Material - PVC  
Sand pack interval:  
6.10m to 11.28m BGS  
Material - Silica/Natural

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE  
GRAIN SIZE ANALYSIS  WATER FOUND  STATIC WATER LEVEL 

# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-03)

PROJECT NAME: ABERFOYLE PIT #2

PROJECT NO.: 1644

CLIENT: DUFFERIN AGGREGATES

LOCATION: AS PER PLAN

HOLE DESIGNATION: OW2-90

(Page 1 of 3)  
DATE COMPLETED: MAY 2, 1990

DRILLING METHOD: 3 3/4" HSA

CRA SUPERVISOR: B. PARKER

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE		
				NUMBER	STATE	VALUE
	REFERENCE POINT (Top of Riser) GROUND SURFACE	326.837 325.83				
1.0	ML(SILT), some sand and gravel, brown, moist cobbles	325.22		1SS	X	>50
2.0	SM-GM(SAND/GRAVEL), and silt, very dense, fine to medium grained, well graded, brown, moist, cobbles					
3.0	Little silt, medium dense, fine to coarse grained, grey-brown, wet			2SS	X	27
4.0						
5.0				3SS	X	31
6.0						
7.0	ML(SILT)TILL, little to some clay, trace sand and gravel, very stiff, medium plasticity, nuggetty, grey, very moist	318.97		4SS	X	15
8.0						
9.0	Little very fine sand, hard			5SS	X	28
10.0	END OF HOLE @ 9.75 m BGS.	316.08		6SS	X	>50
11.0						
12.0						
13.0						

SCREEN DETAILS:  
Screened Interval:  
5.18m to 6.71m BGS  
Length - 1.52m  
Diameter - 50.8mm  
Slot # 10  
Material - PVC  
Sand pack interval:  
3.05m to 9.75m BGS  
Material - Silica/Natural

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS



WATER FOUND



STATIC WATER LEVEL



# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-04)

PROJECT NAME: ABERFOYLE PIT #2

HOLE DESIGNATION: OW3-90

PROJECT NO.: 1644

DATE COMPLETED: MAY 3, 1990

CLIENT: DUFFERIN AGGREGATES

DRILLING METHOD: 3 3/4" HSA

LOCATION: AS PER PLAN

CRA SUPERVISOR: B. PARKER

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE		
				NUMBER	STATE	VALUE
	REFERENCE POINT (Top of Riser) GROUND SURFACE	334.854 334.01	<p>CEMENT SURFACE SEAL</p> <p>203mm Ø BOREHOLE</p> <p>50.8mm Ø PVC PIPE</p> <p>CUTTINGS</p> <p>BENTONITE PELLET SEAL</p> <p>SAND PACK</p> <p>WELL SCREEN</p> <p>BENTONITE PELLET SEAL</p> <p>CUTTINGS</p>			
1.0	ML(SILT)FILL, some sand and gravel, little clay, medium plasticity, brown, slightly moist, cobbles					
2.0						
3.0				1SS	X	48
4.0		329.89		2SS	X	>50
5.0	SM-GM(SAND/GRAVEL), some silt, dense, fine to medium grained, well graded, brown, slightly moist, cobbles			3SS	X	42
6.0	Very dense, very moist Three inch seam, very fine sand, wet			4SS	X	>50
7.0		326.84		5SS	X	50
8.0	ML(SILT)TILL, some sand and gravel, trace clay, hard, low plasticity, nuggetty, grey-brown, moist, sand and gravel very fine to coarse grained			6SS	X	>50
9.0						
10.0						
11.0	Refusal END OF HOLE @ 10.67 m BGS.	323.34		7G		
12.0						
13.0						

**SCREEN DETAILS:**  
 Screened Interval:  
 4.88m to 6.40m BGS  
 Length - 1.52m  
 Diameter - 50.8mm  
 Slot # 10  
 Material - PVC  
 Sand pack interval:  
 3.66m to 6.70m BGS  
 Material - Silica Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS ○

WATER FOUND ▽

STATIC WATER LEVEL ▽

(CRA #OW3R-05)  
BOREHOLE NO. BH05-1

PAGE 1 OF 1

PROJECT NAME: ABERFOYLE PIT #2

PROJECT NO.: 051773.00

CLIENT: DUFFERIN AGGREGATES

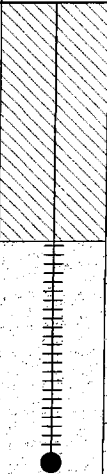
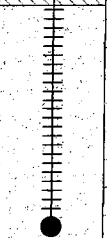

DATE: SEPTEMBER 28, 2005

BOREHOLE TYPE: BECKER HAMMER DRILL (168 mm)

SUPERVISOR: JMM

GROUND ELEVATION: 324 m ASL (estimated) 324.27 (surveyed)  
TOP OF RISER : 325.21 (surveyed)

REVIEWER: AJC

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %		REMARKS	
				TYPE	N' VALUE	% WATER	% RECOVERY	ROD (%)	"N" VALUE			10 20 30		
									10 20 30			10 20 30		
									SHEAR STRENGTH			W <sub>p</sub> W <sub>L</sub>		
0	SAND AND GRAVEL: FINE TO COARSE SAND, FINE TO COARSE GRAVEL, TRACE SILT, TRACE COBBLE, MOIST TO 2.4 m.  - GRAVEL CONTENT WITH DEPTH > 60% - SATURATED BELOW 2.4 m.		GS1									UTM COORDINATES 17T 6570608 4814893 LOCATED IN SOUTHWEST CORNER OF PIT ON FLOOR. INCLUDED AS MOE WELL RECORD A014804.		
2			GS2											
4			GS3											
6	SILTY CLAY: SILTY CLAY, OCCASIONAL GRAVEL OR COBBLE, WTPL TO APL.		GS4									BOREHOLE COMPLETED WITH GROUND WATER STANDPIPE. BOREHOLE ANNULUS CONTAINS COLLAPSED NATIVE MATERIALS AND UPPER ± 1.5 m SEALED WITH BENTONITE.		
7.0			GS5 A AND B											
8			GS6											
10	SILTY SAND: FINE TO COARSE SAND, SOME SILT TO SILTY, SOME FINE TO COARSE GRAVEL, TRACE COBBLE, SATURATED.											-TILL LIKE.  <		

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# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-05)

PROJECT NAME: ABERFOYLE PIT #2

HOLE DESIGNATION: OW4-90

PROJECT NO.: 1644

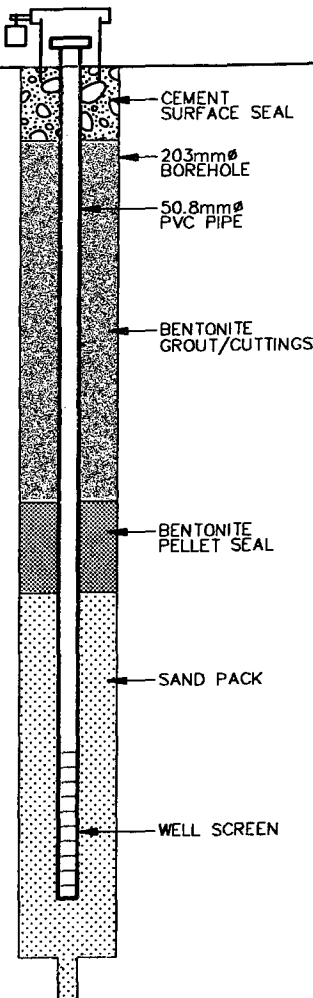
DATE COMPLETED: MAY 3, 1990

CLIENT: DUFFERIN AGGREGATES

DRILLING METHOD: 3 3/4" HSA

LOCATION: AS PER PLAN

CRA SUPERVISOR: B. PARKER

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE			
				NUMBER	STATE	VALUE	
	REFERENCE POINT (Top of Riser) GROUND SURFACE	335.783 334.94					
1.0	SW-GW(SAND/GRAVEL), little to some silt, very dense, very fine to coarse grained, well graded, brown, moist, cobbles	332.65		1SS	⊗	>50	
2.0							
3.0	ML(SILT)TILL, some sand, little gravel, hard, low plasticity, very fine to medium grained sands, nuggetty, brown, moist Very moist				2SS	⊗	>50
4.0	Some gravel						
5.0		325.64					
6.0							
7.0							
8.0	Harder drilling				5SS	⊗	>50
9.0		325.64					
10.0	END OF HOLE @ 9.30 m BGS.				6SS	⊗	>50
11.0							
12.0							
13.0							

SCREEN DETAILS:

Screened Interval:  
7.16m to 8.69m BGS  
Length -1.52m  
Diameter - 50.8mm  
Slot # 10  
Material - PVC

Sand pack interval:  
5.49m to 9.30m BGS  
Material - Silica Sand

SCREEN DETAILS:  
Screened Interval:  
7.16m to 8.69m BGS  
Length -1.52m  
Diameter -50.8mm  
Slot # 10  
Material - PVC  
Sand pack interval:  
5.49m to 9.30m BGS  
Material - Silica Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS ○

WATER FOUND ⊠

STATIC WATER LEVEL ▼

(CRA # 0W4R-05)  
BOREHOLE NO. BH05-3

PAGE 1 OF 2

PROJECT NAME: ABERFOYLE PIT #2

PROJECT NO.: 051773.00

CLIENT: DUFFERIN AGGREGATES

DATE: SEPTEMBER 28, 2005

BOREHOLE TYPE: BECKER HAMMER DRILL (168 mm)

SUPERVISOR: JMM

GROUND ELEVATION: 336 m ASL (estimated), 339.51 (Surveyed)  
TOP OF RISER: 340.38 (Surveyed)

REVIEWER: AJC

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %			REMARKS	
				TYPE	N° VALUE	% WATER	% RECOVERY	RQD (%)	"N" VALUE			10 20 30			
									10	20	30	10	20		30
0	SAND: FINE TO COARSE SAND, WITH SOME TO TRACE FINE TO COARSE GRAVEL, TRACE COBBLE, TRACE SILT, MOIST.			GS1										UTM COORDINATES 17T 6570605 4814830 LOCATED SOUTHWEST CORNER OF PROPERTY ON TOP LIFT.  MOE WELL RECORD A014804.	
2				GS2											
4				GS3											
6	— CLAYEY SILT LAYER AT 6.1 m APPROXIMATELY 15 cm.													BOREHOLE COMPLETED WITH GROUND WATER STANDPIPE. BOREHOLE ANNULUS CONTAINS COLLAPSED NATIVE MATERIALS AND UPPER ± 1.5 m SEALED WITH BENTONITE.	
7.0															
8				GS4											
10				GS5											
12															
14				GS6											
14.3	SAND AND GRAVEL: FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, TRACE SILT, TRACE COBBLE, MOIST TO 18.9 m. — SILT CONTENT VARIABLE 0 - 25%.			GS7											
16															
18				GS8											
20	— SATURATED BELOW 18.9 m.			GS9											

Revision 2/ Aug 2003

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(CRA # 0W4R-05)  
BOREHOLE NO. BH05-3

PAGE 2 OF 2

PROJECT NAME: ABERFOYLE PIT #2

CLIENT: DUFFERIN AGGREGATES

BOREHOLE TYPE: BECKER HAMMER DRILL (168 mm)

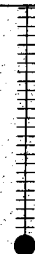

GROUND ELEVATION: -336 m ASL (estimated)

PROJECT NO.: 051773.00

DATE: SEPTEMBER 28, 2005

SUPERVISOR: JMM

REVIEWER: AJC

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %		REMARKS	
				TYPE	N' VALUE	% WATER	% RECOVERY	ROD (%)	"N" VALUE					
									10	20	30	10		20
20	<u>SAND AND GRAVEL:</u> Continued.								SHEAR STRENGTH				- DRILL REFUSAL	
				GS10										
22														
				GS11										
24				GS12										
26														
26.8														
	BOREHOLE TERMINATED AT 26.8 m IN SAND AND GRAVEL.													
28														
30														
32														
34														
36														
38														
40														

Revision 2/ Aug 2003

JACGER HDS LIMITED

# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-07)

PROJECT NAME: ABERFOYLE PIT

PROJECT NO.: 1644

CLIENT: DUFFERIN AGGREGATES

LOCATION: AS PER PLAN

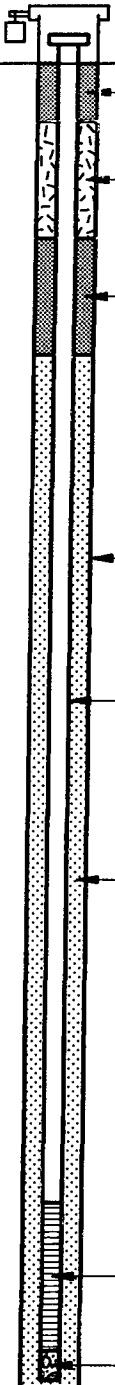
HOLE DESIGNATION: OW5-90

(Page 1 of 2)

DATE COMPLETED: JUNE 21, 1990

DRILLING METHOD: CABLE TOOL

CRA SUPERVISOR: L. LAVALLEE

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE		
				NUMBER	STATE	VALUE
	REFERENCE POINT (Top of Casing) GROUND SURFACE	326.571 325.53				
1.0	SM(SAND), some silt, medium grained, poorly graded, cobbles, grey, moist		BENTONITE PELLET SEAL	1CT		
2.0	SW(SAND), some gravel, little silt, medium to coarse grained, well graded, grey, saturated	324.01	NATIVE MATERIAL	2CT		
3.0			BENTONITE PELLET SEAL	3CT		
4.0	SM(SAND), some silt, trace gravel, medium grained, poorly graded, grey, saturated	322.48		4CT		
5.0	SM-GM(SAND/GRAVEL), some silt, coarse grained, poorly graded, grey, saturated	320.96	152.40mm Ø CASING	5CT		
6.0			50.80mm Ø WELL PIPE	6CT		
7.0	SM(SAND), some silt, fine to medium grained, well graded, grey, saturated	319.43		7CT		
8.0	- little clay		SAND PACK	8CT		
9.0				9CT		
10.0	- little clay, trace gravel			10CT		
11.0				11CT		
12.0	SW(SAND), trace silt and clay, trace gravel, fine grained, poorly graded, grey-black, saturated	314.25	WELL SCREEN	12CT		
13.0	- trace to little gravel, no silt, more coarse, fine to medium grained, well graded - trace gravel, trace silt and clay, fine to coarse grained		CONCRETE PLUG			

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS ○ WATER FOUND ∇ STATIC WATER LEVEL ▼

# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-07)

PROJECT NAME: ABERFOYLE PIT

PROJECT NO.: 1644

CLIENT: DUFFERIN AGGREGATES

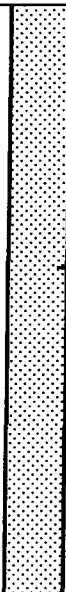
LOCATION: AS PER PLAN

HOLE DESIGNATION: OW5-90

(Page 2 of 2)  
DATE COMPLETED: JUNE 21, 1990

DRILLING METHOD: CABLE TOOL

CRA SUPERVISOR: L. LAVALLEE

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE		
				NUMBER	STATE	VALUE
14.0	SM(SAND), trace to little silt, trace clay fine grained, poorly graded, grey-black, saturated	311.81	 <p>152.40mm Ø CASING</p> <p>SAND PACK</p>	13CT		
15.0	- trace silt and clay, more coarse, poorly graded			14CT		
16.0	- trace clay, medium to coarse grained, well graded			15CT		
17.0	ML(SILT), little sand, trace gravel, medium grained sand, grey, saturated	309.07		16CT		
18.0	SP(SAND), trace silt, trace fine grained gravel, medium grained, poorly graded, grey-black, saturated	308.46		17GR		
19.0	- little to trace silt, no gravel			18GR		
	- trace silt, brown			19GR		
				20GR		
	END OF HOLE @ 19.20 m BGS.	306.33				
20.0						
21.0						
22.0						
23.0						
24.0						
25.0						
26.0						

## SCREEN DETAILS:

Screened Interval:  
11.9 to 13.4m BGS

Length -1.5m

Diameter -50.80mm

Slot # 10

Material -Stainless Steel

Sand pack interval:

3.0 to 19.2m BGS

Material -Natural

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS



WATER FOUND



STATIC WATER LEVEL



# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-08)

PROJECT NAME: ABERFOYLE PIT

PROJECT NO.: 1644

CLIENT: DUFFERIN AGGREGATES

LOCATION: AS PER PLAN


HOLE DESIGNATION: OW6-90

(Page 1 of 2)

DATE COMPLETED: JUNE 21, 1990

DRILLING METHOD: CABLE TOOL

CRA SUPERVISOR: L. LAVALLEE

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE		
				NUMBER	STATE	VALUE
	REFERENCE POINT (Top of Casing) GROUND SURFACE	326.464 325.49				
1.0	Stratigraphy for 0.0 to 9.14 as per OW5-90		BENTONITE PELLET SEAL			
2.0			NATIVE MATERIAL			
3.0			BENTONITE PELLET SEAL			
4.0						
5.0			152.40mm Ø CASING			
6.0			50.80mm Ø WELL PIPE			
7.0			152.40mm Ø BOREHOLE			
8.0			SAND PACK			
9.0		316.35				
10.0	SM(SAND), some silt, little fine grained gravel, medium to coarse grained, well graded, grey, saturated - dense clay layer	315.43		1CT		
11.0	SM(SAND), little silt, trace fine grained gravel, fine to medium grained, well graded, grey-brown, saturated - some silt, no gravel, fine grained, poorly graded - fine to medium grained, well graded			2CT		
12.0	- trace fine grained gravel, medium to coarse grained - no gravel, fine to medium grained, grey		WELL SCREEN	3CT		
13.0	- more fine - trace clay, medium to coarse grained		NATIVE MATERIAL	4CT		
				5CT		

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS



WATER FOUND



STATIC WATER LEVEL



# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-08)

PROJECT NAME: ABERFOYLE PIT

HOLE DESIGNATION: OW6-90

PROJECT NO.: 1644


(Page 2 of 2)  
DATE COMPLETED: JUNE 21, 1990

CLIENT: DUFFERIN AGGREGATES

DRILLING METHOD: CABLE TOOL

LOCATION: AS PER PLAN

CRA SUPERVISOR: L. LAVALLEE

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE		
				NUMBER	STATE	VALUE
	- trace clay, medium to coarse grained		 NATIVE MATERIAL			
- 14.0		311.16				
- 15.0	ML(SILT), some coarse grained gravel, little fine to coarse grained sand, little clay, well graded, grey, saturated END OF HOLE @ 14.94 m BGS.	310.55				
- 16.0			<u>SCREEN DETAILS:</u> Screened Interval: 11.58 to 13.11m BGS Length -1.52m Diameter -50.8mm Slot # 10 Material -PVC Sand pack interval: 3.05 to 13.11m BGS Material -Natural			
- 17.0						
- 18.0						
- 19.0						
- 20.0						
- 21.0						
- 22.0						
- 23.0						
- 24.0						
- 25.0						
- 26.0						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS



WATER FOUND



STATIC WATER LEVEL



(CRA # OW7-05)  
BOREHOLE NO. BH05-2

PAGE 1 OF 2

PROJECT NAME: ABERFOYLE PIT #2

PROJECT NO.: 051773.00

CLIENT: DUFFERIN AGGREGATES

DATE: SEPTEMBER 28, 2005

BOREHOLE TYPE: BECKER HAMMER DRILL (168 mm)

SUPERVISOR: JMM

GROUND ELEVATION: 334 m ASL (estimated), 333.41 (surveyed)  
TOP OF RISER ! 334.38 (surveyed)

REVIEWER: AJC

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION	WATER CONTENT %			REMARKS		
				TYPE	N' VALUE	% WATER	% RECOVERY	ROD (%)	"N" VALUE			10 20 30			
									10	20	30	10		20	30
									SHEAR STRENGTH			W <sub>p</sub> W <sub>L</sub>			
0	SAND: FINE TO COARSE SAND, WITH SOME FINE TO COARSE GRAVEL, TRACE COBBLE, TRACE SILT, MOIST.			GS1									UTM COORDINATES 17T 0571455 4815165 LOCATED ON THE EASTERN CORNER OF THE PIT. - FOLLOW ROADWAY AROUND POND TO THE MEETING OF THE TWO BERMS. INCLUDED AS MOE WELL RECORD A014804.		
2				GS2											
4				GS3											
4.6	GRAVELLY SAND: FINE TO COARSE SAND, FINE TO COARSE GRAVEL, TRACE COBBLE, TRACE SILT, MOIST TO 10.0 m.			GS4										BOREHOLE COMPLETED WITH GROUND WATER STANDPIPE. BOREHOLE ANNULUS CONTAINS COLLAPSED NATIVE MATERIALS AND UPPER ± 1.5 m SEALED WITH BENTONITE.	
6				GS5											
8				GS6											
10				GS7											
12				GS8											
14	- SATURATED BELOW 10.0 m.			GS9											
15.0															
16															
18	GRAVELLY SAND: GRAVELLY FINE TO COARSE SAND, TRACE COBBLES, SATURATED.														
20															

Revision 2/ Aug 2003

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(CRA# 0W7-05)  
BOREHOLE NO. BH05-2

PAGE 2 OF 2

PROJECT NAME: ABERFOYLE PIT #2

PROJECT NO.: 051773.00

CLIENT: DUFFERIN AGGREGATES

DATE: SEPTEMBER 28, 2005

BOREHOLE TYPE: BECKER HAMMER DRILL (168 mm)

SUPERVISOR: JMM

GROUND ELEVATION: 334 m ASL (estimated)

REVIEWER: AJC

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION	WATER CONTENT %	REMARKS				
				TYPE	N' VALUE	% WATER	% RECOVERY	ROD (%)	"N" VALUE	10 20 30					
									10 20 30	SHEAR STRENGTH		W <sub>p</sub> W <sub>L</sub>			
20	GRAVELLY SAND: Continued.			GS10											
21.6															
22	CLAYEY SILT: SILTY CLAY TO CLAYEY SILT, WITH SOME FINE TO MEDIUM GRAVEL, TRACE MEDIUM TO COARSE SAND, WTPL.														
23.8															
24	BOREHOLE TERMINATED AT 23.8 m IN CLAYEY SILT.														- DRILL REFUSAL
26															
28															
30															
32															
34															
36															
38															
40															

Revision 2/ Aug 2003

JACOB HINDS LIMITED

# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-06)

PROJECT NAME: ABERFOYLE PIT

PROJECT NO.: 1644

CLIENT: DUFFERIN AGGREGATES

LOCATION: AS PER PLAN



HOLE DESIGNATION: PW1-90

Page 1 of 2




DATE COMPLETED: JUNE 21, 1990

DRILLING METHOD: CABLE TOOL

CRA SUPERVISOR: L. LAVALLEE

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE		
				NUMBER	STATE	VALUE
	REFERENCE POINT (Top of Casing) GROUND SURFACE	326.517 325.47				
1.0	SM(SAND), some silt, medium grained, poorly graded, cobbles, grey, moist					
2.0	SW(SAND), some gravel, little silt, medium to coarse grained, well graded, grey, saturated	333.95				
3.0	SM(SAND), some silt, trace gravel, medium grained, poorly graded, grey, saturated	322.42				
4.0						
5.0	SM-GM(SAND/GRAVEL), some silt, coarse grained, poorly graded, grey, saturated	320.90				
6.0						
7.0	SM(SAND), some silt, fine to medium grained, well graded, grey, saturated	319.37				
8.0						
9.0	- little clay					
10.0	SM(SAND), some silt, medium grained, poorly graded, grey, saturated - trace clay, fine to medium grained, well graded	316.33		1CT		
11.0				2CT		
12.0	SW(SAND), trace fine grained gravel, trace silt, medium to coarse grained, well graded, brown-black, saturated	314.04		3CT		
	SM(SAND), some silt, fine to medium grained, well graded, grey-black, saturated	313.28		4CT		
13.0	SW(SAND), little to trace silt, trace gravel, medium to coarse grained, well graded, grey-black, saturated	312.52		5CT		
	END OF HOLE @ 13.41 m BGS.	312.06		6CT		

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS  WATER FOUND  STATIC WATER LEVEL 

# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-06)

PROJECT NAME: ABERFOYLE PIT

PROJECT NO.: 1644

CLIENT: DUFFERIN AGGREGATES

LOCATION: AS PER PLAN

HOLE DESIGNATION: PW1-90

DATE COMPLETED: JUNE 21, 1990

DRILLING METHOD: CABLE TOOL

CRA SUPERVISOR: L. LAVALLEE

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE		
				NUMBER	STATE	VALUE
1.0			<b>SCREEN DETAILS:</b> Screened Interval: 11.9 to 13.4m BGS Length -1.5m Diameter -152.40mm Slot # 25 Material -Stainless Steel			
2.0						
3.0						
4.0						
5.0						
6.0						
7.0						
8.0						
9.0						
10.0						
11.0						
12.0						
13.0						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS



WATER FOUND



STATIC WATER LEVEL



# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-09)

PROJECT NAME: ABERFOYLE PIT 2

PROJECT NO.: 1644

CLIENT: DUFFERIN AGGREGATES

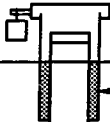
LOCATION: F. GAUTHIER PROPERTY

HOLE DESIGNATION: GAUTHIER

(Page 1 of 2)  
DATE COMPLETED: JULY 11, 1990

DRILLING METHOD: CABLE TOOL

CRA SUPERVISOR: B. PARKER

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE		
				NUMBER	STATE	VALUE
						
	Topsoil	-0.15				
	GM-SM(GRAVEL/SAND), little silt, brown, cobbles		BENTONITE PELLETT SEAL			
1.0						
2.0						
3.0				1G	X	
4.0						
5.0	- less cobbles, easier drilling					
6.0				2G	X	
7.0						
8.0						
9.0				3G	X	
10.0	ML-CL(SILT/CLAY), trace sand and gravel, reddish brown	-9.80	156mmØ STEEL CASING			
11.0						
12.0				4G	X	
13.0						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS



WATER FOUND



STATIC WATER LEVEL



# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-09)

PROJECT NAME: ABERFOYLE PIT 2

PROJECT NO.: 1644

CLIENT: DUFFERIN AGGREGATES

LOCATION: F. GAUTHIER PROPERTY

HOLE DESIGNATION: GAUTHIER  
(Page 2 of 2)




DATE COMPLETED: JULY 11, 1990

DRILLING METHOD: CABLE TOOL

CRA SUPERVISOR: B. PARKER

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE		
				NUMBER	STATE	VALUE
14.0	- trace to little sand and gravel, harder drilling					
15.0	- trace sand and gravel			5G	X	
16.0				6G	X	
17.0						
18.0				7G	X	
19.0				8G	X	
20.0	BEDROCK, Limestone	-19.20				
21.0						
22.0	END OF HOLE @ 22.16 m BGS.	-22.16				
23.0						
24.0						
25.0						
26.0						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS  WATER FOUND  STATIC WATER LEVEL 

# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-01)

PROJECT NAME: DUFFERIN AGGREGATES

HOLE DESIGNATION: WP1-93

PROJECT NO.: 1644

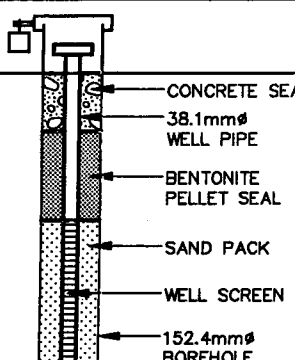
DATE COMPLETED: AUGUST 11, 1993

CLIENT: DUFFERIN AGGREGATES

DRILLING METHOD: POWER AUGER

LOCATION: AS PER PLAN

CRA SUPERVISOR: J. DUDA

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m BGS	MONITOR INSTALLATION	SAMPLE			
				NUMBER	STATE	VALUE	PID (ppm)
0.5	SM-SAND, some silt, little clay, medium dense, brown, saturated, organics - no organics						
1.0							
1.5	Auger refusal (@ 1.52m BGS) END OF HOLE @ 1.52 m BGS.	-1.52	<p><b>SCREEN DETAILS:</b>  Screened Interval:  0.76 to 1.52m BGS  Length -0.76m  Diameter -38.1mm  Slot # 10  Material -PVC  Sand pack interval:  0.76 to 1.52m BGS  Material -# 2 Sand</p>				
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							
5.5							
6.0							
6.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



WATER FOUND



STATIC WATER LEVEL



## Appendix C

# Laboratory Analyses



GHD Limited (Waterloo)  
ATTN: PREETI GURURAJAN  
651 COLBY DRIVE  
WATERLOO ON N2V 1C2

Date Received: 19- AUG- 15  
Report Date: 27- AUG- 15 15:38 (MT)  
Version: FINAL

Client Phone: 519- 884- 0510

## Certificate of Analysis

Lab Work Order #: L1660074

Project P.O. #: 73500520

Job Reference: 1644

C of C Numbers:

Legal Site Desc:

LAURA ERMETA  
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047  
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company



## ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1660074-1 GW-1644-081915-DD-001								
Sampled By: D. DAUM on 19-AUG-15								
Matrix: WATER								
<b>Anions and Nutrients</b>								
Chloride (Cl)		14.8		0.50	mg/L		20-AUG-15	R3250840
Nitrate (as N)		0.036		0.020	mg/L		20-AUG-15	R3250840
Nitrite (as N)		<0.010		0.010	mg/L		20-AUG-15	R3250840
Phosphorus, Total		<0.030		0.030	mg/L	19-AUG-15	21-AUG-15	R3250911
Sulfate (SO4)		33.8		0.30	mg/L		20-AUG-15	R3250840
<b>Dissolved Metals</b>								
Dissolved Metals Filtration Location		FIELD					20-AUG-15	R3249815
Calcium (Ca)-Dissolved		57.5		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Iron (Fe)-Dissolved		<0.010		0.010	mg/L	20-AUG-15	24-AUG-15	R3252369
Magnesium (Mg)-Dissolved		24.1		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Potassium (K)-Dissolved		0.965		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Sodium (Na)-Dissolved		5.75		0.50	mg/L	20-AUG-15	24-AUG-15	R3252369
<b>Aggregate Organics</b>								
Heavy Oil (C24-C50)		<2.0		2.0	mg/L	27-AUG-15	27-AUG-15	R3255018
<b>Hydrocarbons</b>								
TPH (C5-C10)		<0.10		0.10	mg/L		23-AUG-15	R3251853
TPH (C10-C24)		<0.10		0.10	mg/L	26-AUG-15	26-AUG-15	R3254105
TPH Total (C5-C24)		<0.1		0.10	mg/L		26-AUG-15	
Surrogate: 2-Bromobenzotrifluoride		103.0		50-150	%	26-AUG-15	26-AUG-15	R3254105
L1660074-2 GW-1644-081915-DD-002								
Sampled By: D. DAUM on 19-AUG-15								
Matrix: WATER								
<b>Anions and Nutrients</b>								
Chloride (Cl)		43.7		0.50	mg/L		20-AUG-15	R3250840
Nitrate (as N)		<0.020		0.020	mg/L		20-AUG-15	R3250840
Nitrite (as N)		<0.010		0.010	mg/L		20-AUG-15	R3250840
Phosphorus, Total		0.039		0.030	mg/L	19-AUG-15	21-AUG-15	R3250911
Sulfate (SO4)		3.67		0.30	mg/L		20-AUG-15	R3250840
<b>Dissolved Metals</b>								
Dissolved Metals Filtration Location		FIELD					20-AUG-15	R3249815
Calcium (Ca)-Dissolved		71.9		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Iron (Fe)-Dissolved		1.02		0.010	mg/L	20-AUG-15	24-AUG-15	R3252369
Magnesium (Mg)-Dissolved		24.0		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Potassium (K)-Dissolved		1.04		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Sodium (Na)-Dissolved		22.0		0.50	mg/L	20-AUG-15	24-AUG-15	R3252369
<b>Aggregate Organics</b>								
Heavy Oil (C24-C50)		2.4		2.0	mg/L	27-AUG-15	27-AUG-15	R3255018
<b>Hydrocarbons</b>								
TPH (C5-C10)		<0.10		0.10	mg/L		23-AUG-15	R3251853
TPH (C10-C24)		<0.10		0.10	mg/L	26-AUG-15	26-AUG-15	R3254105
TPH Total (C5-C24)		<0.1		0.10	mg/L		26-AUG-15	
Surrogate: 2-Bromobenzotrifluoride		103.0		50-150	%	26-AUG-15	26-AUG-15	R3254105

Refer to Referenced Information for Qualifiers (if any) and Methodology.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1660074-3 GW-1644-081915-DD-003 Sampled By: D. DAUM on 19-AUG-15 Matrix: WATER							
<b>Anions and Nutrients</b>							
Chloride (Cl)	11.2		0.50	mg/L		20-AUG-15	R3250840
Nitrate (as N)	<0.020		0.020	mg/L		20-AUG-15	R3250840
Nitrite (as N)	<0.010		0.010	mg/L		20-AUG-15	R3250840
Phosphorus, Total	<0.030		0.030	mg/L	19-AUG-15	21-AUG-15	R3250911
Sulfate (SO4)	14.6		0.30	mg/L		20-AUG-15	R3250840
<b>Dissolved Metals</b>							
Dissolved Metals Filtration Location	FIELD					20-AUG-15	R3249815
Calcium (Ca)-Dissolved	71.5		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	20-AUG-15	24-AUG-15	R3252369
Magnesium (Mg)-Dissolved	24.6		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Potassium (K)-Dissolved	1.10		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Sodium (Na)-Dissolved	4.99		0.50	mg/L	20-AUG-15	24-AUG-15	R3252369
L1660074-4 GW-1644-081915-DD-004 Sampled By: D. DAUM on 19-AUG-15 Matrix: WATER							
<b>Anions and Nutrients</b>							
Chloride (Cl)	14.7		0.50	mg/L		20-AUG-15	R3250840
Nitrate (as N)	0.113		0.020	mg/L		20-AUG-15	R3250840
Nitrite (as N)	<0.010		0.010	mg/L		20-AUG-15	R3250840
Phosphorus, Total	0.058		0.030	mg/L	19-AUG-15	21-AUG-15	R3250911
Sulfate (SO4)	31.5		0.30	mg/L		20-AUG-15	R3250840
<b>Dissolved Metals</b>							
Dissolved Metals Filtration Location	FIELD					20-AUG-15	R3249815
Calcium (Ca)-Dissolved	53.5		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	20-AUG-15	24-AUG-15	R3252369
Magnesium (Mg)-Dissolved	22.3		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Potassium (K)-Dissolved	1.06		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Sodium (Na)-Dissolved	5.59		0.50	mg/L	20-AUG-15	24-AUG-15	R3252369
L1660074-5 GW-1644-081915-DD-005 Sampled By: D. DAUM on 19-AUG-15 Matrix: WATER							
<b>Anions and Nutrients</b>							
Chloride (Cl)	14.7		0.50	mg/L		20-AUG-15	R3250840
Nitrate (as N)	0.113		0.020	mg/L		20-AUG-15	R3250840
Nitrite (as N)	<0.010		0.010	mg/L		20-AUG-15	R3250840
Phosphorus, Total	0.053		0.030	mg/L	19-AUG-15	21-AUG-15	R3250911
Sulfate (SO4)	31.5		0.30	mg/L		20-AUG-15	R3250840
<b>Dissolved Metals</b>							
Dissolved Metals Filtration Location	FIELD					20-AUG-15	R3249815
Calcium (Ca)-Dissolved	53.7		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	20-AUG-15	24-AUG-15	R3252369
Magnesium (Mg)-Dissolved	22.3		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369

Refer to Referenced Information for Qualifiers (if any) and Methodology.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1660074-5	GW-1644-081915-DD-005							
Sampled By:	D. DAUM on 19-AUG-15							
Matrix:	WATER							
Dissolved Metals								
Potassium (K)-Dissolved		1.07		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Sodium (Na)-Dissolved		5.51		0.50	mg/L	20-AUG-15	24-AUG-15	R3252369
L1660074-6	GW-1644-081915-DD-006							
Sampled By:	D. DAUM on 19-AUG-15							
Matrix:	WATER							
Anions and Nutrients								
Chloride (Cl)		17.4		0.50	mg/L		20-AUG-15	R3250840
Nitrate (as N)		<0.020		0.020	mg/L		20-AUG-15	R3250840
Nitrite (as N)		<0.010		0.010	mg/L		20-AUG-15	R3250840
Phosphorus, Total		0.595		0.030	mg/L	19-AUG-15	21-AUG-15	R3250911
Sulfate (SO4)		23.1		0.30	mg/L		20-AUG-15	R3250840
Dissolved Metals								
Dissolved Metals Filtration Location		FIELD					20-AUG-15	R3249815
Calcium (Ca)-Dissolved		67.2		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Iron (Fe)-Dissolved		0.973		0.010	mg/L	20-AUG-15	24-AUG-15	R3252369
Magnesium (Mg)-Dissolved		35.6		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Potassium (K)-Dissolved		1.18		0.050	mg/L	20-AUG-15	24-AUG-15	R3252369
Sodium (Na)-Dissolved		6.91		0.50	mg/L	20-AUG-15	24-AUG-15	R3252369
L1660074-7	SW-1644-081915-DD-001							
Sampled By:	D. DAUM on 19-AUG-15							
Matrix:	WATER							
Anions and Nutrients								
Phosphorus, Total		72.5	DLA	3.0	mg/L	23-AUG-15	24-AUG-15	R3252093



## Reference Information

### QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1660074-1, -2, -3, -4, -5, -6
Matrix Spike	Iron (Fe)-Dissolved	MS-B	L1660074-1, -2, -3, -4, -5, -6
Duplicate	TPH (C5-C10)	VTHS	L1660074-1, -2

### Sample Parameter Qualifier key listed:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
VTHS	Volatile test was conducted on sample with headspace. Results may be biased low.

### Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CL-IC-WT	Water	Chloride by IC Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.	EPA 300.1 (mod)
Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).			
ETL-TPH-ONT-WT	Water	Total Petroleum Hydrocarbons (C5-C24)	Calculation
MET-D-CCMS-WT	Water	Dissolved Metals in Water by CRC ICPMS Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.	APHA 3030B/6020A (mod)
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).			
NO2-IC-WT	Water	Nitrite in Water by IC Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.	EPA 300.1 (mod)
NO3-IC-WT	Water	Nitrate in Water by IC Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.	EPA 300.1 (mod)
OGG-HYDR-WT	Water	Heavy Oil (C24-C50) Water samples requiring heavy oil analysis are solvent extracted with hexane and cleaned up using silica gel, the extract is then weighed to determine the concentration gravimetrically	APHA 5520 F
P-T-COL-WT	Water	Total P in Water by Colour This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.	APHA 4500-P PHOSPHORUS
SO4-IC-N-WT	Water	Sulfate in Water by IC Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.	EPA 300.1 (mod)
TEH-ON-WT	Water	TPH (C10-C24) The petroleum hydrocarbons are extracted from the aqueous samples using solvent partition. The extracts are treated with silica gel to remove polar contaminants. The final concentrated extract is analyzed by gas chromatography (GC) using flame ionization detection (FID) and a 100% polydimethylsiloxane column.	Contam. Sites
TVH-WT	Water	TPH (C5-C10)	Contam. Sites

\* ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

### Chain of Custody Numbers:

## Reference Information

### GLOSSARY OF REPORT TERMS

*Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.*

*mg/kg - milligrams per kilogram based on dry weight of sample*

*mg/kg ww - milligrams per kilogram based on wet weight of sample*

*mg/kg lwt - milligrams per kilogram based on lipid weight of sample*

*mg/L - unit of concentration based on volume, parts per million.*

*< - Less than.*

*D.L. - The reporting limit.*

*N/A - Result not available. Refer to qualifier code and definition for explanation.*

*Test results reported relate only to the samples as received by the laboratory.*

*UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.*

*Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.*

## Quality Control Report

Workorder: L1660074

Report Date: 27-AUG-15

Page 1 of 4

Client: GHD Limited (Waterloo)  
651 COLBY DRIVE  
WATERLOO ON N2V 1C2  
Contact: PREETI GURURAJAN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
<b>L-IC-WT Water</b>								
Batch	R3250840							
<b>WG2154085-4 DUP</b>		<b>WG2154085-3</b>						
Chloride (Cl)		<0.50	<0.50	RPD-NA	mg/L	N/A	25	20-AUG-15
<b>WG2154085-2 LCS</b>								
Chloride (Cl)			103.8		%		70-130	20-AUG-15
<b>WG2154085-1 MB</b>								
Chloride (Cl)			<0.50		mg/L		0.5	20-AUG-15
<b>WG2154085-5 MS</b>		<b>WG2154085-3</b>						
Chloride (Cl)			102.1		%		70-130	20-AUG-15
<b>DET-D-CCMS-WT Water</b>								
Batch	R3252369							
<b>WG2153383-4 DUP</b>		<b>WG2153383-3</b>						
Calcium (Ca)-Dissolved		9.27	9.01		mg/L	2.9	20	24-AUG-15
Iron (Fe)-Dissolved		0.118	0.116		mg/L	0.9	20	24-AUG-15
Magnesium (Mg)-Dissolved		2.27	2.25		mg/L	0.5	20	24-AUG-15
Potassium (K)-Dissolved		0.198	0.198		mg/L	0.2	20	24-AUG-15
Sodium (Na)-Dissolved		0.66	0.66		mg/L	0.6	20	24-AUG-15
<b>WG2153383-2 LCS</b>								
Calcium (Ca)-Dissolved			105.1		%		80-120	24-AUG-15
Iron (Fe)-Dissolved			98.7		%		80-120	24-AUG-15
Magnesium (Mg)-Dissolved			102.4		%		80-120	24-AUG-15
Potassium (K)-Dissolved			100.5		%		80-120	24-AUG-15
Sodium (Na)-Dissolved			105.0		%		80-120	24-AUG-15
<b>WG2153383-1 MB</b>								
Calcium (Ca)-Dissolved			<0.050		mg/L		0.05	24-AUG-15
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	24-AUG-15
Magnesium (Mg)-Dissolved			<0.050		mg/L		0.05	24-AUG-15
Potassium (K)-Dissolved			<0.050		mg/L		0.05	24-AUG-15
Sodium (Na)-Dissolved			<0.50		mg/L		0.5	24-AUG-15
<b>WG2153383-5 MS</b>		<b>WG2153383-3</b>						
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	24-AUG-15
Iron (Fe)-Dissolved			N/A	MS-B	%		-	24-AUG-15
Magnesium (Mg)-Dissolved			105.5		%		70-130	24-AUG-15
Potassium (K)-Dissolved			98.5		%		70-130	24-AUG-15
Sodium (Na)-Dissolved			103.6		%		70-130	24-AUG-15
<b>O2-IC-WT Water</b>								

## Quality Control Report

Workorder: L1660074

Report Date: 27-AUG-15

Page 2 of 4

Client: GHD Limited (Waterloo)  
651 COLBY DRIVE  
WATERLOO ON N2V 1C2  
Contact: PREETI GURURAJAN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
<b>O2-IC-WT Water</b>								
Batch	R3250840							
<b>WG2154085-4 DUP</b>		<b>WG2154085-3</b>						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	25	20-AUG-15
<b>WG2154085-2 LCS</b>			104.7		%		70-130	20-AUG-15
Nitrite (as N)								
<b>WG2154085-1 MB</b>			<0.010		mg/L		0.01	20-AUG-15
Nitrite (as N)								
<b>WG2154085-5 MS</b>		<b>WG2154085-3</b>	102.6		%		70-130	20-AUG-15
Nitrite (as N)								
<b>O3-IC-WT Water</b>								
Batch	R3250840							
<b>WG2154085-4 DUP</b>		<b>WG2154085-3</b>						
Nitrate (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	25	20-AUG-15
<b>WG2154085-2 LCS</b>			102.6		%		70-130	20-AUG-15
Nitrate (as N)								
<b>WG2154085-1 MB</b>			<0.020		mg/L		0.02	20-AUG-15
Nitrate (as N)								
<b>WG2154085-5 MS</b>		<b>WG2154085-3</b>	100.5		%		70-130	20-AUG-15
Nitrate (as N)								
<b>GG-HYDR-WT Water</b>								
Batch	R3255018							
<b>WG2159081-2 LCS</b>			89.2		%		60-120	27-AUG-15
Heavy Oil (C24-C50)								
<b>WG2159081-3 LCSD</b>		<b>WG2159081-2</b>	84.0		%	6.1	50	27-AUG-15
Heavy Oil (C24-C50)		89.2						
<b>WG2159081-1 MB</b>			<2.0		mg/L		2	27-AUG-15
Heavy Oil (C24-C50)								
<b>-T-COL-WT Water</b>								
Batch	R3252093							
<b>WG2155717-3 DUP</b>		<b>L1660638-1</b>						
Phosphorus, Total		0.207	0.228		mg/L	9.7	20	24-AUG-15
<b>WG2155717-2 LCS</b>			104.5		%		80-120	24-AUG-15
Phosphorus, Total								
<b>WG2155717-1 MB</b>			<0.030		mg/L		0.03	24-AUG-15
Phosphorus, Total								
<b>O4-IC-N-WT Water</b>								



## Quality Control Report

Workorder: L1660074

Report Date: 27-AUG-15

Page 3 of 4

Client: GHD Limited (Waterloo)  
651 COLBY DRIVE  
WATERLOO ON N2V 1C2  
Contact: PREETI GURURAJAN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
<b>O4-IC-N-WT</b>								
Water								
Batch	R3250840							
<b>WG2154085-4</b>	<b>DUP</b>	<b>WG2154085-3</b>						
Sulfate (SO4)		0.44	0.42		mg/L	4.3	20	20-AUG-15
<b>WG2154085-2</b>	<b>LCS</b>							
Sulfate (SO4)			103.9		%		90-110	20-AUG-15
<b>WG2154085-1</b>	<b>MB</b>							
Sulfate (SO4)			<0.30		mg/L		0.3	20-AUG-15
<b>WG2154085-5</b>	<b>MS</b>	<b>WG2154085-3</b>						
Sulfate (SO4)			101.4		%		75-125	20-AUG-15
<b>EH-ON-WT</b>								
Water								
Batch	R3254105							
<b>WG2155762-6</b>	<b>LCS</b>							
TPH (C10-C24)			65.0		%		50-120	26-AUG-15
<b>WG2155762-7</b>	<b>LCSD</b>	<b>WG2155762-6</b>						
TPH (C10-C24)		65.0	66.5		%	2.3	45	26-AUG-15
<b>WG2155762-5</b>	<b>MB</b>							
TPH (C10-C24)			<0.10		mg/L		0.1	26-AUG-15
Surrogate: 2-Bromobenzotrifluoride			96.0		%		50-150	26-AUG-15
<b>VH-WT</b>								
Water								
Batch	R3251853							
<b>WG2155586-4</b>	<b>DUP</b>	<b>WG2155586-3</b>						
TPH (C5-C10)		0.12	0.11		mg/L	7.2	20	24-AUG-15
<b>WG2155586-1</b>	<b>LCS</b>							
TPH (C5-C10)			93.5		%		50-150	23-AUG-15
<b>WG2155586-2</b>	<b>MB</b>							
TPH (C5-C10)			<0.10		mg/L		0.1	23-AUG-15



# Quality Control Report

Workorder: L1660074

Report Date: 27-AUG-15

Client: GHD Limited (Waterloo)  
651 COLBY DRIVE  
WATERLOO ON N2V 1C2  
Contact: PREETI GURURAJAN

Page 4 of 4

## Legend:

---

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

## Sample Parameter Qualifier Definitions:

---

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
VTSH	Volatile test was conducted on sample with headspace. Results may be biased low.

---

## Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

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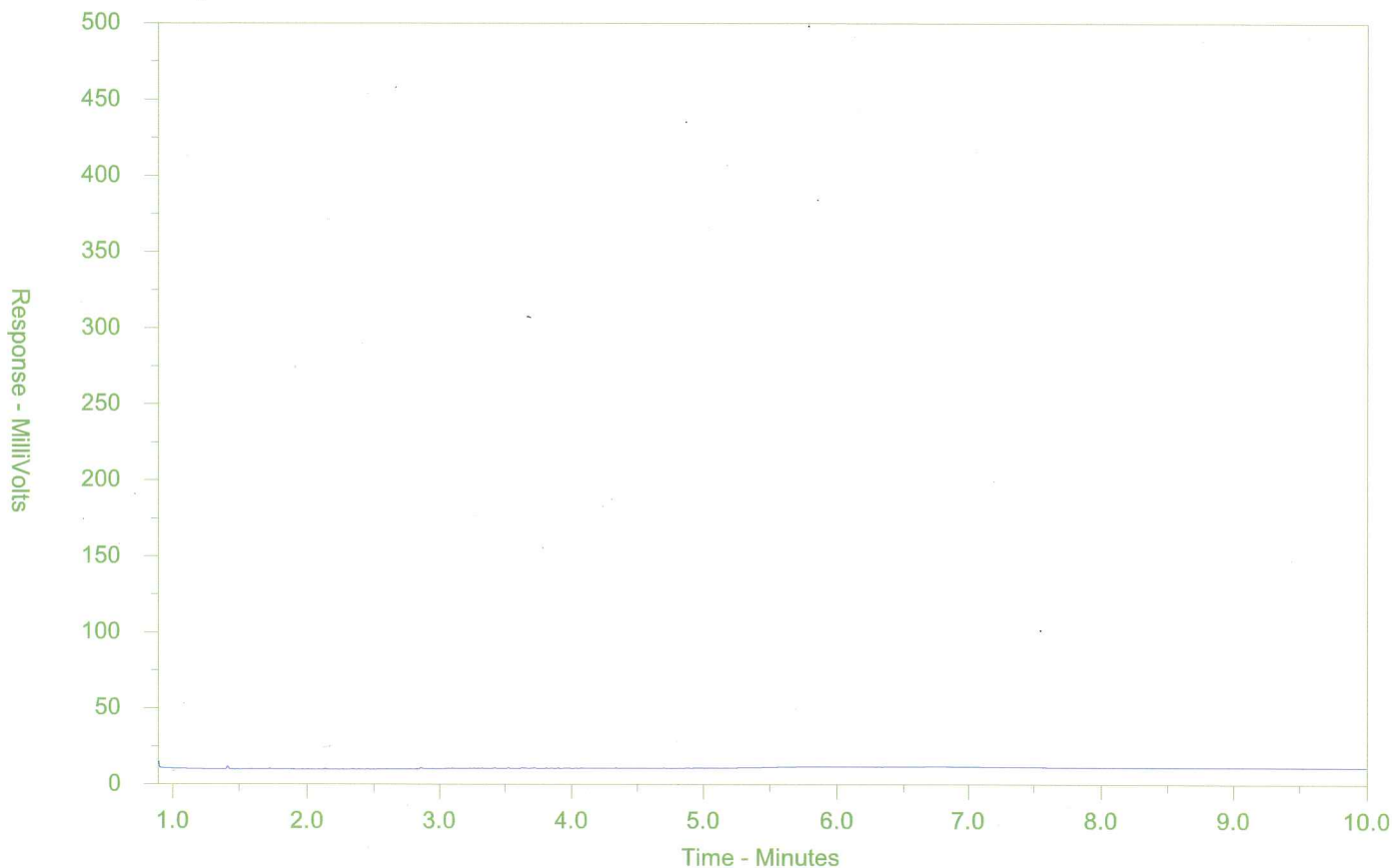
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

# CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1660074-1  
Client Sample ID: GW-1644-081915-DD-001



← F2 →		← F3 →		← F4 →	
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	75°C		
346°F	549°F	898°F	1067°F		
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← Diesel/ Jet Fuels →					

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

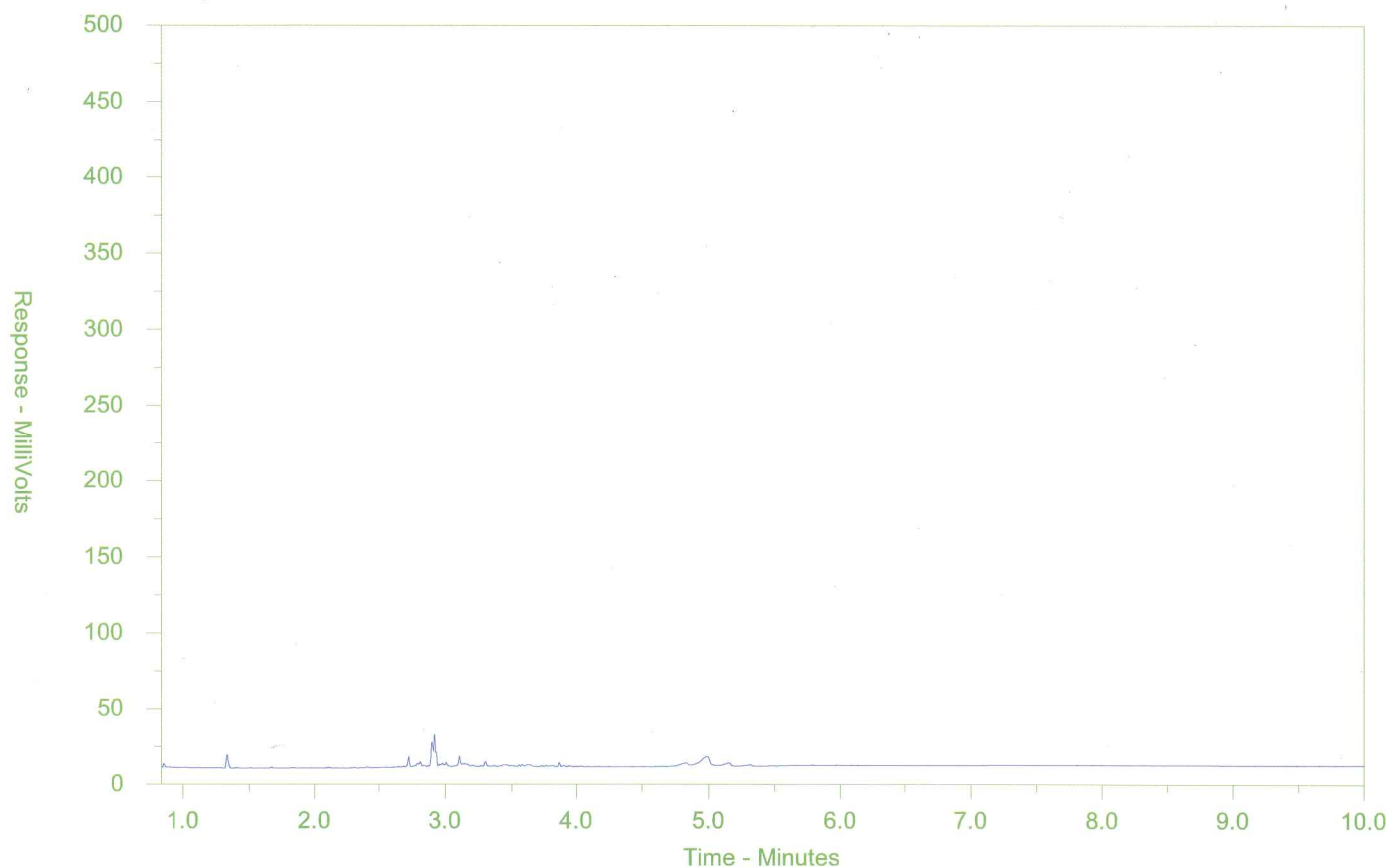
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at [www.alsglobal.com](http://www.alsglobal.com).

# CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1660074-2  
Client Sample ID: GW-1644-081915-DD-002



← F2 →		← F3 →		← F4 →	
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	75°C		
346°F	549°F	898°F	1067°F		
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← Diesel/ Jet Fuels →					

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at [www.alsglobal.com](http://www.alsglobal.com).





**Fax:-(519)-886-9047**  
**CANADA TOLL FREE:**

## CHAIN OF CUSTODY / ANALYTICAL SERVICES REQUEST FORM

C of C # XXXXX  
PAGE OF

[illegible]



GHD Limited (Waterloo)  
ATTN: PREETI GURURAJAN  
651 COLBY DRIVE  
WATERLOO ON N2V 1C2

Date Received: 21- AUG- 15  
Report Date: 28- AUG- 15 15:13 (MT)  
Version: FINAL

Client Phone: 519- 884- 0510

## Certificate of Analysis

**Lab Work Order #: L1661246**

Project P.O. #: 73500520

Job Reference: 1644

C of C Numbers:

Legal Site Desc:

LAURA ERMETA  
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047  
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

## ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1661246-1	GW-1644-210815-DD-003							
Sampled By:	D. DAUM on 21-AUG-15 @ 11:00							
Matrix:	WATER							
Aggregate Organics								
Heavy Oil (C24-C50)		<2.0		2.0	mg/L	27-AUG-15	27-AUG-15	R3255018
Hydrocarbons								
TPH (C5-C10)		<0.10		0.10	mg/L		26-AUG-15	R3253695
TPH (C10-C24)		<0.10		0.10	mg/L	24-AUG-15	25-AUG-15	R3254105
TPH Total (C5-C24)		<0.1		0.10	mg/L		28-AUG-15	
Surrogate: 2-Bromobenzotrifluoride		100.5		50-150	%	24-AUG-15	25-AUG-15	R3254105



## Reference Information

### Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ETL-TPH-ONT-WT	Water	Total Petroleum Hydrocarbons (C5-C24)	Calculation
OGG-HYDR-WT	Water	Heavy Oil (C24-C50)	APHA 5520 F
Water samples requiring heavy oil analysis are solvent extracted with hexane and cleaned up using silica gel, the extract is then weighed to determine the concentration gravimetrically			
TEH-ON-WT	Water	TPH (C10-C24)	Contam. Sites
The petroleum hydrocarbons are extracted from the aqueous samples using solvent partition. The extracts are treated with silica gel to remove polar contaminants. The final concentrated extract is analyzed by gas chromatography (GC) using flame ionization detection (FID) and a 100% polydimethylsiloxane column.			
TVH-WT	Water	TPH (C5-C10)	Contam. Sites

\* ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

### Chain of Custody Numbers:

#### GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg ww - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid weight of sample

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

## Quality Control Report

Workorder: L1661246

Report Date: 28-AUG-15

Page 1 of 2

Client: GHD Limited (Waterloo)  
651 COLBY DRIVE  
WATERLOO ON N2V 1C2  
Contact: PREETI GURURAJAN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
<b>GG-HYDR-WT Water</b>								
Batch	R3255018							
<b>WG2159081-2 LCS</b>								
Heavy Oil (C24-C50)			89.2		%		60-120	27-AUG-15
<b>WG2159081-3 LCSD</b>		<b>WG2159081-2</b>						
Heavy Oil (C24-C50)		89.2	84.0		%	6.1	50	27-AUG-15
<b>WG2159081-1 MB</b>								
Heavy Oil (C24-C50)			<2.0		mg/L		2	27-AUG-15
<b>EH-ON-WT Water</b>								
Batch	R3254105							
<b>WG2155762-6 LCS</b>								
TPH (C10-C24)			65.0		%		50-120	26-AUG-15
<b>WG2155762-7 LCSD</b>		<b>WG2155762-6</b>						
TPH (C10-C24)		65.0	66.5		%	2.3	45	26-AUG-15
<b>WG2155762-5 MB</b>								
TPH (C10-C24)			<0.10		mg/L		0.1	26-AUG-15
Surrogate: 2-Bromobenzotrifluoride			96.0		%		50-150	26-AUG-15
<b>VH-WT Water</b>								
Batch	R3253695							
<b>WG2157691-4 DUP</b>		<b>WG2157691-3</b>						
TPH (C5-C10)		<0.10	<0.10	RPD-NA	mg/L	N/A	20	26-AUG-15
<b>WG2157691-1 LCS</b>								
TPH (C5-C10)			112.2		%		50-150	26-AUG-15
<b>WG2157691-2 MB</b>								
TPH (C5-C10)			<0.10		mg/L		0.1	26-AUG-15



# Quality Control Report

Workorder: L1661246

Report Date: 28-AUG-15

Client: GHD Limited (Waterloo)  
651 COLBY DRIVE  
WATERLOO ON N2V 1C2  
Contact: PREETI GURURAJAN

Page 2 of 2

## Legend:

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Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

## Sample Parameter Qualifier Definitions:

---

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

---

## Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

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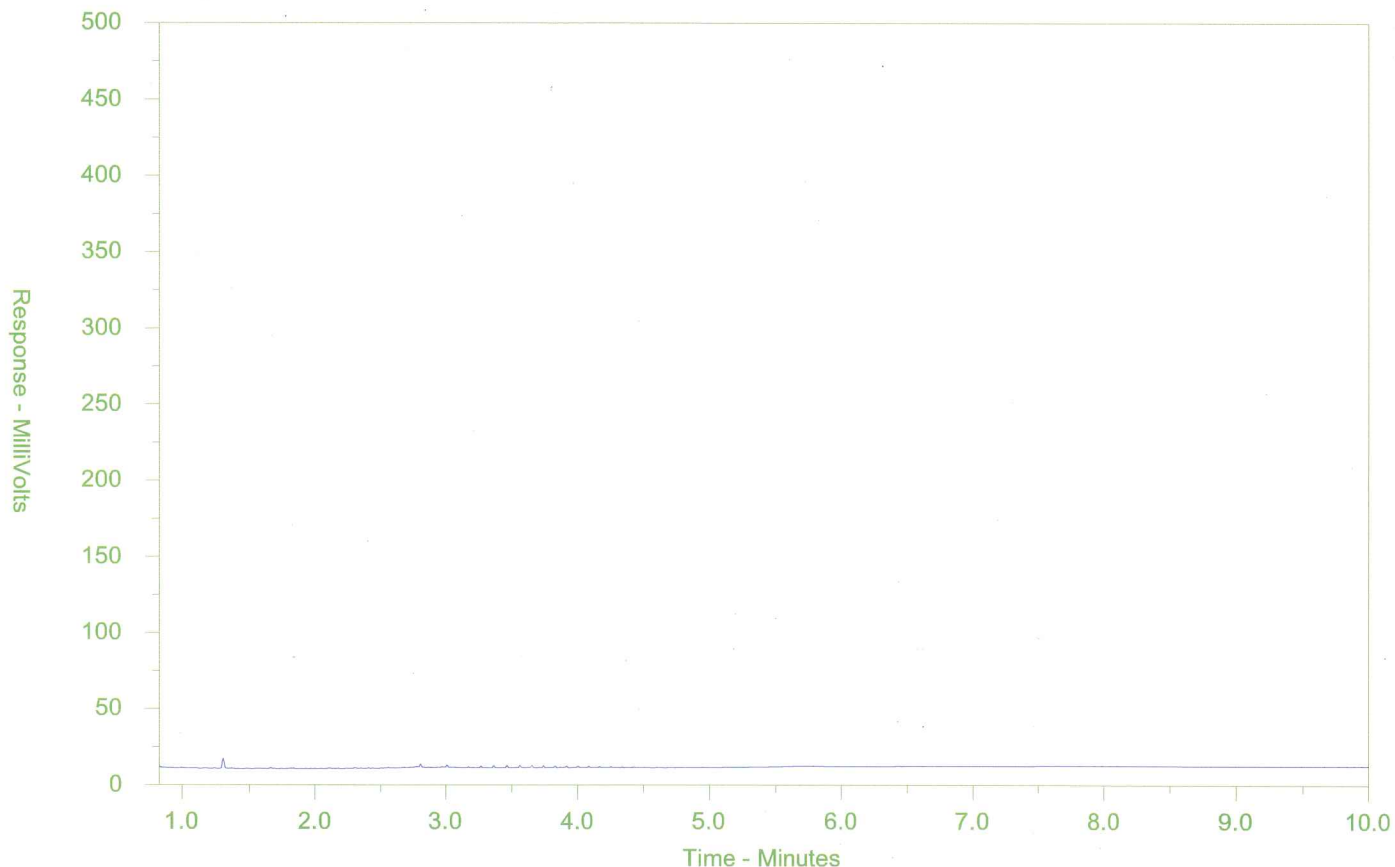
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

# CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1661246-1  
Client Sample ID: GW-1644-210815-DD-003



← F2 →		← F3 →		← F4 →	
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	75°C		
346°F	549°F	898°F	1067°F		
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← Diesel/ Jet Fuels →					

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at [www.alsglobal.com](http://www.alsglobal.com).



[www.ghd.com](http://www.ghd.com)







Harden Environmental Services Ltd.  
 4622 Nassagaweya-Puslinch Townline Road  
 R.R. 1, Moffat, Ontario, L0P 1J0  
 Phone: (519) 826-0099 Fax: (519) 826-9099

Groundwater Studies  
 Geochemistry  
 Phase I / II  
 Regional Flow Studies  
 Contaminant Investigations  
 OMB Hearings  
 Water Quality Sampling  
 Monitoring  
 Groundwater Protection  
 Studies  
 Groundwater Modeling  
 Groundwater Mapping  
 Permits to Take Water  
 Environmental Compliance  
 Approvals

Our File: 0215

June 13, 2016

Township of Puslinch  
 7404 Wellington Road 34  
 Guelph, ON, N1H 6H9

Attention: Ms. Karen Landry  
 CAO

Dear Ms. Landry;

Re: Nestle Waters Canada – Renewal of Permit to Take Water

We are pleased to submit our comments on the 2016 renewal of the Permit To Take Water. As part of our review we reference the following documents;

*Golder Associates Ltd, 2016, 2015 Annual Monitoring Report, Aberfoyle Site, Nestle Waters Canada*

*Matrix Solutions, 2014, Tier 3 Water Budget and Local Area Risk Assessment for the City of Guelph and the Communities of Rockwood and Hamilton Drive*

*Harden Environmental Services Ltd., 2011, Letter to the Township of Puslinch Regarding 2011 Permit to Take Water Renewal*

*Harden, 2011* is a comprehensive review of the pumping tests and potential impacts potentially arising from the water taking. The main conclusions of this review are:

a) Groundwater discharge to Aberfoyle Creek is presently diminished as a result of the present rate of water taking by Nestlé Waters Canada and increased water taking will further decrease groundwater discharge to Aberfoyle Creek;

b) There is the potential to indirectly effect private well water quality as a result of the water taking by Nestlé Waters Canada and

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JUN 13 2016

Township of Puslinch

CLERK'S DEPARTMENT	
TO	Council
Copy	electronic copy provided
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For Your Information	
Council Agenda	July 20/16
File	

- c) There is the potential for degradation of the water quality of the Goat Island and Gasport aquifers as a result of water taking by Nestlé Waters Canada.

The justification for these conclusions is detailed in the 2011 letter. There are now five more years of data available and upon review of this data we have the following comments.

1) Annual pumping has increased from 588 million (2011) to 762 million litres (2015) per year. Average taking between 2002 and 2008 was 720 million litres and the maximum annual taking occurred in 2007 with 875 million litres. The increase in pumping has resulted in lower average groundwater levels in the pumping well TW3-80. Based on visual inspection, the average daily low groundwater elevation in 2011 was approximately 303 m AMSL and in 2015 was 301 m AMSL. There are observational trends toward lower water levels in the following monitors; MW6A-07, MW7A-08, MW10D-09, MW14A-11, MW15A-12, MW16A-12, MW17-12, MW18A-12, TW2-11. The water levels in these monitors represent the potentiometric surface of the Gasport aquifer. There may be climatic variations that account for the observed lower water level; however this factor is difficult to separate out from the variation in pumping volume.

2) We do not find similar observational trends to lower water levels in the wells completed in the Eramosa, Guelph or overburden aquifers.

3) Data from mini piezometers located within and adjacent to Aberfoyle Creek indicate both upward and downward vertical hydraulic gradients, similar to those observed prior to 2011. The 2010 pumping test confirms a hydraulic connection between TW3-80 and Aberfoyle Creek. The taking is sufficient to cause a reversal of groundwater flow resulting in water flowing from the creek to the aquifer. However, there is no indication that groundwater conditions in the vicinity of Aberfoyle Creek have changed between 2011 and 2016.

Our conclusions from the 2011 review have not changed. The water taking by Nestle Waters Canada results in the depressurization of the Gasport Aquifer beneath the hamlet of Aberfoyle. Individual wells in the Hamlet may inadvertently become conduits for contaminants originating at the ground surface, septic systems or buried tanks. The identification of these wells and evaluation of their water quality and flow-through volumes is recommended.

Sincerely,

Harden Environmental Services Ltd.

Township of Puslinch  
June 13, 2016  
Page 3

A handwritten signature in black ink, appearing to read 'SD', followed by a long horizontal line extending to the right.

Stan Denhoed, P.Eng., M.Sc.  
Senior Hydrogeologist



Aercoustics Engineering Ltd.  
50 Ronson Drive, Suite 165  
Toronto, ON M9W 1B3

Tel: 416-249-3361  
Fax 416-249-3613  
aercoustics.com

30 June 2016

St Marys Cement Group (CBM Aggregates)  
55 Industrial Street  
Toronto, Ontario, Canada  
M4G 3W9

Attn: Mr. Colin Evans, Environment and Lands Manager, CBM

CC: Bruce Klein, CBM

Re: CBM Aggregates Lanci Pit Acoustical Audit 2016  
MNR License # 624952  
Part of Lot 25, Concession 1, Township of Puslinch, Wellington

CLERK'S DEPARTMENT	
TO	Council
Copy	
Please Handle	
For Your Information	
Council Agenda	Aug. 10/16
File	E10-CBM

## 1 Introduction

Aercoustics Engineering Limited (Aercoustics) has been retained to conduct an acoustic audit of the Lanci Pit as required under the conditions of the license. The noise study titled **"An assessment of the Potential Noise Associated with Aggregate Extraction at the Proposed Lanci Pit" (Noise Report)** was prepared by Aercoustics and is dated December 16, 2005.

The Lanci Pit is located about 1 km south of the 401 at the corner of Concession Road 2 and Sideroad 25 South in the Township of Puslinch.

The pit serves as a feeder pit for CBM McNally Pit and CBM Aberfoyle Pit. It is a condition of the license that the sound levels from the pit comply with the MOECC guidelines for noise from stationary sources. The current MOECC criteria for noise from a stationary source are set forth in publication NPC-300, **"Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning"**.

The audit has been conducted in accordance with the guidelines and procedures of the Ontario Ministry of the Environment and Climate Change (MOECC).

## 2 Site Visit Conditions

The allowable noise levels from the extraction, processing and shipping operations in the pit as established in the Noise Report are outlined in Table 1. The  $L_{EQ}$  or equivalent sound level is an average sound level based on acoustical energy. It is a steady sound



level that for the specified time period contains the same acoustical energy as the varying sound level which prevails.

Table 1 - Recommended Noise Control Measures from Noise Report

Equipment	Sound Level Limit (dBA) One hour $L_{EQ}$ @ 30 meters
Loader (two total)	74 (each)
Drag line (or excavator)	75
Portable processing plant	86

During the site visit on June 28, 2016, one front-end loader (CAT 980G) was operating on site and one drag line (Liebherr HS 895) was operating on site as well. No processing currently occurs on site. This quantity of equipment is in compliance with the requirements in the Noise Report.

As per the Noise Report, the ambient acoustical environment in the immediate area of the Lanci Pit is typically Class 2 (Urban) due to the sound from road traffic and the numerous pits in the area. Highway 401 and Concession Road 2 are the significant sources of road traffic noise.

The surrounding sensitive receptors are illustrated in Figure 1. The noise from a stationary source should not in any hour exceed the limits outlined in Table 2. The extraction and processing operations in the pit are restricted to the daytime hours (07:00-19:00).

Table 2 – Applicable Sound Level Limits

Receptor	Sound Level Limit One Hour $L_{EQ}$ (dBA)*
R1	50*
R3	50*

\*or background ambient sound level, if higher

The average air temperature was 21 degrees Celsius and the winds were from the northwest at about 15 km/hr.

### 3 Equipment

Measurements were taken with a Brüel & Kjær 2260 Sound Level Meter equipped with windscreen. The equipment was calibrated before the measurements.

### 4 Measurements

During the site visit, sound level measurements were conducted where appropriate at locations representative of the residences surrounding the pit. The dwelling at receptor R1 was the only noise sensitive location near enough to be significant, since the road

traffic noise at R2 was dominant over any pit activity. R3 was included as well due to its proximity to the pit.

During the measurement at R1 and R3, the sound level meter was paused to minimize the contribution from airplane flyovers and distant traffic. Table 3 tabulates the noise measurements and observations at the receptors.

Table 3 - Measured Sound Levels at Receptors

Location/ Receptor	Sound Level LEQ (dBA)	Noise Sources
R1	50	Lanci Pit activities clearly audible and dominant, especially dragline; traffic on Highway 401 somewhat audible (not inhibited); intermittent traffic on Sideroad 25S, and airplane flyovers.
R3	49	Lanci Pit activities clearly audible and dominant, especially dragline; traffic on Highway 401 somewhat audible (not inhibited); intermittent traffic on Sideroad 25S, and airplane flyovers.

Measurements of the excavation and loading operations were conducted to confirm the assumed reference sound levels used in the noise study. Table 4 displays a summary of the measurement of the front-end loader and dragline excavator.

Table 4 - Measured Sound Levels of Equipment

Equipment	Sound Level @ 30 meters (dBA)	Limit (dBA)
Front-end loader	70	74 (each)
Dragline excavator	70	75

The loader sound level was below the reference sound level limit of 74 dBA used in the noise study, and hence is in compliance with the allowed sound level for the two permitted loaders. The dragline excavator sound level was also below the limit of 75 dBA used in the noise study, hence is in compliance.

See the attached Figure 1 for an illustration of the receptor locations.

## 5 Observations

There are a number of houses on the pit property and surrounding properties which are owned by CBM. It was determined in the Noise Report that these houses are deemed to be non-noise sensitive and so they were excluded from this audit.

At receptors R1 and R3, operations from the Lanci Pit were clearly audible and were the dominant noise source. A mild northwest wind may have contributed to an increase in the road traffic sound levels.

## 6 Conclusions

The Recommended Noise Control Measures listed in Aeroustics' 2005 Noise Report state a maximum number of operating equipment allowed and a corresponding sound level limit for each piece of equipment. The Lanci Pit was found to be in compliance with the requirements for the quantity of equipment. Furthermore, there is no processing occurring on site.

The sound levels measured at R1 and R3 were measured to be below the MOECC exclusion limit for a Class 2 area. The sound level measured at R2 was observed to be dominated by road traffic noise from Highway 401 and from surrounding pit activity, and was therefore excluded from this audit.

It can be concluded from the measurements that the Lanci Pit noise emissions are in compliance with the applicable MOECC sound level limits.

Sincerely,



Mohammed Abukaisar, Eng. Tech.



Derek Flake, M.Sc., P.Eng.

**AERCOUSTICS ENGINEERING LTD.**



The scope of the work outlined in this document is limited to the acoustic, noise and/or vibration control aspects of the design. Contractor to verify all dimensions

Scale: N.T.S.  
Drawn: DF  
Eng: DF  
Date: 2016.06.28

50 Ronson Drive,  
Suite 165,  
Toronto, ON  
P: 416.249.3361  
F: 416.249.3613

Project Name:  
**Lanci Pit 2016 Acoustical Audit**

AEL File: 04314

Drawing Title:  
**Key Plan Showing Site Location and Receptors**

Figure 1





*Groundwater  
Science Corp.*

328 Daleview Place,  
Waterloo, ON N2L 5M5  
phone: (519) 746-6916  
email: apentney@rogers.com

# Email Report

To: Colin Evans, CBM	From: Andrew Pentney
Email: colin.evans@vcimentos.com	Pages: 2
Phone: (416) 423-1300	Date: July 12, 2016
Re: Puslinch Pit – License No. 17600 Monitoring Report Update	CC: MNRF, Township of Puslinch, Harrington McAvan Ltd.

This Monthly Report summarizes the March to June results of the groundwater monitoring program for the CBM Puslinch Pit.

## **Below Water Table Extraction**

CBM reports at total of 48,595 tonnes of below water extraction occurred within the South Pond area in March 2016. No below water extraction occurred in April, May or June 2016.

## **Water Level Monitoring and Threshold Status**

The reported water level measurements from March to June, compared to threshold values, are summarized on the attached table.

As indicated by the measurements, there were no threshold exceedances observed and no Action Response over this period. Overall water levels are within historical ranges.

Streamflow in Mill Creek at Side Road 10 is reported through the GRCA website to be currently "Below Normal" (50 to 70% of normal summer low flow), with a Level 1 condition declared. There is no PTTW in place, or water use under a PTTW, at the site.

If you have any questions or require further information please do not hesitate to contact me.

Sincerely,

Andrew Pentney, P.Geo.  
Hydrogeologist

CLERK'S DEPARTMENT	
TO	Council
Copy	
Please Handle	
For Your Information	
Council Agenda	August 2016.
File	E13-CBM

July 12, 2016

Location:	MP1	MP2	MP3	MP4	North Pond	South Pond
TOC Elev.:	314.77	316.56	317.50	315.35	307.38	306.80
Threshold Elev.:	-	-	305.27	305.27	305.64	305.34
Date	Water Level Elevation (mASL)					
03-Mar-16	306.69	306.14	306.10	306.25	306.87	306.33
10-Mar-16	306.75	306.18	306.15	306.30	306.91	306.38
17-Mar-16	306.81	306.24	306.21	306.30	306.95	306.42
24-Mar-16	306.86	306.29	306.25	306.40	306.99	306.46
04-Apr-16	306.91	306.33	306.30	306.45	307.03	306.51
27-Apr-16	307.03	306.51	306.52	#N/A	307.16	306.67
16-May-16	307.00	306.49	306.50	306.55	307.13	306.64
14-Jun-16	306.97	306.47	306.48	306.52	307.09	306.62
Notes: * Elevations are geodetic, as per Van Harten Surveying Inc. July 2007 reported reference elevations Elev. = Elevation (mASL) TOC = Top of Casing mASL = metres above sea level						

### WATER LEVEL SUMMARY TABLE



Dufferin Aggregates  
2300 Steeles Ave W, 4<sup>th</sup> Floor  
Concord, ON L4K 5X6  
Canada

July 13, 2016

Seana Richardson  
Aggregates Technical Specialist  
Ministry of Natural Resources  
Guelph District  
1 Stone Road West  
Guelph, Ontario  
N1G 4Y2

Attention: Ms. Richardson

**Re: Monthly Monitoring Report  
Mill Creek Pit, License #5738  
Township of Puslinch, Wellington County**

RECEIVED

JUL 15 2016

Township of Puslinch

CLERK'S DEPARTMENT	
TO	Council
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For Your Information	
Council Agenda	August 2016
File	E13 - MIL

Please find enclosed the required monitoring data for the month of June 2016. As indicated, there were no exceedances to report in this month.

If you have any questions, please do not hesitate to call.

Sincerely,

Ron Van Ooteghem  
Site Manager

C.c.

Karen Landry (Township of Puslinch)  
Sonja Strynatka (GRCA)  
Kevin Mitchell (Dufferin Aggregates)  
University of Guelph

Monthly Reporting  
Mill Creek Aggregates Pit  
June 2016

Date	DP21 (mASL)	Threshold Value (mASL)	Exceedance
9-Jun-16	305.83	305.60	NO
16-Jun-16	305.82	305.60	NO
22-Jun-16	305.76	305.60	NO
27-Jun-16	305.74	305.60	NO

Date	BH13 (mASL)	DP21 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
9-Jun-16	306.28	305.83	0.45	0.11	NO
16-Jun-16	306.26	305.82	0.44	0.11	NO
22-Jun-16	306.21	305.76	0.45	0.11	NO
27-Jun-16	306.35	305.74	0.61	0.11	NO

Date	DP17 (mASL)	Threshold Value (mASL)	Exceedance
9-Jun-16	305.23	305.17	NO
16-Jun-16	305.23	305.17	NO
22-Jun-16	305.20	305.17	NO
27-Jun-16	305.22	305.17	NO

Date	BH92-12 (mASL)	DP17 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
9-Jun-16	305.45	305.23	0.22	0.14	NO
16-Jun-16	305.44	305.23	0.21	0.14	NO
22-Jun-16	305.40	305.20	0.20	0.14	NO
27-Jun-16	305.54	305.22	0.32	0.14	NO

Date	DP3 (mASL)	Threshold Value (mASL)	Exceedance
9-Jun-16	304.72	304.54	NO
16-Jun-16	304.70	304.54	NO
22-Jun-16	304.67	304.54	NO
27-Jun-16	304.66	304.54	NO

Date	DP6 (mASL)	DP3 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
9-Jun-16	305.68	304.72	0.96	0.73	NO
16-Jun-16	305.65	304.70	0.95	0.73	NO
22-Jun-16	305.58	304.67	0.91	0.73	NO
27-Jun-16	305.67	304.66	1.01	0.73	NO

Date	DP2 (mASL)	Threshold Value (mASL)	Exceedance
9-Jun-16	304.26	303.69	NO
16-Jun-16	304.25	303.69	NO
22-Jun-16	304.21	303.69	NO
27-Jun-16	304.20	303.69	NO

Date	BH92-27 (mASL)	DP2 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
9-Jun-16	305.09	304.26	0.83	0.34	NO
16-Jun-16	305.05	304.25	0.80	0.34	NO
22-Jun-16	304.98	304.21	0.77	0.34	NO
27-Jun-16	304.97	304.20	0.77	0.34	NO

Date	DP1 (mASL)	Threshold Value (mASL)	Exceedance
9-Jun-16	304.35	303.97	NO
16-Jun-16	304.33	303.97	NO
22-Jun-16	304.29	303.97	NO
27-Jun-16	304.30	303.97	NO

Date	BH92-29 (mASL)	DP1 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
9-Jun-16	305.55	304.35	1.20	0.17	NO
16-Jun-16	305.38	304.33	1.05	0.17	NO
22-Jun-16	305.22	304.29	0.93	0.17	NO
27-Jun-16	305.48	304.30	1.18	0.17	NO

Date	DP5C (mASL)	Threshold Value (mASL)	Exceedance
9-Jun-16	303.02	302.86	NO
16-Jun-16	303.00	302.86	NO
22-Jun-16	302.96	302.86	NO
27-Jun-16	302.94	302.86	NO

Date	OW5-84 (mASL)	DP5C (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
9-Jun-16	303.40	303.02	0.38	0.30	NO
16-Jun-16	303.41	303.00	0.41	0.30	NO
22-Jun-16	303.49	302.96	0.53	0.30	NO
27-Jun-16	303.35	302.94	0.41	0.30	NO

Notes:  
No exceedances to report



Monthly Reporting  
Mill Creek Aggregates Pit  
June 2016

								Max. Allowable as per PTTW- Main Pond				
Total Monthly Precipitation (mm):				Waterloo-Wellington Airport (June Actual)				(Imperial Gallons)				(Litres)
Total Monthly Normal Precipitation (mm):				Waterloo-Wellington Airport (30-year Normal)				2,500			per minute	11,365
								1,800,000			per day	8,183,000
Date	Below Water Table Extraction tonnes) Phase 2	Below Water Table Extraction (wet tonnes) Phase 4	Water Pumped from Main Pond (gals)	Water Pumped from Active Silt Pond (gals)	Main Pond Level (mASL)	Exceedance Y/N (BELOW 305.5 mASL)	Phase 2 Pond Level (mASL)	Exceedance Y/N (BELOW 305.0 mASL)	Phase 3 Pond Level (mASL)	Exceedance Y/N (BELOW 303.85 mASL)	Phase 4 Pond Level (mASL)	Exceedance Y/N (BELOW 304.5 mASL)
1-Jun-16	0	0	1,646,250	2,267,883	306.72	NO	306.33	NO	305.73	NO	305.81	NO
2-Jun-16	0	0	1,680,565	2,495,771	306.72	NO	306.33	NO	305.72	NO	305.81	NO
3-Jun-16	0	0	1,632,832	2,153,499	306.73	NO	306.33	NO	305.72	NO	305.81	NO
4-Jun-16	0	0	0	0	--	--	--	--	--	--	--	--
5-Jun-16	0	0	0	0	--	--	--	--	--	--	--	--
6-Jun-16	0	0	1,648,889	2,452,657	306.70	NO	306.34	NO	305.73	NO	305.85	NO
7-Jun-16	0	0	1,677,485	2,313,417	306.71	NO	306.33	NO	305.73	NO	305.83	NO
8-Jun-16	0	0	1,625,353	2,486,532	306.71	NO	306.33	NO	305.73	NO	305.82	NO
9-Jun-16	0	0	1,686,064	2,472,894	306.71	NO	306.32	NO	305.73	NO	305.81	NO
10-Jun-16	0	0	1,474,454	2,208,491	306.81	NO	306.32	NO	305.69	NO	305.81	NO
11-Jun-16	0	0	0	0	--	--	--	--	--	--	--	--
12-Jun-16	0	0	0	0	--	--	--	--	--	--	--	--
13-Jun-16	0	0	1,684,525	2,384,027	306.69	NO	306.30	NO	305.66	NO	305.83	NO
14-Jun-16	0	0	1,670,446	2,395,465	306.69	NO	306.30	NO	305.66	NO	305.82	NO
15-Jun-16	0	0	285,960	0	306.69	NO	306.30	NO	305.66	NO	305.82	NO
16-Jun-16	0	0	1,668,027	2,388,646	306.66	NO	306.30	NO	305.64	NO	305.84	NO
17-Jun-16	0	0	1,674,406	3,361,570	306.66	NO	306.26	NO	305.64	NO	305.82	NO
18-Jun-16	0	0	0	0	--	--	--	--	--	--	--	--
19-Jun-16	0	0	0	0	--	--	--	--	--	--	--	--
20-Jun-16	0	0	1,681,885	3,349,912	306.67	NO	306.29	NO	305.68	NO	305.83	NO
21-Jun-16	0	0	1,682,105	669,366	306.67	NO	306.29	NO	305.68	NO	305.80	NO
22-Jun-16	0	0	1,583,119	0	306.64	NO	306.29	NO	305.70	NO	305.83	NO
23-Jun-16	0	0	1,631,292	0	306.57	NO	306.28	NO	305.68	NO	305.87	NO
24-Jun-16	0	0	1,616,334	0	306.52	NO	306.26	NO	305.68	NO	305.87	NO
25-Jun-16	0	0	0	0	--	--	--	--	--	--	--	--
26-Jun-16	0	0	0	0	--	--	--	--	--	--	--	--
27-Jun-16	0	0	1,625,353	0	306.49	NO	306.26	NO	305.72	NO	305.83	NO
28-Jun-16	0	0	1,640,531	2,511,169	306.46	NO	306.25	NO	305.72	NO	305.86	NO
29-Jun-16	0	0	1,511,409	2,153,719	306.46	NO	306.24	NO	305.71	NO	305.82	NO
30-Jun-16	0	0	1,645,150	2,075,630	306.47	NO	306.24	NO	305.71	NO	305.82	NO
Total	0	0	34,672,433	40,140,648	306.724		306.33		305.733		305.81	
Avg./ day	0.0	0.00	1,155,747.76	1,338,021.61	306.65	NO	306.30	NO	305.70	NO	305.83	NO

Note: No exceedances to report

## Michelle Cassar

---

**From:** Karen Landry  
**Sent:** Thursday, July 28, 2016 8:59 AM  
**To:** Michelle Cassar  
**Subject:** FW: Canada Post

This is probably better to use

---

**From:** michael.chong.c1a@parl.gc.ca [mailto:michael.chong.c1a@parl.gc.ca]  
**Sent:** Wednesday, July 27, 2016 3:58 PM  
**To:** Dennis Lever  
**Cc:** hugh.fielding@sympatico.ca; Matthew Bulmer; Karen Landry  
**Subject:** Canada Post

Dear Mayor Lever and Councilors,

I understand that Canada Post will be changing the RR (Rural Route) Guelph addresses that are located in Puslinch township to Puslinch addresses and changing the postal codes. I believe Canada Post has been in contact with the Township already. If not please let me know.

We were contacted today by a business in Aberfoyle that wondered about the possibility, that when they change the municipal name to Puslinch if Canada Post might consider allowing the use of Aberfoyle or Puslinch for the "Town name" in the address. We have other communities in Michaels riding that do this. The residents of Glen Williams can use either Glen Williams, Halton Hills or Georgetown as the "Town name" in their address. Everton in Guelph Eramosa is going to be able to use Everton or Guelph Eramosa and they used to use RR something Rockwood.

If there are some residents that would like to have this option and or council would like to consider this it would take a Resolution by council at a council meeting and that could be shared with Canada Post. Basically the resolution is just that Council supports Canada Post allowing Aberfoyle to be a secondary designation for address in the community of Aberfoyle. We could get a copy of Guelph Eramosas resolution if it would be helpful.

I had just wanted to give you this heads up because I told the business owner that if that was something he wanted and or thought was important that he should make council aware of his desires and I told him I would make the Mayor councilors aware that there was a process if they chose to pursue it. (Sorry I don't seem to have Kens email address)

If you have any questions about this, other Canada Post issues or other issues of a federal nature please let me know.

Jim Smith  
 Assistant to  
 Hon. Michael Chong, M.P.  
 Wellington-Halton Hills  
 1-866-878-5556  
[michael.chong.c1a@parl.gc.ca](mailto:michael.chong.c1a@parl.gc.ca)  
[www.michaelchong.ca](http://www.michaelchong.ca)

**From:** David G Pietrobon [REDACTED]  
**Sent:** Saturday, July 30, 2016 9:27 AM  
**To:** Dennis Lever; Dennis Lever - Wellington; Matthew Bulmer; Ken Roth; Susan Fielding  
**Cc:** [michael.chong.c1a@parl.gc.ca](mailto:michael.chong.c1a@parl.gc.ca)  
**Subject:** Canada post changes

Dear Mr. Mayor and Councillors .

Canada Post has recently announced to the residents of Aberfoyle and surrounding areas in a letter dated July 8, 2016 that our neighbourhood will be "adopting your official municipality name as your mailing address".

Further clarification from the office of Michael Chang MP has confirmed that the planned name change from "Guelph" will be to "Puslinch".

As a relatively new resident (2 years) and small business owner in Aberfoyle, I believe that the charming character of the Village of Aberfoyle, with its iconic Mill, Restaurant and pond, unique curio stores and Antique Market are best identified with the name of "Aberfoyle" relative to "Puslinch".

There are several precedents for allowing Canada Post "municipal" nomenclature different than the official municipal designation; in Wellington County and Halton Hills and well beyond.

In my own experience, when nearby Carlisle and Flamborough were amalgamated to the City of Hamilton, the Village of Carlisle maintained its own postal identity. Mail addressed to a specific street, designated "Carlisle" or "Hamilton" was acceptable and delivered without issues. This was officially recognized by Canada Post.

Additionally in the opinion of Real Estate agents active in the local market, the marketability and desirability of "Aberfoyle" as a premium community is different to that of "Puslinch", which is more identifiable as a rural community.

The Solution: The Puslinch council can request Canada Post to draw up boundaries for "Aberfoyle" through a motion at council and make it an official designation for the residents and businesses within the determined boundaries.

Canada Post is accustomed to dealing with such requests according to information provided by Michael Chang's office. Note please, that this does not mean that our mail will not arrive if the municipality is designated "Puslinch". Residents could have a choice: "Aberfoyle" or "Puslinch" .

THEREFORE, if you agree that the residents of Aberfoyle wish to designate "Aberfoyle" as an official Canada Post Designation, I respectfully request that you consider and pass a motion to affect the above.

Respectfully, David Pietrobon,

[REDACTED]  
[REDACTED]  
Aberfoyle, Ontario

PS – I have asked some neighbours to consider as well. Not sure that they will in the summer doldrums, just FYI.



Stantec Consulting Ltd.  
1-70 Southgate Drive, Guelph ON N1G 4P5

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AUG 02 2016

Township of Puslinch

July 29, 2016  
File: 160961133

**Attention: Ms. Karen Landry, CAO/Clerk**  
Township of Puslinch  
7404 Wellington Road 34  
Guelph, ON N1H 6H9

CLERK'S DEPARTMENT	
TO	<i>DL</i>
Copy	
Please Handle	
For Your Information	
Council Agenda	<i>Aug 16</i>
File	

Dear Ms. Landry,

**Reference: Union Gas Guelph Reinforcement Pipeline Project – Notice of Project Commencement and Preferred Route – Wellington Road 34 to Forestell Road**

To ensure the continued reliable, safe delivery of natural gas and serve an increased demand in the City of Guelph and surrounding area, Union Gas Limited (Union Gas) is proposing to construct a new natural gas pipeline.

The proposed pipeline is approximately 4.0 kilometres in length and would begin at the existing Union Gas station located on Wellington Road 34, approximately 400 metres east of Wellington Road 35 in the Township of Puslinch, and end at the existing Union Gas station located on Forestell Road, approximately 400 metres east of Wellington Road 35 in the City of Guelph. The Preferred Route is located entirely within municipal road allowances and specifically, along the east side of Wellington Road 35. Please see the map on the attached Notice.

In 2008, Union Gas initiated plans to expand its existing Guelph Line natural gas pipeline system by constructing a new 12-inch (323.9-millimeters) diameter steel natural gas pipeline. An Environmental Report (ER) was completed which identified a Preferred Route for the pipeline along Wellington Road 35. To meet the customer demand for natural gas at the time, the pipeline was installed up to an end point on Wellington Road 34. Union Gas is now proposing to complete the remaining section of pipeline between Wellington Road 34 and Forestell Road.

Union Gas has retained Stantec Consulting Ltd. (Stantec) to review the previously completed Environmental Report and address potential changes that may have occurred, and to meet the intent of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 6<sup>th</sup> Edition (2011)*. The Environmental Report will accompany Union Gas' application to the OEB, whose review and approval is needed before this project can proceed. If approved by the OEB, construction is targeted for spring 2017.

Union Gas will continue to consult and engage with landowners, municipalities, government agencies, First Nations, the Métis Nation of Ontario and other interested parties throughout the

Design with community in mind



July 29, 2016  
Ms. Karen Landry  
Page 2 of 2

**Reference: Union Gas Guelph Reinforcement Pipeline Project – Notice of Project Commencement and Preferred Route – Wellington Road 34 to Forestell Road**

project. As a stakeholder with jurisdiction or a potential interest in developments in the project location you are invited to provide comments regarding the proposed pipeline. Specifically, Stantec is seeking information that may affect construction and operation of the proposed pipeline, including: background environmental and socio-economic information, planning principles or guidelines which fall under your jurisdiction and other proposed developments known in the area to assess potential cumulative effects.

If you have any questions or comments regarding the project please do not hesitate to contact the undersigned.

Regards,

**STANTEC CONSULTING LTD.**

*Signed by Mark Iamarino of the behalf of:*

**Steve Thurtell, M. Sc., P. Ag., CISEC**  
Senior Project Manager  
Phone: (519) 780-8108  
steve.thurtell@stantec.com

Attachment: Notice of Project Commencement and Preferred Route

c. Evan Tomek, Union Gas  
Doug Schmidt, Union Gas

**RECEIVED**

**AUG 02 2016**

**Township of Puslinch**

Design with community in mind

# UNION GAS PIPELINE PROJECT NOTICE OF PROJECT COMMENCEMENT AND PREFERRED ROUTE

## Guelph Reinforcement Project

To ensure the continued reliable, safe delivery of natural gas and serve an increased demand in the City of Guelph and surrounding area, Union Gas Limited (Union Gas) is proposing to construct a new natural gas pipeline.

The proposed pipeline is approximately 4.0 kilometres in length and would begin at the existing Union Gas station located on Wellington Road 34, approximately 400 metres east of Wellington Road 35 in the Township of Puslinch, and end at the existing Union Gas station located on Forestell Road, approximately 400 metres east of Wellington Road 35 in the City of Guelph. The Preferred Route is located entirely within municipal road allowances and specifically, along the east side of Wellington Road 35.

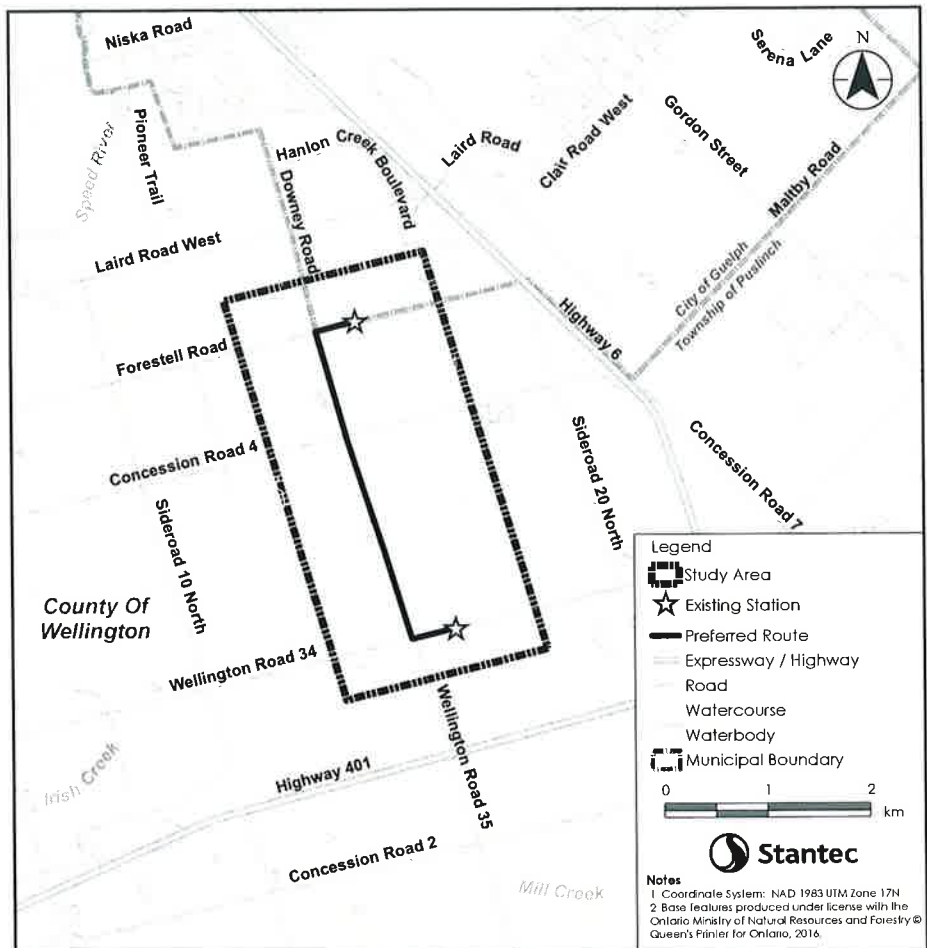
In 2008, Union Gas initiated plans to expand its existing Guelph Line natural gas pipeline system by constructing a new 12-inch (323.9-millimeters) diameter steel natural gas pipeline. An Environmental Report (ER) was completed which identified a Preferred Route for the pipeline along Wellington Road 35. To meet the customer demand for natural gas at the time, the pipeline was installed up to an end point on Wellington Road 34. Union Gas is now proposing to complete the remaining section of pipeline between Wellington Road 34 and Forestell Road.

Union Gas has retained Stantec Consulting Ltd. (Stantec) to review the previously completed Environmental Report and address potential changes that may have occurred, and to meet the intent of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction*

*and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 6th Edition (2011)*. The Environmental Report will accompany Union Gas' application to the OEB, whose review and approval is needed before this project can proceed. If approved by the OEB, construction is targeted for spring 2017.

If you have questions or comments regarding the project, please contact:

**Steve Thurtell, M.Sc., P.Ag., CISEC**  
Stantec Consulting Ltd.  
Senior Project Manager  
Phone: (519) 780-8108  
steve.thurtell@stantec.com



RECEIVED

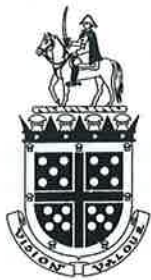
AUG 02 2016



**uniongas**

A Spectra Energy Company

Township of Puslinch



## COUNTY OF WELLINGTON

PLANNING AND DEVELOPMENT DEPARTMENT  
GARY A. COUSINS, M.C.I.P., DIRECTOR  
T 519.837.2600  
T 1.800.663.0750  
F 519.823.1694

ADMINISTRATION CENTRE  
74 WOOLWICH STREET  
GUELPH ON N1H 3T9

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Council Agenda	Aug 10/16
File	

July 12, 2016

Agencies and Persons Circulated

Dear Messrs. and Mesdames,

I.G.# 1

**Re:** County Official Plan Amendment #99 – County File No.: OP-2015-02  
County of Wellington - Growth Forecast and Second Unit Policy Updates

This letter is **further to the Notice of Adoption given on June 8, 2016** pursuant to subsections 17(23) and Section 21 of the Planning Act **with respect to Amendment No. 99** to the County of Wellington Official Plan. It is intended to provide you with the status of the proposed official plan amendment pursuant to subsection 17(25) and (29) of the Planning Act which pertain to appeals.

Please be advised that **an appeal has been filed** with respect to County Council's decision to adopt Amendment No. 99 to the County of Wellington Official Plan pursuant to **By-law No. 5478-16**. Accordingly, **Amendment No. 99** will be forwarded to the Ontario Municipal Board.

Yours truly,

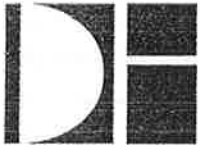
Gary A. Cousins, M.C.I.P., RPP  
Director of Planning and Development

Encl

cc— Mark Paoli, County Policy Planning Manager

RECEIVED  
JUL 14 2016  
Township of...





Davies  
Howe  
Partners  
LLP

Lawyers

The Fifth Floor  
99 Spadina Ave  
Toronto, Ontario  
M5V 3P8

T 416.977.7088  
F 416.977.8931  
davieshowe.com

Please refer to: **Michael Melling**  
e-mail: michaelm@davieshowe.com  
direct line: 416.263.4515  
File No. 702445

June 27, 2016

**By Next Day Courier**

Ms. Donna Bryce  
County Clerk  
County of Wellington  
Administration Centre  
74 Woolwich Street  
Guelph, Ontario  
N1H 3T9

JUN 28 2016  
Planning Dept.  
The County of Wellington

Dear Ms. Bryce:

**Re: Appeal to the Ontario Municipal Board ("Board")  
Subsection 17(24) of the *Planning Act*  
Official Plan Amendment No. 99 ("OPA 99")**

We are counsel to 4135199 Canada Inc., 2084937 Ontario Limited, and Sebecca Enterprises Corp., the owners of approximately 116 hectares of land in the Town of Erin.

By way of background, in 2012, our clients filed applications with the County of Wellington ("County") for an amendment to the County Official Plan and a draft plan of subdivision for their lands, which are within the Village of Erin Urban Area. At the same time, our clients also filed applications with the Town of Erin (the "Town") for amendments to the Town's Official Plan and Zoning By-law to facilitate development of their lands (collectively, the "Applications"). All of the Applications have been deemed complete by the County and Town.

On May 26, 2016, the County adopted OPA 99, which amends the growth forecasts for the County and its constituent municipalities to the years 2036 and 2041.

Prior to the adoption of OPA 99, our clients' land use planning consultants, KLM Planning Partners Inc., made a written submission to County Council dated May 19, 2016 expressing some of our clients' concerns with the proposed amendment. Our clients also made an oral submission to County Council at its meeting on May 26, 2016, prior to the adoption of OPA 99.





Davies  
Howe  
Partners  
LLP

Our clients hereby appeal the adoption of OPA 99 to the Board, pursuant to s. 17(24) of the *Planning Act*. Our clients' appeal is with respect to s. 1 of OPA 99, which replaces Tables 1 to 8 in the County's Official Plan.

The reasons for this appeal are:

1. OPA 99 does not conform with the *Growth Plan for the Greater Golden Horseshoe* ("Growth Plan") and it is not consistent with the *Provincial Policy Statement, 2014* ("PPS")
2. Contrary to the policy direction of the *Growth Plan* and the *PPS*, the allocation of population and employment growth in OPA 99 assumes that growth will be directed to future settlement area boundary expansions instead of optimizing and making efficient use of land in existing settlement areas in the County.
3. OPA 99 does not allocate sufficient population and employment growth to the Town to allow for the appropriate development of lands within the existing Village of Erin Urban Area, including the development contemplated in the Applications.
4. Combining the projected population growth for Hillsburgh and the Village of Erin in Table 7 is inappropriate and does not represent good planning. The existing, in-force County and Town Official Plans both include separate population forecasts for these communities. OPA 99 separates population projections for individual communities within the other lower-tier municipalities. Separate forecasts are required to provide clear direction for how and where growth should be accommodated in the Town.
5. Such further and other reasons as counsel may provide and the Board will permit.

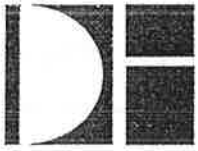
We have enclosed with this Notice of Appeal our firm cheque in the amount of \$125.00, payable to the Minister of Finance, representing the filing fee for this appeal, as well as a copy of the required O.M.B. A1 Appellant Form.

We would appreciate receiving your confirmation of this Notice of Appeal. Should you have any questions or require additional information, please do not hesitate to contact me or my associate, Meaghan McDermid

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JUL 14 2016

Township of Puslinch



Davies  
Howe  
Partners  
LLP

Page 3

Yours truly,  
**DAVIES HOWE PARTNERS LLP**

Michael Melling

encls.: As above

copy: Mr. Keith MacKinnon, KLM Planning Partners Inc.  
Client



# UPPER GRAND DISTRICT SCHOOL BOARD

**Martha Rogers**

*Director of Education and Secretary – Treasurer*

Board Office: 500 Victoria Road N. Guelph, ON N1E 6K2

Email: martha.rogers@ugdsb.on.ca

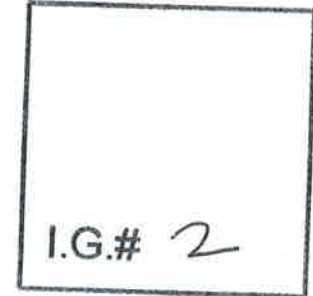
Tel: 519-822-4420 ext. 720 or Toll Free: 1-800-321-4025

**DATE:** June 29, 2016

**MEMO TO:** External System Partners

**FROM:** Martha C. Rogers, Director of Education

**RE:** **DIRECTOR'S 2015 ANNUAL REPORT**



I am pleased to provide you with a copy of the Director's 2015 Annual Report of the Upper Grand District School Board.

In accordance with the Education Act, it is the responsibility of the Chief Executive Officer to report to the Ministry on an annual basis the activities that have occurred in the Board in the preceding year. The attached Report was presented to the trustees of the Upper Grand D.S.B. on June 28, 2016.

This report has recently been shared with all of our schools and school councils. I would ask that you share this information as you see fit, and if appropriate, display this report in a suitable location.

Thank you for your support and assistance in this matter.

Encl.

**RECEIVED**  
**JUL 25 2016**  
**Township of Puslinch**

## Upper Grand District School Board

• Mark Bailey; Chair  
• Marty Fairbairn; Vice-Chair

• Linda Busuttil  
• Susan Moziar

• Kathryn Cooper  
• Bruce Schieck

• Barbara Lustgarten Evoy  
• Lynn Topping

• Martha MacNeil  
• Barbara White



Upper Grand District School Board

# annual report 2015







Introduction

Our Vision	1
Guiding Principles	1
Message from the Director	2
Message from the Chair of the Board	3
2016 Trustees	4
By the Numbers	5
Our Strategic Plan	6

Achieving Excellence

Board Improvement Planning	7
FNMI PD	7
Full Day Kindergarten	8
EQAO Test Results	8
Learning Fair	10
Leadership Development	11

Promoting Well-Being

New Programs Support Employee Wellness	14
Mental Wellness in Schools and Classrooms	15

Ensuring Equity of Access and Opportunity

Advancements in Information Technology	16
Special Education and Technology	16
First Nations, Métis and Inuit Education	17

Enhancing Public Confidence

Parent Involvement Committee	18
Photos Essay	18
Everyday Hero Awards	19
Environmental Initiatives	20



**Cover Art:** Emily Mollison, a student at John F. Ross CVI, created the cover art while attending an FNMI artist workshop that featured Métis dot painting with local artist, Marie-Louise Lariviere. Emily's creation was one of the works on display at "Zoongeheshkwaad" (see story on page 17).



Introduction

OUR VISION

“Learn, Lead, Inspire...Together”

Students will attain individual excellence through dynamic programming provided by an effective staff and supported by a committed community. We will meet our students' diverse needs through the provision of equitable and accessible resources. Our learning environment will be characterized by empowered administrators, effective communication and mutual compassionate respect.

GUIDING PRINCIPLES

As leaders in our educational community we will do our work by:  
Leading with confidence  
Learning through collaboration  
Inspiring all voices







## Message from the Director of Education

It is always such a pleasure to present the Upper Grand District School Board's Director's Annual Report. Every year, we highlight some of the brightest points in the school year, and as always, there is much to report.

The Board unveiled a new multi-year strategic plan. Input from a wide variety of stakeholders was used to develop our four goals of achieving excellence, promoting student and staff well-being, ensuring equity of access and opportunity, and enhancing public confidence. The strategic plan was guided by our vision of the Upper Grand as an environment where we learn, lead and inspire – together.

In 2014-15, we saw the successful completion of our five-year implementation of Full Day Kindergarten (FDK) in the Upper Grand. All of our 65 elementary schools now offer a full day program for both Junior and Senior Kindergarten students. Inquiry and intentional play-based learning supports the achievement of our youngest learners.

Great strides were taken in environmental initiatives and First Nations, Métis and Inuit education. A record number of schools were certified as EcoSchools and the Board continued its commitment to reduce paper consumption through the Less Paper Campaign. Twenty-four schools received visits from Elders or Traditional Knowledge keepers, opening students' minds to new ways of learning. Two feature events – our student art show,

showcasing artwork inspired by Indigenous teachings and culture, and the Aboriginal Heritage Festival – were so popular, we had to turn people away.

We continued to embrace technology that enhances and supports student learning. Chromebooks were made available in all public libraries in our district, allowing our students to access Board supports and resources required to complete their work. Technology coaches were sent to classrooms to ensure that Special Education students can use assistive technology, such as Google Read & Write, fluently. There are now more than 400 eLearning courses available to our secondary students.

Our staff and trustees continued to focus on student well-being and learning – showing time and time again that they truly care about the achievement, health and safety of every child in the Board. I commend everyone who is part of the Upper Grand District School Board for their dedication.

Enjoy our 2015 Annual Report.

*Martha Rogers*



## Message from the Chair of the Board

On behalf of the Board of Trustees, I am pleased to present the 2014-2015 Annual Report for the Upper Grand District School Board.

The 2014-15 school year was one of new beginnings and evolution, with much to celebrate – so much that I won't be able to mention it all here, but here are some of the moments that stuck with me the most.

We welcomed three new trustees to the Board of Trustees, all of whom have brought with them fresh approaches and unique perspectives that have contributed to a positive board culture. The Board passed another balanced and compliant budget, another nod towards the Board's history of fiscal stewardship.

Trustees endorsed the Board's new, multi-year strategic plan, which reaffirms our commitment to student and staff achievement, supports the well-being of staff and students, and provides a variety of programs and services for students to ensure equity of access and opportunity. The Board is committed to engaging the larger community, and seeking new ways to maintain and improve transparency and accountability.

We celebrated the opening of four new schools: Arbour Vista Public School and William C. Winegard Public School in Guelph, Harris Mill Public School in Rockwood, and Spencer Avenue Elementary School in Orangeville. These schools, along with all of our elementary schools, saw a successful final year implementation of Full Day Kindergarten for our youngest students.

We continued the rollout of our mental health strategy. A number of resources were allocated to promote mental wellness in schools and connect students to the supports they need.

New and enhanced initiatives showed our continued commitment to the environment, from a new board-wide focus on environmental stewardship, to an action plan that details specific steps we'll take to encourage sustainable environmental practices in all of our facilities. Interest in creating natural play-scapes on school grounds was so popular, a School Ground Greening Committee was formed to meet the demand. Using funds from grants, schools planted trees, created shade gardens, started composting programs, and more.

Even as we celebrate our accomplishments, our Board remains committed to ever improving.

I want to close by thanking my fellow trustees, who are thoughtful, passionate, and dedicated to student well-being and achievement. I look forward to continuing to work with each, as well as our first class Director of Education and senior administration, as we continue to seek new ways to increase public confidence in our system, close the achievement gap so that all of our students can reach their full potential, and focus on high value methods of assessing and achieving ever higher levels of student well-being and academic success.

*Mark Bailey*



2016 Trustees



Mark Bailey  
Board Chair



Marty Fairbairn  
Board Vice-Chair



Linda Busuttil



Kathryn Cooper



Barbara Lustgarten-Evoy

**GUELPH  
(WARDS 1 & 5)**  
Centennial CVI  
Fred A. Hamilton PS  
John McCrae PS  
Ottawa Crescent PS  
William C. Winegard PS

**GUELPH (WARD 6)  
PUSLINCH**  
Aberfoyle PS  
École Arbour Vista PS  
Centennial CVI  
Kortright Hills PS  
Rickson Ridge PS  
Sir Isaac Brock PS  
Westminster Woods PS  
Wellington Centre for  
Continuing Education

**GUELPH  
(WARDS 2, 3 & 4)**  
Central PS  
College Heights SS  
Gateway Drive PS  
John McCrae PS  
June Avenue PS  
Taylor Evans PS  
Victory PS  
Willow Road PS

**GUELPH/ERAMOSA  
ERIN  
EAST GARAFRAXA**  
Brisbane PS  
Centre Wellington DHS  
East Garafraxa PS  
Eramosa PS  
Erin DHS  
Erin PS  
École Harris Mill PS  
Rockwood Centennial PS  
Ross R. MacKay PS

**CENTRE WELLINGTON**  
Centre Wellington DHS  
Elora PS  
J.D. Hogarth PS  
James McQueen PS  
John Black PS  
Ponsonby PS  
Salem PS  
Victoria Terrace PS



Martha MacNeil



Susan Moziar



Bruce Schieck



Lynn Topping



Barb White

**GUELPH  
(WARDS 1 & 5)**  
Guelph CVI  
Jean Little PS  
John Galt PS  
École King George PS  
Ken Danby PS  
Priory Park PS

**GUELPH  
(WARDS 2, 3 & 4)**  
Brant Avenue PS  
Edward Johnson PS  
John F. Ross CVI  
Mitchell Woods PS  
Paisley Road PS  
Waverley Drive PS  
Westwood PS

**WELLINGTON NORTH  
MINTO  
MAPLETON**  
Alma PS  
Arthur PS  
Centre Peel PS  
Centre Peel SS  
Drayton Heights PS  
Kenilworth PS  
Maryborough PS  
Minto-Clifford PS  
Norwell DSS  
Palmerston PS  
Victoria Cross PS  
Wellington Heights SS

**AMARANTH,  
EAST LUTHER/  
GRAND VALLEY,  
MELANCTHON,  
MULMUR, MONO,  
SHELBURNE**  
Centennial Hylands ES  
Centre Dufferin DHS  
Glenbrook ES  
Grand Valley & District PS  
Hyland Heights ES  
Laurelwoods ES  
Mono-Amaranth PS  
Primrose ES

**ORANGEVILLE**  
Credit Meadows ES  
Island Lake PS  
Montgomery Village PS  
Parkinson Centennial PS  
Princess Elizabeth PS  
Princess Margaret PS  
Orangeville DSS  
Spencer Avenue ES  
Westside SS  
Dufferin Centre for  
Continuing Education

The UGDSB Student Senate elects two students who sit on the board as non-voting trustees for a school year.  
In 2015-2016 the student trustees were **Leia Johnson** (John F. Ross CVI) and **Dylan Challinor** (Erin DHS).

By the Numbers

(All numbers as of October 2015)

SCHOOLS

65 Elementary  
12 Secondary  
4 Continuing Education sites

STAFF

Elementary teachers (not including OTs) = 1315  
Secondary teachers (not including OTs) = 708  
Senior administrators = 11  
Schools administrators (Principals and Vice-Principals) = 130  
Support staff = 1371  
Occasional teachers (E & S) = 782

STUDENTS

**Elementary:**  
22,513 students  
22,496.66 full-time equivalent  
457 ESL  
175 self-identified Aboriginal  
  
**Secondary:** 11,515 students  
11,231.39 full-time equivalent  
263 ESL  
188 self-identified Aboriginal

DID YOU KNOW?

**Full Day Kindergarten** = offered at all 65 elementary schools; 191 FDK classes  
**Specialist High Skills Majors (SHSM)** = programs in all secondary schools  
**eLearning** = 400 courses available to secondary students  
**OYAP** = there are 156 apprenticable trades in Ontario  
**EcoSchools** = 33 elementary and secondary schools have been certified as EcoSchools for 2015  
**Graduation rate** = 69% (4 year rate), 84% (5 year rate)

2015-2016 BUDGET

**Classroom instruction** = \$253,731,560  
**Non-classroom** = \$95,892,656  
**Total** = Operating \$349,624,216 and Capital \$45,289,654





## Our Strategic Plan

The board developed a new multi-year strategic plan, inviting input from a wide variety of stakeholders to assist with the review of its vision, mission and guiding principles. Stakeholder input was also used to develop four goals: achieve excellence, promote well-being, ensure equity of access and opportunity, and enhance public confidence. The board's three-year Strategic Plan is a living document that will be reviewed and renewed.

Our strategic goals in 2014-2015 were:

### ACHIEVE EXCELLENCE

- Board Improvement Planning for Student Achievement
- Prioritizing initiatives and resources
- Supporting and developing staff

### PROMOTE WELL-BEING

- Supporting well-being of students
- Supporting well-being of staff

### ENSURE EQUITY OF ACCESS AND OPPORTUNITY

- Providing a variety of programs and services for students

### ENHANCE PUBLIC CONFIDENCE

- Ensuring accountability and transparency
- Engaging the community



<http://www.ugdsb.on.ca/board/article.aspx?id=13629>

**Below:** Alex, a student at Orangeville District Secondary School, on his way to a silver medal in Nordic skiing at OFSAA.



## Achieving Excellence

### Board Improvement Planning

The 2014-15 Board Improvement Plan for Student Achievement focused on two main areas: student achievement and school improvement, and student inclusion, well-being and engagement.

The following expectations were set for all of our schools:

#### STUDENT ACHIEVEMENT AND SCHOOL IMPROVEMENT:

- A culture of high expectations supports the belief that all students can learn, progress and achieve.
- A variety of relevant and meaningful assessment data is used by students and educators to continuously monitor learning, to inform instruction and to determine next steps.
- A clear emphasis on high levels of achievement in literacy and numeracy is evident throughout the school.

#### STUDENT INCLUSION, WELL-BEING AND ENGAGEMENT:

- The teaching and learning environment is inclusive, promotes the intellectual engagement of all students and reflects individual student strengths, needs, learning preferences and cultural perspectives.
- Opportunities for authentic learning experiences and experiential learning exist in all classrooms, schools and community programs.
- The school and community build partnerships to enhance learning opportunities and well-being for students.

### Professional Development in First Nations, Métis and Inuit Education

Staff had six different professional development opportunities in the board, from art and environmental awareness with celebrated Métis artist Christi Belcourt, to medicine wheel teachings with local elder Jan Sherman. Staff were introduced to a variety of indigenous arts so teachers could prepare students for an upcoming FNMI art show, including Métis dot painting with local artist Marie-Louise Larivière. A number of teachers also attended an elders' gathering in Ottawa put on by the FNMI provincial subject association.





## Leadership development programs expand to reach more staff



Leadership Development and Succession Planning at all levels are critical factors in the success of every organization. Upper Grand is fortunate to have a strong culture of leadership development and a desire by staff to seek out new opportunities for professional development and growth. The Board Leadership Development strategy continues to support both current and future leaders through

mentoring, performance appraisal and professional learning team structures. Each year we add a new cohort of system leaders to our Cycle of Training Program.

2014-15 saw more than 25 new system and school leaders enrol in the board's Cycle of Training, which provides them with the necessary operational knowledge, skills and resources to be successful in their new roles. This fall, the board expanded its leadership development work by developing leadership pathways and supports for system-level managers and leaders in our business departments. These programs build on the success of sessions based on the themes of courageous conversations, mentoring and change facilitation skills. Looking ahead, the board is merging its Mentoring Programs from various employee groups to consolidate resources and showcase the strong culture of mentorship across the district.

## Hundreds of educators share ideas for sparking innovation at IGNITE Learning Fair



Approximately 300 educators came together for two days of learning and sharing at the Learning Fair, an annual professional development conference. This

past summer, the Learning Fair rebranded itself as "IGNITE" (Innovation. Growth Mindset. Networking. Implementing Practice. Thinking Outside the Box). The theme inspired educators from across our district to come together and share the successes they have had in their classrooms with programs that spark creativity and innovation with their students. Administrators, teachers and guest speakers alike were keen once again to demonstrate the exciting strategies and new approaches they are using that spark student interest, facilitate learning and showcase new ways to demonstrate understanding of key learning expectations. The home-grown nature of this professional development event ensures that the strategies shared are tried, tested and true within the context of the Upper Grand District School Board.

## Groundbreaking history project comes to Dufferin County schools and museum

In February, 20 senior history students from three Upper Grand high schools embarked on an immersive journey into the past. The Digital Historian Project (DHP), a partnership between UGDSB and the Dufferin County Museum and Archives (DCMA), ran for a full semester with students from Centre Dufferin DHS, Orangeville DSS and Westside SS. CDDHS teacher Neil Orford came up with the groundbreaking project.

The DHP fosters digital literacy in students while providing deep historical research for the country. The DHP consists of four courses that form an interesting marriage of history and math: Grade 11 Native Studies, Grade 12 Data Management Math, Grade 12 Canadian History and Grade 12 Interdisciplinary Studies, which focuses on museum work, exploring the curriculum outside of the traditional classroom setting. Each day the students worked from the DCMA, conducting deep archival research and gathering data, focusing in particular on 20th century Canadian veterans. Students also had the opportunity to work with the National Library and Archives in Ottawa,



the University of Guelph, the Juno Beach Centre and the Archives of Ontario, and tour the Battlefields in Normandy. In October, Orford won a Government of Canada History Award for his work with the DHP.

## Students introduced to programming through the Hour of Code

Students learned the basics of computer science and programming through the worldwide Hour of Code. The Hour of Code is a one-hour introduction to computer science. The global movement's goal is not to teach students how to code in just 60 minutes, but rather to "demystify code and show that anybody can learn the basics." Through classroom tutorials, students are introduced to the fun and creative aspects of coding and computer science. The Hour of Code is organized by Code.org, a non-profit organization dedicated to increasing participation in computer science. The group works to reach every student regardless of their background and increase diversity in computer science.





## Full Day Kindergarten fully implemeted in all Upper Grand schools

2014-15 saw the successful completion of our five-year implementation of Full Day Kindergarten (FDK) in the Upper Grand District School Board. Each of our 65 elementary schools now offers a full day program for both Junior and Senior Kindergarten students. This program, taught in most classrooms by educational teams consisting of a teacher and a Registered Early Childhood Educator, focuses on inquiry and intentional play-based learning principles.

Throughout the five-year implementation, the FDK program was supported through excellent professional development opportunities for educators and the purchase of selected resources to support teaching and learning. A particular focus was placed on the purchase of outdoor resources to be used when extending the program beyond the walls of the classroom.

Child care is an important part of the FDK program offered in our board, and a number of schools offer

a Before and/or After School program. Child care opportunities will continue to grow and support even more families and their children as more families express a need and interest in this aspect of the board’s Kindergarten programming.

The board’s Early Years team also worked collaboratively with our County Child Care Managers to identify spaces for retrofit projects in order to accommodate toddlers and preschoolers. Child care spaces at Taylor Evans PS, Fred A. Hamilton PS, Jean Little PS and Credit Meadows Elementary School benefitted from the completion of retrofit projects in the summer of 2015. The board continues to be dedicated to improving the learning environment in schools for our youngest learners.

In addition to the child care retrofit projects, 12 schools benefitted from upgrades to Kindergarten classrooms.



## Primary EQAO results: Grade 3

**N/A:** Due to exceptional circumstances in 2015, these EQAO results were not available for 2014-15

**Province Wide:** UGDSB compared to the provincial highest, average and lowest English-language board level results, based on the percentage of students at Levels 3 and 4, 2010-2015. (All scores are percentages.)

READING	2010-11	2011-12	2012-13	2013-14	2014-15
UGDSB	64	67	68	66	n/a
Highest	77	80	80	79	n/a
Average	65	66	68	70	n/a
Lowest	46	44	45	49	n/a

WRITING	2010-11	2011-12	2012-13	2013-14	2014-15
UGDSB	73	73	74	72	n/a
Highest	89	91	88	89	n/a
Average	73	76	77	78	n/a
Lowest	46	44	50	55	n/a

MATH	2010-11	2011-12	2012-13	2013-14	2014-15
UGDSB	67	67	64	60	n/a
Highest	83	83	82	81	n/a
Average	69	68	67	67	n/a
Lowest	52	38	40	49	n/a

**Board Wide:** UDGSB girls, boys, students with special needs and English Language Learners (ELL), based on the percentage of students at Levels 3 and 4, 2010-2015.

READING	2010-11	2011-12	2012-13	2013-14	2014-15
Female	70	74	73	70	n/a
Male	59	61	63	63	n/a
Special Ed.	30	33	38	38	n/a
ELL	34	39	21	n/a	n/a

WRITING	2010-11	2011-12	2012-13	2013-14	2014-15
Female	80	81	81	78	n/a
Male	65	65	66	66	n/a
Special Ed.	51	51	52	52	n/a
ELL	55	51	26	n/a	n/a

MATH	2010-11	2011-12	2012-13	2013-14	2014-15
Female	67	68	64	61	n/a
Male	67	65	64	59	n/a
Special Ed.	35	39	33	30	n/a
ELL	40	50	24	n/a	n/a

## Primary EQAO results: Grade 6

**N/A:** Due to exceptional circumstances in 2015, these EQAO results were not available for 2014-15

**Province Wide:** UGDSB compared to the provincial highest, average and lowest English-language board level results, based on the percentage of students at Levels 3 and 4, 2010-2015.  
(All scores are percentages.)

READING	2010-11	2011-12	2012-13	2013-14	2014-15
UGDSB	73	76	76	79	n/a
Highest	85	86	88	93	n/a
Average	74	75	77	79	n/a
Lowest	58	61	51	55	n/a

WRITING	2010-11	2011-12	2012-13	2013-14	2014-15
UGDSB	68	71	70	75	n/a
Highest	84	86	89	91	n/a
Average	73	74	76	78	n/a
Lowest	55	54	48	49	n/a

MATH	2010-11	2011-12	2012-13	2013-14	2014-15
UGDSB	53	54	52	50	n/a
Highest	76	72	72	68	n/a
Average	58	58	57	54	n/a
Lowest	38	35	23	18	n/a

**Board Wide:** UGDSB girls, boys, students with special needs and English Language Learners (ELL), based on the percentage of students at Levels 3 and 4, 2010-2015.

READING	2010-11	2011-12	2012-13	2013-14	2014-15
Female	78	82	80	84	n/a
Male	68	70	72	74	n/a
Special Ed.	34	44	46	49	n/a
ELL	36	47	43	n/a	n/a

WRITING	2010-11	2011-12	2012-13	2013-14	2014-15
Female	78	83	82	84	n/a
Male	59	60	58	64	n/a
Special Ed.	28	39	36	43	n/a
ELL	31	53	50	n/a	n/a

MATH	2010-11	2011-12	2012-13	2013-14	2014-15
Female	56	58	53	53	n/a
Male	51	50	51	47	n/a
Special Ed.	15	21	20	16	n/a
ELL	27	33	33	n/a	n/a

## Secondary EQAO results: Grades 9 & 10

**N/A:** Due to exceptional circumstances in 2015, these EQAO results were not available for 2014-15

**Province Wide:** UGDSB compared to the provincial highest, average and lowest English-language board level results, based on the percentage of students at Levels 3 and 4, 2010-2015.  
(All scores are percentages.)

Grade 9 Math - Academic	2010-11	2011-12	2012-13	2013-14	2014-15
UGDSB	85	87	87	88	90
Highest	92	91	92	94	n/a
Average	83	84	84	85	n/a
Lowest	60	55	53	66	n/a

Grade 9 Math - Applied	2010-11	2011-12	2012-13	2013-14	2014-15
UGDSB	52	53	52	59	67
Highest	60	75	64	80	n/a
Average	42	44	44	47	n/a
Lowest	30	30	22	23	n/a

Grade 10 OSSLT - (first time eligible)	2010-11	2011-12	2012-13	2013-14	2014-15
Success rate - UGDSB	84	84	82	82	80
Success rate - Province	91	90	91	91	82

**Board Wide:** UGDSB girls, boys, students with special needs and English Language Learners (ELL), based on the percentage of students at Levels 3 and 4, 2010-2015.

Grade 9 Math - Academic	2010-11	2011-12	2012-13	2013-14	2014-15
Female	83	86	86	87	89
Male	87	88	89	89	92
Special Ed.	81	80	80	81	85
ELL	n/a	100	83	89	94

Grade 9 Math - Applied	2010-11	2011-12	2012-13	2013-14	2014-15
Female	52	53	49	58	68
Male	52	53	53	61	66
Special Ed.	48	42	43	n/a	62
ELL	n/a	10	20	52	75

Grade 10 OSSLT - (first time eligible)	2010-11	2011-12	2012-13	2013-14	2014-15
Female	87	90	89	88	84
Male	80	78	76	76	77
Special Ed.	48	52	48	47	48
ELL	81	62	83	74	n/a



# Promoting Well-Being

## New programs support employee wellness



The Employee Health and Wellness Department added a number of new programs and initiatives during the 2014-15 school year, continuing to build on the success of programs implemented since the

inception of the Wellness Program in 2012. In response to requests from staff, the number of fitness programs increased significantly and grew to include yoga, learn to run and boot camp style sessions. The board continued its partnership with the Stress Management and High Performance Clinic at the University of Guelph to offer a variety of personal wellness opportunities, adding a program with a focus on personal resiliency. Staff were encouraged to participate in a variety of programs including Stress Management, Relaxation Techniques, Sleep Better Programs, Energy Boosters, Heart Smart Stress Management, Tips to Decrease Anxiety, Curbing Worry and Increasing Personal Resiliency. As awareness of the various programs and supports available continues to grow, we have seen an increase both in participation and inquiries from individuals contacting the department with ideas, suggestions and looking to host programs.

**Below:** Students enrolled in the Specialist High Skills Major Health and Wellness program participate in a Zumba class during a wellness retreat held at the Ignatius Jesuit Centre.



## Promoting mental wellness in schools and classrooms



**Above:** Students at Victory Public School are led in a karma yoga class while learning about the Syrian refugee crisis.

Over the past two years the UGDSB Mental Health and Addiction Strategy has been implemented to increase awareness, decrease stigma, create mentally healthy schools and classrooms and effectively connect students to supports. The board introduced *Supporting Minds: An Educator's Guide to Supporting Students' Mental Health and Well-being* to increase awareness among educators and to provide practical classroom strategies for teachers and schools to support students. *Leading Mentally Healthy Schools: A Resource for School Administrators* guides administrators as they work to develop mentally healthy schools, and support staff, students and families.

The board works collaboratively with community mental health partners, police, local hospitals and inpatient psychiatry units to increase information sharing and make transitions more efficient and effective for our students and families. The board focused on increasing awareness around suicide prevention by implementing the Suicide Prevention, Intervention and Postvention Protocol. All Social Workers, Psychological Consultants and Child and Youth Counsellors were trained in Applied Suicide

Intervention Skills Training, as were 120 administrators and teachers. More than 270 staff and students were trained in safeTALK, suicide alertness for everyone. All of our administrators, as well as a team of teachers, plus Social Workers, Psychological Consultants and CYCs, were trained in Collaborative Proactive Solutions. This training focuses on staff and students working together when a student is struggling, to determine the underlying unsolved problem and collaboratively develop a plan to build skills and supports.

In early May we held Child and Youth Mental Health Week, a week dedicated to promoting mental wellness, increasing awareness of child and youth mental health, decreasing stigma and promoting the supports that are available. The 2015 theme was "Have a SUPER week" and focused on Social connection, Uplifting emotions, Personal health, Emotional calming and Resilient thinking. Each day concentrated on building skills for positive mental health including daily mental health awareness announcements, assemblies about mental health, walls of hope, dance for mental health and many other activities.



## Advancements in technology support equity and enhance student learning

A number of initiatives across the board embedded technology in classrooms as a tool to not only engage but enhance and facilitate learning. The board embarked on an innovative project to bridge the digital divide in Upper Grand communities, making Chromebooks available to students to use at public libraries across the district. This project allows students to access board supports and resources that students use to complete their work. The Chromebooks program aims to provide equity of access to the Internet and technology for all students in the board and also ensures students won't have to wait in line to use a computer in their library. Chromebooks can be used by UGDSB students within the

libraries themselves or loaned out for periods of time. Following the launch at three pilot sites, the project expanded to include all 25 library branches that serve the Upper Grand. Many applications and resources have been introduced to students and teachers to support learning. One of the largest rollouts over the past year has been the introduction of Dreambox to elementary students. This resource allows students to consolidate numeracy concepts and work on improving numeracy skills while at school and home. The powerful component of this resource lies in its ability to provide teachers with a detailed summary of each student's strengths and needs in various strands of the mathematics curriculum.



**Above:** Students at Westwood Public School use Google Cardboard to go on a virtual journey as part of the Google Expeditions Pioneer Program.

## Technology coaches support student learning in the classroom

In order to ensure that Special Education students can use assistive technology fluently, to access the curriculum and demonstrate their knowledge, the Upper Grand District School Board sent our itinerant technology coaches into classrooms that have students using specialized equipment. This has meant that classroom teachers, along with our

Special Education students, have begun to build their capacity and knowledge of relevant programs, such as Google Plus and Google Read & Write. This growth in technical knowledge and regular classroom use is exciting for both teachers and students who can work cooperatively to design assignments that suit both the teacher and the learner.

## Indigenous teachings open minds to new ways of learning



**Above:** A jingle dancer demonstrates a traditional dance during the 2015 Aboriginal Heritage Festival.

2014-15 was an important year for the development of First Nations, Métis and Inuit education in Upper Grand. Twenty-two different Elders or Traditional Knowledge keepers visited 24 Upper Grand schools. These visits have a tremendous impact, not only opening students' minds to new ways of learning, but also by providing teachers with first-hand experience about First Nations, Métis and Inuit communities and cultures.

From April to June of 2015, the "Zoongeheshkwaad" student art show was showcased at the Wellington County Museum and Archives. The show featured artwork inspired by Indigenous teachings, culture

and art. The event was so popular guests had to be turned away. More than 100 pieces of stunning student art were featured in the show, from 19 different Upper Grand schools, showcasing the breadth of student talent in the board.

The Aboriginal Heritage Festival is a celebration of First Nations art, music and voice. Last year, the festival was expanded to a two-day event, with more than 600 students attending. Even with the expanded schedule, over 1,000 people were on a waiting list, hoping to attend. This year's festival was extended to a four-day event to accommodate the demand.



## Parent Involvement Committee develops strategies for supporting achievement in math

The Parent Involvement Committee (PIC) was once again pleased to have representation of parents from across the board. PIC members were represented on various system-level committees including the Safe, Equitable and Inclusive Schools Steering Committee and the Mental Health Committee, and have started having a representative attend the Upper Grand Learning Foundation Committee meetings.

In 2014-15, the work of PIC focused on the implementation of goals stemming from the PRO Regional Grant. The key focus of the grant was to develop and share strategies that School Councils, school communities and parents can use to help support student achievement in mathematics.

In April, teams from each Upper Grand school were invited to the spring event. The theme of this year's event was "Challenge (In) Equity," featuring keynote speaker Chris D'Souza. More than 225 participants attended the event which also saw breakout sessions on effective practices for School Councils,

information from Wellington-Dufferin-Guelph Public Health, as well as information on mathematics, applying for grants, career pathways and other board resources for parent use.

In the fall, PIC held a workshop for parents called "A Gazillion is not a Number." Dr. Lynda Colgan, an associate professor and author from Queen's University, highlighted ways that parents can help support student success in numeracy and help increase their child's confidence in mathematics. Dr. Colgan shared with parents how to find exciting math opportunities in everyday places and encouraged everyone to use these moments as golden learning opportunities. The session was very well attended and appreciated by all who came.

Upper Grand is very appreciative of the efforts of our parents who willingly give their time to help build relationships between schools and their communities and help facilitate the involvement of parents in our school system.



**From top left:** Community volunteer Peter communicates with Hamoudi, a Syrian newcomer, using Google Translate at Princess Elizabeth Public School; Construction students at College Heights Secondary School build life-saving dog houses for a First Nations community in northern Ontario; Grade 7 and 8 students at Erin Public School create their own applications.

## Everyday Hero Awards

The Upper Grand District School Board celebrates the unsung heroes of the school system who go out of their way to make a difference in the lives, learning and well-being of students through the Everyday Hero Awards. The program is sponsored by the board's trustees. The key criteria for the awards are:

- Performance of duties of a high level at all times
- A significant school and/or system-related achievement
- A specific innovation or achievement of significant value or importance to the system
- A unique circumstance considered worthy of recognition by the board

### 2014-15 AWARD RECIPIENTS:

- **ConnectHEAR**, an initiative for students with hearing loss, coordinated by **Trudy Counter**, Coordinator of Communication, Language and Speech Services, **Sonya White** and **Stacey Giffen**, Itinerant Teachers of the Deaf and Hard of Hearing, **Ashley Champ**, Speech-Language Pathologist and **Lesley Anne Jordan**, Special Education Consultant, Orangeville Board Office
- **Sheila Parker**, Manager of Budget and Financial Reporting, Guelph Board Office
- **Cheryl VanOoteghem**, Principal of Program, Orangeville Board Office
- **Alana Lefebvre**, Coordinator of Nutrition Program, Rockwood Centennial PS
- **Deb Kortleve**, Teacher, Erin District High School, various locations
- **Philip Hinton**, Crossing Guard, École Harris Mill and Rockwood Centennial PS
- **Andy Speers**, Teacher, Drayton Heights PS
- **Lois and Matthew Metzger**, Volunteers, Drayton Heights PS
- **Angie Tersigni**, Volunteer, Gateway Drive PS
- **Neil Blair**, Volunteer, Guelph Collegiate Vocational Institute





## Environmental Initiatives



**Above:** Students of GCVI's Grade 12 Green Industries class, along with GCVI staff, are pictured at the "altar" of the willow dome (which they helped to rebuild) situated at the Ignatius Jesuit Centre north of Guelph. Artist Barbara Guy, who conceived the original design and concept for the willow dome, stands far left. One of the intended purposes of the dome is to provide visitors with a place they can come to find clarity in nature.

### LIVE GREEN. LEARN GREEN. GO GREEN. SHARING OUR RENEWED VISION

In September 2014, the Upper Grand District School Board launched a new board-wide focus on environmental stewardship. The Environmental Education and Management Committee shared a new vision: "By the 2017-18 school year the Upper Grand District School Board will be a community leader in environmental stewardship and sustainability. Students and staff in all schools and board departments will work together with our community partners to become environmentally responsible citizens in a safe, healthy and sustainable environment."

The board developed a new Environmental Sustainability Action Plan that detailed specific steps on how

to encourage sustainable environmental approaches as general practice at all schools and board offices, via four pillars:

- Incorporating environmental issues into classroom learning
- Increasing staff and student engagement in school-wide initiatives
- Promoting increased collaboration with community partners
- Supporting leadership activities in the form of policies and procedures

The Action Plan built on the success of many unique environmental initiatives already in place and went deeper by incorporating environmental sustainability, leadership and stewardship as an aligned priority within the board's strategic plan. The board's new

environmental vision was shared with diverse members of the school and board communities through formal presentations, workshops, Google Hangouts, school newsletters and more.

### SCHOOL GROUND GREENING COMMITTEE FORMED

A new School Ground Greening Committee was formed to meet the demand of the increased interest by schools to create natural playscapes to enhance the learning and well-being of their students. A workbook was created to take the guesswork out of completing a greening project. Once the seeds of a project were created, schools were encouraged to form a School Greening Committee that included a variety of stakeholders from the school community to ensure that everyone's voice was heard. A record number of "Green Up Your School Grants" were awarded in 2014-15. Funds were used to plant trees, improve shade gardens, start a composting program, and bring in guest speakers.



### THE UGDSB SETS A GOAL TO REDUCE PAPER CONSUMPTION

In the 2014-15 school year, the UGDSB launched a Less Paper Campaign to reduce paper consumption. Schools and board offices looked at their paper consumption habits and set paper reduction targets. Resources were provided to help inspire everyone to find new ways to reduce their dependency on paper. Best practices include using an electronic filing system, creating paperless invoicing and record keeping, setting computers and photocopiers to double-sided

printing as the default and creating a GOOS bin (for paper that is still Good On One Side).

### UGDSB ACHIEVES A RECORD NUMBER OF SCHOOLS WINNING ECOSCHOOLS CERTIFICATION



Ontario EcoSchools is an environmental education and certification program that helps school communities develop both ecological literacy and environmentally responsible citizenship and reduce their environmental footprint. Student participation and leadership are integral to the EcoSchool program. Thirty-three Upper Grand elementary and secondary schools were certified as EcoSchools during the 2014-2015 school year. This is a record number of winning schools, and includes seven schools that participated for the first time. Two schools deserve a special mention for achieving the prized platinum level. Victoria Terrace Public School and Centennial CVI have been EcoSchools for at least five years, and in the 2014-15 school year achieved a high level of points in six key areas, including an additional special platinum section.







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## Upper Grand District School Board

500 Victoria Road N., Guelph, Ontario

(t): 519-822-4420

1-800-321-4025

(e): [inquiry@ugdsb.on.ca](mailto:inquiry@ugdsb.on.ca)

[www.ugdsb.on.ca](http://www.ugdsb.on.ca)





**RECEIVED**

**JUL 27 2016**

**Township of Puslinch**

I.G.# 3

**RE: NOTICE OF STUDY COMMENCEMENT – QUEEN STREET SANITARY PUMPING STATION  
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT – CITY OF CAMBRIDGE**

Dear Ms. Landry,

### THE STUDY

The City of Cambridge has initiated a Municipal Class Environmental Assessment (Class EA) Study for improvements to the Queen Street Sanitary Pumping Station (SPS). The existing Queen Street SPS (refer to map) is one of the largest and oldest pumping stations within the City and receives flows from the southeast part of Hespeler. In response to a recent condition assessment and a reduction in flows due to changes in the sanitary collection system, the City is planning upgrades to improve the SPS facility operations. The study will also consider alternative siting options that can address how the SPS is integrated with adjacent land uses.

### THE PROCESS

The study is being planned as a Schedule "B" project under the Municipal Class EA document. The Class EA process provides members of the public and interested parties with opportunities to provide input at key stages of the study. The study will define the problem, develop and evaluate alternative solutions, identify preferred solutions, assess impacts of the preferred solutions and identify measures to lessen any adverse impacts.

### TOWNSHIP OF PUSLINCH CONSULTATION

The Township of Puslinch has been identified as a potential stakeholder since the Township border is near the project study area. If you do not wish to receive further information and notices please contact and notify the project team members below.

**Scott MacDonald, P.Eng.**  
**Project Manager**  
Development and Infrastructure  
City of Cambridge  
50 Dickson Street  
Cambridge, Ontario N1R 5W8  
Phone: 519-621-0740 ext. 4679  
Fax: 519-740-7729  
Email: [macdonaldscott@cambridge.ca](mailto:macdonaldscott@cambridge.ca)

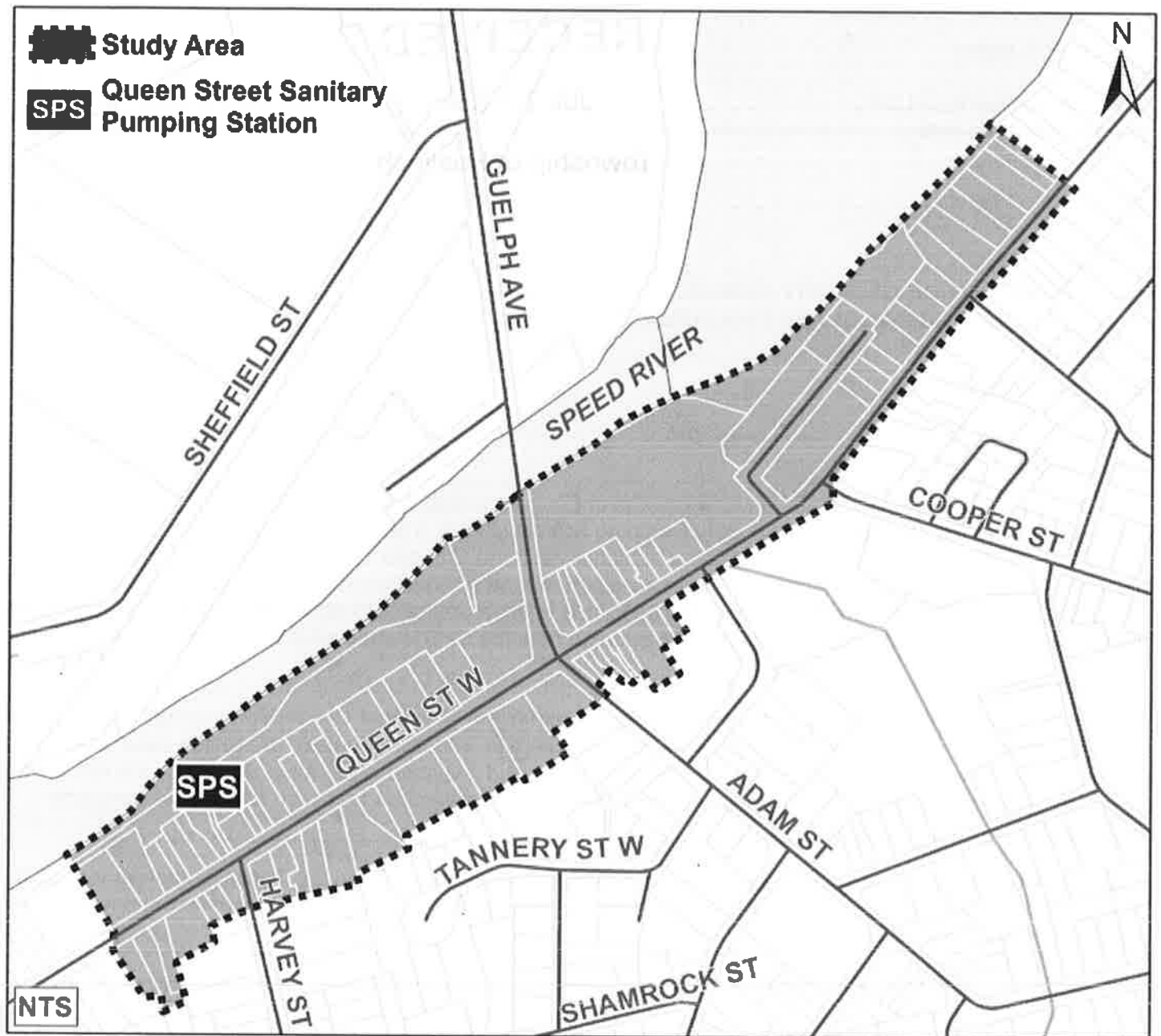
**Patty Quackenbush, M.Eng., P.Eng.**  
**Project Manager**  
AECOM  
50 Sportsworld Crossing Road  
Suite 290  
Kitchener, Ontario N2P 0A4  
Telephone: 519-650-8691  
Fax: 519-650-3424  
Email: [patty.quackenbush@aecom.com](mailto:patty.quackenbush@aecom.com)

#### CLERK'S DEPARTMENT

Copy	
Please Handle	
Your Information	
Council Agenda	<i>Aug 16</i>

More information can be found at:

<http://www.cambridge.ca/QueenStSanitaryPS>





6920 Concession 1, Puslinch, ON N0B 2J0 • 519-837-0558 • Fax 519-837-1233  
www.sunrise-therapeutic.ca • info@sunrise-therapeutic.ca

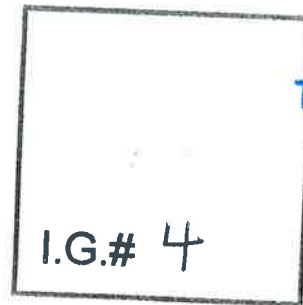
RECEIVED

JUL 27 2016

Township of Puslinch

June 27, 2016

Mr. Paul Creamer, Director of Finance / Treasurer  
Township of Puslinch  
7404 Wellington Rd. 34, RR3  
Guelph, ON  
N1H 6H9



Dear Mr. Creamer,

On behalf of Sunrise Therapeutic Riding & Learning Centre, I would like to thank you for the grant in the amount of \$2500. As outlined in our proposal, these funds will be used to sponsor "Scout", one of our therapy horses (picture below).

Sunrise serves up to 120 riders a week through the year, the majority of whom reside in Wellington County. Our therapy horses, certified instructors and volunteers help children and adults with a wide range of special needs to achieve specific therapy goals. This can be physical goals, such as improved muscle tone, balance, posture, core strength or coordination, or cognitive ones, such as communication, planning and listening skills. With the advent of the new Equine-Facilitated Mental Health program, achieving greater emotional wellness is also a goal for some participants.

For every rider, Sunrise is a special "belonging place", where all participants are valued and respected as individuals, and can enjoy positive social interactions, greater independence and a sense of great achievement.

Thank you for your ongoing support. As our horses are the backbone of our programs, our horse sponsor program is so essential to us being able to provide such valuable programs and services to our local community. We appreciate your partnerships as we work together to enrich the lives of those with special needs in our community.

Sincerely,

A handwritten signature in black ink, reading "Alissa Gibson".

Alissa Gibson  
Development Manager



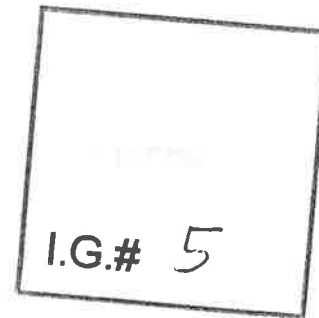
**Michelle Cassar**

---

**Subject:** FW: High-Speed Internet

**From:** Arnott-CO, Ted <ted.arnottco@pc.ola.org>  
**Sent:** Friday, July 29, 2016 12:31 PM  
**To:** Karen Landry  
**Cc:** Dennis Lever  
**Subject:** High-Speed Internet

Ms. Karen Landry  
CAO/Clerk, Township of Puslinch



Dear Karen,

As you may be aware, on July 26, the Ontario Government announced that it is partnering with the Government of Canada to expand access to broadband internet in southwestern Ontario, by delivering fibre-optic coverage to over 300 communities. Both the Ontario and the Federal Governments have promised to provide \$90 million toward the project, which is part of the Southwestern Integrated Fibre Technology (SWIFT) project.

I know that the County of Wellington and Warden George Bridge have been very supportive of this initiative, through the Western Warden's Caucus. I want to thank them for their leadership.

We have been advocating for the expansion of access to high-speed internet for some time. During the 2014 election campaign, several people in our Riding raised concern about the lack of affordable access to high-speed internet. On July 3, the very first day it was possible to do so following the election, I tabled a resolution in the Ontario Legislature calling on the Government to develop a strategy to ensure that all Ontarians have access to affordable, reliable, high-speed internet. My resolution reads as follows:

*That, in the opinion of this House, the Government should develop a strategy to ensure that all Ontarians have access to affordable, reliable, high speed internet; and work collaboratively with the Western Ontario Warden's Caucus and the Federal Government to achieve this goal through the development of public/private partnerships.*

It is still one of the first items on the Legislature's Order Paper.

While I am hopeful that this announcement is a positive step forward, they did not provide a complete list of communities which would benefit or give a firm timeframe for the commencement of improved high-speed internet. According to one published source, it may be "a couple years" before it is available to our residents. I intend to follow up with the Government when the House resumes in the fall and seek answers.

I would appreciate if you could bring this email to Township Council's attention.

Sincerely,

**Ted Arnott, MPP**  
**Wellington-Halton Hills**  
Toll Free: 1-800-265-2366  
Phone: 519-787-5247



RECEIVED  
JUL 15 2016  
Township of Puslinch

July 13, 2016

County of Wellington, Mark Paoli, Planning & Development Department (via email [markp@wellington.ca](mailto:markp@wellington.ca))  
County of Wellington, Jameson Pickard, Planning & Development Department (via email [jamesonp@wellington.ca](mailto:jamesonp@wellington.ca))  
County of Wellington, Donna Bryce, Clerk (via email [donnab@wellington.ca](mailto:donnab@wellington.ca))  
Community Emergency Management Coordinator, Linda Dickson (via email [lindad@wellington.ca](mailto:lindad@wellington.ca))  
Miller, Thomson, Scott Galajda (via email [sgalajda@millerthomson.com](mailto:sgalajda@millerthomson.com))  
R. J. Burnside & Assoc. Ltd., Jackie Kay (via regular mail & email [Jackie.Kay@rjburnside.com](mailto:Jackie.Kay@rjburnside.com))  
Grand River Conservation Authority, Fred Natolochny (via email [fnatolochny@grandriver.ca](mailto:fnatolochny@grandriver.ca))  
Grand River Conservation Authority, Ashley Rye (via email [arye@grandriver.ca](mailto:arye@grandriver.ca))  
Union Gas Company Ltd., Shirley Brundritt, Lands Department (via email [ONTUGLLandsINQ@uniongas.com](mailto:ONTUGLLandsINQ@uniongas.com))  
Canadian National Railway Properties, Raymond Beshro (via email [raymond.beshro@cn.ca](mailto:raymond.beshro@cn.ca))  
Metrolinx, Adam Snow (via email [Adam.Snow@gotransit.com](mailto:Adam.Snow@gotransit.com))  
Bell Access Network, Grand River Region, Gayle Widmeyer  
Bell Canada, Lina Raffoul (via email [rowcentre@bell.ca](mailto:rowcentre@bell.ca))  
Ministry of Municipal Affairs & Housing  
Ontario Power Generation Inc., Executive V-P, Law & Development (via email [Executivevp.lawanddevelopment@opg.com](mailto:Executivevp.lawanddevelopment@opg.com))  
Upper Grand District School Board, Planning, Emily Bumbaco (via email [emily.bumbaco@ugdsb.on.ca](mailto:emily.bumbaco@ugdsb.on.ca))  
Conseil Scolaire de District Catholique Centre-Sud, Andrew Aazouz (via email [aaazouz@csdccc.edu.on.ca](mailto:aaazouz@csdccc.edu.on.ca))  
Wellington Catholic District School Board, Tracy McLennan (via email [tmclennan@wellingtoncdsb.ca](mailto:tmclennan@wellingtoncdsb.ca))  
The French Language District School Board for South-Western & Central Ontario (via email [fournierf@csviamonde.ca](mailto:fournierf@csviamonde.ca))  
Township of Guelph/Eramosa, Dan Sharina, Chief Building Official (via email [dsharina@get.on.ca](mailto:dsharina@get.on.ca))  
Township of Guelph/Eramosa, Harry Niemi, Director of Public Works (via email [hniemi@get.on.ca](mailto:hniemi@get.on.ca))  
Township of Guelph/Eramosa, Meaghen Reid, Clerk/Director of Legislative Services (via email [mreid@get.on.ca](mailto:mreid@get.on.ca))  
Township of Guelph/Eramosa, Jim Petric, Acting Deputy Fire Chief (via email [jpetrik@get.on.ca](mailto:jpetrik@get.on.ca))  
City of Guelph, Deputy Fire Chief, John Osborne (via email [john.osborne@guelph.ca](mailto:john.osborne@guelph.ca))  
Township of Puslinch, Clerk, K. Landry (via email [klandry@puslinch.ca](mailto:klandry@puslinch.ca))  
Township of Puslinch, Development Coordinator, K. Patzer (via email [kpatzer@puslinch.ca](mailto:kpatzer@puslinch.ca))  
Township of Woolwich, Planning (via email [nthompson@woolwich.ca](mailto:nthompson@woolwich.ca))  
Township of Woolwich, Clerk  
Regional Municipality of Waterloo, Clerk  
Wellington County, Kyle Davis, Risk Management Official Drinking Water Source Protection (via email [KDavis@centrewellington.ca](mailto:KDavis@centrewellington.ca))  
Propane Facility 7060 WELLINGTON RD 124, UPI INC  
Propane Facility 7022 WELLINGTON RD 124, SUPERIOR PROPANE INC  
Propane Facility 7022 WELLINGTON RD 124, HAMID NOROUZI / SUPERIOR PROPANE

I.G.# 6

Dear Sir/Madam:

**Re: Zoning By-law Amendment Application ZBA 04/16 (Our File: D14 TO)**  
**Various Locations (see below)**

Please find attached the Notice of Complete Application for the above-noted matter, and below is a link to a website where you can download a copy of the Zoning By-law Amendment Application along with supporting documents for your review.

Gaetanne Kruse  
Planning Administrator

Tel: 519-856-9596 ext. 112  
[gkruse@get.on.ca](mailto:gkruse@get.on.ca)



The application contains 2 files, all of which can be downloaded at the following web address:

<https://app.box.com/s/y5m05sozewgdvyqggryk3vv9enpyqar2> .

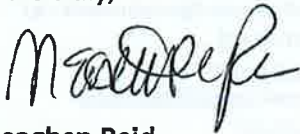
The subject lands are:

- West Part Lot 2, Concession 1, Division B;
- 5081 Wellington Rd 32 (Concession 2, Part Lot 2, Division B);
- 7106 Wellington Rd 124 (Guelph West Part Lot 2, Concession 1, Division B);
- Part Lot 2, Concession 2, Division B, Parts 1 & 2 of Reference Plan 61R4078; and
- East Part Lot 2, Concession 1, Division B, Parts 4-7 of Reference Plan 61R11301

We would appreciate if you could forward your comments to Kelsey Lang, Township of Guelph/Eramosa Planning Associate ([klang@get.on.ca](mailto:klang@get.on.ca)) or Dan Currie, MHBC Planning Ltd. ([dcurrie@mhbcplan.com](mailto:dcurrie@mhbcplan.com)) on or before **Friday, August 12, 2016 by 4:30 p.m.**, and copy Gaetanne Kruse, Township of Guelph/Eramosa Planning Administrator ([gkruse@get.on.ca](mailto:gkruse@get.on.ca)).

Thank you for your comments.

Yours truly,



**Meaghen Reid,**  
**Clerk/Director of Legislative Services**

Att.

MR/sd

*Copy: Dan Currie, MHBC Planning Ltd. (via email [dcurrie@mhbcplan.com](mailto:dcurrie@mhbcplan.com))  
Kelsey Lang, Planning Associate (via email [klang@get.on.ca](mailto:klang@get.on.ca))*

**PLANNING DEPARTMENT  
REPORT – 16/48**

I.G.# 7

**TO:** MAYOR AND COUNCIL

**FROM:** KELSEY LANG, PLANNING ASSOCIATE

**MEETING DATE:** July 11, 2016

**SUBJECT:** ZONING BY-LAW AMENDMENT 04/16 – Removal of Holding Provision for Wellington Rd 124 Industrial Lands: Complete Application and Notice of Intention

**LOCATION & WARD:** West Part Lot 2, Concession 1, Division B;  
5081 Wellington Rd 32;  
7106 Wellington Rd 124;  
Part Lot 2, Concession 2, Division B, RP 61R4078 (Parts 1 & 2);  
East Part Lot 2, Concession 1, Division B, RP 61R11301 (Parts 4 – 7);  
Ward 1

**ATTACHMENTS:** 1 – Location Map  
2 – Draft By-law

---

**RECOMMENDATION:**

Be it resolved that the Council of the Township of Guelph/Eramosa has received Planning Department Report 16/48 regarding ZONING BY-LAW AMENDMENT 04/16 – Removal of Holding Provision for Wellington Rd 124 Industrial Lands; and

That the Township proceed with the required notice of a complete application as per s. 34 (10.7), and proceed with the notice of intention to pass an amending by-law to remove a holding symbol as per s. 36(4) of the Planning Act and Ontario Regulation 545/06; and

That the Zoning By-law Amendment application, together with the Notice of Complete Application and the Notice of Intention to Remove a Holding Symbol, be circulated to the required agencies for comment as per the Planning Act; and

**That the Township Planners proceed with preparing a supplementary Planning Report that summarizes agency comments to be available at a subsequent meeting.**

**PROPOSAL:**

The Township has initiated an Official Plan Amendment with the County of Wellington to remove the “Future Major Roadway” designation which stretches between the City of Guelph and the Township of Woolwich/City of Cambridge. Six properties within this area have a Holding Provision (H) to accommodate this proposed future roadway. As the designation for the roadway is proposed to be removed, the Holding Provision will no longer be necessary, and is proposed to be removed by the Township.

The six properties which make up the subject lands are:

- West Part Lot 2, Concession 1, Division B;
- 5081 Wellington Rd 32;
- 7106 Wellington Rd 124;
- Part Lot 2, Concession 2, Division B, RP 61R4078 (Parts 1 & 2); and
- East Part Lot 2, Concession 1, Division B, RP 61R11301 (Parts 4 – 7).

The properties are within the Rural Employment Area, north of the rail line, and between Wellington Rd 32 and Whitelaw Rd, as shown in Attachment 1. The Township has initiated this application prior to the adoption of the Official Plan Amendment in order to support economic development. Proceeding with the applications concurrently reduces the period of time before Site Plan applications could be submitted, when compared with proceeding with the application sequentially.

**WELLINGTON COUNTY OFFICIAL PLAN:**

The subject lands are designated as Rural Employment Area, with a Future Major Roadway in the Wellington County Official Plan. The Rural Employment Area permits a variety of industrial uses and limited commercial uses. Official Plan Amendment (OPA) 109 proposes to remove the Future Major Roadway designation for a number of properties, including those in the subject lands.

Should OPA 109 be approved, the proposal conforms to the Wellington County Official Plan. As approval of OPA 109 is required for conformity, the draft by-law, included as Attachment 2, is worded such that the holding provision would not be removed until the OPA was in effect.

**TOWNSHIP OF GUELPH/ERAMOSA ZONING BY-LAW 57/1999:**

The subject lands are zoned Rural Industrial (M1) with a Holding Provision (H), with one property subject to 21.154 in Zoning By-law 57/1999.

Holding Provisions are established on properties to ensure that certain requirements are met before the property is developed. For the subject lands, the Holding Provision was put in place to protect the future highway corridor. This provision should only be removed once the highway has been built, accommodated through the proposal, or the designation has been removed. As OPA 109 proposes to remove the designation, the draft by-law, included as Attachment 2, has been worded to ensure that the holding provision would not be removed until the OPA is in effect.


The M1 zoning will remain with no changes when the Holding Provision is removed. The standard process for a Zoning By-law Amendment application includes hosting a public meeting to consider public input in changing the zoning on a property. As the underlying zoning does not change when a Holding Provision is removed, a public meeting is not required under the Planning Act, and the decision made by Council cannot be appealed by anyone other than the applicant; in this application the decision of Council could not be appealed as the Township is the applicant.

In place of hosting a public meeting, Council is required to issue a notice of intention to pass the amending by-law to remove the Holding Provision, which is circulated in the same manner as a notice of public meeting (to neighbours and in the newspaper). A Council may recommend hosting a public meeting, however justification for exceeding the requirements of the Planning Act should be provided for proceeding in this manner.

**CONCLUSION:**


This application to remove the Holding Provision maintains the intent of Zoning By-law 57/1999 and the Official Plan, and therefore is recommended that the Township issue a notice of intention to pass the amending by-law pursuant to the Planning Act to consider this application. The By-law would not come into effect until such time that the related Official Plan Amendment (OPA 109) was in effect.

Respectfully Submitted By:

  
Kelsey Lang, RPP, MCIP  
Planning Associate



Reviewed and Approved By:

  
Dan Currie, RPP, MCIP  
MHBC Planning






Reviewed By:

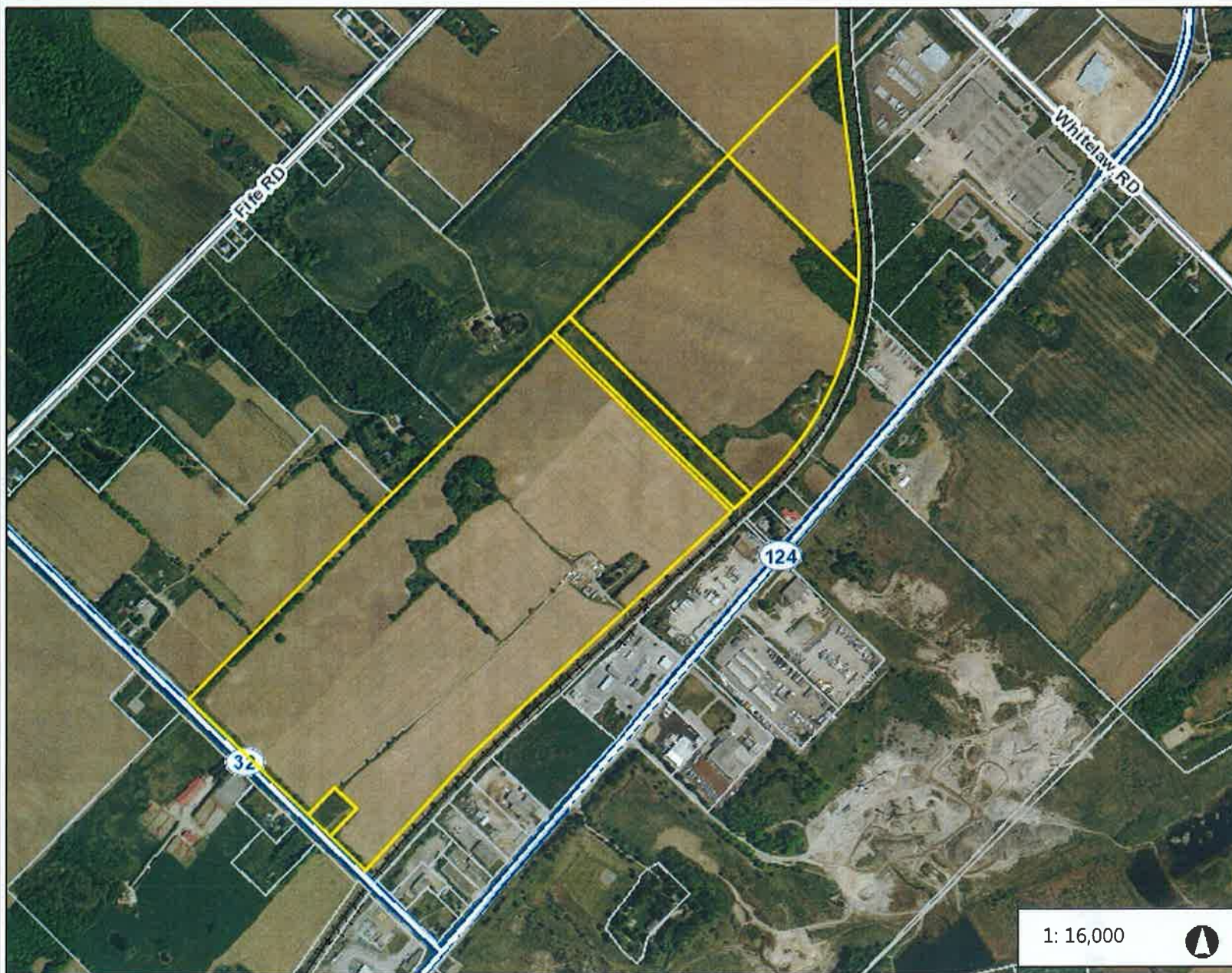
Ian Roger, P Eng  
CAO





# Legend

-  Parcels
- Roads**
  -  Local Road
  -  County Road
  -  Highway
-  Railways
- RoadsLookup**



1: 16,000



0.8 0 0.41 0.8 Kilometers

WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere  
Includes material © 2014 of the Queen's Printer for Ontario. All rights reserved.

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS IS NOT SURVEY DATA. Parcels - Teranet 2002, Wellington County 2014

## Notes



**ATTACHMENT 2: PROPOSED BY-LAW**

**The Corporation of the  
Township of Guelph/Eramosa**

**By-law Number XX/2016**

**A By-law to amend Township of Guelph/Eramosa Zoning By-law  
Number 57/1999**

**West Part Lot 2, Concession 1, Division B; 5081  
Wellington Rd 32; 7106 Wellington Rd 124; Part Lot 2,  
Concession 2, Division B, RP61R4078 (Parts 1 & 2); and  
East Part Lot 2, Concession 1, Division B, RP61R11301 (Parts 4  
– 7), Formerly Township of Guelph, Township of  
Guelph/Eramosa**

**WHEREAS** the Council of the Corporation of the Township of Guelph/Eramosa deems it expedient to enact this By-law to amend Zoning By-law Number 57/1999;

**AND WHEREAS** Council is empowered to enact this By-law under the authority of Section 34 of the *Planning Act*, R.S.O. Chapter P. 13, as amended;

**NOW THEREFORE**, the Council of The Corporation of the Township of Guelph/Eramosa enacts as follows:

1. Schedule A of Zoning By-law 57/1999 is hereby amended by removing the Holding “H” symbol from the Rural Industrial (M1) Zone for the lands described as West Part Lot 2, Concession 1, Division B; 5081 Wellington Rd 32; 7106 Wellington Rd 124; Part Lot 2, Concession 2, Division B, RP 61R4078 (Parts 1 & 2); and East Part Lot 2, Concession 1, Division B, RP 61R11301 (Parts 4 – 7), all in the Township of Guelph/Eramosa, located north of the rail line between Wellington Rd 32 and Whitelaw Rd, as shown on Schedule “A” of this By-law.
2. All other applicable provisions of Zoning By-law 57/1999 shall continue to apply to the lands affected by this amendment.
3. That this By-law shall become effective from the date at which Official Plan Amendment OPA 109 to remove the “Future Major Roadway” designation for the subject lands comes into full force and effect.

**READ three times and finally passed**

**this XX day of \_\_\_\_\_, 2016.**

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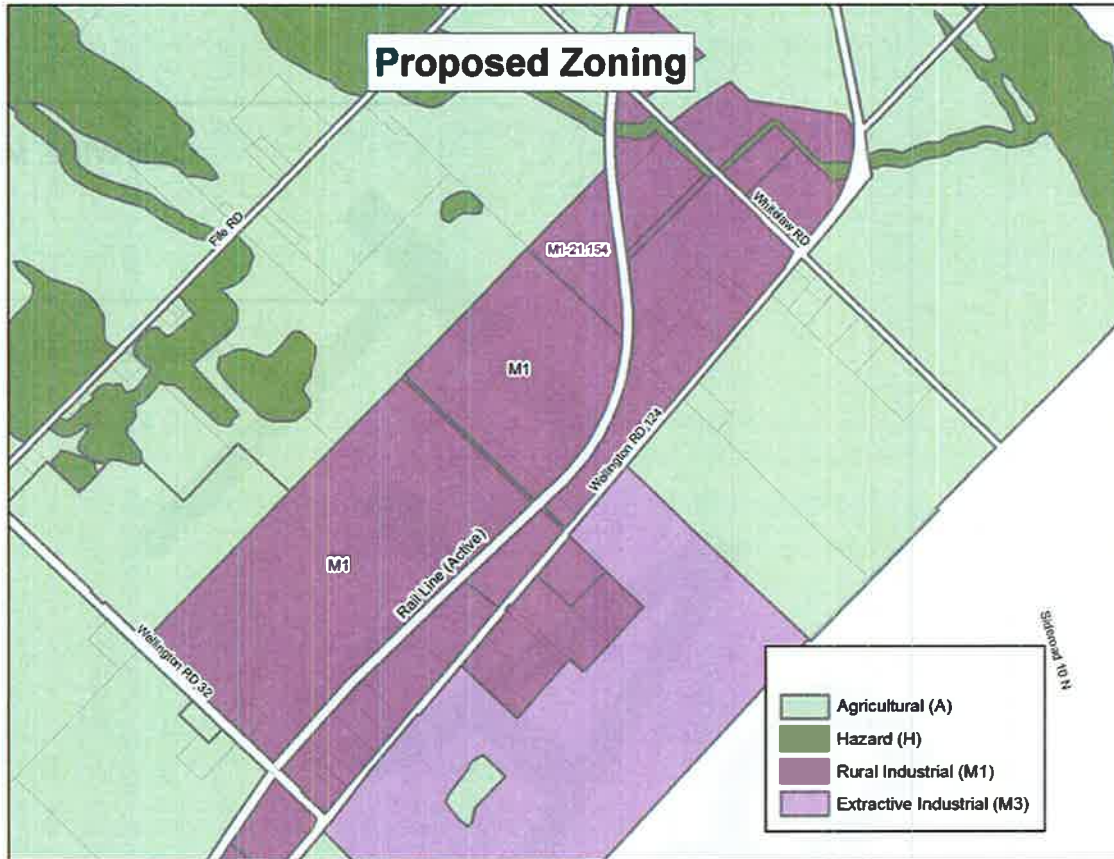
**Chris White, Mayor**

---

**Meaghen Reid, Clerk**

**DRAFT**

## Schedule A





**THE TOWNSHIP OF GUELPH/ERAMOSA**  
**NOTICE OF COMPLETE APPLICATION AND**  
**INTENTION TO PASS A BY-LAW**  
**TO REMOVE THE HOLDING PROVISION**

**TAKE NOTICE** that pursuant to the requirements of the Planning Act, R.S.O., 1990 as amended the Township of Guelph/Eramosa has received a complete application (ZBA 04/16) to amend Zoning By-law 57/1999. The Council of the Corporation of the Township of Guelph/Eramosa will consider a By-law under Section 36 of the Planning Act to remove a Holding (H) Symbol at its meeting on **Tuesday, September 6, 2016 at 7:00 p.m.** at the Guelph/Eramosa Township Municipal Office located at 8348 Wellington Road 124, at Brucesdale.

**THE SUBJECT LANDS** are municipally known as West Part Lot 2, Concession 1, Division B; 5081 Wellington Rd 32 (Concession 2, Part Lot 2, Division B); 7106 Wellington Rd 124 (Guelph West Part Lot 2, Concession 1, Division B); Part Lot 2, Concession 2, Division B, Parts 1 & 2 of Reference Plan 61R4078; and East Part Lot 2, Concession 1, Division B, Parts 4-7 of Reference Plan 61R11301, all in the former Township of Guelph, now in the Township of Guelph/Eramosa. The subject lands are zoned Rural Industrial (M1) with a Holding Provision (H), with one property subject to Special Provision 21.154 in Zoning By-law 57/1999 and is shown on the inset map.

**THE PURPOSE AND EFFECT** of the proposed by-law is to remove the Holding (H) Symbol from the lands identified on the attached key map. The properties will otherwise retain their current zoning.

**THESE LANDS ARE ALSO SUBJECT TO WELLINGTON COUNTY OFFICIAL PLAN AMENDMENT 109.** For more information in regards to the proposed Official Plan Amendment, please contact the Wellington County Manager of Policy Planning, Mark Paoli, by telephone ((519)-837-2600 Ext. 2120) or email (markp@wellington.ca).

**IF YOU WISH TO BE NOTIFIED OF THE DECISION** of the Corporation of the Township of Guelph/Eramosa on the proposed Zoning By-law Amendment, you must make a written request to the Corporation of the Township of Guelph/Eramosa, at the address listed below.

**ADDITIONAL INFORMATION** regarding the proposed amendment is available for inspection between 8:30 a.m. and 4:30 p.m. at the Township of Guelph/Eramosa Municipal Office as of the date of this notice.

Dated at the Township of Guelph/Eramosa  
this 15<sup>th</sup> day of July, 2016.

Meaghen Reid, Clerk  
Township of Guelph/Eramosa  
8348 Wellington Road 124, P.O. Box 700  
Rockwood, Ontario N0B 2K0  
Telephone: (519) 856-9596 Ext. 107  
Fax: (519) 856-2240  
Email: [mreid@get.on.ca](mailto:mreid@get.on.ca)

This document is available in larger font on  
the Township's website at [www.get.on.ca](http://www.get.on.ca).  
If you require an alternative format, please  
contact the Township Clerk.

**LOCATION AND ZONING**



CLERK'S DEPARTMENT	
TO	<i>Council</i>
Copy	
Please Handle	
For Your Information	
Council Agenda	<i>Aug 1/16</i>
File	

**RECEIVED**  
**JUL 18 2016**  
Township of Puslinch

**Cc:**

Township of Mattawan; Township of Mattice-Val Cote; Township of McGarry; Township of McKellar; Township of McMurrich/Monteith; Township of McNab Braeside; Township of Melancthon; Township of Minden Hills; Township of Montague; Township of Moonbeam; Township of Morley; Township of Mulmur; Township of Muskoka Lakes; Township of Nairn and Hyman; Township of Nipigon; Township of Nipissing; Township of North Algona Wilberforce; Township of North Dumfries; Township of North Dundas; Township of North Frontenac; Township of North Glengarry; Township of North Huron; Township of North Kawartha; Township of North Stormont; Township of Norwich; Township of O'Connor; Township of Opasatika; Township of Oro-Medonte; Township of Otonabee-South Monaghan; Township of Papineau-Cameron; Township of Pelee; Township of Perry; Township of Perth East; Township of Perth South; Township of Pickle Lake; Township of Plummer Additional; Township of Prince; Admin; Township of Ramara; Township of Red Rock; Township of Rideau Lakes; Township of Russell; Township of Ryerson; Township of Sables - Spanish Rivers; Township of Schreiber; Township of Scugog; Township of Seguin; Township of Selwyn; Township of Severn; Township of Sioux Narrows - Nestor Falls; Township of South Algonquin; Township of South Frontenac; Township of South Glengarry; Township of South Stormont; Township of Southgate; Township of South-West Oxford; Township of Southwold; Township of Springwater; Township of St. Clair; Township of St. Joseph; Township of Stirling - Rawdon; Township of Stone Mills; Township of Strathroy - Caradoc; Township of Strong; Township of Tarbutt & Tarbutt Additional; Township of Tay; Township of Tay Valley; Township of Tehkummah; Township of Terrace Bay; Township of the Archipelago; Township of the North Shore; Township of Tiny; Township of Tudor and Cashel; Township of Tyendinaga; Township of Uxbridge; Township of Val Rita-Harty; Township of Wainfleet; Township of Warwick; Township of Wellesley; Township of Wellington North; Township of West Lincoln; Township of White River; Township of Whitewater Region; Township of Wilmot; Township of Wollaston; Township of Woolwich; Township of Zorra; Townships of Head, Clara and Maria; United Counties of Leeds and Grenville; United Counties of Prescott and Russell; United Counties of Stormont, Dundas & Glengarry; Village of Burk's Falls; Village of Casselman; Village of Hilton Beach; Village of Merrickville - Wolford; Village of Newbury; Village of Oil Springs; Village of Point Edward; Village of South River; Village of Sundridge; Village of Westport

**Subject:**

Rural Economic Development Program (RED) - Suspension

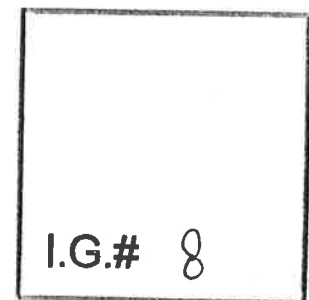
**Attachments:**

Rural Economic Development Program Resolution.pdf

Attached, please find a letter from the W. James Hutton, Chief Administrative Officer, wherein the Council of the Corporation of the County of Renfrew approved a resolution requesting the Government of Ontario to reconsider the suspension and the integration of the Rural Economic Development (RED) Program into the Jobs and Prosperity Fund.

With kind regards,

Evelyn VanStarkenburg  
Administrative Assistant  
Development & Property  
(t) 613-735-3204



Chief Administrative  
Officer/Clerk



RA9 INTERNATIONAL DRIVE  
PEMBROKE, ON, CANADA  
K8A 6W5  
613-735-7288  
FAX: 613-735-2081  
www.countyofrenfrew.on.ca

July 19, 2016

Premier Kathleen Wynne  
Legislative Building  
Queen's Park  
Toronto ON M7A 1A1

**Re: Rural Economic Development Program (RED) – Suspension**

Dear Premier Wynne:

At a session of the Council of the Corporation of the County of Renfrew on June 29, 2016 the following resolution was passed,

**"Resolution No. DP-CC-16-06-43**

WHEREAS in the 2016 Ontario Budget, the Government of Ontario has suspended current intake of applications to the Rural Economic Development Program and has indicated that it plans to integrate the program into the Jobs and Prosperity Fund;

AND WHEREAS the Jobs and Prosperity Fund is narrowly focused and is restricted to private sector organizations and industry partners, which prevents access to funding for rural municipalities and others who formerly benefitted from the Rural Economic Development Program;

AND WHEREAS the emphasis on large projects that meet either of minimum \$5 million or \$10 million in eligible project costs thresholds, will significantly restrict benefits from this fund;

AND WHEREAS in contrast, the Rural Economic Development Program supported a number of capacity building projects including but not limited to "Business Retention and Expansion" and "Downtown Revitalization" projects and Economic Development Strategic Planning projects for small rural municipalities who were looking to improve their local economy;

AND WHEREAS the Jobs and Prosperity Fund is not specifically designated for rural areas, that funds from this program will likely favour more urban areas of the Province;

NOW THEREFORE BE IT RESOLVED THAT the Council of the County of Renfrew is requesting the Government of Ontario to reconsider the suspension and the integration of the Rural Economic Development Program into the Jobs and Prosperity Fund with the view to ensuring that the Rural Economic Development Program stays as an integral funding program of the Province that will support capacity building and foster economic growth in rural municipalities in Ontario;



---

AND BE IT FURTHER RESOLVED THAT a copy of this resolution be circulated to the Premier of Ontario, the Minister of Agriculture, Food and Rural Affairs, MPP John Yakabuski, Renfrew-Nipissing-Pembroke, Ontario East Economic Development Commission, Eastern Ontario Wardens' Caucus, Association of Municipalities of Ontario and all municipal and regional councils in Ontario."

Your favourable response to this matter is greatly appreciated.

Respectfully submitted,



W. James Hutton  
Chief Administrative Officer/Clerk  
jhutton@countyofrenfrew.on.ca

- c. MPP John Yakabuski, Renfrew-Nipissing-Pembroke  
Honourable Jeff Leal, Minister of Agriculture, Food and Rural Affairs  
Ontario East Economic Development Commission  
Eastern Ontario Wardens' Caucus  
Association of Municipalities of Ontario  
All Municipal and Regional Councils of Ontario



## REPORT FIN-2016-019

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TO: Mayor and Members of Council

FROM: Michelle Cassar, Taxation and Office Administrator

MEETING DATE: August 10, 2016

SUBJECT: 2016 Final Tax Levy and Rates  
File No. F02 TAX

---

### RECOMMENDATIONS

That Report FIN-2016-019 regarding the amendment of the 2016 Final Tax Levy and Rates be received; and

That Council pass a By-law to amend Schedule 5 of By-law 31/16 in accordance with Report FIN-2016-019.

### DISCUSSION

#### Purpose

To request Council to amend Schedule 5 – Cambridge Fire Special Area Rate - 2016 Final Tax Levy By-law 31/16. In reviewing the tax rates to issue the 2016 Final bills it was determined that an amendment needs to be made to the special area rate for Cambridge Fire.

#### Background

The tax rates set out in Schedule 5 of By-law 31/16 - Special Area Rate –Cambridge Fire did not have the correct 2016 assessment.

### FINANCIAL IMPLICATIONS

The amended tax rate indicated in Schedule A to Report FIN-2016-019 for the Special Area rates will generate the same levy:

Cambridge Fire	\$119,164
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## **APPLICABLE LEGISLATION AND REQUIREMENTS**

Section 290 of the Municipal Act, 2001, as amended

## **ATTACHMENTS**

Schedule A: 2016 Cambridge Fire Special Area Tax Rates

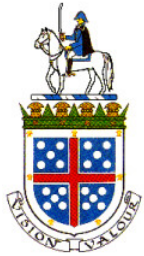
## SCHEDULE 5

Net Levy	\$119,164
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## CAMBRIDGE FIRE

(COLUMN 1)	(COLUMN 2)	(COLUMN 3)	(COLUMN 4)	(COLUMN 5)	(COLUMN 6)	(COLUMN 7)	(COLUMN 8)
Description	Returned Assessment for 2015 <i>2012-Current Value Based Assessment</i>	Transition Ratio <i>Published Transition Ratios by Class (excludes railways and hydro rights-of-ways)</i>	Tax Reductions <i>(Section 368.1 of the Municipal Act or as prescribed or set by by- law)</i>	Weighted Ratio  <i>(col.3 X's (1 - col. 4))</i>	Weighted Assessment  <i>(col. 2 X's col. 5)</i>	Tax Rate  <i>Residential and farm tax rate (calculated below) X's Col. 5</i>	Proof of Tax  <i>(col. 2 X's col. 7)</i>
res/farm (RT)	200,248,835	1.000000	0.00%	1.000000	200,248,835	0.00058414	\$116,973
multi-res (MT)		1.868000	0.00%	1.868000	0	0.00109117	\$0
farmlands (FT)	4,901,000	0.250000	0.00%	0.250000	1,225,250	0.00014604	\$716
commercial (CT)	1,314,595	1.479000	0.00%	1.479000	1,944,286	0.00086394	\$1,136
industrial (IT)		2.400000	0.00%	2.400000	0	0.00140194	\$0
large industrial (LT)		2.400000	0.00%	2.400000	0	0.00140194	\$0
pipeline (PT)		2.240000	0.00%	2.240000	0	0.00130847	\$0
shopping centre (ST)		1.479000	0.00%	1.479000	0	0.00086394	\$0
managed forests (TT)	2,320,900	0.250000	0.00%	0.250000	580,225	0.00014604	\$339
res/farm farmland class I (R1)		1.000000	25.00%	0.750000	0	0.00043811	\$0
residential taxable shared (RH)		1.000000	0.00%	1.000000	0	0.00058414	\$0
commercial excess/vacant unit (CU)		1.479000	30.00%	1.035300	0	0.00060476	\$0
commercial vacant land (CX)		1.479000	30.00%	1.035300	0	0.00060476	\$0
commercial farmland class I (C1)		1.000000	25.00%	0.750000	0	0.00043811	\$0
commercial taxable shared (CH)		1.479000	0.00%	1.479000	0	0.00086394	\$0
commercial vacant land taxable shared (CJ)		1.479000	30.00%	1.035300	0	0.00060476	\$0
parking lot (GT)		1.479000	0.00%	1.479000	0	0.00086394	\$0
industrial-hydro (IH)		2.400000	0.00%	2.400000	0	0.00140194	\$0
industrial excess land shared (IJ)		2.400000	35.00%	1.560000	0	0.00091126	\$0
industrial excess/vacant unit (IU)		2.400000	35.00%	1.560000	0	0.00091126	\$0
large ind excess land (LU)		2.400000	35.00%	1.560000	0	0.00091126	\$0
industrial vacant land (IX)		2.400000	35.00%	1.560000	0	0.00091126	\$0
industrial farmland class I (II)		1.000000	25.00%	0.750000	0	0.00043811	\$0
industrial farmland class II (I4)		2.400000	0.00%	2.400000	0	0.00140194	\$0
shopping centre excess land (SU)		1.479000	30.00%	1.035300	0	0.00060476	\$0
new construction industrial (JT)		2.400000	0.00%	2.400000	0	0.00140194	\$0
new construction ind vacant land (JU)		2.400000	35.00%	1.560000	0	0.00091126	\$0
new construction large industrial (KT)		2.400000	0.00%	2.400000	0	0.00140194	\$0
new constr large ind vacant land (KU)		2.400000	35.00%	1.560000	0	0.00091126	\$0
new construction commercial (XT)		1.479000	0.00%	1.479000	0	0.00086394	\$0
new constr comm vacant land (XU)		1.479000	30.00%	1.035300	0	0.00060476	\$0
new construction office bldg (YT)		1.479000	0.00%	1.479000	0	0.00086394	\$0
new constr office vacant land (YU)		1.479000	30.00%	1.035300	0	0.00060476	\$0
new constr shopping centre (ZT)		1.479000	0.00%	1.479000	0	0.00086394	\$0
new constr shop ctr vacant land (ZU)		1.479000	30.00%	1.035300	0	0.00060476	\$0
<b>Total Returned Assess.</b>	<b>208,785,330</b>				<b>203,998,596</b>		<b>119,164</b>

Levy Requirements						
Net Levy	119,164					
<i>(col. 6 Total)</i>						
TOTAL MUNICIPAL	<u>119,164</u>	divided by	203,998,596	equals	Res/FarmTax Rate	0.00058414



## COUNTY OF WELLINGTON

PLANNING AND DEVELOPMENT DEPARTMENT  
GARY A. COUSINS, M.C.I.P., DIRECTOR  
TEL: (519) 837-2600  
FAX: (519) 823-1694  
1-800-663-0750

ADMINISTRATION CENTRE  
74 WOOLWICH STREET  
GUELPH, ONTARIO  
N1H 3T9

August 3, 2016

Karen Landry, CAO/Clerk  
Township of Puslinch  
7404 Wellington Road 34  
Guelph, Ontario  
N1H 6H9

Dear Ms. Landry:

Re: Zoning By-law Amendment – Application D14/HAY  
7128 Smith Road, Part of Lots 24 & 25, Concession 3  
To permit a landscaping/property maintenance use

As requested, we have prepared an amending by-law for the above-referenced application for Council's consideration. A copy of the by-law is attached and our recommendation on this matter is provided at the end of this report.

### PURPOSE OF REZONING REQUEST

As noted in our previous planning report on this application, the purpose of this zoning by-law amendment is to allow for the establishment of a landscaping and property maintenance operation with outdoor storage.

The proposed landscaping and property maintenance business is to include: an administration office and repair/storage use within the existing building; outdoor storage of landscape products and equipment; a potential salt storage structure; and staff/visitor vehicle parking areas. The subject land contains an existing building (shop) of approximately 485 metres square (5,220 sq ft). The applicant intends to expand the structure to bring the total size of the main building to approximately 720m<sup>2</sup> (7,750 sq. ft.). On-site operations and activities would not be limited to the summer (warmer) months of the year: winter property maintenance is also part of the proponent's business. A photo of the existing building and a concept plan of the proposed use are provided below.



View from Wellington Road 34



**Proposed Development Concept**

The existing access to Concession 7 will remain and function as the driveway for this use: there will be no vehicle access to Wellington Road 34. The site is serviced by private well and septic (separate from the existing dwelling on the related lands). New landscaping and fencing, and other design elements, are to be installed to the satisfaction of the Township. If the land is rezoned, it would be subject to Site Plan Control in order to address the proper and orderly development of the subject property.

There is no intent to have retail sales from the subject property and the amending by-law will contain this restriction.

### **PUBLIC AND AGENCY INPUT**

The Statutory Public Meeting for this rezoning application was held at the Township Office on June 23, 2016. At the meeting, there were questions regarding: access, possible severance of the land, nature of the proposed business, storm water management, parking and outdoor lighting of the site. The proponent's planner responded to the questions and confirmed that site details would be addressed through zoning and the Township's Site Plan review process.

Our previous report to council provided an overview of the public agency comments and input from Township staff and peer review consultants. There were no concerns or objections to the proposed zone change request. Comments from peer review and agencies included technical requirements that will need to be addressed through the Site Plan process and include: grading, storm water management, off-street parking, driveway access, need for buffering/fencing and landscaping, on-site lighting, etc.).



## **PLANNING REVIEW**

This rezoning application is to permit the establishment of a small-scale service commercial use. The business will be mainly conducted off-site (as a summer/winter property maintenance provider). But there will be times during the day when on-site activities will be evident (i.e. early morning and later in the day when work crews arrive/depart).

The subject property is situated at the intersection of a major road which provides direct vehicle access. There are existing active land uses in the immediate area (truck traffic and related aggregate businesses of Capital Paving and CBM Aggregates to the south and east). The proposed use will not generate traffic that will impact the existing road system. MTO and County Engineering had no concerns regarding the proposed use (other than to indicate that direct access to WR 34 would not be permitted).

There are no natural areas or environmental constraints on the subject property. There are a few nearby residential uses and therefore adequate screening/buffering should be provided to mitigate noise and unsightly areas (open storage) from these properties. In support of their rezoning application, the proponent submitted a planning report prepared by Stovel and Associates. The report provides an opinion regarding conformity with the applicable County policies for the Secondary Agricultural designation and concludes that given the separation of land uses and proposed vegetated buffer and screening for areas of the property, it is not anticipated that the proposed use will generate negative impacts associated with site services, noise, traffic, or outdoor storage.

In our view, the extent of the proposed uses should be regulated by the amending by-law (in terms of building size and scale of the operation) and to ensure that the use remains relatively small-scale in keeping with intent of the Official Plan policies. Further, buffering and screening provisions should be specifically required through the amending by-law and implemented pursuant to Site Plan Control.

## **PROPOSED AMENDING BY-LAW**

According to Schedule 'A' of Zoning By-law 19/85, the subject property is zoned Agricultural (A). As requested, this application proposes to change the zoning to the specialized Agricultural Zone. The proposed amending by-law is provided with this report. A site specific Agricultural Zone (A-65) is proposed – which is the approach used for other similar contractors/service trades in the rural area of the Township. The land uses for the subject land are restricted to a landscaping and property maintenance business and ancillary uses including 'outdoor storage' (limited in area and must be screened from roads and adjacent properties). The size of the main building is capped at 720 m<sup>2</sup> and retail sales is not permitted.

## **PLANNING OPINION**

In our previous report, we provided a review of the applicable Provincial and County planning policies. County Official Plan policies allow for the establishment of small-scale service commercial uses within Secondary Agricultural areas subject to adequate site services, land use compatibility, that the location serves the area market, and the proposed use does not hinder agriculture or aggregate operations.

There were no objections from Township staff and the peer review consultants, review agencies, or the public. Further, technical and site design concerns raised during the review process can be addressed through the site specific zoning provisions, Site Plan Control, and implemented through an associated development agreement.

In our opinion, the proposed land use is appropriately located, conforms to applicable planning policies, supports a local business, and represents good planning.

**RECOMMENDATION**

Based on the above, this office supports the zone change and recommends approval of the amending by-law.

Respectfully submitted,  
County of Wellington Planning and Development Department

A handwritten signature in black ink, appearing to read 'A. Salis', with a long horizontal line extending to the right.

Aldo L. Salis, M.Sc., MCIP, RPP  
Manager of Development Planning

Attach. – Amending By-law

**Ministry of  
Municipal Affairs**

Office of the Minister

777 Bay Street, 17<sup>th</sup> Floor  
Toronto ON M5G 2E5  
Tel.: 416 585-7000  
Fax: 416 585-6470

**Ministère des  
Affaires municipales**

Bureau du ministre

777, rue Bay, 17<sup>e</sup> étage  
Toronto ON M5G 2E5  
Tél. : 416 585-7000  
Télec. : 416 585-6470



**JUL 21 2016**

16-70151

Mayor Dennis Lever  
and Members of Township Council  
Township of Puslinch  
7404 Wellington Road 34  
Guelph ON N1H 6H9

Dear Mayor Lever and Members of Council:

Please accept my sincere condolences on the recent passing of Councillor Wayne Stokely.

I was deeply saddened to learn of his passing. I would like to express my sympathy to all of you, as members of the Township of Puslinch Council, and to municipal staff members with whom he worked.

I know that Wayne Stokely served the citizens of the Township of Puslinch with dedication and commitment throughout his time as a municipal leader.

On behalf of the Ministry of Municipal Affairs, please accept our deepest sympathy to you all.

Sincerely,

A handwritten signature in black ink, appearing to read "Bill Mauro".

Bill Mauro  
Minister

THE CORPORATION OF THE TOWNSHIP OF PUSLINCH

BY-LAW NUMBER XXX/16

A By-law to amend By-law Number 19/85, as amended,  
Being the Zoning By-law of the Township of Puslinch  
Tsounis Capital Investments  
Part of Lot 16, Registered Plan 119  
40 Brock Road

**WHEREAS**, the Council of the Corporation of the Township of Puslinch deem it appropriate and in the public interest to amend By-Law Number 19/85, pursuant to Section 34 of the Planning Act, R.S.O. 1990 as amended;

**NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE TOWNSHIP OF PUSLINCH ENACTS AS FOLLOWS:**

- 1. That Schedule 'A' of Zoning By-law 19/85 is hereby amended by rezoning Part of Lot 16, Registered Plan 119 (Village of Aberfoyle), from Hamlet Residential (HR) Zone to the **HAMLET COMMERCIAL SITE-SPECIFIC (C1-7) ZONE**, as shown on Schedule "A" of this By-law.
- 2. That subsection 11(4) SPECIAL PROVISIONS is amended by adding the following new exception:

"(g) **C1-7 (Aberfoyle Spa)**  
**Part Lot 16, Registered Plan 119**

Notwithstanding the uses permitted under Section 11(2) and any provisions of this By-law to the contrary, for the land zoned **C-7** on Schedule 'A' hereto, the following special provisions shall apply:

(i) **Uses Permitted Restricted To**  
A personal service shop, limited to a spa, including accessory retail sales.

For purposes of this section a spa is an establishment providing services such as waxing, manicuring, facial treatment and massage, but does not include an adult entertainment establishment.

(ii) **Zone Requirements**  
The applicable zone provisions of this By-law shall apply to the subject land together with the following special provisions:

- |     |                                       |                    |
|-----|---------------------------------------|--------------------|
| (a) | LOT AREA (MINIMUM)                    | 890 m <sup>2</sup> |
| (b) | PARKING SPACES (MINIMUM)              | 4                  |
| (c) | BARRIER FREE PARKING SPACES (MINIMUM) | 1                  |

(d) ADJACENT TO A RESIDENTIAL ZONE

No requirement for a privacy fence or a planting area of 1.5 metres wide adjacent to 42 Brock Road South (along the east property line)

(e) The detached garage existing at the date of passing of this by-law shall be permitted in its current location

All other applicable regulations of the Zoning By-law shall be maintained.

3. This By-law shall become effective from the date of passage by Council and come into force in accordance with the requirements of the Planning Act, R.S.O. 1990, as amended.

**READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 10th DAY OF August 2016**

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Dennis Lever, Mayor

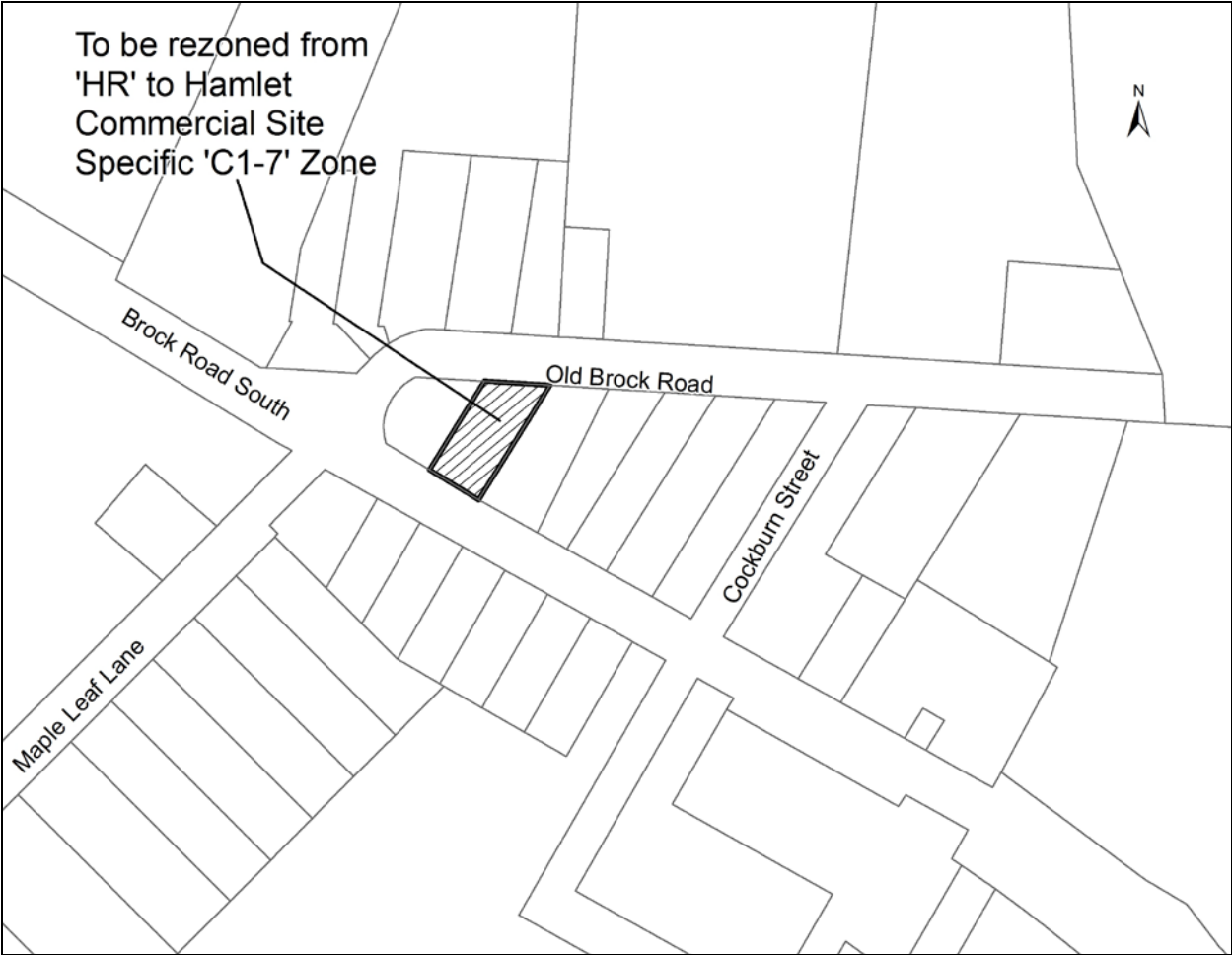
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Karen Landry, CAO/Clerk

THE CORPORATION OF THE TOWNSHIP OF PUSLINCH

BY-LAW NO. \_\_\_\_\_

SCHEDULE "A"



This is Schedule "A" to By-law No. \_\_\_\_\_

Passed this 10<sup>th</sup> day of August, 2016.

\_\_\_\_\_  
Dennis Lever, Mayor

\_\_\_\_\_  
Karen Landry, CAO/Clerk



**THE CORPORATION OF THE TOWNSHIP OF PUSLINCH**

**BY-LAW NUMBER XXX/16**

A By-law to amend By-law Number 19/85, as amended,  
Being the Zoning By-law of the Township of Puslinch  
J2K Capital Inc. (Dave Jassal)  
Part of Lot 26, Concession 7  
227 Brock Road Road

**WHEREAS**, the Council of the Corporation of the Township of Puslinch deem it appropriate and in the public interest to amend By-Law Number 19/85, pursuant to Section 34 of the Planning Act, R.S.O. 1990 as amended;

**NOW THEREFORE** the Council of the Corporation of the Township of Puslinch enacts as follows:

1. That Schedule 'A' of Zoning By-law 19/85 is hereby amended by rezoning Part of Lot 26, Concession 7, from Agricultural (A) Zone to the **HIGHWAY COMMERCIAL (C2) ZONE**, as shown on Schedule "A" of this By-law.
2. This By-law shall become effective from the date of passage by Council and come into force in accordance with the requirements of the Planning Act, R.S.O. 1990, as amended.

**READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 10th DAY OF August 2016**

---

Dennis Lever, Mayor

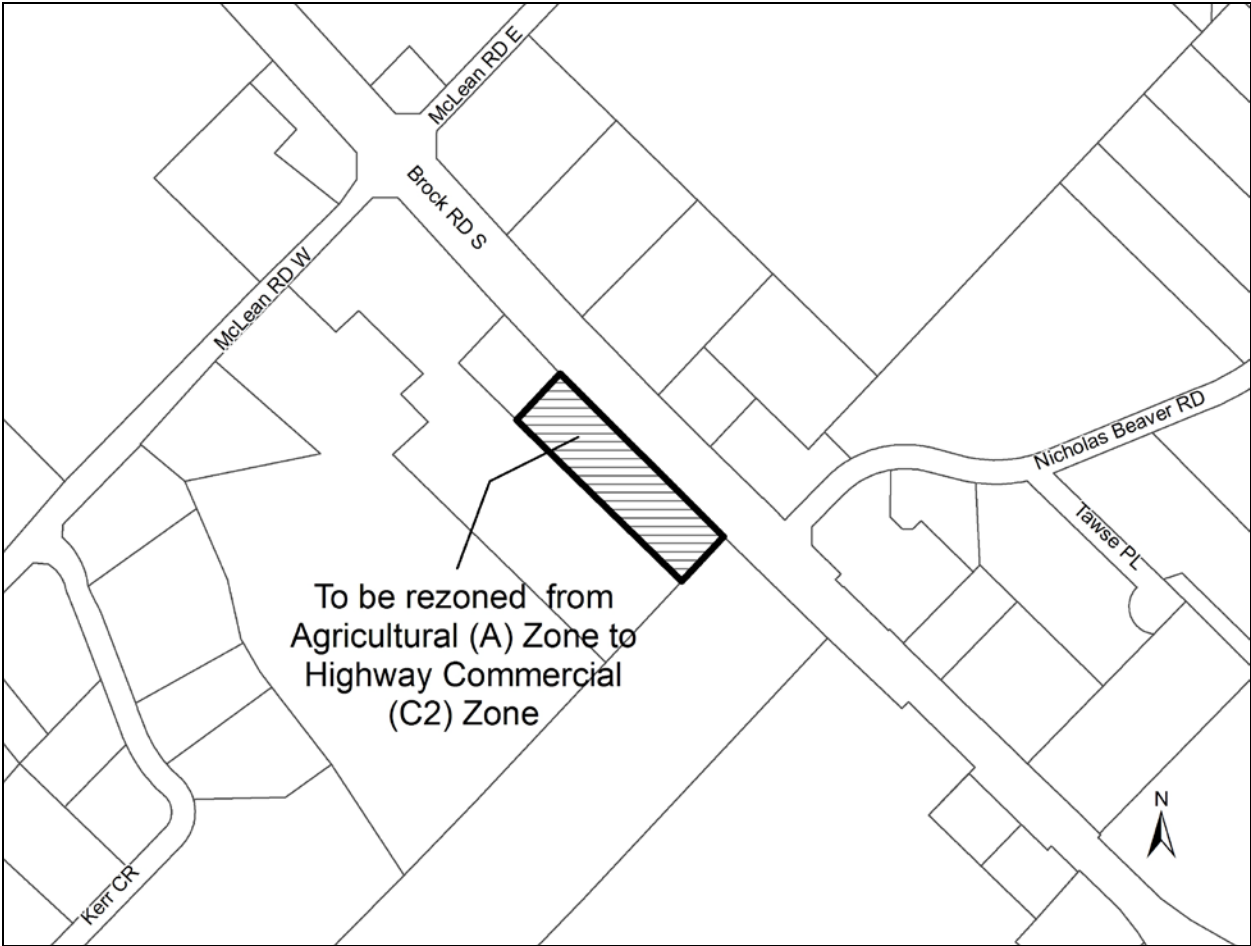
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Karen Landry, CAO/Clerk

THE CORPORATION OF THE TOWNSHIP OF PUSLINCH

BY-LAW NO. \_\_\_\_\_

SCHEDULE "A"



This is Schedule "A" to By-law No. \_\_\_\_\_

Passed this 10<sup>th</sup> day of August, 2016.

\_\_\_\_\_  
Dennis Lever, Mayor

\_\_\_\_\_  
Karen Landry, CAO/Clerk

**THE CORPORATION OF THE TOWNSHIP OF PUSLINCH**

**BY-LAW NUMBER XXX/16**

A By-law to amend By-law Number 19/85, as amended,  
Being the Zoning By-law of the Township of Puslinch  
Ned & Lily Krayishnik and D. Tschanz - Concession Road 2  
Part of Lot 7, Concession 1

**WHEREAS**, the Council of the Corporation of the Township of Puslinch deem it appropriate and in the public interest to amend By-Law Number 19/85 pursuant to Section 34 of the Planning Act, R.S.O. 1990 as amended;

**NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE TOWNSHIP OF PUSLINCH ENACTS AS FOLLOWS:**

1. That Schedule 'A' of By-law 19/85 is hereby amended by rezoning Part of Lot 7, Concession 1, from AGRICULTURAL (A) ZONE to a site specific **AGRICULTURAL (A-64) ZONE**, as shown on Schedule "A" of this By-law
2. That subsection 5(4) SPECIAL PROVISIONS of the Agricultural Zone is amended by the addition of the following new exception:

**"(III) A-64 (Accessory Dwelling Unit for Farm Help) – Tschanz**

Notwithstanding subsection 5(3)(b) or any other regulations of this By-law to the contrary, the land zoned **A-64** on Schedule 'A' may contain an accessory dwelling unit for farm help. This site specific zoning provides for the conversion of an existing residential building at 6643 Concession Road 2 to one accessory dwelling unit for farm help. The accessory dwelling unit is for the purposes of the agricultural operation and forms part of the farm building cluster at 6637 Concession Road 2.

The **A-64** Zone is subject to the following provisions:

- (i) Lot Area (Minimum) - 20 hectares (50 acres)
  - (ii) Driveway Entrance -The accessory dwelling unit for farm help shall share the existing driveway entrance and lane with the single detached dwelling at 6637 Concession Road 2.
  - (iii) All other applicable regulations of By-law 19/85 shall apply."
3. This By-law shall become effective from the date of passage by Council and come into force in accordance with the requirements of the Planning Act, R.S.O. 1990, as amended.

**READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 10th DAY OF August 2016**

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Dennis Lever, Mayor

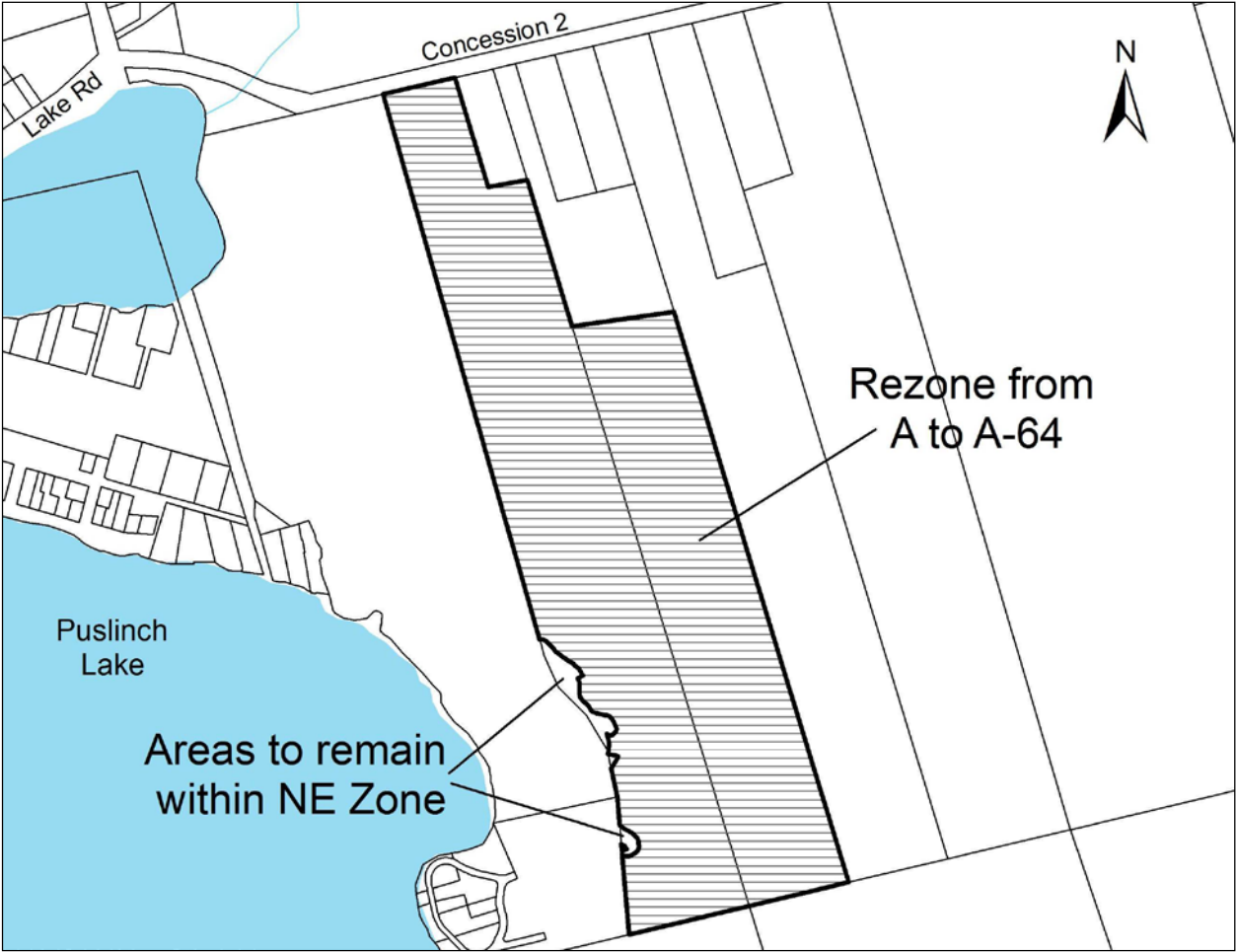
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Karen Landry, CAO/Clerk

THE CORPORATION OF THE TOWNSHIP OF PUSLINCH

BY-LAW NO. \_\_\_\_\_

SCHEDULE "A"



This is Schedule "A" to By-law No. \_\_\_\_\_

Passed this 10th day of August, 2016.

\_\_\_\_\_  
Dennis Lever, Mayor

\_\_\_\_\_  
Karen Landry, CAO/Clerk

**THE CORPORATION OF THE TOWNSHIP OF PUSLINCH**

**BY-LAW NUMBER XXX/16**

A By-law to amend By-law Number 19/85, as amended,  
Being the Zoning By-law of the Township of Puslinch  
2435953 Ontario Inc. (Noor Associates Ltd.)  
Part of Lot 25, Concession 7  
7456 McLean Road West

**WHEREAS**, the Council of the Corporation of the Township of Puslinch deem it appropriate and in the public interest to amend By-Law Number 19/85, pursuant to Section 34 of the Planning Act, R.S.O. 1990 as amended;

**NOW THEREFORE** the Council of the Corporation of the Township of Puslinch enacts as follows:

1. That Schedule 'A' of Zoning By-law 19/85 is hereby amended by rezoning Part of Lot 25, Concession 7, from Industrial (IND) and Agricultural (A) Zone to **INDUSTRIAL SITE-SPECIFIC (IND-9)**, as shown on Schedule "A" of this By-law.
2. That subsection 15(4) SPECIAL PROVISIONS is amended by adding the following new exception:

"(i) **IND-9 (7456 McLean Road West)**  
**Part Lot 25, Concession 7**

Notwithstanding Sections 15(2), 15(3) and 3(16) or any provisions of this By-law to the contrary and in addition to the uses permitted under Section 15(2), for the land zoned IND-9 on Schedule 'A' hereto, the following special provisions shall apply:

(i) **Additional Use Permitted**

A truck repair shop, with an added definition as below

**"TRUCK REPAIR SHOP"** means an establishment which contains facilities for the parking, repair and maintenance of trucks on the premises with or without an accessory office use, and in which maintenance and repair operations, including the repairing or painting of truck bodies are performed in return for remuneration.

(ii) **Zone Requirements**

The parking regulations of Section 3(16) shall apply to the land zoned IND-9, with the exception of multi-tenanted buildings to which the following special provision shall apply:

- |   |   |
|---|---|
| (a) <b>PARKING REQUIREMENTS (MINIMUM)</b> | 1 space per 50 m <sup>2</sup> of net floor area |
| for uses within a multi-tenanted building |   |

- (iii) All other applicable regulations of the zoning by-law shall be maintained."

3. This By-law shall become effective from the date of passage by Council and come into force in accordance with the requirements of the Planning Act, R.S.O. 1990, as amended.

**READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 10th DAY OF August 2016**

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Dennis Lever, Mayor

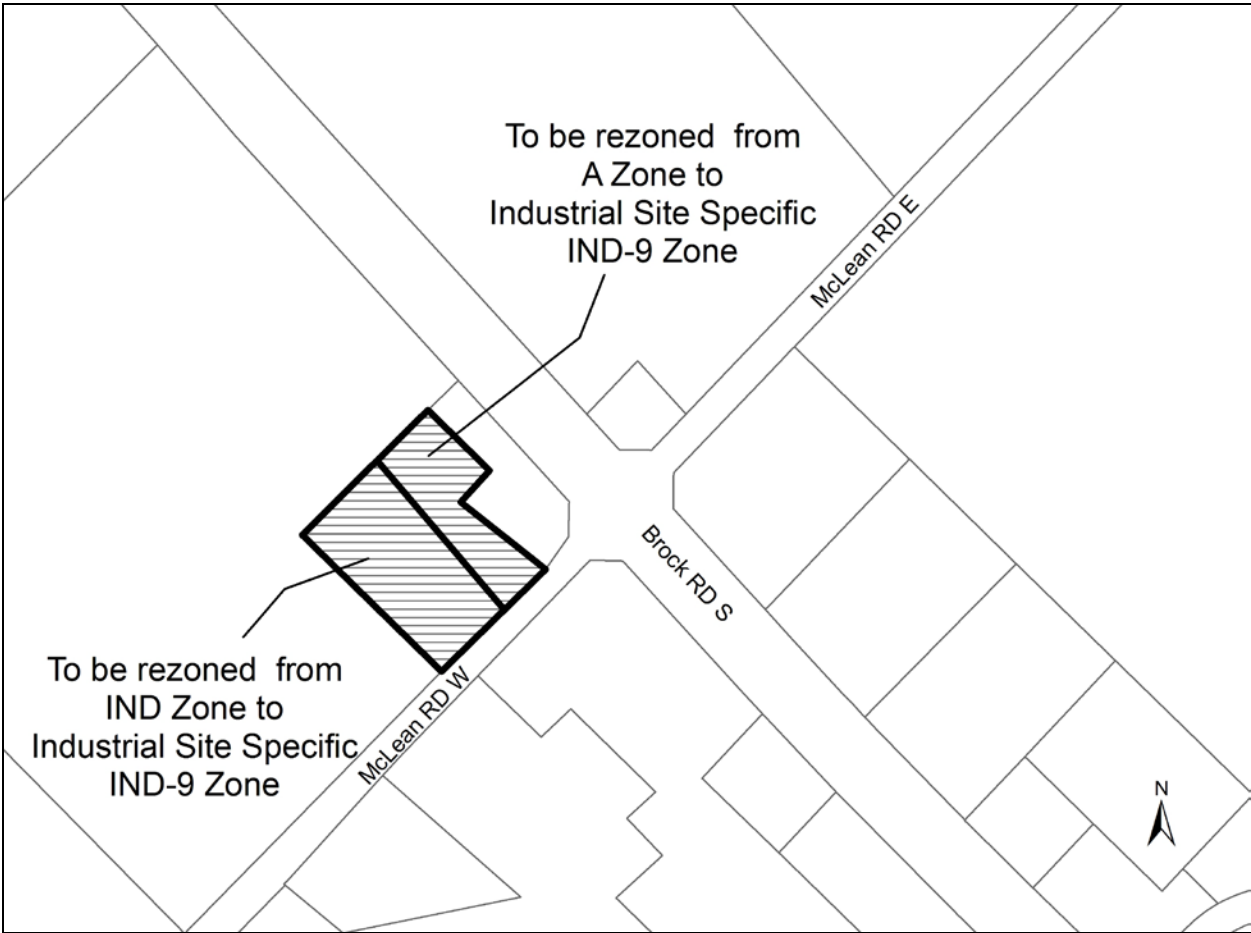
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Karen Landry, CAO/Clerk

THE CORPORATION OF THE TOWNSHIP OF PUSLINCH

BY-LAW NO. \_\_\_\_\_

SCHEDULE "A"



This is Schedule "A" to By-law No. \_\_\_\_\_

Passed this 10th day of August, 2016.

\_\_\_\_\_  
Dennis Lever, Mayor

\_\_\_\_\_  
Karen Landry, CAO/Clerk



**THE CORPORATION OF THE TOWNSHIP OF PUSLINCH**

**BY-LAW NUMBER XXX/16**

Being a By-Law to repeal By-law 037/16  
being a By-law to authorize the  
entering into a Licence Agreement  
with John Hamilton for temporary use  
of Storm Water Management Lands –  
Block 6, Plan 847

**WHEREAS** the *Municipal Act, S.O. 2001, c. 25*, authorizes a municipality to enter into Agreements;

**AND WHEREAS** Council passed By-law 037/16 to authorize the entering into of a Licence Agreement with John Hamilton for temporary use of Storm Water Management Lands – Block 6, Plan 847;

**AND WHEREAS** John Hamilton has advised that he no longer wishes to pursue the use of the said lands;

**NOW THEREFORE** the Council of the Corporation of the Township of Puslinch enacts as follows:

1. That By-law 037/16 is hereby repealed.

**READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 10th DAY OF August 2016.**

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Dennis Lever, Mayor

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Karen Landry, CAO/Clerk

**THE CORPORATION OF THE TOWNSHIP OF PUSLINCH**

**BY-LAW NUMBER XXX/16**

Being a By-Law to appoint a Deputy Clerk

**WHEREAS** the *Municipal Act, S.O. 2001, c. 25*, as amended provides that Council of a municipality may appoint a Deputy Clerk who has all the powers and duties of the Clerk under the *Municipal Act* and any other Act;

**AND WHEREAS** it is deemed expedient to appoint a Deputy Clerk;

**NOW THEREFORE** the Council of the Corporation of the Township of Puslinch enacts as follows:

1. That Nina Lecic be and is hereby appointed Deputy Clerk for the Township of Puslinch.
2. That this By-law shall come into effect on August 22, 2016.

**READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 10th DAY OF August 2016.**

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Dennis Lever, Mayor

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Karen Landry, CAO/Clerk

**THE CORPORATION OF THE TOWNSHIP OF PUSLINCH**

**BY-LAW NUMBER XXX/16**

A By-law to amend the 2016 Tax Levy By-law  
31/16

**WHEREAS** Council passed By-law 31/16 on the 18<sup>th</sup> day of May, 2016 to provide for the levy and collection of property taxes for the 2016;

**AND WHEREAS** it is deemed expedient to amend By-law 31/16;

**NOW THEREFORE** the Council of the Corporation of the Township of Puslinch enacts as follows:

1. That By-law 31/16 is hereby amended by deleting Schedule 5 and replacing it with Schedule A attached to this By-law.

**READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 10th DAY OF August 2016.**

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Dennis Lever, Mayor

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Karen Landry, CAO/Clerk

## SCHEDULE 5

Net Levy	\$119,164
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## CAMBRIDGE FIRE

(COLUMN 1)	(COLUMN 2)	(COLUMN 3)	(COLUMN 4)	(COLUMN 5)	(COLUMN 6)	(COLUMN 7)	(COLUMN 8)
Description	Returned Assessment for 2015	Transition Ratio	Tax Reductions	Weighted Ratio	Weighted Assessment	Tax Rate	Proof of Tax
	<i>2012-Current Value Based Assessment</i>	<i>Published Transition Ratios by Class (excludes railways and hydro rights-of-ways)</i>	<i>(section 368.1 of the Municipal Act or as prescribed or set by by-law)</i>			<i>Residential and farm tax rate (calculated below) X's Col. 5</i>	<i>(col. 2 X's col. 7)</i>
				<i>(col.3 X's (1 - col. 4))</i>	<i>(col. 2 X's col. 5)</i>		
res/farm (RT)	200,248,835	1,000000	0,00%	1,000000	200,248,835	0,00058414	\$116,973
multi-res (MT)		1,868000	0,00%	1,868000	0	0,00109117	\$0
farmlands (FT)	4,901,000	0,250000	0,00%	0,250000	1,225,250	0,00014604	\$716
commercial (CT)	1,314,595	1,479000	0,00%	1,479000	1,944,286	0,00086394	\$1,136
industrial (IT)		2,400000	0,00%	2,400000	0	0,00140194	\$0
large industrial (LT)		2,400000	0,00%	2,400000	0	0,00140194	\$0
pipeline (PT)		2,240000	0,00%	2,240000	0	0,00130847	\$0
shopping centre (ST)		1,479000	0,00%	1,479000	0	0,00086394	\$0
managed forests (TT)	2,320,900	0,250000	0,00%	0,250000	580,225	0,00014604	\$339
res/farm farmland class I (R1)		1,000000	25,00%	0,750000	0	0,00043811	\$0
residential taxable shared (RH)		1,000000	0,00%	1,000000	0	0,00058414	\$0
commercial excess/vacant unit (CU)		1,479000	30,00%	1,035300	0	0,00060476	\$0
commercial vacant land (CX)		1,479000	30,00%	1,035300	0	0,00060476	\$0
commercial farmland class I (C1)		1,000000	25,00%	0,750000	0	0,00043811	\$0
commercial taxable shared (CH)		1,479000	0,00%	1,479000	0	0,00086394	\$0
commercial vacant land taxable shared (CJ)		1,479000	30,00%	1,035300	0	0,00060476	\$0
parking lot (GT)		1,479000	0,00%	1,479000	0	0,00086394	\$0
industrial-hydro (IH)		2,400000	0,00%	2,400000	0	0,00140194	\$0
industrial excess land shared (IU)		2,400000	35,00%	1,560000	0	0,00091126	\$0
industrial excess/vacant unit (IU)		2,400000	35,00%	1,560000	0	0,00091126	\$0
large ind excess land (LU)		2,400000	35,00%	1,560000	0	0,00091126	\$0
industrial vacant land (IX)		2,400000	35,00%	1,560000	0	0,00091126	\$0
industrial farmland class I (I1)		1,000000	25,00%	0,750000	0	0,00043811	\$0
industrial farmland class II (I4)		2,400000	0,00%	2,400000	0	0,00140194	\$0
shopping centre excess land (SU)		1,479000	30,00%	1,035300	0	0,00060476	\$0
new construction industrial (JT)		2,400000	0,00%	2,400000	0	0,00140194	\$0
new construction ind vacant land (JU)		2,400000	35,00%	1,560000	0	0,00091126	\$0
new construction large industrial (KT)		2,400000	0,00%	2,400000	0	0,00140194	\$0
new constr large ind vacant land (KU)		2,400000	35,00%	1,560000	0	0,00091126	\$0
new construction commercial (XT)		1,479000	0,00%	1,479000	0	0,00086394	\$0
new constr comm vacant land (XU)		1,479000	30,00%	1,035300	0	0,00060476	\$0
new construction office bldg (YT)		1,479000	0,00%	1,479000	0	0,00086394	\$0
new constr office vacant land (YU)		1,479000	30,00%	1,035300	0	0,00060476	\$0
new constr shopping centre (ZT)		1,479000	0,00%	1,479000	0	0,00086394	\$0
new constr shop ctr vacant land (ZU)		1,479000	30,00%	1,035300	0	0,00060476	\$0
<b>Total Returned Assess.</b>	<b>208,785,330</b>				<b>203,998,596</b>		<b>119,164</b>

Levy Requirements						
Net Levy	119,164					
			(col. 6 Total)			
<b>TOTAL MUNICIPAL</b>	<b>119,164</b>	divided by	203,998,596	equals	Res/Farm/Tax Rate	0.00058414

**THE CORPORATION OF THE TOWNSHIP OF PUSLINCH**

**BY-LAW NUMBER XXX/16**

Being a By-Law to appoint a Member of  
Council

**WHEREAS** the *Municipal Act, S.O. 2001, c. 25*, as amended provides that Council of a municipality may appoint a person to fill a vacancy on Council;

**AND WHEREAS** Council has completed its process to fill a vacancy on Council in accordance with its Council Vacancy Policy;

**NOW THEREFORE** the Council of the Corporation of the Township of Puslinch enacts as follows:

1. That XXXXX XXXXX be and is hereby appointed as a Councillor for the Township of Puslinch for the remainder of the 2014-2018 Council term.

**READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 10th DAY OF August 2016.**

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Dennis Lever, Mayor

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Karen Landry, CAO/Clerk