

## APPENDIX D1 - MAILING LISTS, NOTICES, and LETTERS

Ministry of the Environment					
Name	Role		Address		
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# Aboriginal Contacts

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Agencies and Utilities					
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Liam Marray		Credit Valley Conservation Authority	1255 Old Derry Road	Mississauga, ON	L5N 6R4
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<b>Halton Staff</b>	
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Caroline Hales	Project Manager, Design & Construction
Susan Liver	Project Manager, Design & Construction
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Wendy Derjugin	Supervisor, Acton and Gtown WWTP
Robert Walters	Current Planning
Dave Andrews	WW Services, Director
John Duong	WW Planning, Manager
Mickey Liu	WW Planning, Project Manager
Ann Bean	Finance (operating budget)
Glen Cowan and Jinsun Kim	Finance

**Town of Halton Hills**

	Name	Position		Address		
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**Councillors- Town of Halton Hills**

		First Name	Surname	E-Mail
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	Town	Jon	Hurst	

Added Per Request						
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William (Bill) Andrews	Hatch Mott MacDonald	Senior Project Manager, Associate				Bill.Andrews@hatchmott.com
	Cole Engineering					
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Residents within 500m

MAILING_AD	CITY_PROV_	POST_CODE
328 ORVILLE RD	ACTON ON	L7J 1R6
171 LONGFIELD RD	ACTON ON	L7J 2K7
175 LONGFIELD RD	ACTON ON	L7J 2K7
177 LONGFIELD RD	ACTON ON	L7J 2K7
179 LONGFIELD RD	ACTON ON	L7J 2K7
146 LONGFIELD RD	ACTON ON	L7J 2K4
181 LONGFIELD RD	ACTON ON	L7J 2K7
172 CHURCHILL RD S	ACTON ON	L7J 2J6
143 WYNFORD PL	ACTON ON	L7J 2L4
145 WYNFORD PL	ACTON ON	L7J 2L4
147 WYNFORD PL	ACTON ON	L7J 2L4
168 LONGFIELD RD	ACTON ON	L7J 2K4
170 LONGFIELD RD	ACTON ON	L7J 2K4
188 CHURCHILL RD S	ACTON ON	L7J 2J7
184 LONGFIELD RD	ACTON ON	L7J 2K4
180 LONGFIELD RD	ACTON ON	L7J 2K4
178 LONGFIELD RD	ACTON ON	L7J 2K4
176 LONGFIELD RD	ACTON ON	L7J 2K4
174 LONGFIELD RD	ACTON ON	L7J 2K4
154 LONGFIELD RD	ACTON ON	L7J 2K4
156 LONGFIELD RD	ACTON ON	L7J 2K4
172 LONGFIELD RD	ACTON ON	L7J 2K4
160 LONGFIELD RD	ACTON ON	L7J 2K4
164 LONGFIELD RD	ACTON ON	L7J 2K4
164 CHURCHILL RD S	ACTON ON	L7J 2J6
160 CHURCHILL RD S	ACTON ON	L7J 2J6
156 CHURCHILL RD S	ACTON ON	L7J 2J6
163 LONGFIELD RD	ACTON ON	L7J 2K7
169 LONGFIELD RD	ACTON ON	L7J 2K7
142 LONGFIELD RD	ACTON ON	L7J 2K4
138 LONGFIELD RD	ACTON ON	L7J 2K4
134 LONGFIELD RD	ACTON ON	L7J 2K4
130 LONGFIELD RD	ACTON ON	L7J 2K4
126 LONGFIELD RD	ACTON ON	L7J 2K4
122 LONGFIELD RD	ACTON ON	L7J 2K4
118 LONGFIELD RD	ACTON ON	L7J 2K4
114 LONGFIELD RD	ACTON ON	L7J 2K4
110 LONGFIELD RD	ACTON ON	L7J 2K4
106 LONGFIELD RD	ACTON ON	L7J 2K4
120 WYNFORD PL	ACTON ON	L7J 2L5
124 WYNFORD PL	ACTON ON	L7J 2L5
128 WYNFORD PL	ACTON ON	L7J 2L5
134 WYNFORD PL	ACTON ON	L7J 2L5
138 WYNFORD PL	ACTON ON	L7J 2L5
146 WYNFORD PL	ACTON ON	L7J 2L5
318 ORVILLE RD	ACTON ON	L7J 1R6
111 LONGFIELD RD	ACTON ON	L7J 2K6
115 LONGFIELD RD	ACTON ON	L7J 2K6
121 LONGFIELD RD	ACTON ON	L7J 2K6
125 LONGFIELD RD	ACTON ON	L7J 2K6
129 LONGFIELD RD	ACTON ON	L7J 2K6
135 LONGFIELD RD	ACTON ON	L7J 2K6
150 WYNFORD PL	ACTON ON	L7J 2L5
149 WYNFORD PL	ACTON ON	L7J 2L4
155 LONGFIELD RD	ACTON ON	L7J 2K7
152 CHURCHILL RD S	ACTON ON	L7J 2J6
148 CHURCHILL RD S	ACTON ON	L7J 2J6
98 CHURCH ST E	ACTON ON	L7J 1L1
138 CHURCHILL RD S	ACTON ON	L7J 2J6
132 CHURCHILL RD S	ACTON ON	L7J 2J6
128 CHURCHILL RD S	ACTON ON	L7J 2J6
124 CHURCHILL RD S	ACTON ON	L7J 2J6
118 CHURCHILL RD S	ACTON ON	L7J 2J6
350 ORVILLE RD	ACTON ON	L7J 1R8
340 ORVILLE RD	ACTON ON	L7J 1R8
113 WYNFORD PL	ACTON ON	L7J 2L4
119 WYNFORD PL	ACTON ON	L7J 2L4
123 WYNFORD PL	ACTON ON	L7J 2L4
127 WYNFORD PL	ACTON ON	L7J 2L4
133 WYNFORD PL	ACTON ON	L7J 2L4
137 WYNFORD PL	ACTON ON	L7J 2L4
139 WYNFORD PL	ACTON ON	L7J 2L4
141 WYNFORD PL	ACTON ON	L7J 2L4
114 WYNFORD PL	ACTON ON	L7J 2L5
185 TANNERS DR	ACTON ON	L7J 3A8
185 TANNERS DR	ACTON ON	L7J 3A8
177 CHURCHILL RD S	ACTON ON	L7J 2J5
28 RACHLIN DR	ACTON ON	L7J 3B2
26 RACHLIN DR	ACTON ON	L7J 3B2
24 RACHLIN DR	ACTON ON	L7J 3B2
23 SALMON WAY	ACTON ON	L7J 3B3
25 SALMON WAY	ACTON ON	L7J 3B3
61 RACHLIN DR	ACTON ON	L7J 3B3
63 RACHLIN DR	ACTON ON	L7J 3B3
1 RACHLIN DR	ACTON ON	L7J 3A9

3 RACHLIN DR	ACTON ON	L7J 3A9
17 KINGSLEY RD	ACTON ON	L7J 2Z5
15 KINGSLEY RD	ACTON ON	L7J 2Z5
11 KINGSLEY RD	ACTON ON	L7J 2Z5
9 KINGSLEY RD	ACTON ON	L7J 2Z5
7 KINGSLEY RD	ACTON ON	L7J 2Z5
5 KINGSLEY RD	ACTON ON	L7J 2Z5
18 SALMON WAY	ACTON ON	L7J 3B3
20 SALMON WAY	ACTON ON	L7J 3B3
57 RACHLIN DR	ACTON ON	L7J 3B3
55 RACHLIN DR	ACTON ON	L7J 3B3
53 RACHLIN DR	ACTON ON	L7J 3B3
51 RACHLIN DR	ACTON ON	L7J 3B2
49 RACHLIN DR	ACTON ON	L7J 3B2
47 RACHLIN DR	ACTON ON	L7J 3B2
54 RACHLIN DR	ACTON ON	L7J 3B2
26 KENNEY ST	ACTON ON	L7J 3B2
24 KENNEY ST	ACTON ON	L7J 3B2
22 KENNEY ST	ACTON ON	L7J 3B2
20 KENNEY ST	ACTON ON	L7J 3B2
36 DAWKINS CRES	ACTON ON	L7J 2Z4
38 DAWKINS CRES	ACTON ON	L7J 2Z5
21 RACHLIN DR	ACTON ON	L7J 3A9
23 RACHLIN DR	ACTON ON	L7J 3A9
25 RACHLIN DR	ACTON ON	L7J 3B2
60 RACHLIN DR	ACTON ON	L7J 3B2
4 KINGSLEY RD	ACTON ON	L7J 2Z5
6 KINGSLEY RD	ACTON ON	L7J 2Z5
66 RACHLIN DR	ACTON ON	L7J 3B3
64 RACHLIN DR	ACTON ON	L7J 3B3
62 RACHLIN DR	ACTON ON	L7J 3B2
58 RACHLIN DR	ACTON ON	L7J 3B2
56 RACHLIN DR	ACTON ON	L7J 3B2
3 KINGSLEY RD	ACTON ON	L7J 2Z5
27 RACHLIN DR	ACTON ON	L7J 3B2
29 RACHLIN DR	ACTON ON	L7J 3B2
31 RACHLIN DR	ACTON ON	L7J 3B2
33 RACHLIN DR	ACTON ON	L7J 3B2
35 RACHLIN DR	ACTON ON	L7J 3B2
37 RACHLIN DR	ACTON ON	L7J 3B2
28 KENNEY ST	ACTON ON	L7J 3B2
8 KINGSLEY RD	ACTON ON	L7J 2Z5
10 KINGSLEY RD	ACTON ON	L7J 2Z5
12 KINGSLEY RD	ACTON ON	L7J 2Z5
23 SPROWL ST	ACTON ON	L7J 3A9
25 SPROWL ST	ACTON ON	L7J 3A9
27 SPROWL ST	ACTON ON	L7J 3A9
28 SPROWL ST	ACTON ON	L7J 3A9
31 SPROWL ST	ACTON ON	L7J 3A9
18 KENNEY ST	ACTON ON	L7J 3B1
16 KENNEY ST	ACTON ON	L7J 3B1
14 KENNEY ST	ACTON ON	L7J 3B1
12 KENNEY ST	ACTON ON	L7J 3B1
10 KENNEY ST	ACTON ON	L7J 3B1
8 KENNEY ST	ACTON ON	L7J 3B1
33 SPROWL ST	ACTON ON	L7J 3A9
137 CHURCHILL RD S	ACTON ON	L7J 2J5
151 CHURCHILL RD S	ACTON ON	L7J 2J5
19 SALMON WAY	ACTON ON	L7J 3B1
21 SALMON WAY	ACTON ON	L7J 3B3
167 CHURCHILL RD S	ACTON ON	L7J 2J5
159 CHURCHILL RD S	ACTON ON	L7J 2J5
9 SALMON WAY	ACTON ON	L7J 3B1
11 SALMON WAY	ACTON ON	L7J 3B1
35 SPROWL ST	ACTON ON	L7J 3A9
37 SPROWL ST	ACTON ON	L7J 3A9
17 RACHLIN DR	ACTON ON	L7J 3A9
19 RACHLIN DR	ACTON ON	L7J 3A9
165 TANNERS DR	ACTON ON	L7J 2Z5
163 TANNERS DR	ACTON ON	L7J 2Z5
167 TANNERS DR	ACTON ON	L7J 2Z5
183 TANNERS DR	ACTON ON	L7J 3A8
169 TANNERS DR	ACTON ON	L7J 2Z5
171 TANNERS DR	ACTON ON	L7J 3A8
173 TANNERS DR	ACTON ON	L7J 3A8
175 TANNERS DR	ACTON ON	L7J 3A8
177 TANNERS DR	ACTON ON	L7J 3A8
2 SPROWL ST	ACTON ON	L7J 3A8
15 SALMON WAY	ACTON ON	L7J 3B1
17 SALMON WAY	ACTON ON	L7J 3B1
22 RACHLIN DR	ACTON ON	L7J 3A9
20 RACHLIN DR	ACTON ON	L7J 3A9
179 TANNERS DR	ACTON ON	L7J 3A8
181 TANNERS DR	ACTON ON	L7J 3A8
201 CHURCHILL RD S	ACTON ON	L7J 3B4
203 CHURCHILL RD S	ACTON ON	L7J 3B4
205 CHURCHILL RD S	ACTON ON	L7J 3B4

18 RACHLIN DR	ACTON ON	L7J 3A9
16 RACHLIN DR	ACTON ON	L7J 3A9
6 KENNEY ST	ACTON ON	L7J 3B1
4 KENNEY ST	ACTON ON	L7J 3B1
4 SALMON WAY	ACTON ON	L7J 3B1
6 SALMON WAY	ACTON ON	L7J 3B1
12 SALMON WAY	ACTON ON	L7J 3B1
30 SPROWL ST	ACTON ON	L7J 3A9
111 CHURCHILL RD S	ACTON ON	L7J 2J5
117 CHURCHILL RD S	ACTON ON	L7J 2J5
40 DAWKINS CRES	ACTON ON	L7J 2Z5
42 DAWKINS CRES	ACTON ON	L7J 2Z5
44 DAWKINS CRES	ACTON ON	L7J 2Z5
46 DAWKINS CRES	ACTON ON	L7J 2Z5
184 TANNERS DR	ACTON ON	L7J 3A8
182 TANNERS DR	ACTON ON	L7J 3A8
180 TANNERS DR	ACTON ON	L7J 3A8
178 TANNERS DR	ACTON ON	L7J 3A8
34 RACHLIN DR	ACTON ON	L7J 3B2
32 RACHLIN DR	ACTON ON	L7J 3B2
14 SPROWL ST	ACTON ON	L7J 3A8
12 SPROWL ST	ACTON ON	L7J 3A8
10 SPROWL ST	ACTON ON	L7J 3A8
8 SPROWL ST	ACTON ON	L7J 3A8
6 SPROWL ST	ACTON ON	L7J 3A8
4 SPROWL ST	ACTON ON	L7J 3A8
121 CHURCHILL RD S	ACTON ON	L7J 2J5
48 DAWKINS CRES	ACTON ON	L7J 2Z5
50 DAWKINS CRES	ACTON ON	L7J 2Z5
52 DAWKINS CRES	ACTON ON	L7J 2Z5
11 KENNEY ST	ACTON ON	L7J 3B2
9 KENNEY ST	ACTON ON	L7J 3B2
7 KENNEY ST	ACTON ON	L7J 3B1
5 KENNEY ST	ACTON ON	L7J 3B1
3 KENNEY ST	ACTON ON	L7J 3B1
73 RACHLIN DR	ACTON ON	L7J 3B3
75 RACHLIN DR	ACTON ON	L7J 3B3
131 CHURCHILL RD S	ACTON ON	L7J 2J5
155 CHURCHILL RD S	ACTON ON	L7J 2J5
14 RACHLIN DR	ACTON ON	L7J 3A9
12 RACHLIN DR	ACTON ON	L7J 3A9
10 RACHLIN DR	ACTON ON	L7J 3A9
8 RACHLIN DR	ACTON ON	L7J 3A9
6 RACHLIN DR	ACTON ON	L7J 3A9
207 CHURCHILL RD S	ACTON ON	L7J 3B4
209 CHURCHILL RD S	ACTON ON	L7J 3B4
211 CHURCHILL RD S	ACTON ON	L7J 3B4
215 CHURCHILL RD S	ACTON ON	L7J 3B4
15 SPROWL ST	ACTON ON	L7J 3A8
17 SPROWL ST	ACTON ON	L7J 3A8
19 SPROWL ST	ACTON ON	L7J 3A9
52 RACHLIN DR	ACTON ON	L7J 3B2
50 RACHLIN DR	ACTON ON	L7J 3B2
48 RACHLIN DR	ACTON ON	L7J 3B2
46 RACHLIN DR	ACTON ON	L7J 3B2
44 RACHLIN DR	ACTON ON	L7J 3B2
42 RACHLIN DR	ACTON ON	L7J 3B2
40 RACHLIN DR	ACTON ON	L7J 3B2
38 RACHLIN DR	ACTON ON	L7J 3B2
127 CHURCHILL RD S	ACTON ON	L7J 2J5
28 SPROWL ST	ACTON ON	L7J 3A9
26 SPROWL ST	ACTON ON	L7J 3A9
24 SPROWL ST	ACTON ON	L7J 3A9
22 SPROWL ST	ACTON ON	L7J 3A9
20 SPROWL ST	ACTON ON	L7J 3A8
18 SPROWL ST	ACTON ON	L7J 3A8
16 SPROWL ST	ACTON ON	L7J 3A8
161 TANNERS DR	ACTON ON	L7J 2Z5
170 TANNERS DR	ACTON ON	L7J 3A8
168 TANNERS DR	ACTON ON	L7J 2Z5
166 TANNERS DR	ACTON ON	L7J 2Z5
197 CHURCHILL RD S	ACTON ON	L7J 3B4
199 CHURCHILL RD S	ACTON ON	L7J 3B4
5 SPROWL ST	ACTON ON	L7J 3A8
7 SPROWL ST	ACTON ON	L7J 3A8
9 SPROWL ST	ACTON ON	L7J 3A8
11 SPROWL ST	ACTON ON	L7J 3A8
3 SALMON WAY	ACTON ON	L7J 3B1
5 SALMON WAY	ACTON ON	L7J 3B1
76 RACHLIN DR	ACTON ON	L7J 3B3
30 RACHLIN DR	ACTON ON	L7J 3B2
3 SPROWL ST	ACTON ON	L7J 3A8
176 TANNERS DR	ACTON ON	L7J 3A8
174 TANNERS DR	ACTON ON	L7J 3A8
172 TANNERS DR	ACTON ON	L7J 3A8
169 CHURCHILL RD S	ACTON ON	L7J 2J5
171 CHURCHILL RD S	ACTON ON	L7J 2J5

173 CHURCHILL RD S	ACTON ON	L7J 2J5
175 CHURCHILL RD S	ACTON ON	L7J 2J5
36 RACHLIN DR	ACTON ON	L7J 3B2
21 SPROWL ST	ACTON ON	L7J 3A9
14 SALMON WAY	ACTON ON	L7J 3B1
16 SALMON WAY	ACTON ON	L7J 3B1
5 RACHLIN DR	ACTON ON	L7J 3A9
7 RACHLIN DR	ACTON ON	L7J 3A9
9 RACHLIN DR	ACTON ON	L7J 3A9
34 SPROWL ST	ACTON ON	L7J 3A9
32 SPROWL ST	ACTON ON	L7J 3A9
179 CHURCH RD S	ACTON ON	L7J 2J5
186 TANNERS DR	ACTON ON	L7J 3A8
187 TANNERS DR	ACTON ON	L7J 3A8
65 RACHLIN DR	ACTON ON	L7J 3B3
69 RACHLIN DR	ACTON ON	L7J 3B3
71 RACHLIN DR	ACTON ON	L7J 3B3
1 SPROWL ST	ACTON ON	L7J 3A8
74 RACHLIN DR	ACTON ON	L7J 3B3
155 TANNERS DR	ACTON ON	L7J 2Z5
157 TANNERS DR	ACTON ON	L7J 2Z5
159 TANNERS DR	ACTON ON	L7J 2Z5
4 RACHLIN DR	ACTON ON	L7J 3A9
2 RACHLIN DR	ACTON ON	L7J 3A9
181 CHURCHILL RD S	ACTON ON	L7J 3B4
183 CHURCHILL RD S	ACTON ON	L7J 3B4
185 CHURCHILL RD S	ACTON ON	L7J 3B4
187 CHURCHILL RD S	ACTON ON	L7J 3B4
189 CHURCHILL RD S	ACTON ON	L7J 3B4
191 CHURCHILL RD S	ACTON ON	L7J 3B4
193 CHURCHILL RD S	ACTON ON	L7J 3B4
195 CHURCHILL RD S	ACTON ON	L7J 3B4
72 RACHLIN DR	ACTON ON	L7J 3B3
70 RACHLIN DR	ACTON ON	L7J 3B3
68 RACHLIN DR	ACTON ON	L7J 3B3
11 WILD ROSE CRT	GUELPH ON	N1G 4X7
2300 STEELES AVE W SUITE 400	CONCORD ON	L4K 5X6
3387 SWALLOWDALE CRT	MISSISSAUGA ON	L5L 3P2
C/O CENTURION PROPERTY		
ASSOC 95 MURAL ST SUITE 306	RICHMOND HILL ON	L4B 3G2



# The Regional Municipality of Halton

## NOTICE OF STUDY COMMENCEMENT

### **MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT ACTON WASTEWATER TREATMENT PLANT REGIONAL MUNICIPALITY HALTON**

The Regional Municipality of Halton has retained Dillon Consulting Limited to prepare a Class Environmental Assessment (EA) for increasing wastewater treatment capacity for the community of Acton, to service current and future development. The Acton Wastewater Treatment Plant (WWTP), located at 1202 Churchill Road, is currently operating near its rated capacity of 4,545 m<sup>3</sup>/d. Additional treatment capacity of approximately 2,836 m<sup>3</sup>/d is required to accommodate "build-out" of the Acton urban envelope.

The project is being completed as a Schedule "C" project under the Municipal Class EA (2000). This type of project is subject to the full Class EA process and requires public and agency consultation.

The purpose of the Class EA study is to identify a preferred solution for increasing wastewater treatment capacity and to identify a preferred design of any new facilities or infrastructure (if required). Technical issues, cost and potential impacts on the natural, social and cultural environment will be considered in the evaluation of alternative solutions and selection of the preferred design. The plant discharges to the environmentally sensitive Black Creek just west of Churchill Road and will require special attention throughout the study. The impact assessment of the preferred design will be documented in an Environmental Study Report and placed on the public record for the required 30-day review period. If the Minister of the Environment receives no Part II Order requests, the construction of any new facilities or infrastructure (if required) may proceed to detailed design and construction.

Opportunities for public and agency consultation will occur throughout the project. A Public Information Centre (PIC) will be scheduled as the project proceeds. Notices will be published in the local newspapers and on the Region's website ([www.halton.ca](http://www.halton.ca)) and distributed to all individuals expressing an interest in the project.

If you have any questions or would like to be included on the project Contact List, please contact:

Laird Smith, P.Eng, Project Manager  
Regional Municipality of Halton  
1151 Bronte Road  
Oakville, Ontario  
L6M 3L1  
Telephone: 905-825-6000 ext. 7601  
Fax: 905-847-2192  
Email: [laird.smith@halton.ca](mailto:laird.smith@halton.ca)

Louis Tasfi, P.Eng, Ph.D., Project Manager  
or Sabrina Stanlake, Planner  
Dillon Consulting Limited  
P.O. Box 426  
495 Richmond Street  
London, Ontario  
N6A 4W7  
Telephone: 519-438-6192  
Fax: 519-672-8209  
Email: [ltasfi@dillon.ca](mailto:ltasfi@dillon.ca) or  
[ssanlake@dillon.ca](mailto:ssanlake@dillon.ca)



## NOTICE OF PUBLIC INFORMATION CENTRE

### Acton Water Supply and Wastewater Treatment Plant Master Plans Municipal Class Environmental Assessment Studies

#### The Study

Halton Region has initiated two Class Environmental Assessment (Class EA) studies to identify the preferred alternative for increasing capacity in the Acton water supply system and Acton Wastewater Treatment Plant (WWTP) in order to service new and existing development in the Acton urban area. Although the studies are at different stages of completion, both studies address Acton servicing and a combined Public Information Centre will facilitate public and agency input. The locations of key Acton water supply and wastewater infrastructure are shown on the map.

#### The Process

The Acton water supply Class EA study is being conducted in accordance with the requirements of a Schedule 'B' study under the Municipal Class EA document (June 2000), which is an approved process under the Ontario Environmental Assessment Act. The Acton WWTP Master Plan Class EA study is being conducted in accordance with the requirements of a Schedule 'C' study also under the Municipal Class EA document (June 2000). The Class EA process includes public and review agency consultation, an evaluation of alternatives, an assessment of the potential environmental effects of the proposed improvements, and identification of reasonable measures to mitigate any adverse impacts that may result.

As a part of the studies, a drop-in format Public Information Centre (PIC) is planned to provide background information and to obtain public and agency input on the studies and the various alternative solutions being considered. The Acton water supply system Class EA study information will include a comparative analysis of the alternatives and the recommended alternative (subject to public comment and agency review) including, associated impacts and proposed mitigation measures. The Acton WWTP Class EA study information will include the alternatives under consideration and proposed evaluation criteria for public and agency input.

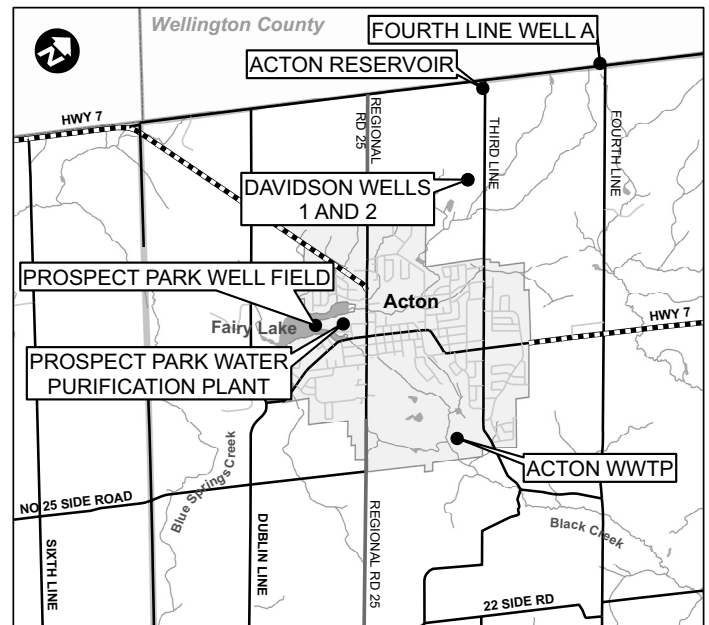
Representatives from the Region and its consultant will be present at the PIC to answer questions and discuss the next steps in the studies. The PIC is scheduled for:

#### Public Information Centre

Date: Tuesday, June 26, 2007  
Time: 6:00 pm to 9:00 pm  
Location: Acton Royal Canadian Legion (Branch 197)  
15 Wright Avenue, Acton

You are encouraged to attend the PIC and provide your comments so that they may be included in the studies. Comments received through the course of the studies will be considered in finalizing the preferred expansion alternatives for the Acton water supply system and Acton WWTP as well as construction mitigation measures. Comments and information regarding this project are being collected to assist the project team in meeting the requirements of the Class EA process. With the exception of personal information, all comments will become part of the public record.

Upon completion of the Acton water supply study, a Class EA Report (Project File) will be prepared to document the planning process followed, including conclusions and recommendations, and how public input was received and considered. The document will be available for public review for a period of 30 calendar days. At that time, notification of the review period and Class EA Report locations will be made by means of a newspaper notice and a letter mailed to those on the project contact list.



A second PIC for the Acton WWTP study is planned for the fall of 2007 to present the comparative analysis, recommended alternative (subject to public and agency review), associated impacts and proposed mitigation measures.

Please contact one of the following project team members if you have any questions or comments, wish to obtain more information on the projects, or if you would like to be added to the project mailing list:

Mr. Colin Baker P.Eng.  
Infrastructure Planning Engineer  
Regional Municipality of Halton  
1151 Bronte Road  
Oakville, Ontario  
L6M 3L1  
Telephone: 905-825-6000 ext.7235  
Fax 905-825-8822  
E-mail: colin.baker@halton.ca

Mr. Bill Allison, P.Eng.  
Project Manager (Water)  
Dillon Consulting Limited  
5 Cherry Blossom Road, Unit 1  
Cambridge, Ontario  
N3H 4R7  
Telephone: 519-650-9833  
Fax: 519-650-7424  
E-mail: ballison@dillon.ca

Mr. Louis Tasfi, Ph.D., P.Eng.  
Project Manager (Wastewater)  
Dillon Consulting Limited  
495 Richmond Street  
London, Ontario  
N6A 5A9  
Telephone: 519-438-1288 ext. 1320  
Fax: 519-672-8209  
E-mail: ltasfi@dillon.ca

This Notice first issued on June 14, 2007.

140607

## NOTICE OF PUBLIC INFORMATION CENTRE #2

### **ACTON WASTEWATER TREATMENT PLANT MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT STUDY**

#### **The Study**

Halton Region has identified the need for additional wastewater treatment capacity to service the forecasted growth in the approved Acton urban area. The Acton Wastewater Treatment Plant Class Environmental Assessment Study (Class EA Study) was initiated in July 2006 to identify a preferred strategy and design concept to achieve the required wastewater treatment capacity.

#### **The Process**

The study is being conducted as a Schedule "C" project and as such must proceed through the full environmental assessment planning process as outlined in the Municipal Class Environmental Assessment (Municipal Engineers Association 2007). Public and agency consultation is an integral part of this planning process.

The first Public Information Centre (PIC), which provided the background information, a long list of alternatives to increase wastewater treatment capacity and the proposed evaluation criteria, was held in June 2007.

This second PIC will present the preferred strategy, which is to construct additional wastewater capacity at the existing plant. This second PIC will also present the recommended design concept for the proposed plant expansion and provide an opportunity for stakeholders to review and comment on the proposed evaluation process for potential treatment alternatives. Representatives from Halton Region and its consultant team will be available at the PIC to provide information and answer questions.

Date: Tuesday, November 16, 2010  
Time: 6:30 p.m. to 8:30 p.m.  
Location: Acton District High School - Cafeteria  
21 Cedar Road, Acton, ON

You are encouraged to attend the PIC and provide your comments so that they may be included in the study. The PIC will be an informal meeting and you are invited to drop in at your convenience between the noted times.

Public input and comments on the planning and design of this project received prior to December 3, 2010 will be incorporated in the final Environmental Study Report. Upon completion of the study, the report will be available for public review and comment. At that time, a Notice of Completion will be published and mailed to those individuals on the project mailing list.

Please contact one of the team members identified below if you have any questions or comments, wish to obtain more information about the project or would like to be added to the project mailing list.

**Magda Bielawski, P.Eng.**

**Project Manager**

Wastewater Planning, Public Works  
Halton Region

Phone: 905-825-6000 Ext. 7426

Fax: 905-825-8822

Email: magda.bielawski@halton.ca

**Louis Tasfi, Ph.D., P.Eng.**

**Project Manager**

Dillon Consulting Limited,  
P.O. Box 426

London, Ontario, N6A 4W7

Phone: 519-438-6192

Fax: 519-672-8209

Email: ltasfi@dillon.ca

This Notice was first issued November 4, 2010.

**NOTICE OF STUDY COMMENCEMENT  
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT  
ACTON WASTEWATER TREATMENT PLANT  
REGIONAL MUNICIPALITY HALTON**

**RECORD OF COMMENTS**

Name: \_\_\_\_\_

Address and Postal Code: \_\_\_\_\_

\_\_\_\_\_

Telephone: \_\_\_\_\_

9 I/we would like to be kept informed regarding this project.

9 I/we do not wish to be kept informed of this project.

Comments:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Please complete the form by **October 25, 2006** and return to:

Sabrina Stanlake, Planner  
Dillon Consulting Limited  
P.O. Box 426  
495 Richmond Street  
London, Ontario  
N6A 4W7  
Telephone: (519) 438-6192  
Fax: (519) 672-8209  
Email: [sstanlake@dillon.ca](mailto:sstanlake@dillon.ca)

Information will be collected in accordance with the *Freedom of Information and Protection of Privacy Act*. With the exception of personal information, all comments will become part of the public record.





PLANNING & PUBLIC WORKS  
PLANNING AND TRANSPORTATION SERVICES  
Tel: 905-825-6000 Fax: 905-825-8822  
Toll free: 1-866-4HALTON (1-866-442-5866)

June 15, 2007

Dear Sir or Madam,

**Re: Notice of Public Information Centre  
Acton Water Supply and Wastewater Treatment Plant Master Plans  
Class Environmental Assessment**

Halton Region has initiated two Municipal Class Environmental Assessment (Class EA) studies to identify the preferred water servicing alternative for increasing capacity in the Acton water supply and wastewater treatment systems to service new and existing development in the Acton urban area.

Please find enclosed the Notice of Public Information Centre for the Acton Water Supply and Wastewater Treatment Plant Master Plan Class EAs. The water supply and wastewater treatment alternatives will be presented at the upcoming Public Information Centre on **June 26, 2007 from 6:00 pm to 9:00 pm** at the **Acton Royal Canadian Legion** (15 Wright Avenue, Acton).

We will continue to keep you informed of the Class EA study progress including the Notice of Completion and project recommendations. Further Class EA project information is available on the Halton Region website at:

<http://www.halton.ca/ppw/water/ClassEA/WaterSystem/ActonWater.htm>

<http://www.halton.ca/ppw/water/ClassEA/WastewaterSystem/ActonSewage.htm>

If you have any questions or comments at this time or would like additional information on the project, please do not hesitate to call me at (905) 825-6000 ext.7235 or via e-mail at [colin.baker@halton.ca](mailto:colin.baker@halton.ca).

Yours truly,

A handwritten signature in black ink, appearing to read "Colin Baker", written over a horizontal line.

Colin Baker, P.Eng.  
Infrastructure Planning Engineer

Encl.

c: Jacqueline Weston, P.Eng., Manager of Infrastructure Planning, Halton Region  
Bill Allison, P.Eng., Project Manager (Water), Dillon Consulting Limited  
Louis Tasfi, Ph.d., P.Eng., Project Manager (Wastewater), Dillon Consulting Limited



PLANNING & PUBLIC WORKS  
PLANNING AND TRANSPORTATION SERVICES  
Tel: 905-825-6000 Fax: 905-825-8822  
Toll free: 1-866-4HALTON (1-866-442-5866)

June 15, 2007

Dear Sir or Madam,

**Re: Notice of Public Information Centre to Landowners in the Vicinity of  
Proposed Water and Wastewater Infrastructure Expansion Projects  
Acton Water Supply and Wastewater Treatment Plant Master Plans Class Environmental Assessment**

Halton Region has initiated two Municipal Class Environmental Assessment (Class EA) studies to identify the preferred alternative for increasing capacity in the Acton water supply and wastewater treatment systems to service new and existing development in the Acton urban area.

As part of the Municipal Class EA process, this letter is being sent to landowners in the vicinity of the proposed infrastructure expansion sites so that they are given an opportunity to provide comments. The proposed infrastructure expansion sites include the Prospect Park well field and Water Purification Plant, Churchill Road Reservoir and Acton Wastewater Treatment Plant. The progress of the Class EA studies will be presented at the upcoming Public Information Centre on **June 26, 2007 from 6:00 pm to 9:00 pm** at the **Acton Royal Canadian Legion** (15 Wright Avenue, Acton). Please find enclosed the Notice of Public Information Centre.

We look forward to receiving your comments and encourage you to attend the June 26, 2007 Public Information Centre. We will continue to keep you informed of the Class EA study progress including the Notice of Completion and project recommendations. Further Class EA project information is available on the Halton Region website at:

<http://www.halton.ca/ppw/water/ClassEA/WaterSystem/ActonWater.htm>

<http://www.halton.ca/ppw/water/ClassEA/WastewaterSystem/ActonSewage.htm>

If you have any questions or comments at this time or would like additional information on the project, please do not hesitate to call me at (905) 825-6000 ext.7235 or via e-mail at [colin.baker@halton.ca](mailto:colin.baker@halton.ca).

Yours truly,

A handwritten signature in black ink, appearing to read "Colin Baker".

Colin Baker, P.Eng.  
Infrastructure Planning Engineer

Encl.

c: Jacqueline Weston, P.Eng., Manager of Infrastructure Planning, Halton Region  
Bill Allison, P.Eng., Project Manager (Water), Dillon Consulting Limited  
Louis Tasfi, Ph.d., P.Eng., Project Manager (Wastewater), Dillon Consulting Limited



November 1, 2010

Public Works Department  
Wastewater Planning  
1151 Bronte Road  
Oakville ON L6M 3L1

Dear Sir/Madam:

**Re: Acton Wastewater Treatment Plant Class Environmental Assessment, Schedule C –  
Project Information and Notice of Public Information Centre #2**

We would like to take this opportunity to notify you of the ongoing Class Environmental Assessment (EA) study for the Acton Wastewater Treatment Plant (WWTP), which is located at 202 Churchill Drive, Halton Hills. Please reference the attached figure for the location of the Acton WWTP and the project study area.

**Project Background**

Halton Region has identified the need for additional wastewater treatment capacity to service the forecasted growth in the approved Acton urban area. This Class EA Study was initiated in July 2006 to identify a preferred strategy and design concept to achieve the required wastewater treatment capacity. The first Public Information Centre (PIC), which provided the background information, a long list of alternatives to increase wastewater treatment capacity and the proposed evaluation criteria, was held in June 2007.

Project information and copies of the boards that were presented at the first PIC are posted on the project website: <http://www.halton.ca/cms/one.aspx?portalId=8310&pageId=12699>.

**Next Steps**

Regional staff will be hosting a second PIC on Tuesday, November 16, 2010 at Acton District High School, 21 Cedar Road, Acton, from 6:30 p.m. to 8:30 p.m. This second PIC will present the preferred strategy, which is to construct additional wastewater capacity at the existing plant. It will also present the recommended design concept for the proposed plant expansion and provide an opportunity for stakeholders to review and comment on the proposed evaluation process for potential treatment alternatives.

Please advise us of any questions or concerns that you may have with the project. Inquiries, questions or additional information may be obtained from Magda Bielawski at extension 7426, or by email to [magda.bielawski@halton.ca](mailto:magda.bielawski@halton.ca).

Sincerely,

A handwritten signature in black ink that reads "M. Bielawski".

Magda Bielawski, P.Eng.



February 2, 2011

Public Works Department  
Wastewater Planning  
1151 Bronte Road  
Oakville ON L6M 3L1

Dear Sir/Madam:

**Re: Acton Wastewater Treatment Plant Class Environmental Assessment, Schedule C**

We would like to take this opportunity to notify you of the ongoing Class Environmental Assessment (EA) study for the Acton Wastewater Treatment Plant (WWTP), which is located at 202 Churchill Drive, Halton Hills. Please refer to the attached figure for the location of the Acton WWTP and the project study area.

**Project Background**

Halton Region has identified the need for additional wastewater treatment capacity to service the forecasted growth in the approved Acton urban area. This Class EA Study was initiated in July 2006 to identify a preferred strategy and design concept to achieve the required wastewater treatment capacity. The first Public Information Centre (PIC), which provided the background information, a long list of alternatives to increase wastewater treatment capacity and the proposed evaluation criteria, was held in June 2007. The second Public Information Centre was held in November, 2010 and presented the preferred solution for increasing capacity at the plant (expansion of the existing treatment plant) and the recommended design concept.

Project information and copies of the boards that were presented at both PICs are posted on the project website: <http://www.halton.ca/cms/one.aspx?portalId=8310&pageId=12699>.

**Next Steps**

An Environmental Study Report is being prepared and will be made available for public and agency review in the near future.

Please advise us of any questions or concerns that you may have with the project. Inquiries, questions or additional information may be obtained from Magda Bielawski at extension 7426, or by email to [magda.bielawski@halton.ca](mailto:magda.bielawski@halton.ca).

Sincerely,

A handwritten signature in black ink that reads "M. Bielawski".

Magda Bielawski, P.Eng.

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**From:** Zamojc, Mitch  
**Sent:** Thursday, November 04, 2010 9:14 AM  
**To:** Bonnette, Rick; Somerville, Clark; O'Leary, Mike; Hurst, Jon  
**Cc:** Andrews, Dave; Bielawski, Magda; Carr, Gary; Moyle, Pat  
**Subject:** Acton Wastewater Treatment Plant - Class Environmental Assessment - Notice of Public Information Centre #2

Dear Councillors,

This e-mail is to advise you of an upcoming Public Information Centre (PIC) that will be held this month for the Acton WWTP Class EA.

## **Background**

Halton Region identified a need for additional treatment capacity to serve forecasted growth beyond 2021 to full build out of the approved Acton urban area. The Acton Wastewater Treatment Plant Class Environmental Assessment Study (Class EA Study) was initiated in July 2006 to identify a preferred solution for increasing wastewater treatment capacity and to identify a preferred design concept for the preferred solution.

## **The Process**

The study is being conducted as a Schedule "C" Class Environmental Assessment. The first Public Information Centre was held in June 2007 which provided the background information, a long list of alternatives to increase wastewater treatment capacity, and the proposed evaluation criteria.

This second PIC will present the preferred solution to provide additional wastewater treatment capacity which is to construct additional plant capacity at the existing site. PIC #2 will also present the recommended design concept for the proposed plant expansion.

PIC #2 will be a drop-in format and is scheduled as follows:

**Date: Tuesday, November 16, 2010**

**Time: 6:30 p.m. to 8:30 p.m.**

**Location: Acton District High School - Cafeteria**

**21 Cedar Road, Acton, ON**

Public input and comments will be invited for incorporation into the planning and design of this project until December 3, 2010. Upon completion of the study, a report will be available for public review and comment. At that time, a Notice of Completion will be published and mailed to those individuals on the project mailing list.



The Notice for this PIC #2 will appear in Acton Tanner and Halton Compass on Thursday November 4 and 11, 2010. The PIC #2 Notices will also be mailed the week of November 1<sup>st</sup> to the residents who live within a 500 meter radius of the Acton WWTP.

Dave Andrews, Director, Wastewater Services can be contacted at ext. 7944 to answer any questions you may have.

Thank you

Mitch Zamojc, P.Eng.,  
Commissioner, Public Works

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This message, including any attachments, is privileged and intended only for the person(s) named above. This material may contain confidential or personal information which may be subject to the provisions of the Municipal Freedom of Information & Protection of Privacy Act. Any other distribution, copying or disclosure is strictly prohibited. If you are not the intended recipient or have received this message in error, please notify us immediately by telephone, fax or e-mail and permanently delete the original transmission from us, including any attachments, without making a copy.

Thank you

## NOTICE OF COMPLETION

### **Acton Wastewater Treatment Plant Municipal Class Environmental Assessment Study**

Halton Region has completed the Schedule C Class Environmental Assessment study for the Acton Wastewater Treatment Plant located at 202 Churchill Drive, Halton Hills. The preferred strategy is to construct additional wastewater capacity at the existing plant.

#### **Background**

As part of the Environmental Assessment Study, Public Information Centre meetings were held on June 26, 2007 and November 16, 2010. The first Public Information Centre provided background information, a long list of alternatives to increase wastewater capacity and the proposed evaluation criteria. The second Public Information Centre presented the preferred strategy and recommended design concept for the proposed plant expansion. Input and comments received from key stakeholders such as residents, Credit Valley Conservation and the Ministry of the Environment were incorporated into the Environmental Study Report (ESR).

#### **Environmental Study Report (ESR)**

By this Notice, the ESR is being placed on the public record for review. The 30-day public review period begins on March 31, 2011 and ends May 4, 2011. The ESR is available on the project website: [www.halton.ca/EAs](http://www.halton.ca/EAs).

A paper copy of the ESR is also available for public review at the following locations:

#### **Town of Halton Hills Clerk's Department**

1 Halton Hills Drive,  
Georgetown  
Monday to Friday:  
8:30 a.m. to 4:30 p.m.

#### **Region of Halton Citizen's Reference Library**

1151 Bronte Road, Oakville  
Monday to Friday:  
8:30 a.m. to 4:30 p.m.

#### **Halton Hills Public Library Acton Branch**

17 River Street, Acton  
Tuesday to Thursday:  
9:30 a.m. to 8:30 p.m.  
Friday to Saturday:  
9:30 a.m. to 5:00 p.m.

Subject to additional comments received as a result of this Notice and the receipt of all necessary approvals, Halton Region intends to proceed with the design and construction as documented in the ESR.

#### **Comments**

During this 30-day review period, anyone who has any outstanding concerns with the project that cannot be resolved in discussion with Halton Region, may request that the Minister of the Environment make an order for the project to comply with Part II of the Environmental Assessment Act (referred to as a Part II Order). Written Part II Order requests must be submitted to the Minister of the Environment before May 4, 2011 at the following address:

Minister of the Environment  
135 St. Clair Avenue West, 12th Floor  
Toronto, ON M4V 1P5

Copies of Part II Order requests must also be sent to:

Magda Bielawski, P.Eng.  
Project Manager, Halton Region  
Phone: 905 825 6000 ext. 7426  
Fax: 905 825 8822  
E-mail: [magda.bielawski@halton.ca](mailto:magda.bielawski@halton.ca)

This Notice was first issued on March 31, 2011.



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Gary Carr  
Regional Chair

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## APPENDIX D2 - PIC MATERIALS

PUBLIC INFORMATION CENTRE  
Tuesday, June 26, 6:00 p.m. to 9:00 p.m.

RECORD OF ATTENDANCE

NAME (please print)	ADDRESS (please print)	POSTAL CODE
Phil Steeds	351 Mill St	L7J 2H3
Jon Hurst	Acton	
Kay Hannah	14356 Churchill Rd. N.	L7J 2L8
Sandice Holdway	"	"
RAY HURRELL	75 RACHIN DRIVE.	L7J 3B3
Mayor Rick Bonware He		
COAN, MIKE O'LEARY	TOWN OF H. HILLS.	
GORDON DEIDGER	73 MARY ST GORDONOWN ON	L7G 4V8
Bruce MacLean	Town of Halton H. H.	
Norm Enright	112 Enright Dr Acton	L7G 1T2.

Project No.03-2372/06-6413

Information will be collected in accordance with the *Freedom of Information and Protection of Privacy Act*. With the exception of personal information, all comments will become part of the public record. Questions about this collection may be directed to: Colin Baker, Regional Municipality of Halton.



REGIONAL MUNICIPALITY OF HALTON  
ACTON WATER SUPPLY MASTER PLAN AND  
WASTEWATER TREATMENT PLANT CLASS ENVIRONMENTAL ASSESSMENT



PUBLIC INFORMATION CENTRE  
Tuesday, June 26, 6:00 p.m. to 9:00 p.m.

RECORD OF ATTENDANCE

NAME (please print)	ADDRESS (please print)	POSTAL CODE
Danny Ranson	125 McDonald Blvd Acton, Ont	L7J 2V7
DAVID W. MCNEIL	2744 PRYCE ST GEORGETOWN	L7G 3B9
Ann Weatherbe	1352 Selwyn Cr Mississauga L4X 1H7	
Dan Foirier	13836 4th Line, Acton, L7J 2G8	
Lloyd Brooks	44 Nelson Cr Acton L7J 1A5	
Russell Galvin	51 Nelson Cr Acton	L7J 1A3
Steve Byberg	2300 Steeles Ave, Vaughan	M6E 3T2
COUNCILOR GARY SOMERVILLE	9 Town of Halton Hills	
JOE VANWASSEL	62 LAKE AVENUE	L7J 1G2
COUNCILOR DAVE HENTNER	9 STRANDBEACH BLVD GEORGETOWN	L7G 1Z2
Fred Dawkins	125 McDonald Blvd Acton	L7J 2V7

Project No.03-2372/06-6413

Information will be collected in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record. Questions about this collection may be directed to: Colin Baker, Regional Municipality of Halton.

**REGIONAL MUNICIPALITY OF HALTON  
ACTON WASTEWATER TREATMENT PLANT CLASS ENVIRONMENTAL ASSESSMENT**

**PUBLIC INFORMATION CENTRE  
Tuesday, June 26, 6:00 p.m. to 9:00 p.m.**

**RECORD OF COMMENTS**

**Name:** \_\_\_\_\_

**Address and Postal Code:** \_\_\_\_\_

\_\_\_\_\_

**Telephone:** \_\_\_\_\_

**Fax :** \_\_\_\_\_

**E-mail:** \_\_\_\_\_

**Comments:**

\_\_\_\_\_

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\_\_\_\_\_

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\_\_\_\_\_

Please return this form by **July 19, 2007** to:

Sabrina Stanlake, Planner  
Dillon Consulting Limited  
Box 426, London, Ontario, N6A 4W7

Phone: (519) 438-1288 Ext. 1235  
Fax: (519) 672-8209  
E-mail: sstanlake@dillon.ca

Information will be collected in accordance with the *Freedom of Information and Protection of Privacy Act*.  
With the exception of personal information, all comments received will become part of the public record.  
Questions about this collection may be directed to: Colin Baker, Regional Municipality of Halton.



# Acton Wastewater Treatment Plant

## Class Environmental Assessment



Public Information Centre  
June 26, 2007

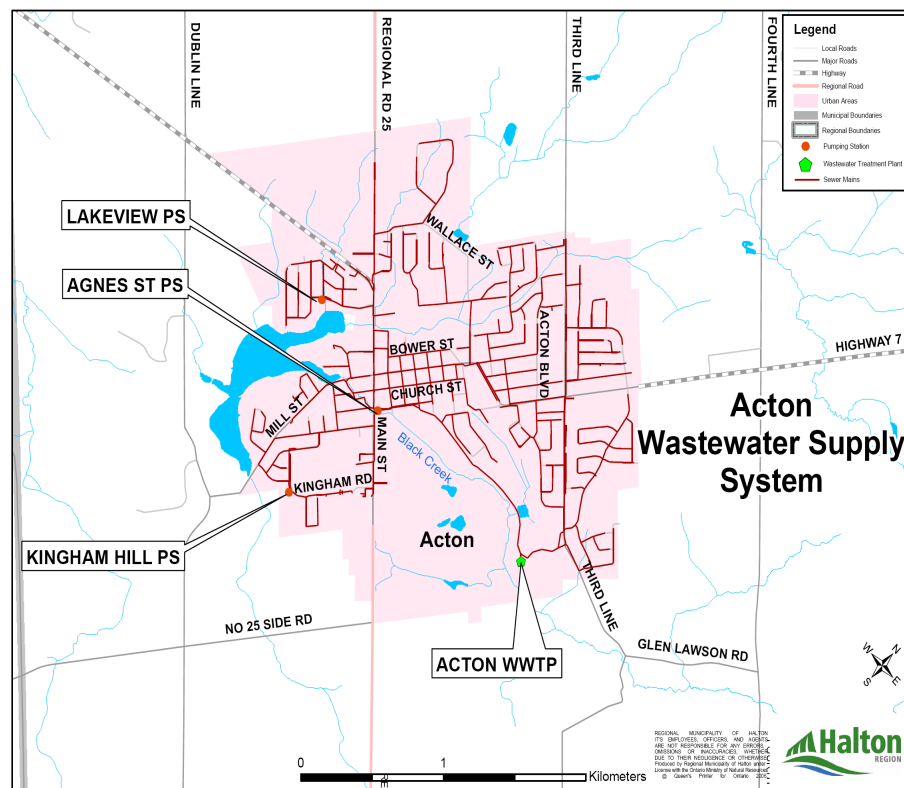




# Acton Wastewater Treatment Plant



Wastewater treatment capacity for the Community of Acton in the Town of Halton Hills is currently provided by the Acton Wastewater Treatment Plant (WWTP) which has a rated capacity of 4,545 m<sup>3</sup>/d.





# Background

The Acton WWTP is currently operating near its rated capacity of 4,545 m<sup>3</sup>/d .

Additional wastewater treatment capacity is required to accommodate build-out of the urban envelope and must match water demand requirements:

- short-term needs: accommodate build-out of the Acton urban area excluding development of the Maple Leaf lands for a total capacity of 5,600 m<sup>3</sup>/d
- long-term or ultimate needs: accommodate build-out of the Acton urban area including development of the Maple Leaf lands for a total capacity of 7,600 m<sup>3</sup>/d

# Purpose

Halton Region has initiated a Class Environmental Assessment (EA) study to identify the preferred alternative for addressing immediate and long-term wastewater treatment servicing for the community of Acton. The preferred alternative must satisfy the anticipated long-term demand in an economical and sustainable way, with minimal impacts on the environment, including Black Creek and groundwater.

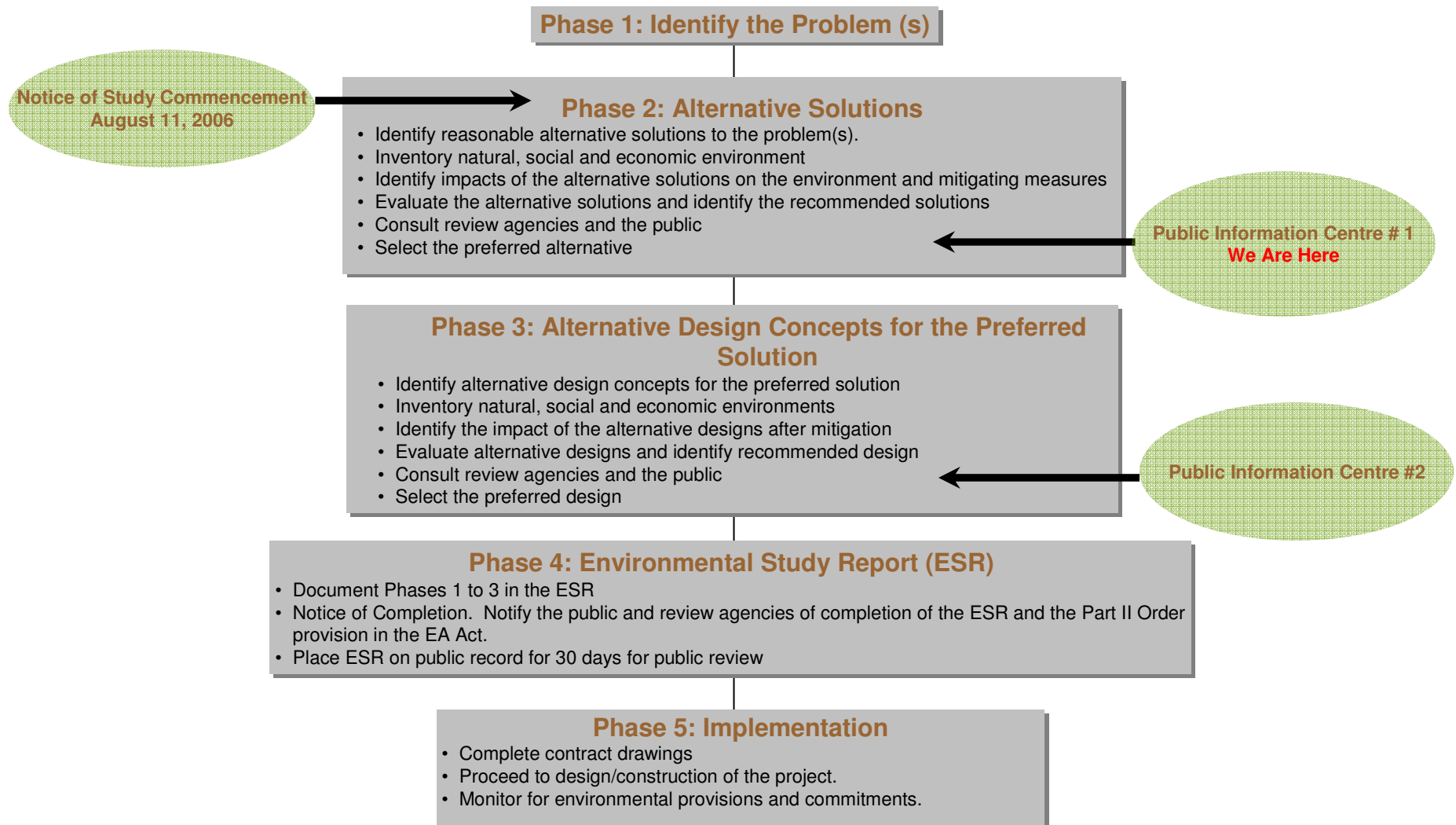
The upgrade or expansion of a wastewater treatment plant and the associated infrastructure including pumping stations and collection systems requires the completion of a Schedule C Municipal Class EA.

The Municipal Class EA provides a decision-making process to ensure all relevant engineering and environmental features are considered in the planning and design of municipal infrastructure. Public and agency involvement is required throughout the process.

**The purpose of this public information centre is to present background information and the alternative solutions considered for the increase in wastewater treatment capacity, and to obtain public and agency feedback.**

# Municipal Class Environmental Assessment Process

Halton Region is following a “**Schedule C**” Municipal Class Environmental Assessment (EA) process for this project. The Class EA Report (Environmental Study Report) will be placed on the Public Record for the required 30 day review period.



# Existing Conditions: Natural Environment

The Acton Wastewater Treatment Plant discharges treated effluent water to Black Creek in the Credit River watershed.

## **Black Creek:**

- Highly sensitive watercourse
- Classified as a cold water fishery and is sensitive to temperature increase, toxicity of contaminant load, and depletion of dissolved oxygen
- Considered a Policy 2 Receiver (background phosphorus concentration in the receiver is in excess of the Provincial Water Quality Objective concentration for phosphorus of 0.03 mg/L)
- Brook trout are known to spawn in Black Creek
- Beaver activity is prevalent along creek between Third Line and the Acton Wastewater Treatment Plant outfall location
- Receives input from groundwater

## **Natural Environment Studies:**

- A Brook Trout Spawning Redd survey was conducted in Black Creek to document potential spawning activity downstream of the Acton Wastewater Treatment Plant
- An Assimilative Capacity Study is underway to assess the assimilative capacity of Black Creek and to evaluate the potential impacts of each of the alternative solutions on the watercourse. Field work associated with the study will be conducted during the summer of 2007 and will include monitoring and sampling of water quality, flow, benthic community, and temperature in Black Creek



*Beaver dam upstream of open reach along Black Creek (downstream of Acton WWTP outfall)*



*Confirmed spawning redd location along Black Creek*

# List of Alternative Solutions

The long list of alternative solutions considered to address the need for additional wastewater treatment capacity includes:

- **Do-nothing.** This alternative involves leaving the treatment plant as is and doing nothing to provide additional wastewater treatment capacity. This alternative will result in the limiting of community growth and does not conform to the Regional Official Plan or the Official Plan for the Town of Halton Hills;
- **Improve the assimilative capacity of the receiver (Black Creek).** The assimilative capacity study that is currently being conducted will determine if the receiver has additional assimilative capacity that could be used to allow an increase in treatment plant capacity. Potential improvements to increase the assimilative capacity include shading the creek, flow augmentation from Fairy Lake, offsetting phosphorus increases with reductions elsewhere such as stormwater management retrofits, enhancing the dispersion of effluent into the receiving water etc.;
- **Upgrade the existing wastewater treatment plant.** Optimization of the existing treatment plant to improve process performance and provide some interim capacity gain;
- **Construct additional plant capacity at existing site.** Construction of new plant infrastructure including tankage at the existing wastewater treatment plant site;
- **Construct additional plant capacity at new site.** New off-site treatment plant which can handle all flows or excess flows from the wastewater treatment plant;
- **Divert wastewater to an existing Halton Region wastewater treatment plant.** Divert all current and/or additional/future wastewater flows to the Milton, Mid-Halton (transfer of wastewater to another watershed) or Georgetown wastewater treatment plants; and
- **Divert wastewater to alternative end uses.** Divert all current and/or additional/future wastewater flows to alternative end uses such as subsurface disposal, irrigation on agricultural cropland, or to a natural or constructed wetland.

# General Evaluation of Alternative Solutions

Alternative Solutions	Advantages and Disadvantages
<b>Do-nothing</b>	<p><b>Advantages:</b></p> <ul style="list-style-type: none"> <li>• No cost</li> </ul> <p><b>Disadvantages:</b></p> <ul style="list-style-type: none"> <li>• Does not allow for future growth in the Acton area, which is not consistent with the Regional Official Plan or the Official Plan for the Town of Halton Hills</li> </ul>
<b>Improve the assimilative capacity of the receiver (Black Creek)</b>	<p>The Assimilative Capacity Study for Black Creek is currently being conducted to determine if the receiver has additional assimilative capacity that could be used to allow for an increase in treatment plant capacity. This alternative solution may be feasible in combination with other alternatives, such as the construction of additional plant capacity.</p> <p><i>This alternative is currently being assessed through the Assimilative Capacity Study that is underway.</i></p>
<b>Upgrade the existing wastewater treatment plant</b>	<p><b>Advantages:</b></p> <ul style="list-style-type: none"> <li>• Allows for future growth</li> <li>• Plant optimization and/or rehabilitation of collection system would reduce plant expansion requirements thereby reducing costs and impacts on the natural environment</li> </ul> <p><b>Disadvantages:</b></p> <ul style="list-style-type: none"> <li>• Must be carried out in combination with another alternative solution such as the construction of additional plant capacity</li> </ul>
<b>Construct additional plant capacity at existing site</b>	<p><b>Advantages:</b></p> <ul style="list-style-type: none"> <li>• Allows for future growth</li> </ul> <p><b>Disadvantages:</b></p> <ul style="list-style-type: none"> <li>• Large footprint required</li> <li>• Relatively expensive to construct and maintain</li> </ul>



# General Evaluation of Alternative Solutions cont'd

Alternative Solutions	Advantages and Disadvantages
Construct additional plant capacity at new site	<p><b>Advantages:</b></p> <ul style="list-style-type: none"> <li>• Allows for future growth</li> </ul> <p><b>Disadvantages:</b></p> <ul style="list-style-type: none"> <li>• Large footprint required</li> <li>• Most expensive to construct</li> <li>• New potential sites have receivers that are equally or more sensitive than the current receiver (Black Creek)</li> </ul>
Divert wastewater to an existing Halton Region wastewater treatment plant (Georgetown, Milton, or Mid-Halton wastewater treatment plants)	<p><b>Advantages:</b></p> <ul style="list-style-type: none"> <li>• Allows for future growth</li> </ul> <p><b>Disadvantages:</b></p> <ul style="list-style-type: none"> <li>• Sewage would be conveyed by a pumping station and forcemain to the other existing Halton Region wastewater treatment plant. Note that the forcemain, pumping station, and offsite treatment cost would be high, thus making this alternative potentially cost-prohibitive</li> <li>• Proposed forcemains from the Acton WWTP to these Halton Region wastewater treatment plants would have to pass through segments of the Greenbelt Greenlands and Niagara Escarpment Area</li> <li>• Georgetown wastewater treatment plant remaining capacity is allocated for growth within Georgetown</li> <li>• Milton wastewater treatment plant does not currently have additional capacity to accept Acton wastewater and the Mid-Halton wastewater treatment plant has planned build-out capacity to provide servicing to Oakville, Milton, and the Halton Hills 401 corridor only</li> </ul>
Divert wastewater to alternate end uses (ie., subsurface disposal, irrigation, or discharge to a natural or constructed wetland)	<p><b>Advantages:</b></p> <ul style="list-style-type: none"> <li>• Allows for future growth</li> </ul> <p><b>Disadvantages:</b></p> <ul style="list-style-type: none"> <li>• These alternatives may have indirect impacts on the environment and it may prove difficult to obtain approvals from review agencies</li> </ul>

# Evaluation Criteria

Criteria Groups	Criteria
<b>Natural Environment</b>	<p>Impact on the following during construction and operation:</p> <ul style="list-style-type: none"> <li>• Terrestrial and fisheries resources and habitat</li> <li>• Assimilative Capacity of Black Creek, including negatively impacting the downstream reaches</li> <li>• Change in surface water quality</li> <li>• Halton Hills Greenlands System including Greenlands A and B Greenbelt Plan Area and Niagara Escarpment Plan Area</li> </ul>
<b>Social Environment</b>	<ul style="list-style-type: none"> <li>• Consistency with Provincial Policy Statement, Regional Official Plan, and the Official Plan for the Town of Halton Hills (September 2006)</li> <li>• Regulatory environment in Ontario and public acceptance</li> <li>• Impacts on residents/property owners during construction and operation including construction access requirements, noise and air quality, and visual impacts</li> </ul>
<b>Economic Environment</b>	<ul style="list-style-type: none"> <li>• Displacement of businesses</li> <li>• Potential disruption during construction and/or operation</li> <li>• Compatibility with future land uses</li> </ul>
<b>Technical Considerations</b>	<ul style="list-style-type: none"> <li>• Level of wastewater treatment required based on assimilative capacity of receiver</li> <li>• Ease of construction</li> <li>• Compatibility with existing treatment system and infrastructure</li> <li>• Durability/Life span</li> </ul>
<b>Financial Considerations</b>	<ul style="list-style-type: none"> <li>• Relative construction and on-going operation and maintenance costs</li> <li>• Net present value and life cycle costs</li> </ul>



# Next Steps

- Based on input received, evaluate alternatives and select the preferred alternative
- Identify and evaluate alternative design options. The recommended design will be presented at a Public Information Centre # 2 planned for early 2008
- Finalize the preferred design and document the Class Environmental Assessment process in the Environmental Study Report
- Place Notice of Completion in newspaper and distribute to residents adjacent to the study area identifying the opportunity to review the Environmental Study Report over a 30-day period.
- Assuming comments raised during the 30-day review period, including Part II Orders, can be resolved, the Region will proceed with the detailed design and implementation of the recommended solution



Your comments on the information presented would be appreciated.

**PLEASE FILL OUT A COMMENT FORM AND LEAVE IT IN THE COMMENT BOX.**

***THANK YOU FOR ATTENDING***

# Acton Water and Wastewater Class Environmental Assessment Projects

## Tentative Project Schedules

If the Acton Water Supply and Wastewater Treatment Plant projects obtain agency approval, the planned project schedules are as follows:

### Acton Water Supply:

- Complete Class Environmental Assessment: end of 2007
- Apply for Permits and Complete Design: 2008 - 2009
- Construction: 2009 – 2010

### Acton Wastewater Treatment Plant:

- Complete Class Environmental Assessment: Spring of 2008
- Apply for Permits and Complete Design: 2008 - 2009
- Construction: 2009 – 2010

Note that all projects are contingent on resolution of approval agency comments.



**Public Information Centre**  
**June 26, 2007**



**Region of Halton – Acton Wastewater Treatment Plant  
Class Environmental Assessment**

**Public Information Centre 2  
November 16, 2010**

**RECORD OF ATTENDANCE**

NAME (please print)	MAILING ADDRESS (please print)	POSTAL CODE	EMAIL ADDRESS
Dominique Evans	123 Wynford Place Acton, ON	L7J 2L4	dominique.evans@hotmail.com
Bill Gaulty	1 DAVIDSON Dr. Acton	L7J 0A4	bill@veritec.ca
Susan Liver	153 NORTON DR. Georgetown	L7G 1M9	
STEVE GIBBS	1 HALTON HILLS DRIVE Georgetown	L7G 5G2	steveg@haltonhills.ca
Nancy Mott-Allen	232 Guelph St. Georgetown	L7G 4B1	nancy.mott-allen@quectario.ca
ILITA STETIC	225 MISSISSAUGA ST OAKVILLE	L6L 3B1	stetici@halton.ca
Jon Huest	Box 388 Acton	L7J 2M6	Jon.H@haltonhills.ca
Richard Murphy	656 Colby Drive Waterloo, ON	N2V 1C2	rmurphy@crazworld.com
Cecil Hooke	70 Rachlin Drive Acton	L7J 3B3	
William Andrews	16 SPRUCE BLVD	L7J 2Y2	abarnstaple-andrews@sympatico.ca
Doug Andrews	102 Crescent ST Acton	L7J-2C9	doug@haltonhills.ca



## – Comment Form –

### *Region of Halton - Acton Wastewater Treatment Plant Class Environmental Assessment*

### **Public Information Centre #2, November 16, 2010**

The Region of Halton is interested in hearing your comments, questions, and concerns regarding this project. Please take a few minutes to complete this brief comment form. All comments received will become part of the public record and will be considered in the Class Environmental Assessment. Please use additional sheets, should you require more space to comment. The electronic copy of this form can also be downloaded from the project website: <http://www.halton.ca/cms/One.aspx?portalId=8310&pageId=12699>

Name: \_\_\_\_\_

Organization: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ e-mail: \_\_\_\_\_

1) *Did the displays and discussions with project representatives help you to understand more about the project? (please circle one)*      Yes      No

*Were your questions answered to your satisfaction? (please circle one)*      Yes      No

2) *I am:*

- ☐ A resident of the Study Area
- ☐ A resident outside of the Study Area
- ☐ A business owner in the Study Area
- ☐ A business owner outside of the Study Area
- ☐ A member of a First Nation, Métis Nation or an Aboriginal person  
Which First Nation, Métis Circle? \_\_\_\_\_
- ☐ An elected representative
- ☐ A member of a concerned agency
- ☐ Other, please specify \_\_\_\_\_



3) *I have reviewed the information on the proposed project as provided at the PIC and:*

- ☐ I am satisfied with the project as presented
- ☐ I am not satisfied with the project as presented  
Please specify \_\_\_\_\_
- ☐ I have no opinion

4) *Do you have any comments on the screening or evaluation procedures that have been utilized for selecting the preferred solution and the recommended design concepts?*

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5) *Do you have any other comments related to this project?*

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Your comments are appreciated. Please complete this form and place it in the comment box or return by **December 3, 2010** to:

**Magda Bielawski, P.Eng.**  
**Project Manager**  
Wastewater Planning, Public Works  
Halton Region

**Phone:** 905-825-6000 Ext. 7426  
**Fax:** 905-825-8822  
**Email:** magda.bielawski@halton.ca

*The Freedom of Information and Protection of Privacy Act applies to this project. With the exception of personal information, all comments will become part of the public record.*

**Acton Wastewater (Sewage) Treatment Plant  
Municipal Class Environmental Assessment Study**

**Public Information Centre (PIC) #2**

**Acton District High School  
November 16, 2010**



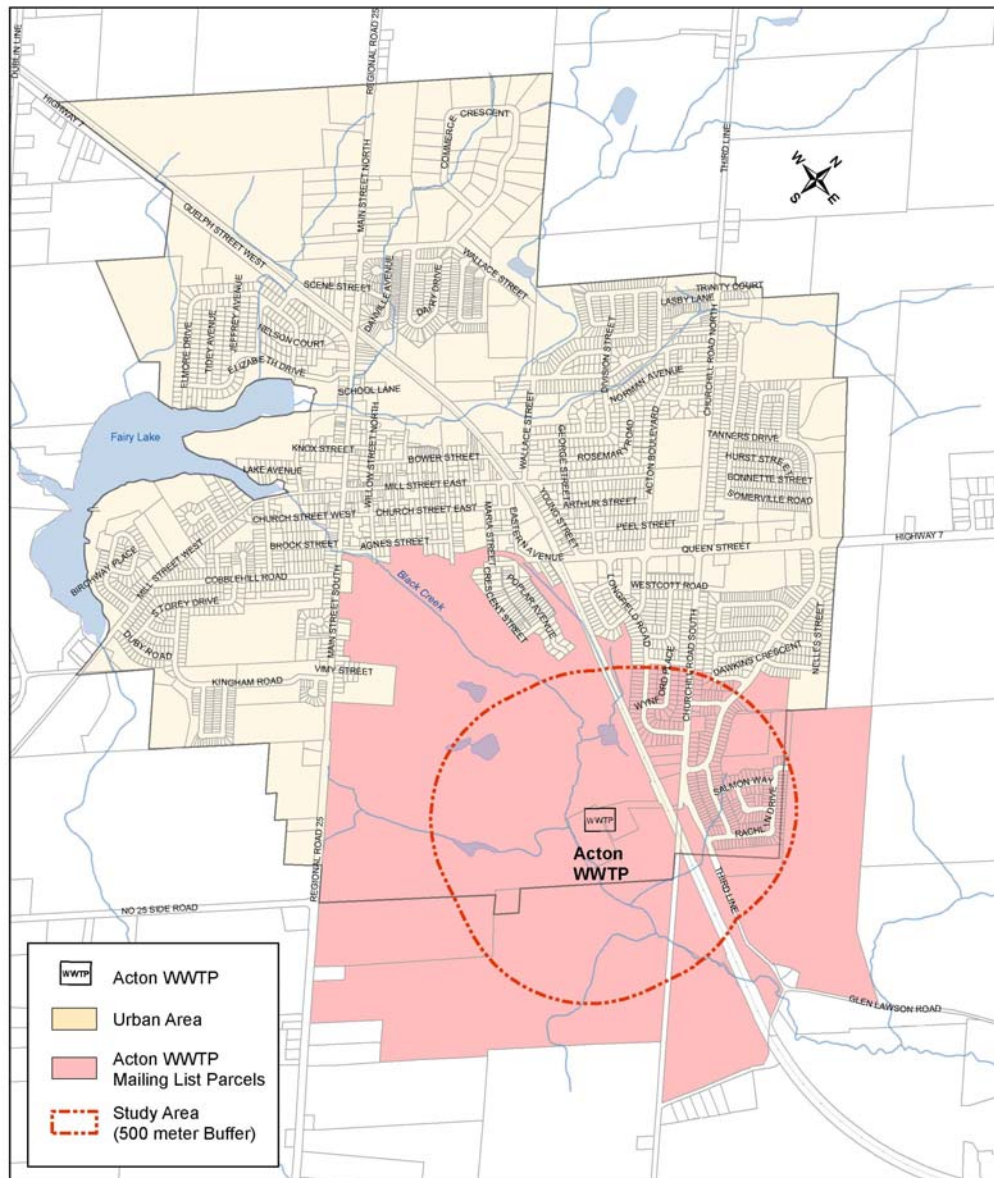
# Project Background and Needs

- The Acton Wastewater Treatment Plant (WWTP) is operating near its rated capacity of 4,545 m<sup>3</sup>/d.
- Additional wastewater capacity is needed to service forecasted future growth.
- The ultimate wastewater capacity to service full build out of the approved Acton urban area is 7,000 m<sup>3</sup>/d.





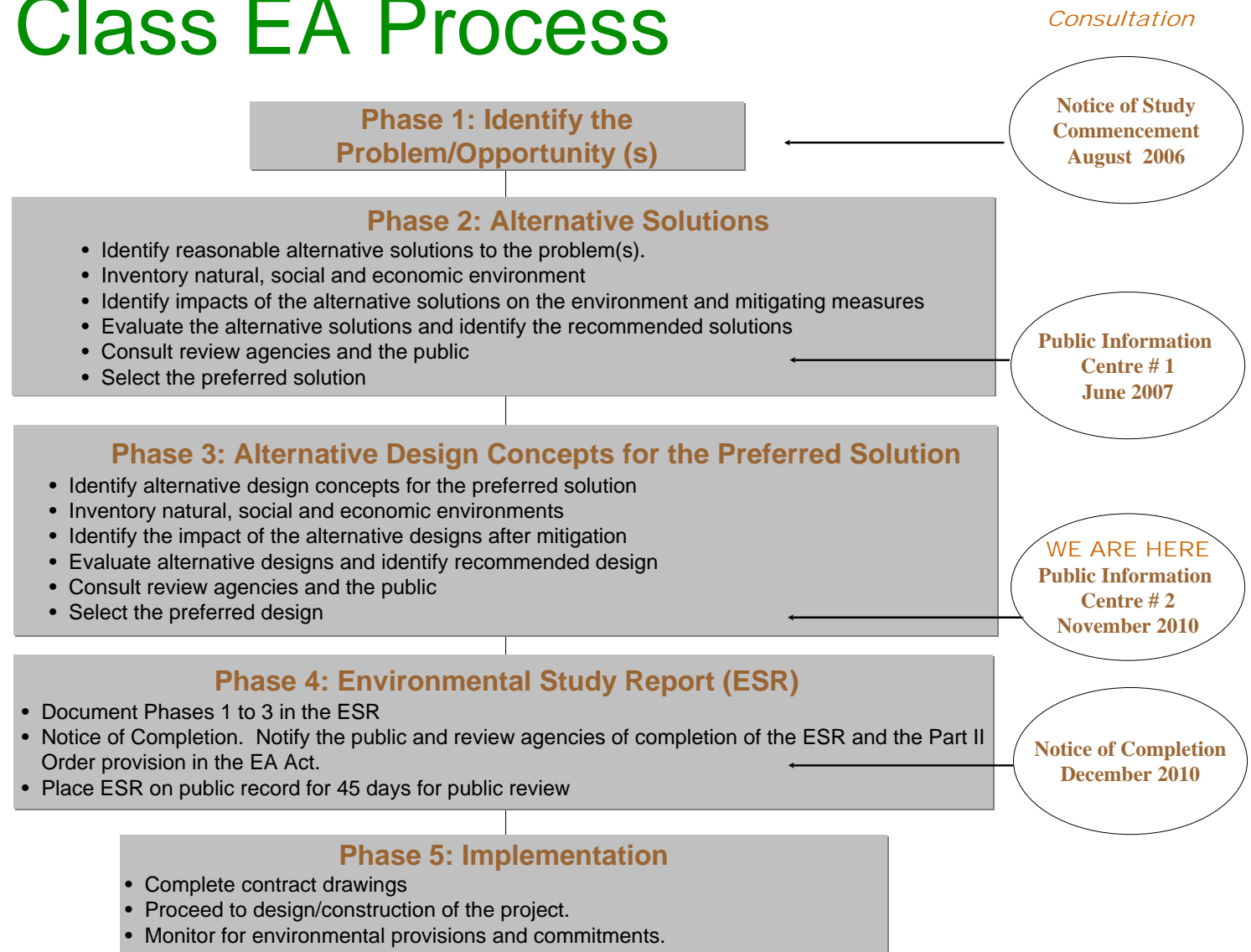
# Study Area





# Municipal Class EA Process

- This project follows the Class EA decision-making process for Schedule C projects
- A Schedule C project completes the four phases of the Class EA prior to proceeding to Phase 5: Implementation

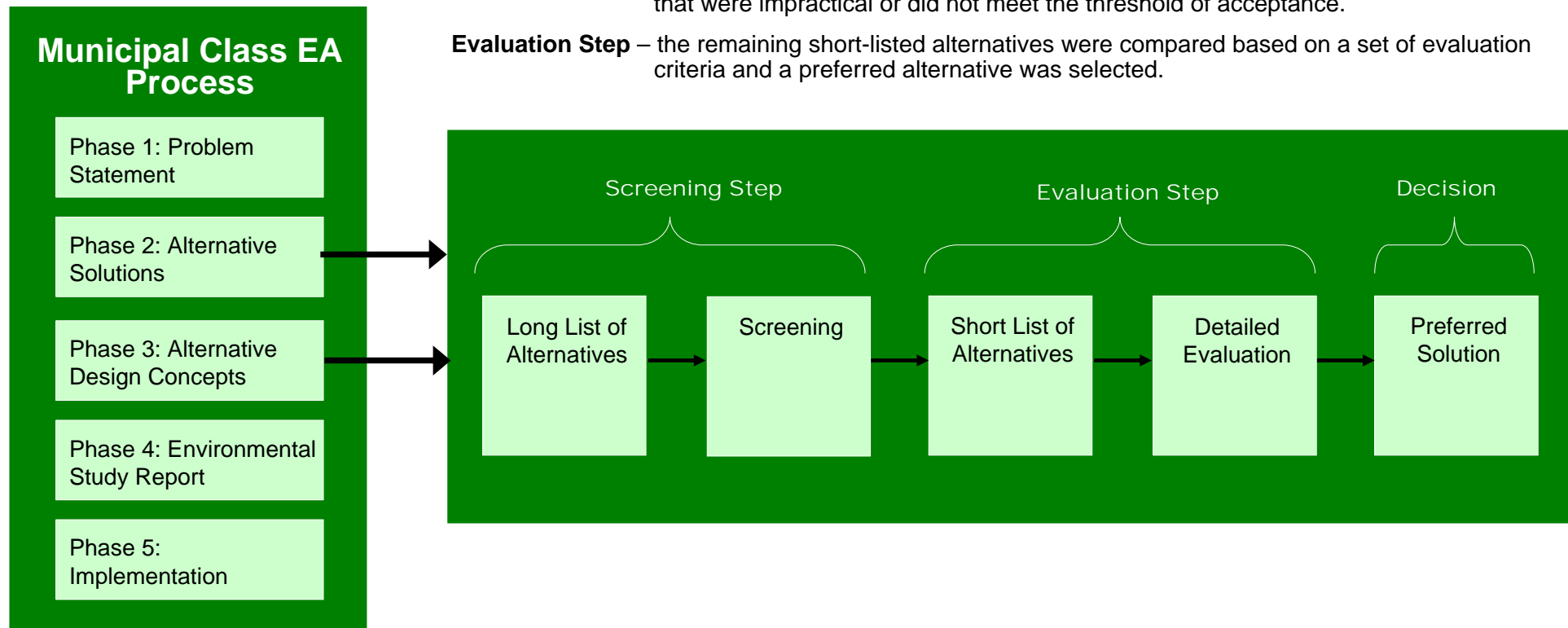


# Evaluation Process

A two step evaluation process was applied to select the preferred solution and design concept:

**Screening Step** – screening criteria were applied to a long list of alternatives to eliminate alternatives that were impractical or did not meet the threshold of acceptance.

**Evaluation Step** – the remaining short-listed alternatives were compared based on a set of evaluation criteria and a preferred alternative was selected.



## Phase 2 – Selection of the Preferred Solution

**Screening Step:** To determine the preferred solution, a long list of alternatives were considered (the list was presented at the first PIC in June 2007). Advantages and disadvantages of alternatives were assessed and alternatives were removed from consideration as follows:

Long List of Alternatives	Screening Outcome
Do-nothing	<i>Not recommended for further consideration as it can not provide required treatment capacity.</i>
Improve water quality in Black Creek	<i>This alternative was investigated through the Assimilative Capacity Study. Not considered a stand-alone alternative.</i>
Optimize the existing wastewater treatment plant	<i>Optimizing the existing plant would not provide required treatment capacity. Not considered a stand-alone alternative.</i>
Construct additional plant capacity at existing site	<i>To be considered further.</i>
Construct a new WWTP at a new site (includes decommissioning of existing plant)	<i>To be considered further.</i>
Divert wastewater to an existing Region of Halton wastewater treatment plant	<i>Not recommended for further consideration as forcemains and extensive upgrades would be required at other treatment plants, offering no advantages to the option of increased treatment in Acton.</i>
Divert wastewater to alternative end uses (i.e. subsurface disposal, irrigation or discharge to a natural or constructed wetland)	<i>Not recommended for further consideration due to regulatory environment and concerns regarding indirect environmental impacts that it may not be possible to address.</i>
Inflow/Infiltration Reduction	<i>Rehabilitation of the collective system is proceeding regardless of the preferred alternative identified. Not considered a stand-alone alternative.</i>
Construct additional plant capacity at a new site	<i>Not recommended for future consideration as there would be two plants to operate and two points of discharge. Not practical.</i>

Two alternatives were put on the short list for further consideration:

- Alternative 1: Construct additional plant capacity at the existing site;
- Alternative 2: Construct a new wastewater treatment plant at a new site (includes decommissioning of existing plant).



# Phase 2 – Selection of the Preferred Solution

**Evaluation Step:** The two short-listed alternatives were compared and evaluated as shown in the table below. The green shading shows a preference for one alternative over the other.

	Minimal to no impact/technically preferred
	Some impact/technically less preferred

Evaluation of Alternative Solutions		
Evaluation Criteria	Alternative 1 Expand the existing WWTP at the existing site	Alternative 2 Construct a new WWTP at a new site (includes decommissioning of existing plant)
<b>Protection of Cultural, Socio-Economic Environment</b>		
Consistency with Provincial and Local Planning Documents	The existing treatment plant can be expanded to an ultimate capacity of 7,000 m <sup>3</sup> /d to accommodate approved growth in Acton.	A new treatment plant can be constructed to provide an ultimate capacity of 7,000 m <sup>3</sup> /d to accommodate approved growth in Acton.
Compatibility with Existing and Planned Land Uses	Improvements would be contained on existing property leaving an adequate buffer to adjacent land uses. Note that lands surrounding the existing site are zoned as Greenlands A and B, based on its proximity to Black Creek and are generally considered unsuitable for development given their importance to the ecosystem, including protection of property from flooding. There are no recreational uses in the plant vicinity that will be impacted.	Additional land required to accommodate a new WWTP. New WWTP may displace existing or future development depending on the location. The location may be limited to Black Creek or tributaries of this receiver with sufficient base flow to provide an acceptable dilution ratio. The potential to impact recreational facilities depends on the location of the new plant.
Potential for Cultural Impacts	Since no additional land required outside of site fence line and lands within the fence were likely disrupted during the original plant construction, the potential for impact on archaeological resources is minimal. There are no known cultural heritage features on-site.	Additional land is required which could result in potential to impact archaeological or cultural heritage resources.
Potential Impact on Residents/Property Owners	No private property will be required. Disruption including noise, dust, odour and visual impacts may be realized during construction and operation. Impacts will be mitigated, where possible.	Private property may be displaced for this site. Disruption including noise, dust, odour and visual impacts may be realized during construction and operation. Impacts will be mitigated, where possible.
<b>Protection of the Natural Environment</b>		
Impacts on Receiving Water Quality	Proposed WWTP effluent quality will meet the Ministry of the Environment's Policy 2 requirements and not further degrade water quality.	New sites for the WWTP in the Acton area have the same receiver, Black Creek or a receiver that is equally or more sensitive. Proposed WWTP effluent quality will meet the Ministry of the Environment's Policy 2 requirements and not further degrade water quality.
Impacts on Natural Environmental Features	No significant habitat will be displaced for this expansion. Loss of vegetation will be mitigated. A Landscape Plan will be prepared during Detailed Design.	A new site would be located to avoid significant habitat thus no significant habitat will be displaced for this expansion. A new site would likely result in greater removal of vegetation. Loss of vegetation will be mitigated where possible. A Landscape Plan will be prepared during Detailed Design.
<b>Technical Performance</b>		
Performance and Experience	A proven and reliable treatment process with an established performance record to be employed for WWTP expansion at existing site.	A proven and reliable treatment process with an established performance record to be employed for new WWTP at new site.
Ease of Construction and Operation	An expansion of the existing plant and a new plant are likely to have similar processes, have similar training requirements, similar maintenance, and both be relatively straight forward to operate.	An expansion of the existing plant and a new plant are likely to have similar processes, have similar training requirements, similar maintenance, and both be relatively straight forward to operate.
	Both alternatives involve standard construction practices. This alternative poses greater challenges for construction as it will be necessary to keep the existing plant operational while the expansion construction is underway.	Both alternatives involve standard construction practices. Maintaining treatment during construction will be more straight forward for an alternative with a new plant in a different location.
Reliability	Flexible process to accommodate variable flows and loads would be employed for both Alternatives.	Flexible process to accommodate variable flows and loads would be employed for both Alternatives.
<b>Cost</b>		
Capital Cost	Moderate capital cost to provide WWTP expansion at existing site.	High capital cost to provide new infrastructure at a new site and the previous investment at the existing plant would be lost. Additional land is an added cost.
Operating & Maintenance Cost	An expansion of the existing plant and new plant are expected to have similar operating and maintenance costs, since a similar treatment process would be employed for either alternative.	An expansion of the existing plant and new plant are expected to have similar operating and maintenance costs, since a similar treatment process would be employed for either alternative.
Lifecycle Cost	Lower lifecycle cost than Alternative 2 on account of the lower capital cost.	Higher lifecycle cost than Alternative 1 on account of the higher capital cost.
Overall Evaluation	<b>Preferred</b>	<b>NOT Preferred</b>

# Phase 2 – Selection of the Preferred Solution

## Preferred Solution: Expansion of the Existing Treatment Plant

### Advantages:

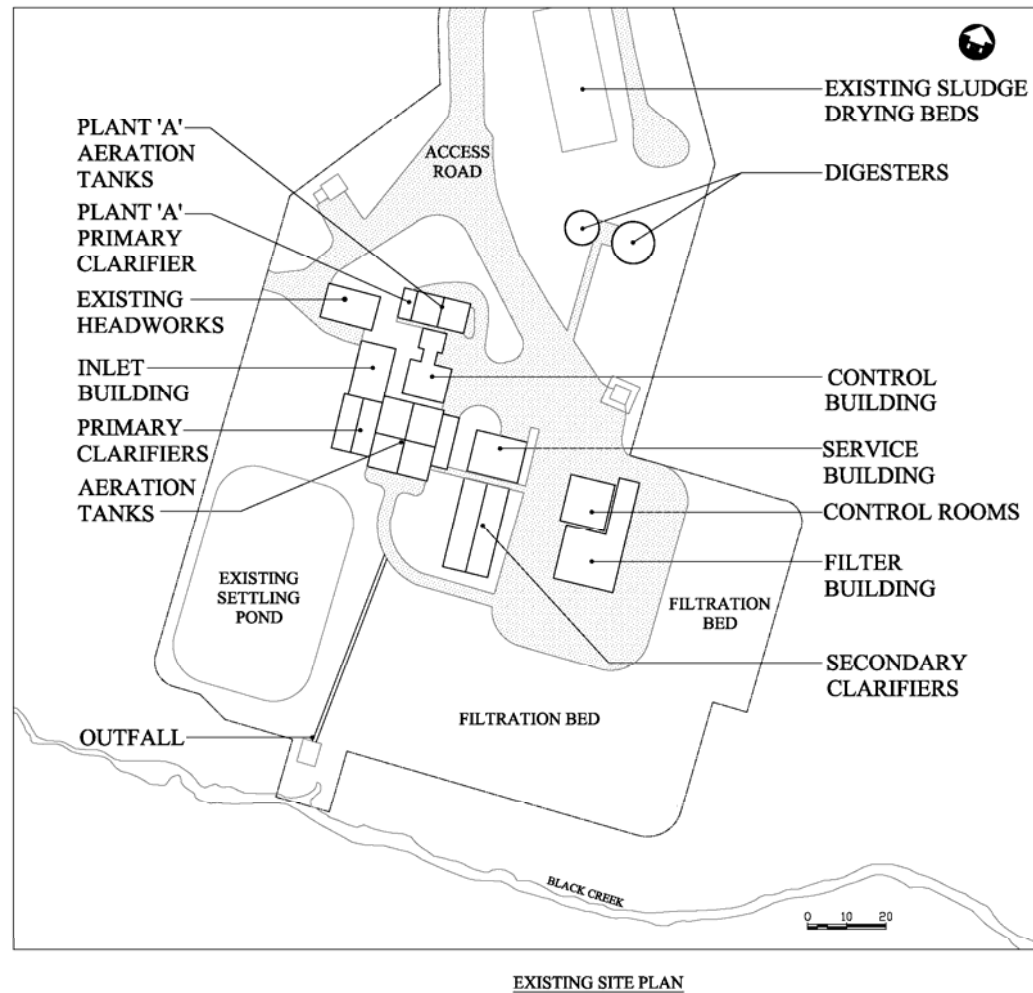
- No new property required.
- Minimal disruption impacts (noise, dust, odour).
- Minimal potential for impacts on cultural resources as site is already disturbed.
- No loss of significant natural habitat.
- Can be designed to effectively provide needed wastewater treatment.
- Less expensive.

### Disadvantage:

- More challenging as plant will have to stay in operation during construction.

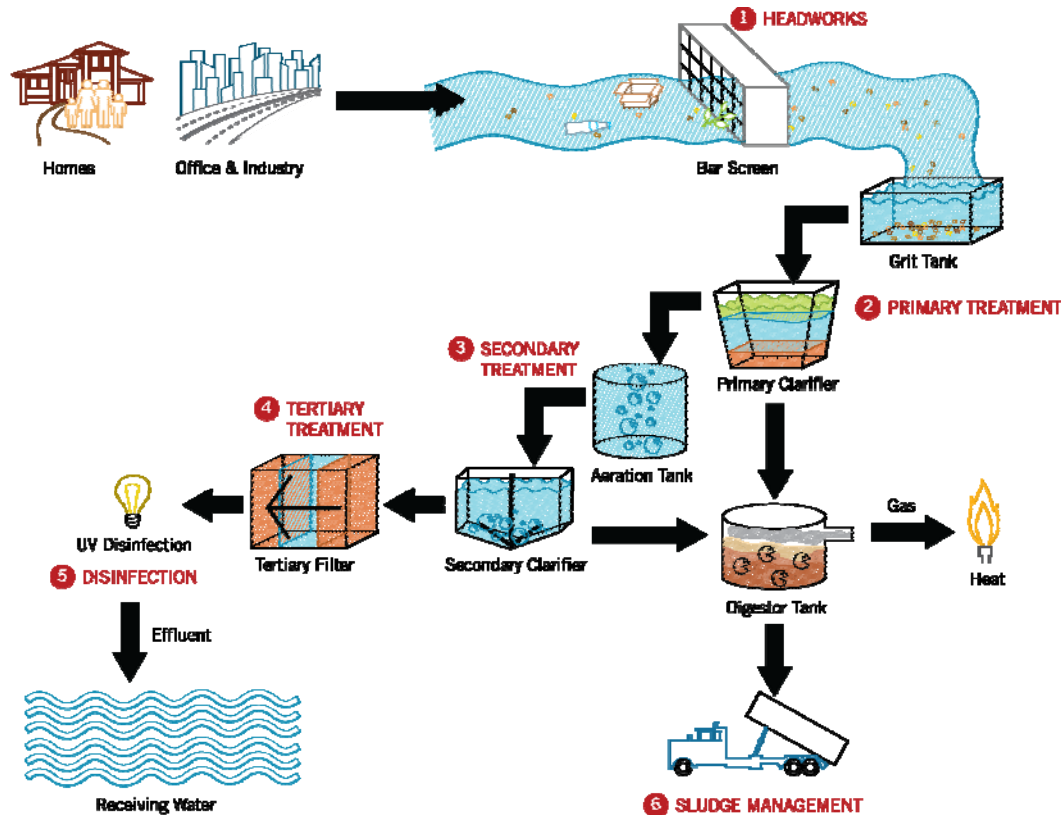
# Existing Acton WWTP

The existing Acton WWTP was commissioned in different phases beginning in 1951.



# How a Wastewater Treatment Plant Works

A conventional municipal WWTP generally includes the following unit processes:



- *Headworks*: inlet works including preliminary treatment such as screening to remove large solids and potentially a grit removal system.
- *Primary treatment*: may include primary clarification (settling) to achieve a primary treatment level removal of Total Suspended Solids and Biochemical Oxygen demand.
- *Secondary treatment*: biological process such as suspended growth, fixed film or hybrid process to achieve removal of organic material through oxidation of dissolved and particulate biodegradable constituents, and subsequent clarification/settling for further removal of Total Suspended Solids.
- *Tertiary treatment*: further treatment to provide removal of Total Suspended Solids, and Total Phosphorus that is associated with the Total Suspended Solids.
- *Disinfection*: removal of microbial contaminants before effluent is discharged to the receiver.
- *Sludge management*: handling and treatment of waste sludge generated as part of the treatment.

# Phase 3 – Evaluation of Design Concepts

**Screening Step:** The following screening criteria were used to identify the short list of alternative design concepts.

Criteria	Description
<b>Operational and Performance Objectives</b>	The alternative must satisfy hydraulic requirements and meet effluent objectives and limits by accommodating design flows through the various treatment components. The alternative must not pose any unreasonable operational controls or schemes. Secondary treatment alternatives must provide nitrification and the potential for denitrification in the future.
<b>Experience and Implementation</b>	The alternative must have full scale municipal wastewater installations under similar operating conditions and environments.
<b>Expandability</b>	The alternative can be implemented within the existing site property to retrofit the existing plant by using all or at least a portion of existing Plant B aeration and secondary clarifier tankage, to allow for a planned expansion to an ultimate capacity of 7,000 m <sup>3</sup> /d.



# Phase 3 – Evaluation of Design Concepts

**Screening Step:** Application of the Screening Criteria removed alternatives from the long list that did not meet the minimum performance threshold.

Application of Screening Criteria to the Long List of Alternative Design Concepts (Fail indicates that the alternative does not meet the criteria and is screened out)			
Alternative	Operational and Performance Objectives	Experience and Implementation	Expandability
<b>Peak Flow Management</b>			
Increased Plant Capacity	Pass	Pass	Pass
Flow Equalization Tank	Pass	Pass	Pass
<b>Primary Treatment</b>			
PC with WAS co-thickening	Pass	Pass	Pass
PC without WAS co-thickening	Pass	Pass	Pass
Chemically Enhanced PC	Fail	Pass	Pass
High Rate Clarification	Fail	Pass	Pass
<b>Secondary Treatment</b>			
Conventional Activated Sludge	Fail	Pass	Pass
Modified Activated Sludge with nitrification and denitrification	Pass	Pass	Pass
SBR	Pass	Pass	Fail
BNR	Fail	Pass	Pass
MBR	Pass	Pass	Pass
RBC	Fail	Pass	Fail
TF	Fail	Pass	Pass
TF/SC	Fail	Pass	Pass
BAF	Pass	Pass	Fail
MBBR	Pass	Fail	Fail
FBBR	Pass	Fail	Fail
IFAS	Pass	Fail	Fail
<b>Tertiary Filtration</b>			
Maintain existing filters and add granular filtration	Pass	Pass	Pass
Maintain existing filters and add membrane filtration	Pass	Pass	Pass
New stand-alone granular filtration	Pass	Pass	Pass
New stand-alone membrane filtration	Pass	Pass	Pass
Add high-rate chemical-physical treatment	Pass	Pass	Pass
<b>Disinfection</b>			
Ultraviolet disinfection	Pass	Pass	Pass
Chlorination/dechlorination	Fail	Pass	Pass
Ozonation	Fail	Pass	Pass

Alternatives highlighted in Green were carried forward for further consideration.



# Phase 3 – Evaluation of Design Concepts

**Evaluation Step:** The following evaluation criteria were applied to the short list of design concept alternatives to identify a preferred alternative.

Short List Evaluation Criteria	
Criteria	Indicator
Protection of the Cultural and Socio-Economic Environment	
Potential for Cultural Impacts	Displacement or disruption of any archaeologically significant findings
	Displacement or disruption of cultural heritage features
Potential Impact on residents/property owners	Potential visual-aesthetic impact associated with new construction (added footprint of new tankage and buildings, new building and tankage height)
	Potential short term disruption (noise, dust, odour, traffic) during construction
	Potential long term disruption (noise, dust, odour) during operation
Protection of the Natural Environment	
Impacts on Receiving Water Quality	Potential of the alternative to improve the receiving water quality and aquatic systems
Impacts on Natural Environmental Features	Potential for impact on terrestrial or aquatic habitat
Technical Performance	
Performance and Experience	<p>Ability of the technology to meet the Ministry of the Environment (MOE) definition of 'proven technology':</p> <ul style="list-style-type: none"> <li>• a minimum of three separate installations, operated at near design capacity</li> <li>• a minimum of three years of operating record at three separate locations</li> <li>• a minimum of three years operating record showing reliable consistent compliance with the design performance criteria without major failure of either the process or equipment</li> </ul>
Ease of Construction and Operation	Relative ease to implement/construct and maintain/operate the proposed technology within existing treatment plant
Expandability	Relative ease at which the plant could be expanded for the alternative, including new tankage and buildings or to meet more stringent effluent criteria
Reliability	Ability of the treatment process associated with the alternative to handle variable loadings and flows
Cost	
Capital Cost	Estimated capital cost associated with the alternative only (excluding costs that common among the alternatives being compared)
Operating and Maintenance Cost	Estimated annual operating costs, including non-common costs only such as energy and chemical consumption to provide an incremental cost
Lifecycle Cost	The total estimated cost estimate over a 20-year period considering inflation (5.57%/yr, NRBCI 1999-2009 for Quarter 2 for Toronto area), and the above capital cost and operating and maintenance costs associated with this alternative only

# Phase 3 – Evaluation of Design Concepts

Alternatives	Peak Flow Management		Primary Treatment		Secondary Treatment		Tertiary Treatment				
Criteria/Indicator	Increased Plant Capacity	Flow equalization Tank	PCs with WAS co-thickening	PCs without WAS co-thickening	Modified Activated Sludge	MBR	Maintain Existing Filters and Add Granular Filtration	Maintain Existing Filters and Add Membrane Filtration	New Standalone Granular Filtration	New Standalone Membrane Filtration	New High-Rate Physical-Chemical Treatment
Archaeological impact	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
Cultural heritage impact	None	None	None	None	None	None	None	None	None	None	None
Visual-aesthetic impact	Limited visibility	Limited visibility	Limited visibility	Limited visibility	Limited visibility	Limited visibility	Limited visibility	Limited visibility	Limited visibility	Limited visibility	Limited visibility
Construction disruption (noise, dust, odour, traffic)	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated
Operation disruption (noise, dust, odour)	Minimal; can be mitigated	Potential for odour	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated	Minimal; can be mitigated
Impacts to the receiving water quality	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
Impact on terrestrial or aquatic habitat	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
Ability to meet MOE definition of 'proven' technology	Proven process	Proven process	Proven process	Proven process	Proven process	May not be considered a 'proven' technology	Proven process	May not be considered a 'proven' technology	Proven process	May not be considered a 'proven' technology	May not be considered a 'proven' technology
Ease to implement/construct and maintain/operate	Relatively easy construction and operation	More difficult to construct and operate	Relatively easy construction and operation	More difficult to construct and operate	Relatively easy construction and operation	More difficult to construct and operate	Relatively easy construction and operation	Relatively easy construction and operation	More difficult to construct and operate	More difficult to construct and operate	Relatively easy construction and operation
Opportunity for future expansion	Can be expanded	Location may influence expansion options	Can be expanded	Can be expanded	Can be expanded	Can be expanded	Can be expanded	Can be expanded	Can be expanded	Can be expanded	Can be expanded
Flexibility to handle variable loadings and flows	Provides a reliable form of treatment	Provides a reliable form of treatment	Provides a reliable form of treatment	Provides a reliable form of treatment	Provides a reliable form of treatment	Provides a reliable form of treatment	Provides a reliable form of treatment	Provides a reliable form of treatment	Provides a reliable form of treatment	Provides a reliable form of treatment	Provides a reliable form of treatment
Capital cost	\$5.7 M	\$5.3 M	\$1.9 M	\$2.7 M	\$9.9 M	\$19.7 M	\$5.3 M	\$11.5 M	\$4.1 M	\$10.3 M	\$ 8.0 M
Annual operating and maintenance costs (excluding common costs)	--	\$2000 / yr	--	\$13,000 / yr	--	\$53,540 / yr	\$15,300 / yr	80,000 / yr	\$15,300 / yr	\$80,000 / yr	\$15,100 / yr
Lifecycle cost (over a 20-year period)	\$5.7 M	\$5.4 M	\$1.9 M	\$3.2 M	\$9.9 M	\$25.6 M	\$5.9M	\$18.4 M	\$4.7M	\$17.2M	\$8.6 M
Overall Evaluation	<b>Recommended</b>	<b>NOT Recommended</b>	<b>Recommended</b>	<b>NOT Recommended</b>	<b>Recommended</b>	<b>NOT Recommended</b>	<b>NOT Recommended</b>	<b>NOT Recommended</b>	<b>Recommended</b>	<b>NOT Recommended</b>	<b>NOT Recommended</b>

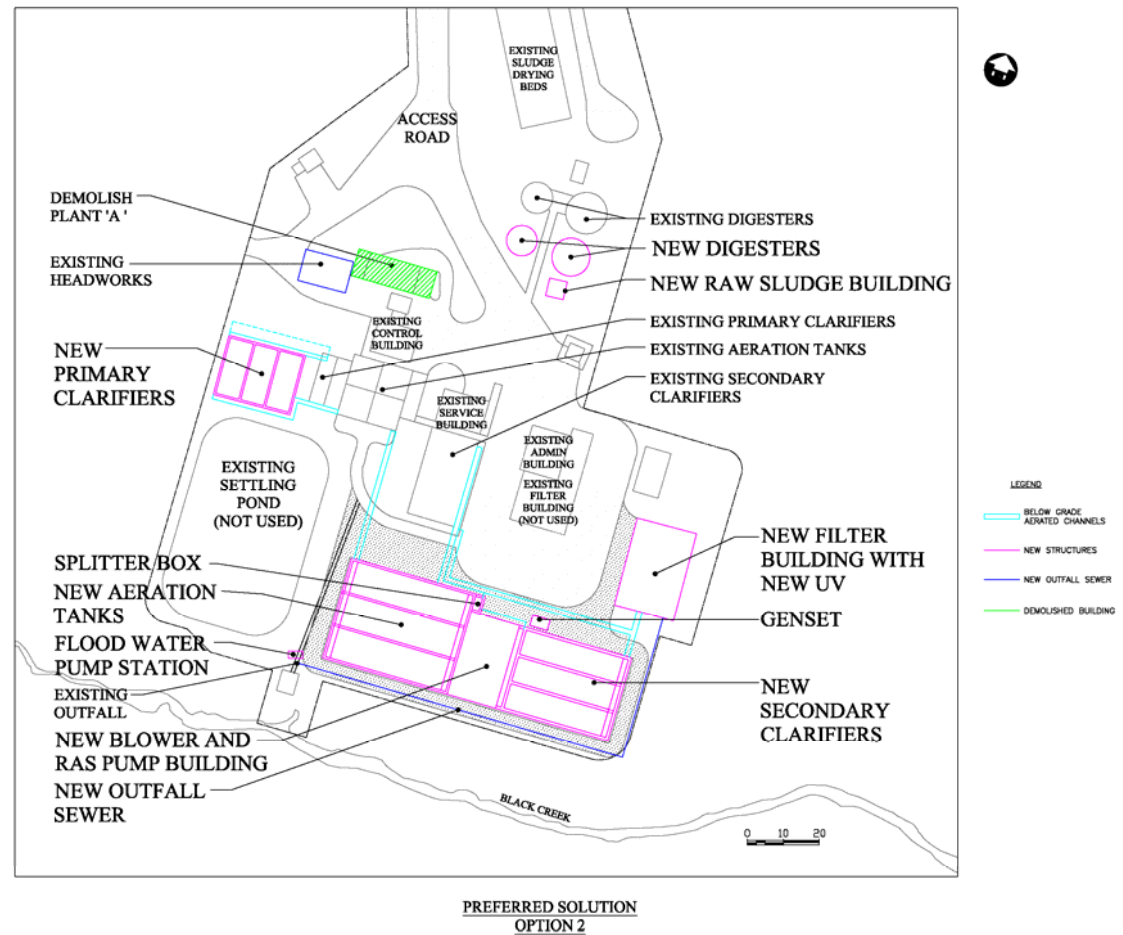
# Recommended Design Concept

- Based on the evaluation of alternative design concepts the recommended design concept for the expansion of the Action WWTP includes:
  - Peak Flow Management – provide adequate peak flow management through increased plant capacity.
  - Preliminary Treatment – new inlet works. (currently underway)
  - Primary Treatment – new primary clarifiers with co-thickening of waste activated sludge. (as shown on evaluation table)
  - Secondary Treatment – modified activated sludge treatment process including nitrification, and potentially full denitrification in the future. (as shown on evaluation table)
  - Tertiary Filtration – new stand-alone granular filtration system. (as shown on evaluation table)
  - Disinfection – ultraviolet disinfection.
- The probable cost of the recommended design concept is \$19.5 million.

# Recommended Design Concept

## Proposed Site Plan

- Improvements proposed for the Acton Wastewater Treatment Plant are contained within the existing property.
- Some new buildings/features are proposed as shown in the figure. Final location of plant buildings/features is subject to change during detailed design.
- Construction is anticipated to occur in 2012 and will last approximately two years.
- Construction related disruption is anticipated to be minimal.
- The plant expansion will be constructed in two phases.



# Background Studies Related to the Proposed Plant Expansion

## Assimilative Capacity Study (ACS)

- An assimilative capacity study (ACS) assesses the capability of a water course/body to accommodate new inputs without resulting in degraded water quality.
- Acton WWTP discharges to Black Creek which is a sensitive watercourse that supports a cold-water fishery.
- An ACS was completed in 2007-2008 (including field work) to assess the assimilative capacity of Black Creek and evaluate potential impacts of the proposed Acton WWTP expansion on water quality.
- The results of this study aided in determining the level of treatment required for the expansion of the Acton WWTP.



# Background Studies Related to the Proposed Plant Expansion

- The Assimilative Capacity Study concluded that water quality in Black Creek does not meet Provincial Water Quality Objectives for Total Phosphorous (TP).
- Phosphorous is an inorganic parameter that is monitored in Black Creek; a limited quantity is allowed in the creek.
- High levels of TP can result in algae growth in water bodies which reduces the level of oxygen within the water.
- Sewage treatment plant discharge typically includes some TP.
- The Acton WWTP expansion will be designed to reduce the release of TP to the extent practical. If additional reductions are required in the future, other off-site controls for TP will be implemented.





# Background Studies Related to the Proposed Plant Expansion

## Total Phosphorous Management Study

- A TP Management Study for the Urban and Rural area around Acton was conducted in 2009 and 2010 to determine other ways to reduce TP loading to the creek.
- The purpose of the study was to identify opportunities to reduce the amount of phosphorous entering the creek upstream of the Acton WWTP.
- In urban areas TP typically comes from stormwater. In rural areas TP can come from improper manure storage, livestock entering creeks and milkhouse wastewater.
- A final strategy for TP management could include:
  - Reduction of the amount of TP coming from the Acton WWTP.
  - Ongoing monitoring of TP levels in Black Creek and WWTP effluent.
  - Implementation of other ways to reduce TP when necessary to achieve the targets agreed to by the Region, Credit Valley Conservation Authority and Ministry of the Environment.



# Potential Mitigation Measures

- Minimal impacts are anticipated from the Recommended Design Concept.

Potential Impact During Construction	Mitigation Measure
Noise and Dust	<p>Noise and dust are expected to be limited and contained within the WWTP site area. Where construction trucks travel to and from the site, the number of trucks will be minimal and construction times will be limited according to the local noise bylaw. Dust will be minimized and may include using covers on fill piles and watering techniques on roadways where dust from trucks may occur.</p> <p>Best management practices for dust and noise management will be implemented.</p>
Erosion and Sediment Control	Best management practices to control stormwater runoff will be implemented.
Groundwater	Appropriate construction methods will be used to minimize dewatering requirements. A monitoring program will be developed and implemented prior to and during construction.
Loss of Vegetation	The site is landscaped/manicured. There will be no tree-cutting or removal of significant habitat.
Transportation and Truck Traffic	Minimal construction truck traffic will occur on local service roads around the site. Complaints made to Halton Region regarding truck traffic will be addressed as they arise.
Potential Impact During Operations	Mitigation Measure
Water Quality in Black Creek	The plant expansion will be designed to meet effluent criteria set by MOE. It will also be designed to reduce the release of TP to the extent practical. If additional reductions are required in the future, other off-site controls for TP will be implemented.
Odour	Odour impacts are not anticipated and best management practices to minimize odour are already in place.

# Anticipated Next Steps

Task	Date
Consider Public and Agency Input/ Confirm Preferred Design Concept	November/Early December 2010
Document Study in Environmental Study Report (ESR)	November/December 2010
45 Day Public Review Period	December 2010
Detailed Design	Early 2011
Construction	2012

# Have Your Say

- Fill in a comment sheet today or mail/fax one in by December 3, 2010.
- Contact Halton staff with your questions:

Magda Bielawski, P.Eng.  
1151 Bronte Road  
Oakville ON L6M 3L1  
[magda.bielawski@halton.ca](mailto:magda.bielawski@halton.ca)  
905-825-6000, ext. 7426  
Toll Free: 1-866-442-5866  
Fax: 905-825-0267
- View the project website at:  
<http://www.halton.ca/cms/One.aspx?portalId=8310&pageId=12699>
- Review the ESR during the 45-day public review period.

## APPENDIX D3 - PUBLIC, ABORIGINAL, & AGENCY CONSULTATION

## PUBLIC CORRESPONDENCE

## – Comment Form –

### *Region of Halton - Acton Wastewater Treatment Plant Class Environmental Assessment*

### **Public Information Centre #2, November 16, 2010**

The Region of Halton is interested in hearing your comments, questions, and concerns regarding this project. Please take a few minutes to complete this brief comment form. All comments received will become part of the public record and will be considered in the Class Environmental Assessment. Please use additional sheets, should you require more space to comment. The electronic copy of this form can also be downloaded from the project website: <http://www.halton.ca/cms/One.aspx?portalId=8310&pageId=12699>

Name: WILLIAM ANDREWS

Organization: \_\_\_\_\_

Address: 16 SPRUCE BLVD

Phone: 519 853 5040 Fax: \_\_\_\_\_ e-mail: abarnstaple-andrews@symplicity.ca

- 1) *Did the displays and discussions with project representatives help you to understand more about the project? (please circle one)*

Yes

No

*Were your questions answered to your satisfaction? (please circle one)*

Yes

No

- 2) *I am:*

- ☐ A resident of the Study Area
- ☒ A resident outside of the Study Area
- ☐ A business owner in the Study Area
- ☐ A business owner outside of the Study Area
- ☐ A member of a First Nation, Métis Nation or an Aboriginal person  
Which First Nation, Métis Circle? \_\_\_\_\_
- ☐ An elected representative
- ☐ A member of a concerned agency
- ☐ Other, please specify \_\_\_\_\_

3) *I have reviewed the information on the proposed project as provided at the PIC and:*

- ☒ I am satisfied with the project as presented
- ☐ I am not satisfied with the project as presented  
Please specify \_\_\_\_\_
- ☐ I have no opinion

4) *Do you have any comments on the screening or evaluation procedures that have been utilized for selecting the preferred solution and the recommended design concepts?*

*NO ISSUES.*

5) *Do you have any other comments related to this project?*

*PRIMARY CONCERN IS MAINTAINING THE QUALITY OF THE  
RECEIVING STREAM AND THE COLD WATER FISHERY.*

Your comments are appreciated. Please complete this form and place it in the comment box or return by **December 3, 2010** to:

**Magda Bielawski, P.Eng.**  
**Project Manager**  
Wastewater Planning, Public Works  
Halton Region

**Phone:** 905-825-6000 Ext. 7426  
**Fax:** 905-825-8822  
**Email:** magda.bielawski@halton.ca

The *Freedom of Information and Protection of Privacy Act* applies to this project. With the exception of personal information, all comments will become part of the public record.

## – Comment Form –

### *Region of Halton - Acton Wastewater Treatment Plant Class Environmental Assessment*

### **Public Information Centre #2, November 16, 2010**

The Region of Halton is interested in hearing your comments, questions, and concerns regarding this project. Please take a few minutes to complete this brief comment form. All comments received will become part of the public record and will be considered in the Class Environmental Assessment. Please use additional sheets, should you require more space to comment. The electronic copy of this form can also be downloaded from the project website: <http://www.halton.ca/cms/One.aspx?portalId=8310&pageId=12699>

Name: Dominique Evans

Organization: —

Address: 123 Wynford Place, Acton

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ e-mail: dominiqueevans@hotmail.com

- 1) *Did the displays and discussions with project representatives help you to understand more about the project? (please circle one)*

Yes No

*Were your questions answered to your satisfaction? (please circle one)*

Yes No

- 2) *I am:*

- ☒ A resident of the Study Area
- ☐ A resident outside of the Study Area
- ☐ A business owner in the Study Area
- ☐ A business owner outside of the Study Area
- ☐ A member of a First Nation, Métis Nation or an Aboriginal person  
Which First Nation, Métis Circle? \_\_\_\_\_
- ☐ An elected representative
- ☐ A member of a concerned agency
- ☐ Other, please specify \_\_\_\_\_



3) *I have reviewed the information on the proposed project as provided at the PIC and:*

- ☒ I am satisfied with the project as presented
- ☐ I am not satisfied with the project as presented  
Please specify \_\_\_\_\_
- ☐ I have no opinion

4) *Do you have any comments on the screening or evaluation procedures that have been utilized for selecting the preferred solution and the recommended design concepts?*

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5) *Do you have any other comments related to this project?*

*I understand that this is to expand for new development, but no one could tell me generally where this development is to occur.*

Your comments are appreciated. Please complete this form and place it in the comment box or return by **December 3, 2010** to:

**Magda Bielawski, P.Eng.**  
**Project Manager**  
Wastewater Planning, Public Works  
Halton Region

**Phone:** 905-825-6000 Ext. 7426  
**Fax:** 905-825-8822  
**Email:** magda.bielawski@halton.ca

The *Freedom of Information and Protection of Privacy Act* applies to this project. With the exception of personal information, all comments will become part of the public record.

**McKillop, Marcy**

---

**From:** Baker, Colin [Colin.Baker@halton.ca]  
**To:** Alfio Manarin  
**Cc:** McKillop, Marcy  
**Subject:** RE: Acton WWTP Expansion  
**Attachments:**

**Sent:** Tue 7/3/2007 11:15 AM

Dear Mr. Manarin,

Thanks for your interest in this project. You will be added to the project mailing list and will receive future notices.

Regards,  
Colin

---

**From:** Alfio Manarin [mailto:amanarin@humberline.com]  
**Sent:** Friday, June 15, 2007 5:24 PM  
**To:** Baker, Colin  
**Subject:** Acton WWTP Expansion

Hello Colin,

Can we please be added to the project mailing list as key information and reports become available.

Regards,

Alfio Manarin, President

Rinarin Limited

333 Humberline Drive

Toronto, Ontario

M9W 5X3

Tel 416 675 4174 X222

Fax 416 675 9874

amanarin@humberline.com

**Myrans, Katharine**

---

**From:** Kolli, Karla  
**Sent:** Friday, November 19, 2010 2:18 PM  
**To:** Myrans, Katharine  
**Subject:** FW: Acton Wastewater Treatment Plant Expansion Project - mailing list



**Karla Kolli**  
 Associate  
**Dillon Consulting Limited**  
 235 Yorkland Blvd, Suite 800  
 Toronto, Ontario, M2J 4Y8  
 T - 416.229.4647 ext. 2354  
 M - 647.204.2495  
 F - 416.229.4692  
[KKolli@dillon.ca](mailto:KKolli@dillon.ca)  
[www.dillon.ca](http://www.dillon.ca)

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**From:** Bielawski, Magda [mailto:Magda.Bielawski@halton.ca]  
**Sent:** Thursday, November 04, 2010 1:57 PM  
**To:** jeff.miller@mapleleaf.com  
**Cc:** Kolli, Karla; Tasfi, Louis  
**Subject:** RE: Acton Wastewater Treatment Plant Expansion Project - mailing list

Dear Mr. Miller,  
 Thank you for the interest in this study. I've added your name to our project mailing list.  
 Magda

**Magda Bielawski, P.Eng.**  
**Project Manager - Wastewater Planning**  
 Public Works, Wastewater Services  
 Tel: 905-825-6000 (ext.7426)  
 Toll Free: 1-866-442-5866

---

**From:** Miller, Jeff [mailto:jeff.miller@mapleleaf.com]  
**Sent:** Thursday, November 04, 2010 1:32 PM  
**To:** Tasfi, Louis  
**Subject:** Acton Wastewater Treatment Plant Expansion Project

Further to Notice of Public Information Centre #2, relating to Acton Wastewater Treatment Plant Expansion Project please include me on the project mailing list.

**Jeff Miller**  
**Maple Leaf Foods Inc.**  
**30 St. Clair Ave. W**  
**Suite 1500**  
**Toronto, Ontario**  
**M4V 3A2**

[jeff.miller@mapleleaf.com](mailto:jeff.miller@mapleleaf.com)

Email scanned for virus: mailb.mapleleaf.ca

12/16/2010

**Myrans, Katharine**

---

**From:** Kolli, Karla  
**Sent:** Monday, December 06, 2010 10:03 AM  
**To:** Myrans, Katharine  
**Subject:** FW: Acton EA - incl. in ERS - comment  
**Follow Up Flag:** Follow up  
**Flag Status:** Red



**Karla Kolli**  
 Associate  
**Dillon Consulting Limited**  
 235 Yorkland Blvd, Suite 800  
 Toronto, Ontario, M2J 4Y8  
 T - 416.229.4647 ext. 2354  
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[KKolli@dillon.ca](mailto:KKolli@dillon.ca)  
[www.dillon.ca](http://www.dillon.ca)

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**From:** Bielawski, Magda [mailto:Magda.Bielawski@halton.ca]  
**Sent:** Monday, December 06, 2010 9:23 AM  
**To:** Kolli, Karla  
**Subject:** Acton EA - incl. in ERS - comment

Hi Karla,  
 Here is comment re: Acton PIC#2.  
 Magda

---

**From:** Bill Gauley [mailto:bill@veritec.ca]  
**Sent:** Friday, November 12, 2010 2:51 PM  
**To:** Bielawski, Magda  
**Subject:** Acton wastewater treatment plant

Hi Magda – I recently moved to Acton from Georgetown (June 2010) but unfortunately I did not attend the PIC in June. I work with Canadian and American water agencies and government agencies in the field of water efficiency and I was curious whether the Town had ever considered reducing wastewater flows via implementing water efficiency program. I know that an estimate has been completed for the Region regarding the potential to reduce water demands in Halton Hills and that this analysis included the potential for savings in Acton. I believe that the potential savings estimate just from installing efficient toilets in existing homes was greater than 350,000 L/day, plus there are savings opportunities available from installing efficient showerheads and clothes washers. Another factor that you may want to consider is that the average per capita indoor residential water demand is reducing by a minimum of approximately 4 litres per day per year across North America (e.g., if the residential demands in Acton are currently 230 Lcd, next year they will likely be 226 Lcd, and 222 Lcd the following year, etc.). This reduction is driven by the migration of the marketplace towards front-loading clothes washers and water-efficient toilets.

12/16/2010

I am hoping to be able to attend the November 16 PIC and I hope to have an opportunity to meet with you then.

Thanks, and have a great weekend.

Bill

Bill Gauley, P.Eng., Principal  
Veritec Consulting Inc., A Miya Group Company  
1495 Bonhill Road, #12  
Mississauga, ON L5T 1M2

phone (905) 696-9391, x 102  
cell (416) 677-6193  
fax (905) 696-9395

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Thank you

## Myrans, Katharine

---

**From:** Kolli, Karla  
**Sent:** Tuesday, December 07, 2010 11:05 AM  
**To:** Myrans, Katharine  
**Subject:** FW: Acton - incl. in ESR file

For the consultation file and table  
K



**Karla Kolli**  
*Associate*  
**Dillon Consulting Limited**  
235 Yorkland Blvd, Suite 800  
Toronto, Ontario, M2J 4Y8  
T - 416.229.4647 ext. 2354  
M - 647.204.2495  
F - 416.229.4692  
[KKolli@dillon.ca](mailto:KKolli@dillon.ca)  
[www.dillon.ca](http://www.dillon.ca)



*Please consider the environment before printing this email*

---

**From:** Bielawski, Magda [<mailto:Magda.Bielawski@halton.ca>]  
**Sent:** Monday, December 06, 2010 4:03 PM  
**To:** Kolli, Karla  
**Subject:** Acton - incl. in ESR file

---

**From:** Tasfi, Louis [<mailto:LTasfi@dillon.ca>]  
**Sent:** Tuesday, November 30, 2010 12:21 PM  
**To:** Khan, Carlyle  
**Cc:** Bielawski, Magda; Tasfi, Louis  
**Subject:** RE: Acton WWTP Class EA Expansion - VWS alternative design

Thank you for the information. We are well aware of all the technologies listed in the attached brochure and were also considered as part of the long list of options for the Acton plant.



**Louis Tasfi, Ph.D., P.Eng.**  
*Partner*  
**Dillon Consulting Limited**  
130 Dufferin Avenue, Suite 1400  
London, Ontario, N6A 5R2  
T - 519.438.1288 ext. 1320  
M - 519.521.1223  
F - 519.672.8209  
[LTasfi@dillon.ca](mailto:LTasfi@dillon.ca)  
[www.dillon.ca](http://www.dillon.ca)



*Please consider the environment before printing this email*

---

**From:** Khan, Carlyle [<mailto:Carlyle.Khan@veoliawater.com>]  
**Sent:** Tuesday, November 30, 2010 12:04 PM  
**To:** Tasfi, Louis  
**Subject:** FW: Acton WWTP Class EA Expansion - VWS alternative design

Hello Louis,

12/16/2010

In a recent conversation with the Commissioner of PW, Halton Region, we were discussing VWS Canada Inc. and our capabilities, he suggested I forward our thoughts on the Acton WWTP to Dave Andrews. Respectfully and as a courtesy to you, I am forwarding this information for your consideration, and future discussions with the Region.

I trust this is acceptable, and will serve the Region/Dillon as it completes its EA.

Regards,

**CARLYLE KHAN**

Mobile: 416-458-8911 | Office: 905-286-4846

Fax: 905-286-0488

Email: [carlyle.khan@veoliawater.com](mailto:carlyle.khan@veoliawater.com)

Website: <http://www.veoliawaterst.ca/en/>

**From:** Khan, Carlyle

**Sent:** November 30, 2010 11:46 AM

**To:** 'Dave Andrews (dave.andrews@halton.ca)'

**Cc:** 'Zamojc, Mitch'

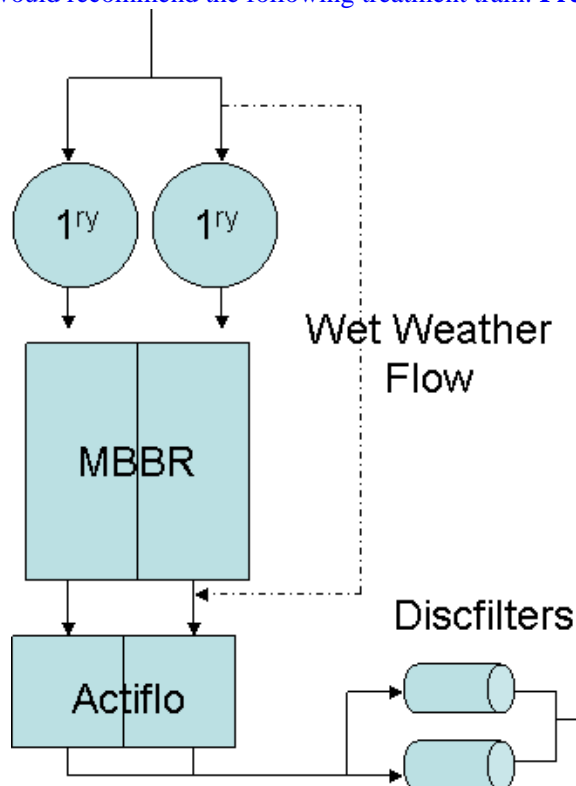
**Subject:** Acton WWTP Class EA Expansion - VWS alternative design

Hello Dave,

During a recent conversation with Mitch Zamjoc, we discussed at a very high level some of the on-going projects in Halton Region. One key project that we discussed was the Acton WWTP Expansion & Upgrade. VWS Canada Inc. has been following this project for some time, and even before I joined VWS Canada Inc. I was involved in the Capital Needs Assessment completed in 2005/06. We are familiar with the facility and the various challenges from an operational perspective, and that of its future requirements.

Our Engineering Team has reviewed the existing facility and proposed expansion and upgrade requirements, and have been following the EA process. To this end, we respectfully submit the follow high-level point for your consideration:

1. To meet the effluent requirements, **BOD - 5 mg/L; N-NH<sub>3</sub> - 2-4 mg/L (summer – winter); TP - 0.1 mg/L**, we would recommend the following treatment train: **Pretreatment → Primary Clarification → MBBR → Actiflo**



**→ Discfilters.** During Wet Weather Flows (WWF), the peaks would be sent directly to the Actiflo and Discfilters for treatment.

- Our estimated budget cost (equipment only) is \$4.35M, therefore we estimate the installed cost would be 2-3 times the equipment cost, which equates to ~\$12.M VWS Canada Inc. is available to work with the Region/Consultant to develop a more accurate cost. This project would be a good candidate for a DB option.
- VWS Canada Inc. has recently introduced its new MBBR media, "Matrix™ Sol Media", for IFAS and MBBR, 800 m<sup>2</sup>/m<sup>3</sup>. the highest surface area of any extruded media type, this translates into a cost savings on media for the Region.
- Proposed treatment train would have a compact footprint, thus reducing civil cost, and mitigating constructability/interference issues during construction. The existing plant could remain in operation during construction.
- Filter backwash from sand filters produce up to 5-10% volume, while discfilters produces only 2% backwash volume. A thicker backwash is produced allows for

more treatment options.

6. MBBR eliminates the threat of plant wash-outs during WWF, as the media and bugs/biofilm on the media is retained in the reactor through a system of sieves.
7. Full scale installation in Canada, St. Jolie. Site visit can be arranged. This is also a local installation of discfilters that can be visited in Simco.
8. Existing shallow bed sand filters allow for easy discfilter retrofit, while producing less backwash volumes during operations.
9. High potential for process control & chemical savings with Actiflo and Discfilters.
10. Primary Clarification with WAS co-thickening (estimated savings \$1.9M) could be eliminated with Actiflo units operating in dual mode, DWF and WWF as described above.
11. The OPEX cost for a Modified Activated Sludge option would be approximately the same for an MBBR facility.
12. Arguments presented in favour of a Modified Activated Sludge treatment alternative, holds true for the VWS recommended MBBR+ACTIFLO+DISCFILTER train, namely:
  - conventional system that can be more easily operated and maintained and phased in during construction, and
  - lower energy consumption and reduced frequency of equipment replacement in comparison to the Membrane Bioreactor
13. VWS Canada Inc. will hold the process guarantee for any of its technologies, independently or bundled.

I understand the EA is now being finalized and will be filed shortly. Once you have had the opportunity to review the comments above, along with my Sr. Process Engineer, we would appreciate the opportunity to make a presentation to you and your team on the above proposed treatment train and its inherent benefits.

Regards, Carlyle.

**CARLYLE KHAN**  
**REGIONAL MANAGER**  
**GOLDEN HORSESHOE & ATLANTIC PROVINCES**  
**Veolia Water Solutions & Technologies Canada Inc.**  
2000 Argentia Road, Plaza IV, Suite 430  
Mississauga ON L5N 1W1

Mobile: 416-458-8911 | Office: 905-286-4846  
Fax: 905-286-0488  
Email: [carlyle.khan@veoliawater.com](mailto:carlyle.khan@veoliawater.com)  
Website: <http://www.veoliawaterst.ca/en/>

\*\*\*\*\*  
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Thank you

# ABORIGINAL CORRESPONDENCE

-----Original Message-----

From: Miranda Lesperance [mailto:lesperancem@inac-ainc.gc.ca]

Sent: Friday, June 29, 2007 12:10 PM

To: colin.baker@halton.ca

Cc: Allison, Bill; Tasfi, Louis

Subject: ACTON WATER SUPPLY AND WASTEWATER TREATMENT PLANT MASTER PLANSCLASS  
EA

Good Afternoon,

Please find attached Indian and Northern Affairs Canada's response to your letter of June 15, 2007 regarding the Notice of Public Information Centre Acton Water Supply and Wastewater Treatment Plant Master Plans Class Environmental Assessment.

Should you require a signed copy of the response, please do not hesitate to contact me.

Thank you for the opportunity to comment on this project.

Sincerely,

Miranda Lesperance  
Environment Officer  
Environment Unit  
INAC - Ontario Region  
25 St. Clair Ave E 8th Floor  
Toronto, ON M4T 1M2  
Phone (416) 973-5899  
Fax (416) 954-4328



06-6413

June 26, 2007

Your file    Votre référence

Our file    Notre référence

5010-1  
#171010

Colin Baker P. Eng  
Infrastructure Planning Engineer  
Regional Municipality of Halton  
1151 Bronte Road  
Oakville, Ontario  
L6M 3L1

Dear Mr. Baker:

**RE: Notice of Public Information Centre Acton Water Supply and Wastewater Treatment Plant Master Plans Class Environmental Assessment**

Thank you for your letter of June 15, 2007 regarding the above project.

For all provincial and/or municipal undertakings, Indian and Northern Affairs Canada requests that the proponent of such projects make efforts directly from the initiation of a project to identify and notify all potentially interested First Nation communities and other Aboriginal groups. It is recommended that this identification and notification occur at the earliest planning stages of the undertaking and if requested by any group(s), maintain communication with such groups. To assist with identifying First Nations and other Aboriginal groups within the vicinity of a specific proposed project, Indian and Northern Affairs Canada can provide the following information sources:

- The Chiefs of Ontario website (<http://www.chiefs-of-ontario.org>) provides a directory of contact information for all First Nations and Chiefs, as well as a map of the locations of all Ontario First Nations.
- Natural Resources Canada produced provincial maps, showing all First Nation reserve lands, are available for purchase at:  
[http://cccm.nrcan.gc.ca/english/canada\\_land\\_index\\_e.asp](http://cccm.nrcan.gc.ca/english/canada_land_index_e.asp)
- Natural Resources Canada's online *Historical Indian Treaties* map, showing historical First Nation treaties across Canada, is available at:  
<http://atlas.nrcan.gc.ca/site/english/maps/historical/indiantreaties/historicaltreaties>

- A search by place name at the Canadian Geographical Names database ([http://geonames.nrcan.gc.ca/search/search\\_e.php](http://geonames.nrcan.gc.ca/search/search_e.php)) will generate a map which shows any nearby Indian reserve lands in grey.
- The Métis Nation of Ontario (<http://www.metisnation.org/>) may be able to provide information regarding Métis interests with respect to a particular project.
- The Ontario Federation of Indian Friendship Centres website provides a list of all friendship centres in Ontario, at:  
<http://www.ofifc.org/Centres/OfficeList.asp?Region='ON'>
- For enquiries regarding land claims in Ontario, please contact the Director General of the Comprehensive Claims Branch at (819) 994-7521, the Director General of Specific Claims Branch at (819) 994-2323 and the Director General of Litigation Management and Resolution Branch at (819) 997-3582.

If, however, the proponent believes that the proposed project is likely to also trigger a requirement for a federal environmental assessment under the *Canadian Environmental Assessment Act* (CEAA), we advise that the proponent contact the Canadian Environmental Assessment Agency early in the planning process, and provide a project description to them. The Agency will notify federal agencies, including INAC, of the proposed project as appropriate, in accordance with the requirements of the *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements*. INAC will, in turn, provide input to the Agency regarding our interest in the project.

Thank you for your time and consideration.

Miranda Lesperance  
Jr. Environmental Officer  
Environment Unit  
INAC - Ontario Region  
25 St. Clair Avenue E. 8<sup>th</sup> Floor  
Toronto, Ontario M4T 1M2  
[lesperancem@inac.gc.ca](mailto:lesperancem@inac.gc.ca)

cc: Bill Allison, Dillon Consulting Limited  
Louis Tasfi, Dillon Consulting Limited

This letter has been distributed electronically. If you require a signed copy, please contact the author at the address provided above.

Canada

## Myrans, Katharine

---

**From:** Kolli, Karla  
**Sent:** Friday, November 19, 2010 2:07 PM  
**To:** Myrans, Katharine  
**Subject:** FW: Inquiry for Acton Wastewater Treatment Plant Class EA

Karla Kolli  
Associate  
Dillon Consulting Limited  
235 Yorkland Blvd, Suite 800  
Toronto, Ontario, M2J 4Y8  
T - 416.229.4647 ext. 2354  
M - 647.204.2495  
F - 416.229.4692  
Email: KKolli@dillon.ca  
www.dillon.ca

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-----Original Message-----

From: Bielawski, Magda [mailto:Magda.Bielawski@halton.ca]  
Sent: Thursday, November 18, 2010 10:35 AM  
To: Kolli, Karla  
Cc: Tasfi, Louis  
Subject: FW: Inquiry for Acton Wastewater Treatment Plant Class EA

Hi Karla,  
Could you check this website and let me know if we need to follow up with them.  
Thanks  
Magda

-----Original Message-----

From: Alana Newbury [mailto:Alana.Newbury@ainc-inac.gc.ca]  
Sent: Thursday, November 18, 2010 10:35 AM  
To: Bielawski, Magda  
Subject: RE: Inquiry for Acton Wastewater Treatment Plant Class EA

The Office of the Federal Interlocutor for Métis and Non-Status Indians (OFI) is aware that the Métis Nation of Ontario (MNO) have asserted a Métis right to harvest in large section of the province including in the vicinity of the project area. The link to the organization's web-site is: <http://www.metisnation.org/> . Should you decide to pursue your investigation further, this would be the organization to contact in order to obtain further assistance when deciding if there is a rights-asserting Métis community in the project area.

The OFI is providing the information on Métis interests in the geographic areas you have requested in order to assist Halton Region in performing its due diligence as to whether or not a duty to consult exists. In providing this information, the OFI is not advocating a position as to whether or not a duty to consult with Métis communities exists in the particular circumstances described; nor has OFI obtained a legal opinion with regard to the existence of Métis rights in the area.

If you have further questions please contact:

Jeffrey Betker  
Senior Policy Analyst  
Aboriginal Relations

Office of the Federal Interlocutor for Metis and Non-Status  
Indians(OFI)  
Bureau de l'interlocuteur Federal aupres des Metis et des Indiens Non  
Inscrits(BIF)  
Indian and Northern Affairs Canada  
Affaires Indiennes et du Nord Canada  
66 Slater St, Room 1225  
Ottawa, Ontario, K1A OH4

T: (613) 992-7037  
C: (613) 219-9578  
F: (613) 996-1737  
E: Jeffrey.Betker@inac.gc.ca

Thank you,

Alana Newbury  
Research Assistant/ Junior Policy Analyst (Co-op Student) Aboriginal Relations Office of  
the Federal Interlocutor for Métis and Non-status Indians  
(OFI)  
Indian and Northern Affairs  
alana.newbury@ainc-inac.gc.ca

-----  
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from us, including any attachments, without making a copy.

Thank you



Indian and Northern  
Affairs Canada  
www.inac.gc.ca

Affaires indiennes  
et du Nord Canada  
www.ainc.gc.ca

**HALTON REGION**

DEC - 2 2010

**PLANNING SERVICES**

Your file - Votre référence

Our file - Notre référence

Magda Bielawski  
Project Manager  
Wastewater Planning – Public Works, Halton Region  
1151 Bronte Road  
Oakville, Ontario L6M 3L1

Dear Ms. Bielawski

**Re: Acton Wastewater Treatment Plant Municipal Class Environmental Assessment Study**

I am writing in response to your letter of November 4<sup>th</sup>, 2010 inquiring about any claims that may affect the subject property. I regret that we were unable to respond earlier. Thank you for your invitation to the Public Information Centre, held on November 16, 2010. Unfortunately, we were unable to attend; however, the following information regarding active litigation may be useful to you as it could affect the lands that you are concerned with.

We can inform you that our inventory includes active litigation in the vicinity of this property. It is *Six Nations of the Grand River Band of Indians v. Attorney General for Canada and Her Majesty the Queen in Right of Ontario*, Ontario Superior Court of Justice, filed in Brantford, court reference number 406/95.

I am unable to comment with respect to the possible effect of this claim as the case has not yet been adjudicated and any statement regarding the outcome of the litigation would be speculative at this point. It is recommended that you consult legal counsel as to the effect this action could have on the lands you are concerned with.

If you are interested in further details about this claim, copies of the pleadings can be obtained from the Court for a fee. Please contact the appropriate Court Registry Office and make reference to the court file number listed above.

We cannot make any comments regarding claims filed under other departmental policies. For information on any claims you should also contact Don Boswell of the Specific Claims Branch at (819) 953-1940 to inquire about any Specific Claims. To inquire about any current Comprehensive Claims, please contact Nicole Cheechoo of Treaty and Aboriginal Government Central Operations at (819) 997-3499.

**Canada**



-2-

If you have any further questions please do not hesitate to contact me at (819)994-1947.

Sincerely,

A handwritten signature in black ink, appearing to read 'Beauregard', with a large, stylized loop at the end.

Josée Beauregard  
Litigation Team Leader  
Eastern Litigation Directorate  
Litigation Management and Resolution Branch

DISCLAIMER: In this Disclaimer, "Canada" means Her Majesty the Queen in right of Canada and the Minister of Indian Affairs and Northern Development and their servants and agents. Canada does not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any data or information disclosed with this correspondence or for any actions in reliance upon such data or information or on any statement contained in this correspondence. Data and information is based on information in departmental records and is disclosed for convenience of reference only. Canada does not act as a representative for any Aboriginal group for the purpose of any claim. Information from other government sources and private sources (including Aboriginal groups) should be sought, to ensure that the information you have is accurate and complete.

**Myrans, Katharine**

---

**From:** James Wagar [JamesW@metisnation.org]  
**Sent:** Wednesday, February 02, 2011 8:42 AM  
**To:** Myrans, Katharine  
**Subject:** RE: Acton Waste Water Treatment Plant ESR

Hello Katharine,

As the consultation coordinator for the Métis Nation of Ontario (MNO) I help facilitate communications between the elected consultation committees and proponents. Speaking with me however does not constitute consultation with the Métis people as I am not an elected representative from the consultation committee.

With the MNO representing constitutionally protected Métis, the regionally based committees assess new projects within their region. The committee consist of one democratically elected representative from each council within the region, the regional Captain of the Hunt and the regional councillor who acts as the chair.

In consideration of future communications regarding projects within Ontario please note that all projects shall be sent to:

Melanie Paradis  
Director, Lands Resources and Consultations  
Métis Nation of Ontario  
500 Old St. Patrick St.  
Ottawa, Ontario K1N 9G4  
[melaniep@metisnation.org](mailto:melaniep@metisnation.org)

The MNO is divided into 9 regional areas.



Each region has an elected councillor who acts as the chair for the regionally based committee. The

proposed Acton Waste Water Treatment Plant is located within Region 9. The representative for this region is:

Peter Rivers  
4190 St. Clair Ave.  
La Salle, ON N9H 2N4  
[rivers\\_peter@hotmail.com](mailto:rivers_peter@hotmail.com)

In addition to the regional councillor, the Committee also consists of an elected representative from each council from within that region. For the regularly update list of councils and their leadership in the MNO please visit <http://www.metisnation.org/community-councils/council-contacts.aspx> . Note that for projects within a certain region, all councils of that particular region shall be notified.

Specific to the Acton Waste Water Treatment Plant, these councils include:

**Grand River Community Métis Council**

Cora Bunn, President  
1 Stephen's Court  
Fergus, ON N1M 3G1  
e-mail: [corabunn@hotmail.com](mailto:corabunn@hotmail.com)  
website: [www.grandrivermetisCouncil.com](http://www.grandrivermetisCouncil.com)

**Hamilton/Wentworth Métis Council**

Joanne Young, President  
445 Concession St.  
Hamilton, ON L9A 1C1  
FAX: 905-318-6512  
e-mail: [joanne@joanneyoung.com](mailto:joanne@joanneyoung.com)

**Niagara Region Métis Council**

Stephen Quesnelle, President  
46 King Street, Welland, ON L3B 3H9  
FAX: 905-735-1161  
e-mail: [squesnelle@gmail.com](mailto:squesnelle@gmail.com)  
website: [www.niagararegionmetisCouncil.org](http://www.niagararegionmetisCouncil.org)

**Windsor-Essex Métis Council**

Robert Leboeuf, President  
4745 Huron Church Line Windsor, ON N9H1H5  
FAX: 519-974-3739

Should you have any questions please feel free to let me know.

Miigwetch - Merci - Thank You

**James W. Wagar**

Consultation Assessment Coordinator  
Lands, Resources and Consultation  
Métis Nation of Ontario  
75 Sherbourne St., Suite 222  
Toronto, Ontario M5A 2P9

Toll Free: 888.466.6684  
Tel: 416.977.9881 ext.107  
Cell: 905.447.6612  
Fax: 416.977.9911

[JamesW@metisnation.org](mailto:JamesW@metisnation.org)

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**FEB - 8 2011**

Magda Bielawski  
Project Manager  
Wastewater Planning, Public Works  
Halton Region  
1151 Bronte Road, Oakville  
ON, L6M 3L1

**HALTON REGION**

FEB 15 2011

**PLANNING SERVICES**

Reference: 713

**Re: Acton Wastewater Treatment Plant Municipal Class EA Study**

Dear Ms. Bielawski:

Thank you for your inquiry dated November 4, 2010 regarding the above-noted project.

As a member of the government review team, the Ministry of Aboriginal Affairs (MAA) identifies First Nation and Métis communities who may have the following interests in the area of your project:

- reserves;
- land claims or claims in litigation against Ontario;
- existing or asserted Aboriginal or treaty rights, such as harvesting rights; or
- an interest in your project's potential environmental impacts.

MAA is not the approval or regulatory authority for your project, and receives very limited information about projects in the early stages of their development. In circumstances where a Crown-approved project may negatively impact a claimed Aboriginal or treaty right, the Crown may have a duty to consult the Aboriginal community advancing the claim. The Crown often delegates procedural aspects of its duty to consult to proponents. Please note that the information in this letter should not be relied on as advice about whether the Crown owes a duty to consult in respect of your project, or what consultation may be appropriate. Should you have any questions about your consultation obligations, please contact the appropriate ministry.

You should be aware that many First Nations and Métis communities either have or assert rights to hunt and fish in their traditional territories. For First Nations, these territories typically include lands and waters outside of their reserves.

In some instances, project work may impact aboriginal archaeological resources. If any Aboriginal archaeological resources could be impacted by your project, you should contact your regulating or approving Ministry to inquire about whether any additional Aboriginal communities should be contacted. Aboriginal communities with an interest in archaeological resources may include communities who are not presently located in the vicinity of the proposed project.

With respect to your project, and based on the brief materials you have provided, we can advise that the project appears to be located in an area where Six Nations may have existing or asserted rights or claims in MAA's land claims process or litigation, that could be impacted by your project. Contact information is below:

Six Nations of the Grand River Territory P.O. Box 5000 Ohsweken, Ontario N0A 1M0	Chief William K. Montour (519) 445-2201 (Fax) 445-4208 <a href="mailto:wkm@sixnations.ca">wkm@sixnations.ca</a> <a href="mailto:arleenmaracle@sixnations.ca">arleenmaracle@sixnations.ca</a>
Haudenosaunee Confederacy Chiefs Council 2634 6th Line Road RR 2 Ohsweken, Ontario N0A 1M0	Chief Allen MacNaughton (519) 755-2769

The Government of Canada sometimes receives claims that Ontario does not receive, or with which Ontario does not become involved. For information about possible claims in the area, MAA recommends you contact the following federal contacts:

Ms. Janet Townson Claims Analyst, Ontario Team Specific Claims Branch Indian and Northern Affairs Canada 1310-10 Wellington St. Gatineau, QC K1A 0H4 Tel: (819) 953-4667 Fax: (819) 997-9873	Mr. Sean Darcy Manager Assessment and Historical Research Indian and Northern Affairs Canada 10 Wellington St. Gatineau, QC K1A 0H4 Tel: (819) 997-8155 Fax: (819) 997-1366
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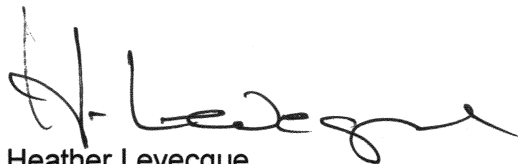
For federal information on litigation contact:

Mr. Marc-André Millaire  
Litigation Team Leader for Ontario  
Litigation Management and Resolutions Branch  
Indian and Northern Affairs Canada  
10 Wellington St.  
Gatineau, QC K1A 0H4  
Tel: (819) 994-1947  
Fax: (819) 953-1139

Additional details about your project or changes to it that suggest impacts beyond what you have provided to date may necessitate further consideration of which Aboriginal communities may be affected by or interested in your undertaking. If you think that further consideration may be required, please bring your inquiry to whatever government body oversees the regulatory process for your project.

The information upon which the above comments are based is subject to change. First Nation or Métis communities can make claims at any time, and other developments can occur that could result in additional communities being affected by or interested in your undertaking.

Yours truly,

A handwritten signature in black ink, appearing to read 'H. Levecque', with a stylized, flowing script.

Heather Levecque  
Manager, Consultation Unit  
Aboriginal Relations and Ministry Partnerships Division

## AGENCY CORRESPONDENCE

NOTICE OF STUDY COMMENCEMENT  
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT  
ACTON WASTEWATER TREATMENT PLANT  
REGIONAL MUNICIPALITY HALTON

RECORD OF COMMENTS

Name: DAVID JOHNSTON - NIAGARA ESCARPMENT COMMISSION

Address and Postal Code: 232 GUELPH ST.

GEORGETOWN, ONT. L7G 4B1

Telephone: (905) 877-7815

- ☒ I/we would like to be kept informed regarding this project.  
☐ I/we do not wish to be kept informed of this project.

Comments:

PLEASE KEEP US INFORMED. THE NIAGARA ESCARPMENT  
PLAN AREA IS IN PROXIMITY TO THE EAST AND  
SOUTHEASTERLY LIMITS OF THE ACTON URBAN BOUNDARY.  
THE DISCHARGE TO BLACK CREEK AND ANY IMPACTS  
ASSOCIATED WITH INCREASED DISCHARGE MAY BE  
OF CONCERN TO THE NEC.

Please complete the form by **October 25, 2006** and return to:

Sabrina Stanlake, Planner  
Dillon Consulting Limited  
P.O. Box 426  
495 Richmond Street  
London, Ontario  
N6A 4W7  
Telephone: (519) 438-6192  
Fax: (519) 672-8209  
Email: [ssstanlake@dillon.ca](mailto:sstanlake@dillon.ca)

Information will be collected in accordance with the *Freedom of Information and Protection of Privacy Act*. With the exception of personal information, all comments will become part of the public record.





## – Comment Form –

### *Region of Halton - Acton Wastewater Treatment Plant Class Environmental Assessment*

### Public Information Centre #2, November 16, 2010

The Region of Halton is interested in hearing your comments, questions, and concerns regarding this project. Please take a few minutes to complete this brief comment form. All comments received will become part of the public record and will be considered in the Class Environmental Assessment. Please use additional sheets, should you require more space to comment. The electronic copy of this form can also be downloaded from the project website: <http://www.halton.ca/cms/One.aspx?portalId=8310&pageId=12699>

Name: Nancy Mott-Alten  
 Organization: NEC  
 Address: 232 Mulph St. Georgetown  
 Phone: 905-877-8363 Fax: 905-873-7452 e-mail: nancy.mott-alten@ontario.ca

1) Did the displays and discussions with project representatives help you to understand more about the project? (please circle one)

(Yes) No

Were your questions answered to your satisfaction? (please circle one)

(Yes) No

2) I am:

- ☐ A resident of the Study Area
- ☐ A resident outside of the Study Area
- ☐ A business owner in the Study Area
- ☐ A business owner outside of the Study Area
- ☐ A member of a First Nation, Métis Nation or an Aboriginal person  
Which First Nation, Métis Circle? \_\_\_\_\_
- ☐ An elected representative
- ☒ A member of a concerned agency
- ☐ Other, please specify \_\_\_\_\_

3) *I have reviewed the information on the proposed project as provided at the PIC and:*

- ☒ I am satisfied with the project as presented  
☐ I am not satisfied with the project as presented  
Please specify \_\_\_\_\_  
☐ I have no opinion

4) *Do you have any comments on the screening or evaluation procedures that have been utilized for selecting the preferred solution and the recommended design concepts?*

*Consultation process was fine*

---

---

---

---

5) *Do you have any other comments related to this project?*

*Pleaseed that the existing  
site will be used - no impact  
on lands in NEP.*

---

---

Your comments are appreciated. Please complete this form and place it in the comment box or return by **December 3, 2010** to:

**Magda Bielawski, P.Eng.**  
**Project Manager**  
Wastewater Planning, Public Works  
Halton Region

**Phone:** 905-825-6000 Ext. 7426  
**Fax:** 905-825-8822  
**Email:** magda.bielawski@halton.ca

The *Freedom of Information and Protection of Privacy Act* applies to this project. With the exception of personal information, all comments will become part of the public record.

**Chantal McQueen - RE: Acton WWTP Class EA - MOE contact for assimilative capacity study**

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**From:** "Luong, Leo (ENE)" <Leo.Luong@ene.gov.on.ca>  
**To:** "Louis Tasfi" <ltasfi@dillon.ca>  
**Date:** 7/20/2006 2:35 PM  
**Subject:** RE: Acton WWTP Class EA - MOE contact for assimilative capacity study  
**CC:** "Byers, Lori (ENE)" <Lori.Byers@ene.gov.on.ca>, "Chantal McQueen" <cmcqueen@dillon.ca>

066413 C01102

Hi Louis:

As discussed in our earlier phone conversation the general guidance document ("Green Book") I made reference to can be downloaded from our MOE documents webpage at the following location:  
<http://www.ene.gov.on.ca/envision/gp/B1-5.pdf>

Additionally because of the sensitive nature of the receiving body (Credit River Trib Black Creek) a number of additional assessments may be prudent, these may include but are not limited to:

- Determining receiving body water quality conditions for all effluent parameters
- Non-acutely toxic effluent
- Temperature impacts of discharge if receiving body is cold water system.
- Confirming stream flow characteristics at location of discharge, outside of the influence of the discharge, can be correlated to upstream or downstream gauges
- Bioindicator assays (e.g. benthic macroinvertebrates and/or fisheries, etc) to measure ecological condition of receiving body and any impacts from the current discharge. This would also provide baseline data for future impact assessments.
- Impact of discharge flow to receiving body with respect to increased erosion potential

If you have any questions please do not hesitate to contact me.

Cheers,

Leo

*Leo Luong, M.Sc.*

Surface Water Specialist

Ministry of the Environment

Central Region Technical Support Section

5775 Yonge Street, 8th Fl

Toronto, ON

M9B 2L7

THE REGIONAL MUNICIPALITY OF HALTON  
ACTON WASTEWATER TREATMENT PLANT CLASS EA

TECHNICAL ADVISORY COMMITTEE MEETING #1

DATE: August 11, 2006

TIME: 1:30 p.m.

LOCATION: Credit Valley Conservation, 1255 Old Derry Road, Mississauga, ON

PRESENT: **Regional Municipality of Halton**  
Laird Smith  
Colin Baker  
**Credit Valley Conservation**  
Hazel Breton  
Jennifer Dougherty  
Bob Morris  
Liam Marray  
Don Weatherbe (Donald G. Weatherbe Associates Inc.)  
**Dillon Consulting Limited**  
Chantal McQueen  
Gintas Kamaitis

FILE: 06-6413

Action By

Item

- |      |   |   |
|------|---|---|
| Info | 1 | Introductions were made. Project roles and contact information listed in attached table.  |
| Info | 2 | Laird provided a summary of the project: <ul style="list-style-type: none"><li>• the community of Acton requires increased wastewater treatment capacity to accommodate growth</li><li>• two main options: (1) provision of additional 1000m<sup>3</sup>/d treatment capacity (which would not accommodate Maple Leaf lands) (2) provision of additional 2836 m<sup>3</sup>/d treatment capacity, total (which would accommodate Maple Leaf lands)</li><li>• an assimilative capacity study for Black Creek (or other?) will be required as part of the Environmental Assessment</li><li>• the Acton Wastewater EA is tied to the Acton Water EA (also underway) in terms of demand numbers</li></ul> |
|      | 3 | Draft terms of reference (TOR) for the assimilative capacity study (ACS) have been prepared by Dillon and reviewed by Region/CVC (the draft is attached for reference). <b>Comments on the TOR by CVC are also attached for reference.</b> Numbering of the following comments corresponds to numbering on CVC comment list – <b>these comments are in addition to attached list.</b>   |

- 1. EA Scope and ACS: It was suggested that discharge to other conservation authorities may be approved if it is shown to be the best option for environment overall.
- 3. Background Data review: CVC raw data is available through Jennifer
- 5. Low flow analysis: to also consider base flows from WWTP
- 6. Data collection: Chlorides data collection not required as frequently as every 2 weeks. In-stream nitrate concentration may become part of provincial water quality objectives (based on Canadian Council of Environmental Ministers).
- 7. More stations for analysis of chemistry: "Continuous sampling" will be more clearly defined as a single sample taken every 30 minutes.
- DO Analysis: A longitudinal DO analysis is required along the creek at approx. 2km intervals at convenient location such as roads. The longitudinal analysis needs to go at least as far as full mixing of Black Creek and Silver Creek and should also include some locations upstream.
- Add to TOR that sampling should accommodate weather for best results and avoid to storm flows.
- Add to TOR that the extent of natural shade and aquatic plants along creek should be recorded on habitat mapping of receiving water (including identification of plants).
- CVC suggested adding spawning redd study to scope to identify critical trout habitats. CVC has a protocol to use for spawning study. CVC has a fish biomass station at Glen Lawson.
- Ontario Benthic Biomass Network to be used instead of BioMap.
- Timing of study – The main component of the study would be June to September; therefore, the window of opportunity has been missed for 2006. The best time for the spawning study is October to November. Algae bloom is expected end of June.

Region	4	<p>Next steps regarding assimilative capacity study: There is a considerable amount of information/data already available for the area. It was agreed that it would be best to approach the assimilative capacity study in 2 parts as follows:</p> <p>Part 1 – desktop analysis of data available to determine what field component of ACS are required. Part 2 – field component of ACS, data analysis and report.</p> <p>Region will arrange for Part 1 of work.</p> <p>CVC will assist in consultant selection of Part 2.</p>
Dillon, Info	5	<p>Agency contacts: Dillon/Region are already in contact with MOE (Leo Luong and Lori Byers). DFO is informed about projects through monthly updates from CVC. MNR needs to be contacted; contact person is Mark Heaton. These agencies will also be part of typical EA consultation process.</p>
	6	<p>Possible improvements to river system:</p> <ul style="list-style-type: none"> <li>• Total Phosphorous Management allows municipal and industrial wastewater dischargers the option of investing in control of non-point sources pollution instead of more costly point source phosphorous treatment to reduce nutrient loading (eg agricultural runoff vs WWTP effluent). CVC does not have a program in place for phosphorous trading.</li> <li>• Shading of creek in some areas may reduce thermal impacts</li> </ul>

- Buffer strips on sides of creek to reduce storm runoff
  - Improvements trading: damage to fish habitat in one area may be offset by improvement of habitat in other areas.
  - Flow augmentation from Fairy Lake
  - Bottom draw from Fairy Lake to reduce thermal impacts in summer
  - Dispersion and timing of WWTP effluent discharge.
- 7 Post meeting note: As assimilative capacity study results will not be available in 2006, analysis of alternatives for increased wastewater treatment capacity will proceed on the basis of maintaining current contaminant load to the receiver (ie BOD, TSS, total phosphorus, etc will not increase as a result of additional treated effluent discharge; contaminant concentration will go down with increased flow rate).

#### NEXT MEETING

The date/time for the next project meeting has not been set.

#### DISTRIBUTION:

All present and

W. Derjugin (Region), D. Clancy (Region)

M. Heaton (MNR)

L. Tasfi (Dillon), M. Brobbel (Dillon), K. Kolli (Dillon), S. Stanlake (Dillon), M. McKillop (Dillon)

#### ERRORS AND/OR OMISSIONS

These minutes were prepared by Chantal McQueen who should be notified immediately of any errors and/or omissions.

August 21, 2006

DILLON CONSULTING LIMITED  
LONDON, ONTARIO

THE REGIONAL MUNICIPALITY OF HALTON  
ACTON WASTEWATER TREATMENT PLANT CLASS EA

TECHNICAL ADVISORY COMMITTEE MEETING #2

DATE: March 23, 2007

TIME: 9:30 a.m.

LOCATION: Halton Regional Headquarters, Sheridan Room, 1151 Bronte Road, Oakville, ON

PRESENT: **Regional Municipality of Halton**  
Jacqueline Weston (part-time)  
Colin Baker  
**Credit Valley Conservation**  
Bob Morris  
Jennifer Dougherty (part-time)  
**Donald G. Weatherbe Associates Inc.**  
Don Weatherbe  
**Dillon Consulting Limited**  
Louis Tasfi  
Chantal McQueen  
Mark Brobbel  
Marcy McKillop

REGRETS: **Regional Municipality of Halton**  
Laird Smith  
**Credit Valley Conservation**  
Hazel Breton  
Liam Marray

FILE: 06-6413

<u>Action By</u>	<u>Item</u>
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- |        |   |   |
|--------|---|---|
| Info   | 1 | Jacqueline Weston is currently acting as the Region of Halton's Project Manager on the Acton WWTP Class Environmental Assessment (EA) project while Laird Smith is on sick-leave.   |
| Info   | 2 | A handout was distributed by Louis which outlined the status of the Acton WWTP Class EA project. Note that this handout is attached to these meeting minutes. Louis reviewed the current status of the project with those in attendance.  |
| Region | 3 | Louis requested Halton to provide Dillon with comments related to: <ul style="list-style-type: none"><li>• Long-list of evaluation of alternatives which were presented by Dillon at the September 6, 2006 Steering Committee Meeting (so that Dillon may narrow down list of potential alternatives for PIC)</li><li>• Spawning redd survey which was submitted to Region by Dillon (email dated</li></ul> |

March 6, 2007)

- Info                    4    Don W. distributed two handouts including briefing notes and supporting data related to the draft findings of the assimilative capacity desktop analysis. Note that both of these handouts are attached. Don reviewed his findings with those in attendance.
- Info                    •    Parameters considered in the Desktop Analysis: The parameters considered in the desktop analysis were outlined on the first page (A1) of the supporting data handout. Don indicated that there is not currently a Provincial Water Quality Objective (PWQO) for chloride or nitrate. The CVC guideline for chloride was of 250 mg/L and the Canadian Water Quality Guideline (CWQG) for nitrate of 2.93 mg/L as N was used for the desktop analysis. Bob indicated that CVC supports the CWQG for nitrate.
- Jacqueline    to  
verify                    •    Don requested some clarification regarding the reporting of nitrate by the Region. Don was uncertain as to whether nitrate is reported as:
  - nitrate as nitrogen (NO<sub>3</sub>-N) or
  - as nitrate (NO<sub>3</sub>).
- Info                    •    Results of Desktop Analysis: Don considered two increased flow scenarios for the Acton WWTP (5,545 m<sup>3</sup>/d and 7,045 m<sup>3</sup>/d). Don derived the resulting required effluent concentrations based on (1) maintaining Certificate of Approval loadings and (2) meeting in-stream targets.
  - Bob indicated that CVC would prefer that in-stream targets are met.
  - Louis indicated that in order to meet future nitrate effluent concentrations based on either of the above conditions (1 or 2) full nitrification and denitrification would be required at the Acton WWTP.
- Info                    •    Temperature: Don requested input from CVC regarding the temperature target for fisheries. Bob indicated that there should not be any increase in stream temperature due to WWTP effluent discharge. A maximum temperature limit of 20°C was established.
- Info                    5    Terms of Reference (TOR) for Field Component of Assimilative Capacity Study:
  - The field component of the Assimilative Capacity Study should commence in June.
  - Don indicated that DO monitoring from June to August would be required as part of the field survey.
  - It was estimated that the field component would have a budget of less than \$50,000. Dillon indicated that they have the capability to carry out this work during the timeline specified.
  - CVC is installing temperature dataloggers in late May that would remain in place until October.
  - CVC has two sampling sites that may be used for the field component of the assimilative capacity study. Don indicated that two other sampling sites would likely also be required.



- 6    Next Steps:
- Assimilative Capacity Study:
    - Dillon/Don W      • Terms of Reference (TOR) for Field Component of Assimilative Capacity Study: Dillon/Don W. to submit draft TOR to Region for review by the week of April 9, 2007. Dillon/Don W. to circulate draft TOR to CVC by April 13, 2007. TOR to be finalized by April 27, 2007 and sent by Dillon/Don W. to Region and CVC.
    - Dillon/Don W      • Don W./Dillon will submit an interim report outlining the results of the desktop analysis to the Region and CVC by the end of April 2007.
    - Region              • Region to assess purchasing requirements (ie. 3 quotes or sole source) associated with the field component of the Assimilative Capacity Study during May 2007.
    - Info                 • Field component of the Assimilative Capacity Study including sampling to commence in June 2007, with completion of field work and sampling in September, 2007.
    - Info                 • The combined PIC for Acton Water and Wastewater Class Environmental Assessment Projects is scheduled for June 2007. Approval for the PIC will be requested at the May 2/9 2007 Region of Halton Council Meetings.
    - Dillon              • Process modelling of Acton WWTP to achieve full nitrification and denitrification in order to meet stringent effluent limits: Dillon to submit a work plan to the Region associated with this advanced modelling that is outside of the existing scope of work.
    - Info                 7    Post Meeting Note:
      - See the attached updated project contact list which lists Marcy McKillop as Dillon's new project co-ordinator, as Chantal McQueen is starting her maternity leave shortly.
      - Colin Baker will become the new acting Halton Project Manager for the Acton WWTP Class EA project.

#### NEXT MEETING

The date/time for the next project meeting has not yet been set.

#### DISTRIBUTION:

All present and  
 W. Derjugin (Region)  
 Hazel Breton (CVC), Liam Marray (CVC)  
 M. Heaton (MNR)  
 K. Kolli (Dillon), S. Stanlake (Dillon), B. Myler (Dillon)  
 Cora Sheppard (MOE)

ERRORS AND/OR OMISSIONS

These minutes were prepared by Marcy McKillop who should be notified immediately of any errors and/or omissions.

April 4, 2007

DILLON CONSULTING LIMITED  
LONDON, ONTARIO

THE REGIONAL MUNICIPALITY OF HALTON  
ACTON WASTEWATER TREATMENT PLANT CLASS EA

MINISTRY OF THE ENVIRONMENT MEETING

DATE: June 15, 2007

TIME: 10:00 – 12:00 a.m.

LOCATION: Ministry of the Environment Central Region Office, 5775 Yonge Street, Toronto

PRESENT: **Regional Municipality of Halton**  
Jacqueline Weston  
Colin Baker  
**Ministry of the Environment (MOE)**  
Ted Belayneh  
Leo Luong  
Cora Sheppard  
Ellen Schmarje  
**Donald G. Weatherbe Associates Inc.**  
Don Weatherbe  
**Dillon Consulting Limited**  
Louis Tasfi  
Mark Brobbel  
Marcy McKillop

FILE: 06-6413

<u>Action By</u>	<u>Item</u>	<u>Item</u>
Info	1	<p><u>Acton Wastewater Treatment Plant Class Environmental Assessment – Project Status</u></p> <p>Colin provided some background information regarding the Acton Wastewater Treatment Plant (WWTP) Class Environmental Assessment Project:</p> <p>The Acton WWTP is currently operating near its rated capacity, or 4,545 m<sup>3</sup>/d.</p> <p>Additional Acton wastewater treatment capacity is required to accommodate build-out of the existing Acton urban envelope and must match water demand requirements:</p> <ul style="list-style-type: none"><li>• Short-term needs: additional 1,000 m<sup>3</sup>/d capacity to accommodate build-out for a total capacity of 5,545 m<sup>3</sup>/d</li><li>• Long-term or ultimate needs: additional 2,500 m<sup>3</sup>/d capacity for a total capacity of 7,045 m<sup>3</sup>/d (including build-out and development of the Maple Leaf / tannery lands)</li></ul> <p>The Acton WWTP Class Environmental Assessment Study will cover both short- and long-term wastewater treatment needs.</p>

<u>Action By</u>	<u>Item</u>	<u>Item</u>
		<p>The Acton Water Class Environmental Assessment Project was initiated in 2003 and revisions are currently being made to the Environmental Study Report, which should be finalized by the end of the month. The Acton WWTP will require additional capacity if the water supply system is enlarged at Prospect Park.</p> <p>Acton WWTP Class Environmental Assessment Project: Schedule C project Acton Water Class Environmental Assessment Project: Schedule B project</p> <p>A brook trout spawning redd survey was conducted in Black Creek to document potential spawning activity downstream of the Acton WWTP.</p> <p>A combined Public Information Centre (PIC) is scheduled for the evening of Tuesday, June 26, 2007 for the Acton Water and WWTP Class Environmental Assessment projects.</p>
Info	2	<p><u>Acton Wastewater Treatment Plant Class Environmental Assessment – Alternative Solutions</u></p> <p>Louis outlined the various wastewater alternative solutions that are being considered as part of the Class Environmental Assessment process:</p> <ul style="list-style-type: none"> <li>• Do nothing (providing no additional wastewater treatment capacity);</li> <li>• Improve the Assimilative Capacity of the Receiver (Black Creek) through shading of the creek, offsetting phosphorus increase with reductions elsewhere, flow augmentation from Black Creek etc. (Note that an Assimilative Capacity Study is currently underway to determine the feasibility of improving the assimilative capacity of Black Creek);</li> <li>• Upgrade the existing wastewater treatment plant through plant optimization;</li> <li>• Construct additional plant capacity at existing site;</li> <li>• Construct additional plant capacity at new site;</li> <li>• Divert wastewater to an existing Region of Halton wastewater treatment plant (Georgetown, Milton, or Mid-Halton wastewater treatment plants); and</li> <li>• Divert wastewater to alternative end uses such as subsurface disposal, irrigation on agricultural cropland, or to a natural or constructed wetland.</li> </ul> <p>Ted inquired regarding improvements to assimilative capacity of Black Creek and how potentially these improvements could be quantified. Don and Louis indicated that in the case of shading Black Creek, the temperate decrease of the stream could be measured to quantify the impact. Shading the creek would also reduce algal growth and the associated oxygen uptake.</p>
Info	3	<p><u>Phase 1 Assimilative Capacity Study – Desktop Analysis</u></p> <p>Don discussed his findings of the Desktop Analysis for the Phase 1 Assimilative Capacity Study. He outlined the results presented at the previous Technical Advisory</p>

<u>Action By</u>	<u>Item</u>	<u>Item</u>
MOE to provide comment on dilution ratio for the Acton WWTP within one week (by no later than Friday, June 22, 2007)		<p>Committee Meeting (March 23, 2007).</p> <p>In his assessment, Don derived required effluent concentrations for the following scenarios:</p> <ul style="list-style-type: none"> <li>• maintain Certificate of Approval loadings (based on Certificate of Approval limits), and</li> <li>• meet in-stream targets.</li> <li>• <u>Dilution Ratio</u></li> </ul> <p>There was some discussion regarding dilution ratios (ratio of stream, creek, or river flow – 7Q20 to treatment plant effluent discharge flow. Although MOE has no written policy on preferred dilution ratios, Ellen indicated that a dilution ratio of 10:1 is preferred as a best practice, and that a dilution ratio of 3:1 would be used as a minimum.</p> <p>Don indicated that the existing dilution ratio is 0.82 to 1, for the existing Acton WWTP. Any future increases in flow at the Acton WWTP would further reduce this dilution ratio. Ellen voiced some concern regarding this low dilution ratio due to the fact that the Acton WWTP receiver is a sensitive, cold water fishery. Ellen also indicated that the MOE does not consider treated sewage or effluent to be base flow (for streams and creeks which receive treated effluent wastewater).</p> <ul style="list-style-type: none"> <li>• <u>Nitrates</u></li> </ul> <p>Don outlined the mass balance calculations he performed to determine the mixed in-stream concentrations of various parameters including BOD<sub>5</sub>, TKN, TOD, Ammonia-N, Nitrates, Total P, and TSS. Don inquired regarding the required nitrate concentration that Acton WWTP effluent should meet. Ellen indicated the in January of 2006, the Canadian Water Quality Guideline for nitrate was listed in the Environmental Bill of Rights (EBR) for adoption. Ellen indicated that the Canadian Water Quality Guideline for nitrate may be adopted very soon by the MOE, and that required nitrate effluent concentrations may be dealt with by the MOE on a case-by-case basis. Due to the sensitive nature of the receiver, it is anticipated that the stream standard would become the effluent standard for nitrate.</p> <p>Louis indicated that the potential for the Acton WWTP to provide both nitrification and denitrification will be further considered as part of the Class Environmental project.</p> <ul style="list-style-type: none"> <li>• <u>Phosphorus</u></li> </ul> <p>There was some discussion regarding phosphorus offsets that the MOE has seen used on previous projects. Phosphorus offset ratios are the ratio of the amount phosphorus ( mass in kgs) from a non-point source of pollution that would have to be removed for every 1 kg of phosphorus that the WWTP contributes to the watercourse. These phosphorus offset ratios have been developed on a case-by-case basis and have included the following:</p>

<u>Action By</u>	<u>Item</u>	<u>Item</u>
		<ul style="list-style-type: none"> <li>• Nobletown: 2:1, and</li> <li>• South Nations 4:1 (agricultural).</li> <li>• <u>Best Available Technology</u></li> </ul> <p>Based on Don's desktop assessment there was discussion regarding the stringent effluent quality that the upgraded Acton WWTP would have to achieve to meet the in-stream targets. Louis indicated that consideration will be given to the 'best available technology' to ensure high quality effluent and reliability of the treatment plant to avoid bypasses and upsets in performance, that may impair the water quality of the sensitive receiver. Louis stated that membrane technologies could be used to help meet the stringent effluent quality targets. Ellen expressed some concern with regards to the reliability of membrane treatment systems, due to past experience at the Milton wastewater plant. Louis indicated that membrane technologies would be considered, as well as treatment steps to ensure reliability, such as providing offline storage. It was discussed that offsets may have to further considered if the 'best available technology' alone cannot meet the required limits.</p>
Info	4	<p><u>Phase 2 Assimilative Capacity Study – Field Component</u></p> <p>Mark outlined the Terms of Reference for the Field Component of the Assimilative Capacity Study and copies of the Terms of Reference were provided to the MOE representatives present. Mark indicated the type of sampling that would be conducted, as well as the parameters that would be analysed for the grab samples.</p> <p>It was recommended by MOE that charges to stream geomorphology be considered due to the proposed short- and long-term increases in flow.</p>
Info	5	<p><u>Next Steps</u></p> <ul style="list-style-type: none"> <li>• Assimilative Capacity Study: <ul style="list-style-type: none"> <li>• Don W./Dillon will submit an interim report outlining the results of the desktop analysis to the Region and CVC by the end of June 2007.</li> <li>• Field component of the Assimilative Capacity Study has recently commenced, with completion of field work and sampling in September, 2007.</li> <li>• Once field work is complete Don W./Dillon will use data collected from the field study to calibrate the model developed as part of the desktop assessment.</li> </ul> </li> </ul>
Info	6	<p><u>Post Meeting Note: Georgetown WWTP</u></p> <ul style="list-style-type: none"> <li>• Jacqueline indicated that the Georgetown WWTP is currently only sized to service the existing urban area of Georgetown. Halton would like to investigate the potential to service an area in southwest Georgetown as part of the "Sustainable Halton" initiative. Jacqueline indicated that Georgetown's water</li> </ul>

<u>Action By</u>	<u>Item</u>	<u>Item</u>
		<p>supply may be the limiting factor to the potential development of this area in southwest Georgetown.</p> <ul style="list-style-type: none"> <li>• Don is currently conducting an assimilative capacity study of the Georgetown WWTP receiver, Silver Creek based on the potential increase in flow (due to possible development in southwest Georgetown). Don is considering in his assessment the possibility of installing an extended outfall (~ 2 to 3 km) from the treatment plant directly to the Credit River. Don requested input from MOE regarding their acceptance of this extended outfall. Ellen indicated that as long as there is no intra-basin (from one of the Great Lakes to another) flow or violation of in-stream targets this alternative could be considered.</li> </ul>

#### NEXT MEETING

The date/time for the next project meeting has not yet been set.

#### DISTRIBUTION:

All present and

J. Dougherty (CVC), B. Morris (CVC), H. Breton (CVC), L. Marray (CVC)

M. Heaton (MNR)

W. Derjugin (Region),

K. Kolli (Dillon), S. Stanlake (Dillon)

#### ERRORS AND/OR OMISSIONS

These minutes were prepared by Marcy McKillop who should be notified immediately of any errors and/or omissions.

June 19, 2007

DILLON CONSULTING LIMITED  
LONDON, ONTARIO

06-64B

**Stanlake, Sabrina**

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**From:** Hodgins, Natalie  
**Sent:** Tuesday, July 10, 2007 10:09 AM  
**To:** Lyons, Darryl (MAH)  
**Cc:** Stanlake, Sabrina  
**Subject:** RE: Acton Water Supply Master Plan & Waste Water Treatment Plant Class Environmental Assessment

Hi Darryl

Thankyou. I have added you to our contact list.

Natalie Hodgins

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**From:** Lyons, Darryl (MAH) [mailto:Darryl.Lyons@ontario.ca]  
**Sent:** Tuesday, July 10, 2007 9:59 AM  
**To:** Hodgins, Natalie  
**Cc:** Sit, David (MAH); Doyle, Victor (MAH); Lyons, Darryl (MAH)  
**Subject:** RE: Acton Water Supply Master Plan & Waste Water Treatment Plant Class Environmental Assessment

Hi Natalie:

Can you please please add myself to your mailing list on the Acton Water Supply Master Plan and Waste Water Treatment Plant Class EA. As such I would appreciate receiving any updates/notices on the progress of this EA.

Sincerely,

**Darryl Lyons, MCIP, RPP**  
Planner, Community Planning and Development

Municipal Services Office - Central Ontario  
Ministry of Municipal Affairs and Housing  
777 Bay St. Toronto, Ontario (2nd Floor)  
M5G 2E5

T: 416-585-6048 or 1-800-668-0230

F: 416-585-6882

E: darryl.lyons@ontario.ca

**Please note the new email address.**

Visit "On-Ramp" at [www.mah.gov.on.ca/OnRamp](http://www.mah.gov.on.ca/OnRamp)

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**From:** Hodgins, Natalie [mailto:NHodgins@dillon.ca]  
**Sent:** July 6, 2007 3:36 PM  
**To:** Bennett, Audrey (MAH)  
**Subject:** Acton Water Supply Master Plan & Waste Water Treatment Plant Class Environmental Assessment

7/10/2007



Hello

Please find the link below to the boards which were presented at the June 26, 2007 Public Information Center for the *Acton Water Supply Master Plan and Waste Water Treatment Plant Class Environmental Assessment*.

<http://halton.ca/ppw/water/ClassEA/ClassEAlist.htm>

Attached are comment forms for both projects, which are due on July 19, 2007.

Thank you,

**Natalie Hodgins**  
Water and Wastewater Engineering

**Dillon Consulting Limited**  
130 Dufferin Ave., Suite 1400  
London, ON, CANADA N6A 5R2  
T (519) 438-1288 x1282 F (519) 672-8209  
<http://www.dillon.ca>

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7/10/2007

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**From:** Schmarje, Ellen (ENE) [mailto:Ellen.Schmarje@ontario.ca]  
**Sent:** Monday, July 16, 2007 7:43 AM  
**To:** Colin Baker; Jacqueline Weston  
**Cc:** Don Weatherbe; Tasfi, Louis; Hodgins, Natalie; Belayneh, Ted (ENE); Luong, Leo (ENE)  
**Subject:** Acton WWTP Dilution

Colin/Jacqueline,

This is to clarify the ministry's position regarding the minimum dilution ratio requirement that was identified as a concern during our meeting, held on June 15<sup>th</sup>, 2007 to discuss the progress of the assimilative capacity study for an increased capacity for the Acton WWTP. Based on the information presented, at present, the minimum dilution ratio between flow in Black Creek under 7Q20 condition and the Acton WWTP discharge is 0.8 to 1. Under the proposed expansion scenario, the minimum dilution ratio would be 0.53 to 1.

As indicated at the meeting, there is no formal, written Ministry Policy that requires maintaining a certain minimum dilution ratio for municipal wastewater discharges to watercourses. However, it has been a long established practice in Central Region, where feasible and practical, to encourage proponents to design their discharge such that minimum dilution ratio of 10 to 1 is maintained even under low flow conditions such as the 7Q20. By doing so, it is expected that the risk for significant impact to the receiving stream is reduced if spills, bypasses and/or process upsets occur. In addition, this provision allows to implicitly account for other considerations such as: other sources of pollution; uncertainty in data used in analysis as well as the inherent limitation in the impact analysis which typically is focused on a few conventional parameters only.

However, it is also recognized that achieving this level of minimum dilution is not always possible, and approvals have been granted in the past that allow lower minimum dilution ratios. Under these scenarios, the impact analysis is expected to include more detailed information on items such as: effluent characterization; detailed hydrological analysis to show how flows change along the watercourse; potential changes in hydrology and thermal regime as a result of the discharge etc. Often, dischargers are also asked to design and implement appropriate mitigation/ safety measures to compensate for the lack of the additional dilution buffering capacity. As you may recall, some examples of the mitigation measures that can be implemented were also discussed at our June 15<sup>th</sup> meeting (e.g., diverting some of the wastewater to another receptor; providing for system redundancies and excess holding capacity to eliminate bypasses/ spills). An enhanced monitoring program that includes water quality and biological monitoring is also imposed as condition of approval. Understandably, the need for such measures becomes even greater where the receiving watercourse is known to provide good quality habitat, such as found in Black Creek.

Based on the above, MOE, Central Region will NOT oppose the proposed expansion solely on the basis of the lack of the desired minimum dilution ratio. However, we will support the proposed expansion only if the study in support of the expansion addresses all of our concerns and if Halton

agrees to implement an acceptable mitigation plan along with a suitable enhanced monitoring program.

We are willing to sit down with you and your consultants to discuss this issue in more detail and assist in the development of the mitigation and monitoring plans. You may contact myself (416-326-3763) or Ted Belayneh (416-326-3472) to arrange for future meetings.

Ellen

Ellen Schmarje

Supervisor, Water Resources Unit

Technical Support Section

Central Region

Ministry of the Environment

5775 Yonge St, 8th Floor

North York, ON M2M 4J1

(416) 326-3763

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## The Regional Municipality of Halton

Planning & Public Works  
Environmental Services  
1151 Bronte Rd., Oakville, ON L6M 3L1  
Fax: 905-25-0287

July 24, 2007

Mr. Gerry Healy  
Ministry of the Environment  
Halton Peel District Office  
4145 North Service Rd., Suite 300  
Burlington, ON L7L 6A3

**RE: Acton Wastewater Treatment Plant (WWTP), Certificate of Approval No. 8942-72TQTW**

Dear Mr. Healy,

As per discussions between yourself and various Halton Region staff over the past year, flows recorded at the Acton WWTP in 2006 were much higher than forecast and the facility is operating at close to its hydraulic capacity. This observation was also noted in the most recent facility inspection report completed by Ms. Cushman in February 2007. The purpose of this letter is to provide a status update on the associated planning and operational activities currently underway to address the facility's capacity.

In May 2006, Dillon Consultants were retained to conduct a Schedule C Class Environmental Assessment (EA) to identify the preferred solution to increase wastewater treatment capacity in order to service build-out of the existing urban area of Acton. A Technical Advisory Committee (TAC) including staff from Credit Valley Conservation Authority is consulted regularly and has provided input into the Assimilative Capacity Study which is currently underway. On June 15, 2007, Halton Region met with MOE – Central Region Water Resources Unit staff to discuss issues related to the Assimilative Capacity and Class EA studies. Although the MOE and MNR elected not to actively participate on the TAC, meeting minutes are sent to provide regular updates of the study progress.

Most recently, the first public information centre (PIC) for the Acton WWTP Class EA was held on June 26, 2007. Various alternatives have been identified and were presented for consultation, including:

- improve receiving stream assimilative capacity;
- wastewater diversion to another Halton Region WWTP;
- effluent diversion to alternative end uses;
- reduce infiltration and inflow to the WWTP;
- upgrade the existing plant;
- construct additional plant capacity on the existing site;
- construct additional plant capacity at a new site; and,
- do nothing/limit growth.

While the Class EA is in progress, operational strategies have been implemented to mitigate the impacts of peaking generated from increased flows. Operations staff observed a general trend on

Page 2

weekends: a large spike in flow was occurring and washing out the solids thus threatening the nitrification process. After studying the incoming flow and the changes to the flow patterns, plant operations staff took action to prevent washout of the solids in the secondary clarifiers. In general, the following steps have been taken to mitigate the impacts of the peak flows:

1. The peak flow is shaved at the head of the plant. At peak flows, a portion of raw flow is directed into supplementary tanks and returned to the treatment system by a timed pump during periods of lower flow.
2. The surge to head of the plant is decreased by using variable frequency drives on the filter bed reject pumps.
3. B2 clarifier repairs were completed and the clarifier was put back into service, bringing the plant back to its full clarifier capacity. As well, the B plant RAS upgrade (2007) will provide separate RAS control for each clarifier to improve clarifier performance.
4. Excess flows that may be diverted or removed from the system are being identified:
  - i) An inflow/infiltration (I/I) study is currently ongoing with a final report expected in the fall of 2007. The investigation has confirmed the need to replace several sections of sanitary sewers that have been found to exhibit high inflow and infiltration. These projects were previously identified in our capital budget and construction is anticipated to begin in early 2008.
  - ii) Water plant discharges (e.g. filter backwashes) are now timed for low flow periods at the WWTP.

The Class EA is expected to be completed by the spring of 2008. If the expansion of the Acton WWTP is feasible, agency approvals are granted in a timely fashion and Regional Council approves the financing plan for this project, design and construction of the expansion could be completed in 2010. In the meantime, Halton Region staff are using a variety of strategies to facilitate and optimize the treatment of high flows and reduce the amount of I/I flow at the WWTP.

I trust this letter provides you with an appreciation for the number of activities currently underway to address the Acton WWTP capacity issue. Please do not hesitate to contact me or Wendy Derjugin, Supervisor of Acton WWTP, for further information.

Sincerely,



Martin Thissen  
Acting Manager, Wastewater Operations

cc. D. Cushman, MOH, Halton-Peel District Office  
W. Derjugin, Supervisor, Halton Region  
D. Marchant, Manager, Compliance & Regulations, Halton Region  
J. Weston, Manager, Infrastructure Planning, Halton Region

THE REGIONAL MUNICIPALITY OF HALTON  
ACTON WASTEWATER TREATMENT PLANT CLASS ENVIRONMENTAL ASSESSMENT

TECHNICAL ADVISORY COMMITTEE MEETING #3  
(MINISTRY OF THE ENVIRONMENT MEETING No. 2)

DATE: November 14, 2007

TIME: 9:30 – 12:00 a.m.

LOCATION: Ministry of the Environment Central Region Office, 5775 Yonge Street, Toronto

PRESENT: **Regional Municipality of Halton**  
Jacqueline Weston  
Colin Baker  
**Ministry of the Environment (MOE)**  
Ted Belayneh  
Ellen Schmarje  
**Credit Valley Conservation**  
Bob Morris  
Jennifer Dougherty  
**Donald G. Weatherbe Associates Inc.**  
Don Weatherbe  
**Dillon Consulting Limited**  
Louis Tasfi  
Marcy McKillop

FILE: 06-6413

<u>Action By</u>	<u>Item</u>	<u>Item</u>
Info	1	<u>Project Status of Acton Class Environmental Assessments:</u>  Colin provided some background information regarding the Acton Wastewater Treatment Plant (WWTP) Class Environmental Assessment (EA) and the Acton Water Supply Master Plan.  The Public Information Centre (PIC) for the Acton Water and Wastewater Class EA projects was held on June 26, 2007.  Acton Water Supply Master Plan: Prospect Park Wellfield Impact Assessment Report was submitted to MOE and CVC on September 28, 2007. The Class EA Report for the Prospect Park well field re-rating, water treatment plant expansion, and Churchill Road reservoir expansion is expected to be finalized in the near future.

<u>Action By</u>	<u>Item</u>	<u>Item</u>
		Acton Wastewater Treatment Plant Class EA: An Assimilative Capacity Study for the Receiver (Black Creek) was recently completed. The Draft Assimilative Capacity Study Report was submitted to MOE and CVC on October 31, 2007.
Info	2	<p><u>Black Creek Assimilative Capacity Study</u></p> <p>The expansion of the Acton WWTP is one potential alternative solution to address immediate and long-term wastewater servicing of the Acton urban area. The Black Creek Assimilative Capacity Study was completed as part of the Acton WWTP Class EA.</p> <p>Marcy, Louis, and Don provided an overview of the Acton Assimilative Capacity Study outlining the work completed to date:</p> <ul style="list-style-type: none"> <li>• Spawning Redd Survey (October 2006)</li> <li>• Desktop Water Quality Analysis (Spring 2007)</li> <li>• Field Monitoring and Sampling (June – September 2007)</li> <li>• Water Quality Modelling (September –October 2007)</li> </ul> <p>Handouts were provided at the meeting which provided an overview of the study. The Assimilative Capacity Study Report (dated October 31, 2007) was also referred to.</p>
Info	3	<p><u>Discussion Regarding Assimilative Capacity Study</u></p> <p>There was some discussion regarding the results of the Assimilative Capacity Study, particularly with respect to the effluent objectives and limits proposed in the case of a treatment plant expansion.</p> <p><u>Dilution Ratio:</u> The dilution ratios associated with the potential growth scenarios (1 and 2) were provided. Don indicated that the 7Q20 flow had to be adjusted (since the June 15, 2007 meeting) and that the dilution ratios have now been confirmed.</p> <p><u>Chloride:</u> There was some discussion regarding how to deal with chloride levels in Black Creek to ensure that the CVC guideline of 250 mg/L is not exceeded. It was identified that an action-based approach be pursued versus a criteria-based approach for addressing chloride levels. A Best Management Practice for chloride management is preferred, as opposed to adopting a chloride effluent limit in the Certificate of Approval. A statement regarding the recommended approach to chloride management should be included in the Environmental Study Report for the Acton WWTP Class EA. As part of the Region of Halton's water program education regarding higher efficiency water softeners could be provided to the public, along with incentives to encourage the purchase of high</p>

<u>Action By</u>	<u>Item</u>	<u>Item</u>
MOE to get back to Don/Dillon/Region of Halton regarding current phosphorus loading to consider by November 30, 2007		<p>efficiency water softeners. Ellen indicated that the MOE will follow-up with the Region of Halton in the future to ensure that action is taken regarding chloride levels in the Black Creek.</p> <p><u>Phosphorus:</u>  There was some discussion regarding the Lake Simcoe project. Lake Simcoe was identified as a Policy 2 receiver for phosphorus (similarly to Black Creek), because of interest in this water body (fisheries, recreation, etc.). A 'Policy 2 deviation' had to be implemented for this project since a new wastewater treatment plant would be discharging to Lake Simcoe. Consequently, an offset plan for phosphorus was considered. Ellen indicated that for this Lake Simcoe project, a wastewater treatment technology was identified as preferred alternative for phosphorus management (as opposed to developing a phosphorus trading or offset program). It was determined for the Lake Simcoe project a wastewater treatment technology for phosphorus removal would be easier to control and monitor as opposed to phosphorus trading.</p> <p>There was also some discussion regarding the interpretation of current total phosphorus loadings. Dillon and Don Weatherbe had assumed that the current loading was equivalent to the Certificate of Approval loading, whereas MOE had considered the current rate to be the existing loading rate that the plant was currently operating at for the Lake Simcoe project. Ellen and Ted indicated that they will get back to Dillon/Don/Region of Halton regarding the proper current phosphorus loading value to consider.</p>
Don/Dillon to check pH and temperature for ammonia to determine the corresponding concentration of unionized ammonia		<p><u>Ammonia:</u>  Ellen requested that the proposed ammonia and unionized ammonia limit and guidelines coincide. This will require a check of the unionized ammonia at the operating pH and temperature. Ellen also indicated that the MOE prefers to provide Certificate of Approval effluent limits for ammonia, as opposed to unionized ammonia, since ammonia is easier to measure.</p>
Info		<p><u>Nitrate:</u>  The MOE indicated that they did not have any issue with the nitrate C of A limit (of 3 mg/L) proposed. MOE indicated that the Orangeville WWTP achieves low effluent nitrate concentrations. Ted suggested that Dillon/Don/Region of Halton follow-up with the MOE Approvals Branch to determine the technical feasibility of meeting this nitrate level.</p>
Info		<p><u>Future Monitoring Program:</u>  There was some discussion regarding what should be indicated in a future monitoring program in the case of an expansion of the Acton WWTP. It was determined that a monitoring program should include:</p> <ul style="list-style-type: none"> <li>• Metals and toxicity in Black Creek</li> <li>• Benthic survey (1 year prior to expansion to establish baseline and for a</li> </ul>



<u>Action By</u>	<u>Item</u>	<u>Item</u>
		<p>series of years following the expansion)</p> <ul style="list-style-type: none"> <li>• Fishery stations including caged fish bio-assay in co-ordination with CVC and any monitoring associated with the proposed Acton Water Supply Upgrade project(s).</li> <li>• MOE noted that any proposed effluent limits provided in the Environmental Study Report will become binding through the treatment plant's Certificate of Approval.</li> </ul>
CVC and MOE to provide comments on the Assimilative Capacity Study Report by December 14, 2007	4	<p><u>Next Steps</u></p> <p>CVC and MOE to provide comments on the Black Creek Assimilative Capacity Study to the Region of Halton/Dillon/Don Weatherbe. Once CVC and MOE comments are received, Dillon will proceed with the further evaluation of alternative solutions as part of the Class EA including various treatment technology alternatives.</p> <p>Ted and Ellen to provide MOE Approvals Branch with background on the Acton WWTP Class EA project. Ted and Ellen to provide a contact at the MOE Approvals Branch for Region of Halton/Dillon to follow-up with so that a future meeting can be arranged. Halton Region requested that the meeting with the Approvals Branch to review treatment alternatives be scheduled for February of 2008.</p>

#### NEXT MEETING

The date/time for the next project meeting was proposed for February 2008; however, an exact date has not yet been set. Dillon will contact agencies and arrange a meeting in February to review the alternative design concepts.

#### DISTRIBUTION:

All present  
M. Heaton (MNR)  
W. Derjugin (Region)  
S. Stanlake (Dillon) and  
M. Brobbel (Dillon)

#### ERRORS AND/OR OMISSIONS

These minutes were prepared by Marcy McKillop who should be notified immediately of any errors and/or omissions.

November 14, 2007

DILLON CONSULTING LIMITED  
LONDON, ONTARIO

06-6413  
Correspondence**McKillop, Marcy**

**From:** Belayneh, Ted (ENE) [Ted.Belayneh@ontario.ca]  
**Sent:** Tuesday, December 11, 2007 5:09 PM  
**To:** Baker, Colin  
**Cc:** Tasfi, Louis; McKillop, Marcy; Weston, Jacqueline; Schmarje, Ellen (ENE); Donald Weatherbe; Wendy.Derjugin@halton.ca  
**Subject:** RE: Black Creek Assimilative Capacity Study - Phosphorus Loading

This is a follow-up from our meeting. One of the actions items was for the MOE to provide feedback regarding the TP loading limits to apply for the expansion. The following is my suggestion- subject to Ellen's approval:

**Action Item from Meeting Minutes:** *Ellen and Ted indicated that they will get back to Dillon/Don/Region of Halton regarding the proper current phosphorus loading value to consider.... MOE to get back to Don/Dillon/Region of Halton regarding current phosphorus loading to consider by November 30, 2007.*

My suggestions are based on the following facts:

- The plant currently is operating at near its rated capacity (4,545 m<sup>3</sup>/day);
- The current C of A objective and limit for TP are 0.2 mg/L and 0.3 mg/L, respectively. There is no loading objective or limit in the C of A.
- Black Creek is currently considered Policy 2 water w.r.t. phosphorus. The Prelim work by Dillon (March 23, 2007) indicates that the average and 75<sup>th</sup> percentile concentrations of TP in Black Creek upstream of the STP were: 0.07 mg/L and 0.057 mg/L (based on post 1993 – 2006 data). The concentrations downstream of the STP for the same period were: 0.061 mg/L and 0.07 mg/L. The effluent quality during 2000-2006 was 0.14 mg/L and 0.19 mg/L (average and 75<sup>th</sup> percentile). During the 2007 supplementary survey, the TP concentration upstream of the STP (station B2) were: 0.025 mg/L and 0.028 mg/L (average & 75<sup>th</sup> percentile). Downstream (at B3), the concentrations were 0.039 mg/L and 0.041 mg/L (average & 75<sup>th</sup> percentile). The effluent quality was 0.082 mg/L and 0.089 Mg/L.
- Halton wishes to use as the loading limit for the expansion: 4545 m<sup>3</sup>/day x 0.3 mg/L = 1.36 kg/day. Even using the higher estimate of current TP discharge (0.19 mg/L based on 75<sup>th</sup> percentile value of 2000-2006 data) and assuming the plant is already at capacity, the highest loading currently occurring would be around 0.86 kg/day. Note that this is very close to what would result if the plant is operated at its design objective (as it should be) even when it is at full rated capacity. If 2007 survey data is considered more representative of recent plant performance conditions (and hence in-stream conditions as well), the "maximum loading estimate would be close to 0.41 kg/day.
- Based on the above, I recommend that the loading cap for the expansion be limited to a value between 0.41 kg/day and 0.86 kg/day (please recheck my calculations). It certainly should not exceed 0.86 kg/day. The loading cap should be a compliance limit to be met on a mutually agreed upon averaging time base (preferably monthly)

Hope this helps.

Ted Belayneh

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**From:** Belayneh, Ted (ENE) [mailto:Ted.Belayneh@ontario.ca]  
**Sent:** Friday, June 20, 2008 3:20 PM  
**To:** Baker, Colin; magda.bielawski@halton.ca  
**Cc:** Tasfi, Louls; McKillop, Marcy; Weston, Jacqueline; Schmarje, Ellen (ENE); Donald Weatherbe; Wendy.Derjugin@halton.ca  
**Subject:** RE: Black Creek Assimilative Capacity Study - Phosphorus Loading

Hi Magda:

This is a follow-up to our discussion today.

You wanted to know if we have any additional comments on the draft assimilative capacity report, Oct 2007 (this was also action item No. 4 in the meeting minutes for the Nov 14<sup>th</sup>, 2007 meeting). You particularly wanted to know if we have any concerns with the proposed effluent limits in Table 2.1 & 2.2 of the report (other than TP, on which we have already provided comments - below). Here are my comments;

- I have not been able to review the entire report in detail. However, assuming we will have no major issues in the way the evaluation was done when we review the report in detail (e.g. detailed review of the DO analysis; verification of flows and water quality data etc.), the effluent limits proposed under Table 2.2 for BOD, TSS, TAN and un-ionized ammonia (UIA) are reasonable. I note that you're proposing to meet UIA limits of 0.016 mg/L (monthly average) and 0.08 mg/L (single sample). I support your proposal to meet the PWQO at the point of discharge. You've also proposed a very stringent standard (0.08 mg/L) for any single sample in order to address acute toxicity issues. However, I would like you to carefully consider this – would the plant be capable of meeting this 100% of the time? While I defer to your expert, in other cases, MOE has issued approvals using UIA values of 0.1 mg/L (design objective) and 0.2 mg/L (limits) to address acute toxicity. My concern is that you end up proposing a number in the EA that would eventually be the limit in the C of A and you'd find out that it is too stringent to be met for 100% of samples. Perhaps using 0.08 as your objective for single samples and something between 0.1 and 0.2 as a compliance limit for single samples would be more realistic?
- Regardless of the above, the report needs to show how the proposed total ammonia nitrogen (TAN) limits relate to the UIA limits. In all likelihood, the C of A will be based on TAN limits only;
- Your proposed limit for nitrate-N is based on the CWQG. You also propose to meet the guideline right at the point of discharge without much mixing;
- I note that, in page 7, the existing dilution ratio has been revised down to 0.27:1 (and upon expansion to 0.22:1). When we met in June 2007 and raised the lack of adequate dilution as a concern, the estimated proportions were 0.8:1 and 0.57:1 (expansion). This raises some questions as to the reliability of the flow data and reinforces our belief that adequate safety provisions should be included in the design to address the lack of any buffering capacity. Another concern that I have in this regard is the uncertainty of continued flows from the Acton Quarry. What would be the impact if flows from the quarry are discontinued or are significantly reduced in the future? I would hope the ESR would address these issues very clearly.

Ted

**From:** Bielawski, Magda [mailto:Magda.Bielawski@halton.ca]  
**Sent:** July 10, 2008 11:19 AM  
**To:** Dougherty, Jennifer  
**Subject:** Acton WWTP Class EA - Summary of CVC and Region conversation - July 10, 2008  
**Importance:** High

Hi Jennifer,

It was a pleasure talking to you today. Please review my summary of our conversation today, which I would like to e-mail to the project team (Louis T. (Dillon), Marcy Mc. (Dillon), Mark B.(Dillon), Jacqueline W. (Region) and Ted B. (MOE).

#### Phosphorous Offsets

Attached is the phosphorous offsets memo that Dillon had prepared to provide a "high level" estimate of what could be achieved with phosphorous offsets in the urban area. As I mentioned on the phone we have assumed 2:1 ratio, however, you indicated that CVC would prefer to apply a higher ratio (3:1 or 4:1) to be more conservative due to the assumptions that are being made when estimating the offsets as well as the performance of those offsets measures in the long term.

We also talked about opportunity for phosphorous offsets outside of the urban area i.e. in the rural area, and those phosphorous offsets would be more difficult to implement and maintain because the offsets measures would most likely be on private property.

In summary, CVC is open to discussion regarding the phosphorous offsets, however more detailed study would have to be completed to determine exactly how these phosphorous offsets could be achieved. You also mentioned that CVC would provide support to the program, but would like the municipality to develop (in consultation with MOE and CVC) this program, to lead, to implement and then to maintain such a program.

#### Nitrate Concentration - 3 mg/l

Main reasons that we should adopt more stringent criteria for nitrate is the very low dilution ratio in the stream and the existing high levels of nitrate levels upstream of the WWTP. We also discussed possibility to have a higher nitrate concentration in the winter months because nitrifying and denitrifying "bugs" are generally slow growing and grow even more slowly when the effluent is colder in the winter, however you explained that Brook Trout (which is one of the most sensitive fish species in Black Creek) lay eggs in the fall which then remain in the stream all winter long and the eggs were found to be the most sensitive stage of trout life cycle to nitrate exposure.

#### Black Creek Assimilative Capacity Study

CVC is compiling comments on the assimilative capacity study and is anticipating to have them ready by the end of July.

#### Action Items

1. Magda to send to CVC the two e-mails received from MOE (Ted. B) with comments
2. Magda to send to CVC Phosphorous Offsets memo (attached to this e-mail)
3. Magda to schedule meeting with CVC and MOE to discuss comments on the Assimilative Capacity Study, to finalize the Assimilative Capacity Study and to finalize the effluent criteria for the proposed plant expansion.
4. Jennifer to send comments on the Assimilative Capacity Study by the end of July.
5. Jennifer to send to Region of Halton copy of CofA for Orangeville which has monthly total Nitrogen Loading Limits for their reference. These monthly limited were based on Ammonium Nitrogen Toxicity and we derived before the nitrate federal guideline was developed.

Magda

**Magda Bielawski, P.Eng.**  
**Infrastructure Planning Engineer**

Planning&Public Works Department  
Planning&Transportation Services  
Tel: 905-825-6000, ext.7426



July 25, 2008

Region of Halton  
Planning & Public Works Department  
1151 Bronte Road  
Oakville Ontario  
L6M3L1

Attention: **Magda Bielawski,**

**RE: Black Creek Assimilative Capacity Study**

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As requested, CVC staff has reviewed several documents relating to the above study including:

- 1) Black Creek Assimilative Capacity Study Report– Dillon Consulting – October 31, 2007
- 2) Spawning Redd Survey - – Dillon Consulting Limited-Oct. 31, 2007
- 3) Assimilative Capacity Field Study Report – Dillon Consulting Limited-Oct. 31, 2007
- 4) Assimilative Capacity Modelling Report – Donald G. Weatherbe Ass. Inc – Oct. 31, 2007

The above were provided as attachments to **Black Creek Assimilative Capacity Study – Dillon Consulting and received by CVC on Nov 2<sup>nd</sup> 2007.**

Overall, CVC staff is satisfied with the work plan and level of detail in the Assimilative Capacity Assessment report but still have concerns regarding the low dilution ratio and elevated background phosphorus, nitrate and *E.coli* in excess of respective objectives. Due to these conditions, MOE has asked that the Assimilative Capacity impact analysis should include more detailed information on items such as effluent characterization, detailed hydrological analysis to show how flows change along the water course; potential changes in hydrology and thermal regime as a result of the discharge etc (Part III pg. 4). CVC have considered this statement in reviewing and have detailed the comments and concerns into General comments on the full document followed by Detailed comments on each report.

## **Black Creek Assimilative Capacity Study**

### **GENERAL COMMENTS**

#### **1. Backwater Impacts**

The eutrophic conditions of Black Creek noted in the report, in conjunction with backwater effects from beaver dams, have the potential to result in incomplete mixing of the effluent upstream of the outfall. This could potentially cause ammonia toxicity when the influence of instream pH and temperature are taken into account. Backwater impacts are also evident by the exceedences to dissolved oxygen, ammonia and TKN upstream of the outfall.

Further discussion is required on existing/background characterization of backwater impacts from beaver activity prior to expansion.

Mitigation measures should include design of the outfall to possibly include mechanical mixing / aeration to facilitate complete mixing of the effluent. Incomplete mixing in the backwater impacted reach to minimize impacts to the dissolved oxygen regime and aquatic life.

#### **2. Low Flow Conditions**

CVC reiterates MOE concerns regarding the uncertainty of the continued flow from the Acton Quarry as there is presently no requirement for guaranteed minimum flows. What would be the impact if flows from the quarry are discontinued or are significantly reduced in the future? CVC would require further discussion on this issue in the Environmental Study Report.

#### **3. Background Data and Field Work**

CVC worked together with Dillon consulting to develop the Black Creek Field Study Design to ensure consistent protocols and to build on the existing CVC monitoring network. Existing long term monitoring data for other disciplines such as Benthic and Fisheries should have been incorporated and comment on in the Field Study Report.

#### **4. Fisheries Concerns**

Fishery concerns are most critical at low flows and/or during a spill event that could result in a fish kill. These concerns are not adequately addressed through use of long terms averages or percentiles. Tributary refuge areas and extent of habitat isolation by barriers should be identified as part of contingency plans.

The presence of Redside Dace has been reported by MNR in this reach according to the Wetland Evaluation Record that is not recognized in this report. It is recommended that specific water quality or flow parameters that may be of concern to this sensitive species be identified.

## **5. Wetland Concerns**

The wetland is often cited as the reason behind some of the observed poor water quality conditions (e.g. nitrate). It should be better characterized that this may be related to “natural” limitations, exaggerated by the Fairy Lake impoundment and, more importantly, that the wetlands are not so much the “source” as the storage area receiving it from adjacent land uses and urban runoff. Further investigations need to be considered.

Although not specifically requested before by CVC, characterization of the wetland may also be required to determine potential impacts from flow regime or water quality changes. The assimilative capacity of the wetland may also be of concern regarding nitrogen being the limiting factor to vegetative growth. These concerns relate to loading downstream not concentrations at the discharge point only.

## **6. Prospect Well**

The relationship with the Prospect Well is noted. CVC expects further evaluation of potential cumulative impacts as further information becomes available. The operation of the dam must also be factored in the analysis.

## **Acton Wastewater Treatment Plant Assimilative Capacity Study Report** **Detailed Comments**

**Page 2** – Further comment is needed on the causes of low dissolved oxygen at stations upstream of the Acton WWTP outfall. Contributions from backwater effects and the receiver are assimilating organic oxygen demand from the WWTP (??). CVC requests that this backwater and incomplete mixing situation be taken into account during the design of the outfall. This phenomenon could be causing acutely toxic pools of effluent upstream of the outfall.

### **Effluent Limits – Section 2.2**

**Page 5**—CVC is aware of this station being recently impacted by backwater effects from beaver dams causing this sample to be influenced by the WWTP effluent. This is confirmed in Part II of the report – Section 2.2.

Water quality values used in the mass-balance determination may be impacted by the plant effluent, therefore not representing true background levels. CVC suggests that the ESR include a recommendation to move the station upstream of any backwater impacts.

**Page 7** – This section indicates the dilution scenario under the short term scenario but not for the long term dilution scenario. Reference to both growth scenarios is needed.

## **Section.3: Mitigation Measures**

**Page 8** – Mitigation measures should include the investigation of possible design measures for mechanical mixing / aeration at the outfall to facilitate complete mixing of the effluent.

If the backwater conditions are projected to continue, it should be recommended to move the upstream PWQMN site above the backwater impacts of the WPCP.

CVC has concerns regarding impacts of elevated chloride concentrations in the Acton WWTP effluent. It should be recommended that the new developments install high efficiency water softeners and incentives be provided for retrofitting of older softeners. CVC recommends that the CofA to include sampling for chloride in the effluent to determine trends in chloride concentrations over time and to aid in the determination of relative contributions of chloride loadings in the watershed.

### **Part I – Black Creek Spawning Redd Survey**

The confirmation of one brook trout spawning redd allows for the conservative assumption that this may represent “critical habitat” as defined by DFO such that a “compensation” approach shall be avoided. For monitoring purposes it would be desirable to locate other redds responsible for sustaining the population of trout currently monitored by CVC at Third Line. CVC is planning to conduct surveys downstream of the Third Line as part of the Black Creek subwatershed study that may address this gap and would appreciate continued cooperation with the consultant.

### **Part II**

**Page 4** -CVC staff have concerns with the use of parametric Tukey Tests on water quality data that tends not to be normally distributed. All underlying statistical assumptions must be discussed and addressed in the statistical analysis. It is recommended that a test for normality be done on the data; otherwise a non-parametric comparison test should be used.

### **3.0 Black Creek Water Temperatures**

Note that additional data are available from CVC prior to 2007 at stations B2 and B3.

### **3.2 Results and Discussion**

**Figures 3.1 to 3.3** – Some of the colours in the graph are not easily distinguished from one another.

**Figure 3.3** – Suggest adding the target temperature for a coldwater creek to Figure 3.3 (Black Creek is managed as a coldwater creek according to the Credit River Fisheries Management Plan; guideline for the average daily maximum temperature for a coldwater creek is 20°C).



**1<sup>st</sup> bullet point** – The data represent summer conditions only and therefore any conclusions as to the impacts of the WWTP effluent on Black Creek in the winter cannot be drawn. Nonetheless, it is recognized that the summer is the crucial period for impacts on water temperature.

**Second last paragraph** – Please include a reference for the interim guideline of 20°C for protection of the coldwater fishery. CVC would like to challenge the MOE PWQO for temperature (10C increase, Max 30C) cited in Tables.

The 20°C target adopted by the proponent as suggested relates to average summer daily maximums. Instantaneous summer maximums of 25°C are reasonable. The text seems to suggest that the temperatures are in the order of 20°C but Figure 3.3 regularly peaks above that. Are calculated summer averages available?

The definitions and interpretation of temperature data using the Stoneman and Jones (1996) could be misleading based on definitions not provided and in comparison to CVC targets, CRFMP 2002 definitions and more recently updated MNR models (eg Bolby).

#### **Section 4.2**

Results from station B2 should be compared with other (downstream) stations. Annual benthic invertebrate data collected by CVC since 1999 are available downstream of Acton WWTP (3<sup>rd</sup> Line) and at 8<sup>th</sup> Line in Georgetown.

### **Part III**

#### **1.4 Policy Considerations**

##### **Page 4 - Non Acutely Lethal Effluent**

It is strongly recommended that an “in situ” caged fish bioassay be conducted using native brook trout. Toxicity tests conducted “in situ” could potentially result in greater toxicity from high in-stream pH conditions than lab toxicity test results with effluent pH conditions. CVC could implement this in partnership with others.

#### **3.3.3 Temperature Model**

Seemed like a good idea but I did not expect any impacts from the plant at a scale as far down as confluence with Silver. Concerns at the reach scale require attention. At a moderately greater scale the effects of beaver dams are not addressed, nor the potential of a bottom draw at Fairy Lake. The thermal retrofitting of SWM ponds and new design guidelines are recommended.

The fact that the water temperature of the effluent is cooler than the receiving stream reach is normally assumed not to have an impact as concluded. However in this situation colder background temperatures downstream are likely and the volume of

effluent is significant especially during low flows when temperatures peak. These factors need to be calculated? (Imagine downstream waters at 18°C and equal in volume to a bucket. Upstream dam/stream flows at 24°C might represent a beaker into that bucket having little effect, but 10 buckets representing a large effluent source at 22°C will overwhelm the cooler downstream temperatures by sheer volume even though it is cooler than the receiving reach.) This concept is similar to that of loading vs. concentrations.

### **3.4 Dissolved Oxygen Impacts**

Figure 11 portrays the Dissolved oxygen sag for the existing CofA case. It would be more helpful to include the growth scenario cases as that is the purpose of the assessment. This assessment shows that a certain length of the river exceeds DO guideline limits. It is not clear from the graph the exact length of the mixing zone in which the exceedence occurs. CVC request that design of the outfall be investigated to minimize the dissolved oxygen impacts both up and down stream of the outfall.

This analysis did not include backwater impacts. This is important as the upstream reaches do not receive significant groundwater recharge or are able to facilitate complete mixing in the wetland.

### **3.5 Mixing Zone Consideration**

The concept of No mixing zone at discharge point is not clear. How far downstream is a mixed non –acutely toxic effluent or no exceedances to the PWQO achieved?

Backwater effects in the mixing zone analysis is required as effluent may move upstream to unmixed areas with low recharge and low mixing potential, producing potential toxic impacts. Further discussion is required on backwater impacts and ways to mitigate these impacts.

## **5.2 Chlorides and Water Softeners**

Chloride effects are not expected so much on fatheads that are considered tolerant nor to brook trout that still have the evolutionary capability to access ocean waters. Impacts are more likely on invertebrates (such as drift avoidance and greater exposure to predation) and on amphibians. Any potential effects on Redside Dace should be investigated.

### **5.3 Flow Augmentation**

CVC agrees that operation of the Fairy Lake Dam should be reviewed to improve ecological flows downstream. There must also be a balance with the wetland and fisheries functions above the dam but CVC would support a net gain for the downstream fishery (e.g. additional storage and release but erosion/flooding concerns?). Also note

that water quality parameters may not be the most limiting factor in such studies. It is possible that this option may be reserved for climate change adaptation vs. expansion purpose.

CVC looks forward to meeting with the Region of Halton and Ministry of Environment to discuss our comments further. If you have any questions please contact me at 905-670-1615 x262.

Sincerely,



Jennifer Dougherty, P.Eng  
Water Quality Engineer

BM/AD/JD/JK

# MEMO – For Discussion

**TO:** Ted Belayneh, Group Leader, Surface Water  
Ministry of the Environment

**FROM:** Madga Bielawski, Infrastructure Planning Engineer, Halton Region

**DATE:** August 12, 2008

**SUBJECT:** Acton WWTP Class Environmental Assessment - Total Phosphorus Effluent Criteria

---

This memo provides background information on proposed effluent total phosphorus (TP) limit and objective criteria, in the case of an upgrade and expansion of the Acton Wastewater Treatment Plant (WWTP).

Additional Acton WWTP treatment capacity is required to accommodate build-out of the Acton urban area. A total projected wastewater treatment capacity of 7,000 m<sup>3</sup>/d is required to accommodate build-out of the Acton urban area, including development of the Maple Leaf lands.

## 1. Current Certificate of Approval:

Currently, the Acton WWTP Certificate of Approval specifies the following Total Phosphorus effluent criteria, corresponding to a rated capacity of 4,545 m<sup>3</sup>/d:

**Table 1: Current Acton WWTP Effluent Quality Criteria**

	Concentration	Loading
Total Phosphorus Effluent Objective	0.2 mg/L	332 kg/year
Total Phosphorus Effluent Limit	0.3 mg/L	500 kg/year

## 2. Acton WWTP Expansion and Proposed TP Effluent Criteria:

The Acton WWTP Assimilative Capacity Study indicated that Black Creek is a Policy 2 Receiver with respect to TP, and therefore the TP loading cannot be increased. Based on our conference call with Ellen Schmarje on Thursday, January 31 2008, the MOE would like to take a conservative approach by limiting the future effluent TP loading to the current *objective loading* rather than the current compliance loading limit. Ellen indicated during our conference call on Thursday January 31, 2008 that a TP loading limit of 332 kg/yr would be acceptable as a future TP loading limit for the Acton WWTP.

Using a future TP loading limit of 332 kg/yr and a rated capacity of 7,000 m<sup>3</sup>/d, the TP effluent concentration limit would correspond to 0.13 mg/L.

The following effluent criteria for the expansion of the Acton WWTP, to a rated capacity of 7,000 m<sup>3</sup>/d:

**Table 2: Proposed Effluent Quality Criteria for Expanded Acton WWTP (7,000 m<sup>3</sup>/d)**

	Concentration	Loading
Total Phosphorus Effluent Objective	0.1 mg/L	--
Total Phosphorus Effluent Limit	0.2 mg/L	332 kg/year

The upgraded and expanded Acton WWTP would be designed, constructed, and operated with the objective that an effluent TP concentration of 0.1 mg/L is not exceeded in the effluent from the plant.

The upgraded and expanded Acton WWTP would be designed, constructed, and operated to ensure that:

- an effluent TP concentration of 0.2 mg/L is not exceeded in the effluent from the plant. Compliance with the TP concentration limit of 0.2 mg/L will be based on the average of monthly concentration data.
- the annual average loading of TP does not exceed 332 kg/year. Compliance with the annual TP loading limit of 332 kg/year will be based on the average of yearly concentration and flow data.

### **3. Basis for Proposed TP Effluent Criteria:**

- a) Phosphorus is regulated because it promotes eutrophication of waterways, stimulating excess plant and algae growth. It is not directly toxic at concentrations typically seen in wastewater. As such, the TP loading to the receiver, rather than the TP concentration, ultimately determines the ecosystem health.
- b) A TP objective concentration of 0.1 mg/L has been proposed based on the following:
  - The US Environmental Protection Agency (EPA) generally recognizes a TP limit of technology of 0.1 mg/L for soluble phosphorus based on chemical precipitation.
  - The MOE Draft Design Guidelines for Sewage Works (November 2007) provide typical effluent quality for various sewage treatment processes. A minimum TP concentration of 0.1 mg/L is presented for the membrane bioreactor technology with TP removal, and with nitrification for TP removal. The Guidelines also indicate that with pre-treatment of secondary effluent and conservative filtration system design, an effluent quality of 0.1 mg/L TP can be achieved.
- c) A TP limit concentration of 0.2 mg/L has been proposed based on the following
  - A monitoring program is proposed in the case of an expansion of the Acton WWTP to measure concentrations of TP, Total Suspended Solids, Total Ammonia Nitrogen, dissolved oxygen and five-day carbonaceous biochemical oxygen demand, in Black Creek upstream and downstream of the Acton WWTP outfall. This program will ensure that the Acton WWTP discharge to the receiver is monitored, to assess any impacts.
  - Compliance with the Acton WWTP Certificate of Approval in the case of an expansion would also require that a TP loading of 332 kg/year would not be exceeded, to ensure compliance with Policy 2 of the Ministry of the Environment's (MOE's) Water Management Policies Guidelines, and Provincial Water Quality Objectives.

cc.

Ellen Schmarje, Supervisor, Water Resources Unit, MOE  
Jacqueline Weston, Manager of Infrastructure Planning, Halton Region  
Dave Andrews, Manager, Wastewater Treatment Plant Operations, Halton Region  
Susan Liver, Project Manager, Engineering Services, Halton Region

Louis Tasfi, Project Manager, Dillon Consulting Limited  
Marcy McKillop, Project Co-ordinator, Dillon Consulting Limited

## ***For Discussion***

**TO:** Ted Belayneh, Group Leader, Surface Water  
Ministry of the Environment

**FROM:** Madga Bielawski, Infrastructure Planning Engineer, Halton Region

**DATE:** August 21, 2008

**SUBJECT:** Acton WWTP Class Environmental Assessment - Total Phosphorus Effluent Criteria

---

This memo provides background information on proposed effluent total phosphorus (TP) limit and objective criteria, in the case of an upgrade and expansion of the Acton Wastewater Treatment Plant (WWTP).

Additional Acton WWTP treatment capacity is required to accommodate build-out of the Acton urban area. A total projected wastewater treatment capacity of 7,000 m<sup>3</sup>/d is required to accommodate build-out of the Acton urban area, including development of the Maple Leaf lands.

### **1. Current Certificate of Approval:**

Currently, the Acton WWTP Certificate of Approval specifies the following Total Phosphorus effluent criteria, corresponding to a rated capacity of 4,545 m<sup>3</sup>/d:

**Table 1: Current Acton WWTP Effluent Quality Criteria**

	<b>Concentration</b>	<b>Loading</b>
Total Phosphorus Effluent Objective	0.2 mg/L	332 kg/year
Total Phosphorus Effluent Limit	0.3 mg/L	500 kg/year

### **2. Acton WWTP Expansion and Proposed TP Effluent Criteria:**

The Acton WWTP Assimilative Capacity Study indicated that Black Creek is a Policy 2 Receiver with respect to TP, and therefore the TP loading cannot be increased. Based on our conference call with Ellen Schmarje on Thursday, January 31 2008, the MOE would like to take a conservative approach by limiting the future effluent TP loading to the current *objective loading* rather than the current compliance loading limit. Ellen indicated during our conference call on Thursday January 31, 2008 that a TP loading limit of 332 kg/yr would be acceptable as a future TP loading limit for the Acton WWTP.

Using a future TP loading limit of 332 kg/yr and a rated capacity of 7,000 m<sup>3</sup>/d, the TP effluent concentration limit would correspond to 0.13 mg/L.

The following is the proposed effluent criteria for the expansion of the Acton WWTP, to a rated capacity of 7,000 m<sup>3</sup>/d:

**Table 2: Proposed Effluent Quality Criteria for Expanded Acton WWTP (7,000 m<sup>3</sup>/d)**

	<b>Concentration</b>	<b>Loading</b>
Total Phosphorus Effluent Objective	0.1 mg/L	255 kg/year
Total Phosphorus Effluent Limit	0.2 mg/L (vs. 0.13 mg/L)	332 kg/year

The upgraded and expanded Acton WWTP would be designed, constructed, and operated with the objective that an effluent TP concentration of 0.1 mg/L is not exceeded in the effluent from the plant. However, we propose that a Certificate of Approval TP effluent limit concentration of 0.2 mg/L be adopted to ensure compliance of the plant at all times.

### **3. Basis for Proposed TP Effluent Criteria:**

- a) Phosphorus is regulated because it promotes eutrophication of waterways, stimulating excess plant and algae growth. It is not directly toxic at concentrations typically seen in wastewater. As such, the TP loading to the receiver, rather than the TP concentration, ultimately determines the ecosystem health.
- b) A TP objective concentration of 0.1 mg/L has been proposed based on the following:
  - The US Environmental Protection Agency (EPA) generally recognizes a TP limit of technology of 0.1 mg/L for soluble phosphorus based on chemical precipitation.
  - The MOE Draft Design Guidelines for Sewage Works (November 2007) provide typical effluent quality for various sewage treatment processes. A minimum TP concentration of 0.1 mg/L is presented for the membrane bioreactor technology with TP removal, and with nitrification for TP removal. The Guidelines also indicate that with pre-treatment of secondary effluent and conservative filtration system design, an effluent quality of 0.1 mg/L TP can be achieved.
- d) The upgraded and expanded Acton WWTP would be designed, constructed, and operated to ensure that:
  - An effluent TP concentration of 0.2 mg/L is not exceeded in the effluent from the plant. Compliance with the TP concentration limit of 0.2 mg/L will be based on the average of monthly concentration data.
  - The annual average loading of TP does not exceed 332 kg/year. Compliance with the annual TP loading limit of 332 kg/year will be based on the average of yearly concentration and flow data.

cc.

Ellen Schmarje, Supervisor, Water Resources Unit, MOE  
Jennifer Dougherty, Water Quality Engineer, CVC  
Jacqueline Weston, Manager of Infrastructure Planning, Halton Region  
Dave Andrews, Manager, Wastewater Treatment Plant Operations, Halton Region  
Susan Liver, Project Manager, Engineering Services, Halton Region  
Louis Tasfi, Project Manager, Dillon Consulting Limited  
Marcy McKillop, Project Co-ordinator, Dillon Consulting Limited



## ***For Discussion***

**TO:** Ted Belayneh, Ministry of the Environment  
Jennifer Dougherty, Credit Valley Conservation

**FROM:** Magda Bielawski, Halton Region

**DATE:** September 12, 2008

**SUBJECT:** Acton WWTP Class Environmental Assessment – Nitrate-Nitrogen Effluent Criteria

---

This memo provides background information on proposed effluent nitrate-nitrogen criteria, including treatment requirements, in the case of an upgrade and expansion of the Acton Wastewater Treatment Plant (WWTP).

Additional Acton WWTP treatment capacity is required to accommodate build-out of the Acton urban area. A total projected wastewater treatment capacity of 7,000 m<sup>3</sup>/d is required, including development of the Maple Leaf lands.

Nitrification is the biological oxidation of ammonia to nitrate/nitrite by two specialized groups of autotrophic bacteria that takes place under aerobic conditions. Denitrification is the biological reduction of nitrate to nitrogen gas by other specialized bacteria that takes place under anoxic conditions. Currently, the majority of the nitrogen discharged from the Acton WWTP is in the form of nitrate.

### **Acton WWTP Expansion and Proposed Nitrate-Nitrogen Treatment Requirements**

Based on our previous communications, we understand that Credit Valley Conservation (CVC) wants to target the interim Canadian Water Quality Guideline of 2.9 mg N-NO<sub>3</sub> (nitrate as nitrogen) in-stream across the CVC watershed.

Halton Region proposes to include, as part of process design for the Acton WWTP expansion, the capability for denitrification of the effluent. This would be achieved through the inclusion of an anoxic “selector” as a component of the biological treatment process. The upgraded Acton WWTP would be operated to maintain or reduce the current nitrate loads to Black Creek following the expansion.

Halton Region proposes that a nitrate effluent limit not be included in the Certificate of Approval, in the case of an expansion of the Acton WWTP, based on the following:

- An effluent nitrate-nitrogen concentration of 3 mg/L may be approaching the limit of treatment technologies, based on experience in Ontario
- The impact of nitrate-nitrogen on Black Creek is not well understood and warrants further consideration, at loadings equivalent to or less than current measured levels.

A monitoring program would be implemented as part of the Acton WWTP upgrade and expansion. This monitoring program would monitor Acton WWTP effluent quality, as well as Black Creek water quality upstream and downstream of the Acton WWTP outfall for the following parameters:

- Dissolved oxygen
- Temperature

- Conductivity
- Chlorides
- Nitrate-Nitrogen
- Total Phosphorus
- Benthic invertebrates.

The parameters to be monitored and the monitoring frequency would be confirmed through consultation with CVC and MOE.

The results of the monitoring program could be considered to better understand the impacts of nitrate discharge on Black Creek and the treatment requirements at the Acton plant

The upgraded Acton WWTP would be designed to accommodate a methanol dosing system in the future if a further degree of denitrification is required, based on the results of the monitoring program.

cc.

Jacqueline Weston, Manager of Infrastructure Planning, Halton Region  
 Dave Andrews, Manager, Wastewater Treatment Plant Operations, Halton Region  
 Susan Liver, Project Manager, Engineering Services, Halton Region  
 Louis Tasfi, Project Manager, Dillon Consulting Limited  
 Marcy McKillop, Project Co-ordinator, Dillon Consulting Limited

**THE REGIONAL MUNICIPALITY OF HALTON  
ACTON WASTEWATER TREATMENT PLANT CLASS ENVIRONMENTAL ASSESSMENT  
AND ASSIMILATIVE CAPACITY STUDY**

**TECHNICAL ADVISORY COMMITTEE MEETING #4  
(MINISTRY OF THE ENVIRONMENT MEETING No. 3)**

DATE: September 23, 2008

TIME: 9:30 a.m. – 11:30 a.m.

LOCATION: Ministry of the Environment Central Region Office, 5775 Yonge Street, Toronto

PRESENT:

Ted Belayneh	)	Ministry of the Environment
Ellen Schmarje	)	
Rebecca Scobie	)	
Jennifer Dougherty	)	Credit Valley Conservation
Bob Morris	)	
Adrienne Ockenden	)	
Jacqueline Weston	)	Region of Halton
Dave Andrews	)	
Magda Bielawski	)	
Susan Liver	)	
Louis Tasfi	)	Dillon Consulting Ltd.
Mark Brobbel	)	
Marcy McKillop	)	
Don Weatherbe	)	Donald G. Weatherbe Associates Inc.

FILE: 06-6413-2100

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Action By

Item

1. Project Background and Status

INFO

Magda provided a background of the Acton Wastewater Treatment Plant (WWTP) Class Environmental Assessment (EA), including the Assimilative Capacity Study of the receiver Black Creek.

Magda indicated that the wastewater flowrate associated with the full build-out of the Acton urban envelope, including the Maple Leaf lands has been updated. Based on consultation with the Town of Halton Hills, the wastewater treatment capacity for full build-out of the Acton urban area, including development of the Maple Leaf lands, is 7,000 m<sup>3</sup>/d. This wastewater flowrate corresponds to a dilution ratio of 0.18 to 1 (7Q20 low stream flow to Acton WWTP discharge).

Action ByItem2. Black Creek Assimilative Capacity Study and CVC Comments

INFO

Jennifer provided comments related to Dillon's response (attached tables dated September 12, 2008) to CVC's comments on the Black Creek Assimilative Capacity Study Report (letter dated October 31, 2007).

Dillon/Don to  
update Modelling  
Report

Mixing Zone: Jennifer indicated the Part III Modelling Report did not include any discussion of the mixing zone. Don responded that due to the lack of dilution, no mixing zone was considered. Don indicated that complete mixing was assumed at the point of discharge. Ted confirmed that this approach was reasonable. Jennifer requested that the text be updated, to specify the conditions in which the provincial water quality objective for un-ionized ammonia is met in-stream. Ted requested that the mixing zone analysis be carried out using the proposed effluent limits and objectives.

Effluent Ammonia Criteria: Ted confirmed that the total ammonia-nitrogen limits proposed (see attached Summary Table) are considered stringent, and would be acceptable to MOE. Ted also indicated that total ammonia effluent criteria, and not un-ionized ammonia criteria would be written into the Certificate of Approval.

CVC to consider  
preferred type of  
diffuser (in the case  
that such as diffuser  
is required)

Mechanical Mixing of the Effluent: Louis described two options for providing mechanical mixing: point source diffusion or the use of diffusers across the creek. Louis indicated that the hydraulic profile of the expanded treatment plant would be considered, to assess if any remaining freeboard is available to provide re-aeration through a vertical drop at or near the outfall. Ted asked if additional mixing in-stream with diffusers would be effective, given the low flows observed in Black Creek.

Dillon/Don to  
update Reports

Ted requested that the discussion of dissolved oxygen, as well as the dissolved oxygen model, be updated in the Assimilative Capacity Study Report.

CVC to provide  
input regarding the  
preferred location  
for a new Station  
B2A

Backwater Impacts: It was discussed that further study of backwater impacts and backwater characterization at the outfall would be achieved through further monitoring. A new monitoring station, Station B2A (to be located upstream of Station B2 and downstream of B1), could be compared to the results provided by Station B2. As Mark indicated, this might prevent Station B2 from being moved prematurely, as this station has several years of collected data.

Region and CVC  
to initiate  
discussions  
regarding  
Regional  
Chloride  
Management  
Plan. Dillon to  
include a  
recommendation  
regarding this  
subject in the  
Class EA.

Bob requested that the Acton WWTP Environmental Study Report address the potential need for effluent aeration and/or beaver dam management in the future, if backwater effects become evident.

Chloride: Jennifer indicated that a broader Chloride Management Plan is needed. Jennifer suggested that the commitments section of the Acton WWTP Environmental Study Report include a recommendation to initiate a Regional Chloride Management Plan to educate and encourage the general public to install high-efficiency water softeners (by providing incentives). Jacqueline requested further consultation between CVC and the Region on this issue, which would be completed outside of the Class EA.

Action By

Item

Bioassay Toxicity Testing: Bob asked Ted if MOE would be willing to provide a peer review of testing results, if this toxicity testing was completed by CVC. Ted indicated that this testing should be handled outside of the Class EA, and would not be written into any approvals, such as the Certificate of Approval.

Dillon/Don to update Modelling Report to ensure model assumptions are clearly outlined

Temperature Model: Bob challenged some of the assumptions used in the development of the temperature model. Don indicated that every model reach included a ground water recharge component.

3. Proposed Operating Strategy with respect to Nitrate-Nitrogen

INFO

Magda provided the Region's proposed operating strategy (based on attached discussion notes dated September 12, 2008) with respect to nitrate. Ted indicated that although there is a Canadian Water Quality Guideline for nitrate, there is not yet a Provincial Water Quality Objective. Ted mentioned that this may be due to the derivation of the CWQG for nitrate as a chronic value, with a factor of safety of 10 that is derived for a specific species. Ted indicated that a nitrate-nitrogen effluent limit of 2.9 mg/L as N, equivalent to the CWQG, was not justified for the Acton WWTP expansion.

The operating strategy proposed to reduce nitrate involves an anoxic zone or selector to achieve denitrification. The performance of this selector is unknown and it is not possible to establish an effluent design objective. Dave mentioned that this type of unit process could impact other parameters, such as available oxygen. It was noted that the effluent concentration of nitrate will be reduced below current levels as part of the Acton WWTP expansion.

Region to consult with CVC to develop a monitoring program as part of the Acton WWTP expansion.

Monitoring Program: Bob questioned the proposed parameters to be included in the monitoring program. Mark responded that the monitoring program has not yet been confirmed, and that parameters such as benthic invertebrates and fisheries could be included in such a program.

Ellen provided the following suggested commitments related to nitrate, that could be provided in the Acton WWTP Class EA Environment Study Report:

- Monitor nitrate concentration in the Acton WWTP effluent, as well as upstream and downstream of the Acton WWTP outfall.
- Include an anoxic selector zone as part of the plant expansion to reduce or maintain the current loading of nitrate-nitrogen to the receiver.
- Implement a monitoring program that will be developed in consultation with CVC to better understand the impact of nitrate-nitrogen on Black Creek.
- If nitrate impact is identified, the nitrate-nitrogen loading could be further reduced through a process modification, such as methanol dosing.

Action By

Item

4. Proposed Total Phosphorus Effluent Criteria

INFO

Magda provided the Region's proposed total phosphorus (TP) effluent criteria, including loadings, limit, and objective concentrations (based on attached discussion notes dated August 21, 2008). Ted indicated that the proposed TP effluent criteria is not likely adequate and that an annual TP load would not be sufficient

Ted/Ellen to verify whether 314 or 332 kg/year should be considered as the TP annual loading limit, in the case of an expansion of the Acton WWTP

Ellen confirmed that Black Creek is a Policy 2 receiver, with respect to TP based on the balance of historical data, despite recent background TP concentrations that were below the Provincial Water Quality Objective.

Dave voiced his concerns that based on the TP limit of technology of 0.1 mg/L, it would not be reasonable to propose a concentration limit or objective below this value. Ted indicated that Certificates of Approval have been issued by MOE with TP effluent limits and objectives of equal and less than 0.1 mg/L.

Don/Dillon to provide MOE with a proposal showing that the TP limit and objective proposal provide a lower in-stream concentration of TP

Don asked if the proposed TP effluent limit and objective could be adopted, if it was shown that on a monthly basis a reduced in-stream concentration of TP is achieved (in comparison to current in-stream concentrations). Ted indicated that they would be willing to review this proposal.

TP Offsets: Ellen indicated that a Policy 2 deviation request would be included as part of the Certificate of Approval, if the Region decides to reduce TP loading from the Acton WWTP expansion through TP offsets, and not through the implementation of a TP treatment technology at the plant. TP offsets would be provided through measures such as stormwater management, improved agricultural practices, etc. In terms of the mechanisms of the TP offsets, Ellen indicated the following:

- The amount of TP offsets must be committed to initially, although their implementation may occur in the future as new developments become serviced and as the flow increases.
- An Addendum to the Class Environmental Assessment would be required if a treatment technology is later determined to be preferred, as opposed to TP offsets.
- TP offsets would need to be provided at a minimum ratio of 2:1 (2kg of TP removed through offsets for each 1kg of TP discharged from the WWTP).

CVC and Region to further discuss TP offsets and the authority over the monitoring and management of offsets

According to Ellen, if TP offsets are adopted, they would have to be monitored by the Region. Jennifer described the Black Creek Subwatershed Study, which may identify potential opportunities for achieving TP offsets through retrofits of certain urban and rural areas. Jennifer indicated that the Phase 1 draft report of the Black Creek Subwatershed Study will be available after Christmas.

Region and Town of Halton Hills to consult regarding the operation of Fairy Lake

The Fairy Lake Water Quality Study, which is currently underway, is considering nutrient inputs for sources including water fowl. The future operation of Fairy Lake was discussed. Susan indicated that the current and future operation of Fairy Lake would be discussed between the Region and the Town of Halton Hills.

Action By                      Item

5. Next Steps

Don/Dillon to re-check derivation of low flows	Low Flows: Ted suggested that the low flow analysis be double-checked by Don, as earlier monthly readings do not follow a similar seasonal pattern to the more recent readings.
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Ted to provide Magda with an EAAB Contact Name (completed)	Consultation with MOE Environmental Assessment and Approvals Branch (EAAB): Ted recommended that the Region and Dillon consult with the MOE EAAB, later this year once the recommended alternative for the Acton WWTP upgrade has been identified through the Class EA process. The EAAB can provide further input related to the design of the plant expansion. Ted indicated that at the preliminary design stage, commitments related to the provision of equalization storage and other safety measures be clearly provided.
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6. Post Meeting Note

INFO	An updated/final version of the Black Creek Assimilative Capacity Study Report will be issued to the agencies, as the Region and Dillon proceed with the Acton WWTP Class EA.
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ERRORS AND/OR OMISSIONS

These minutes were prepared by Marcy McKillop who should be notified immediately of any errors and/or omissions.

NEXT MEETING

There is not presently any need for another Technical Advisory Committee meeting. A meeting will be scheduled between the Region and the Environmental Assessment and Approvals Branch (EAAB) of the Ministry of the Environment, for presentation of the preliminary recommended design alternative for review and comments.

DILLON CONSULTING LIMITED  
LONDON, ONTARIO

October 9, 2008

DISTRIBUTION:

All Present  
M. Heaton - MNR  
W. Derjugin - Region  
K. Kolli - Dillon  
S. Stanlake - Dillon  
WWI/RFK

## Summary of Existing and Proposed Acton WWTP Certificate of Approval Effluent Objectives and Limits

**Table A: Existing Acton WWTP Certificate of Approval Effluent Objectives and Limits (4,545 m<sup>3</sup>/d)**

Parameter	Effluent Objective	Effluent Limit
BOD <sub>5</sub>	2 mg/L	5 mg/L
TSS	3 mg/L	5 mg/L
Total Phosphorus	0.2 mg/L	0.3 mg/L
(Ammonia + Ammonium) Nitrogen	1.0 mg/L as N	
Non-freezing period (May 1 – Nov 30):		2.0 mg/L as N
Freezing period (Dec 1 – April 30):		4.0 mg/L as N
Un-ionized Ammonia (any single sample)	--	0.1 mg/L
<i>Escherichia Coli</i> (monthly geometric mean density)	100 organisms/100mL	150 organisms/100mL

**Table B: Proposed Acton WWTP Effluent Objectives and Limits for Expansion (7,000 m<sup>3</sup>/d)**

Parameter	Effluent Objective	Effluent Limit
BOD <sub>5</sub>	2 mg/L	5 mg/L
TSS	3 mg/L	5 mg/L
Total Phosphorus*	0.1 mg/L	0.2 mg/L
(Ammonia + Ammonium) Nitrogen**		
Non-freezing period (May 1 – Nov 30):	0.5 mg/L as N	2.0 mg/L as N
Freezing period (Dec 1 – April 30):	1.0 mg/L as N	4.0 mg/L as N
<i>Escherichia Coli</i> (monthly geometric mean density)	100 organisms/100mL	150 organisms/100mL

\* Proposed Total Phosphorus loading limit of 332 kg/year.

\*\*The Acton WWTP effluent pH and temperature (monthly 75<sup>th</sup> percentile values) were found to yield more stringent and therefore more conservative ammonia concentration values, in comparison to the use of stream pH and temperature.

The corresponding un-ionized ammonia values are as follows:

- un-ionized ammonia objective of 0.016 mg/L as N (PWQO also equivalent to 0.02 mg/L as NH<sub>3</sub>)
- un-ionized ammonia limit of 0.08 mg/L as N (or current single sample compliance limit of 0.1 mg/L as NH<sub>3</sub>)

\*\*The capability for denitrification of the effluent would be provided as part of the plant upgrade and expansion.



Table 1. General Comments

CVC Comments	Response
<p>1. Backwater Impacts:</p> <ul style="list-style-type: none"> <li>- eutrophic conditions of Black Creek, in conjunction with the backwater effects from beaver dams could result in incomplete mixing of the effluent upstream of the outfall, potentially causing ammonia toxicity when the influence of instream pH and temperature is taken into account</li> <li>- backwater impacts evident by the exceedences to dissolved oxygen, ammonia and TKN upstream of the outfall</li> <li>- further discussion required on the existing/background characterization of backwater impacts from beaver activity prior to expansion</li> <li>- mitigation measures should include design of the outfall to possible include mechanical mixing/aeration to facilitate complete mixing of the effluent</li> </ul>	<ul style="list-style-type: none"> <li>- stringent ammonia and un-ionized ammonia effluent limits were proposed, on account of the toxicity associated with unionized ammonia</li> <li>- a further study to consider backwater impacts and background water characterization is not justified at this time. If such a study confirmed that there is a backwater impact near and outfall, this would allow for higher, and thus less stringent effluent limits in the case of an expansion. Mass balance calculations have taken into account the actual background concentrations, and not the anticipated values if there is a backwater impact. More stringent effluent limits have been proposed on account of the low dilution ratio and to provide a non-toxic effluent.</li> </ul>
<p>2. Low Flow Conditions:</p> <ul style="list-style-type: none"> <li>- CVC reiterates MOE concerns regarding the uncertainty of the continued flow from the Acton Quarry</li> <li>- what would be the impact if flows from the quarry are discontinued or are significantly reduced in the future</li> <li>- CVC would require further discussion on this issue in the Environmental Study Report</li> </ul>	<ul style="list-style-type: none"> <li>- location of the discharge from the Acton Quarry (Dufferin Aggregates) is downstream of the Black Creek Sampling Station B2, which was located south of the intersection of Third Line and Glen Lawson Road</li> <li>- mass balance calculations were all based on the impact to Black Creek at the point of discharge and will not be affected by downstream dilution</li> <li>- the 7Q20 flow was considered at the point of discharge</li> <li>- the temperature and dissolved oxygen model considered the dilution effect, based on the Black Creek cross-section flow measurements at each of the downstream sampling stations</li> <li>- Ellen Schmarje of the MOE agreed in a meeting with the Region of Halton (August 21, 2008) that the Acton WWTP will be reviewed under existing conditions, and that scenarios associated with flows from the Acton Quarry will not be part of the review, EA work done to date based on existing conditions from the quarry is acceptable.</li> </ul>
<p>3. Background Data and Field Work:</p> <ul style="list-style-type: none"> <li>- existing long term monitoring data for other disciplines such as Benthic and Fisheries should have been incorporated and commented on in Dillon's Field Study Report</li> </ul>	<ul style="list-style-type: none"> <li>- Historical fisheries information (1999-2003) for CVC's Third Line station was presented in the Part 1 Spawning Redd Survey report</li> </ul>

CVC Comments	Response
<p>4. Fisheries Concerns:</p> <ul style="list-style-type: none"> <li>- concerns regarding fisheries (low flows and/or a spill event) are not adequately addressed through use of long term averages or percentiles</li> <li>- tributary refuge areas and extent of habitat isolation by barriers should be identified as part of contingency plans</li> <li>- presence of Redside Dace has been reported by MNR in this reach of Black Creek according to the Wetland Evaluation Report, that is not recognized in this report</li> <li>- it is recommended that specific water quality or flow parameters that may be of concern to Redside Dace, a sensitive species, be identified</li> </ul>	<ul style="list-style-type: none"> <li>- Dillon has requested this long term monitoring data from CVC</li> <li>- the Field Study Report (Part II) will be updated to include reference to existing long term benthic and fisheries data</li> <li>- the effluent limits proposed for unionized ammonia are conservative, on account of the toxicity of this parameter. The corresponding ammonia limits were determined based on the unionized ammonia limits, and pH and temperature conditions.</li> <li>- Dillon will discuss the issue of habitat isolation with CVC</li> <li>- Dillon to obtain MNR's Wetland Evaluation Report and to update the Field Study Report to indicate the presence of Redside Dace and to consider water quality parameters that may be of concern to this sensitive species</li> </ul>
<p>5. Wetland Concerns:</p> <ul style="list-style-type: none"> <li>- wetland is often cited as the reason behind the observed poor water quality conditions (e.g. nitrate)</li> <li>- water quality should be better characterized, potentially through further investigations as quality may be related to "natural" limitations, exaggerated by the Fairy Lake impoundment and urban runoff from adjacent land uses into the wetland</li> <li>- although not specifically requested before by CVC, characterization of the wetland may also be required to determine the potential impacts from flow regime or water quality changes</li> <li>- the assimilative capacity of the wetland may also be of concern regarding nitrogen being the limiting factor to vegetative growth</li> </ul>	<ul style="list-style-type: none"> <li>- characterization of the wetland is not anticipated to have an impact on the setting of effluent criteria, in the case of a WWTP expansion</li> <li>- stringent effluent limits have been proposed on account of the low dilution ratio and to provide a non-toxic effluent</li> </ul>
<p>6. Prospect Well:</p> <ul style="list-style-type: none"> <li>- CVC expects further evaluation of the potential cumulative impacts as further information becomes available</li> <li>- the operation of the dam must also be factored in the analysis</li> </ul>	<ul style="list-style-type: none"> <li>- impacts to be addressed once the Prospect Park Wellfield Impact Assessment Report is finalized and accepted by MOE and CVC</li> <li>- consideration of potential changes to the operation of the Fairy Lake dam may represent a contingency measure for conditions of low flow in Black Creek, as outlined in the Main Report (Section 3, page 8) and the appended Part III Modelling Report (Section 5.3.1, page 37)</li> </ul>

**Table 2A. Main Study Report Detailed Comments**

CVC Comments	Response
<p>Section 1.2 Assimilative Capacity Study Field Sampling - Page 2:</p> <ul style="list-style-type: none"> <li>- Further comment is need on the causes of low dissolved oxygen at stations upstream of the Acton WWTP outfall</li> <li>- CVC requests that this backwater and incomplete mixing situation be taken into account during the design of the outfall</li> </ul>	<ul style="list-style-type: none"> <li>- effluent dissolved oxygen monitoring to be completed to assess the need for aeration of the effluent, in the case of an expansion of the WWTP</li> <li>- mechanical mixing and/or aeration of the effluent to be considered by Dillon in the design of the outfall, if required</li> </ul>
<p>Effluent Limits – Section 2.2 Total Suspended Solids – Page 5:</p> <ul style="list-style-type: none"> <li>- CVC is aware of this upstream station (Station B2) being recently impacted by backwater effects from the beaver dams causing this sample to be influenced by the WWTP effluent, which is confirmed in Part II of the report (Section 2.2)</li> <li>- water quality values used in the mass-balance determination may be impacted by the plant effluent, therefore not representing true background levels</li> <li>- CVC suggest that the ESR include a recommendation to move the station upstream of any backwater impacts</li> </ul>	<ul style="list-style-type: none"> <li>- recommended that a new Station B2A be added upstream of Station B2 (and downstream of Station B1). The monitoring results for Station B2A can be compared to Station B2, to assess whether Station B2 has elevated concentrations, due to a backwater movement</li> <li>- water quality values used in the mass-balance determination were based on the 75<sup>th</sup> percentile of long-term historical data, which is not anticipated to be impacted by backwater impacts and the WWTP effluent</li> </ul>
<p>Section 3. Mitigation Measures - Page 7:</p> <ul style="list-style-type: none"> <li>- reference to the dilution ratios for both growth scenarios (short- and long-term) is needed</li> </ul>	<ul style="list-style-type: none"> <li>- this section will be updated to reflect the updated flowrate of 7,000 m<sup>3</sup>/d, which will become the only growth scenario presented</li> </ul>

**For Discussion – Responses to the CVC Comments on Black Creek Assimilative Capacity Study – Letter dated July 25, 2008**

<b>CVC Comments</b>	<b>Response</b>
<p>Section 3: Mitigation Measures – Page 8</p> <ul style="list-style-type: none"> <li>- mitigation measures should include the investigation of possible design measures for mechanical mixing/aeration at the outfall to facilitate complete mixing of the effluent</li> <li>- if backwater conditions are projected to continue, it should be recommended to move the upstream provincial water quality monitoring network (PWQMN) site (Station B2) above the backwater impacts of the WPCP</li> <li>- CVC has concerns regarding impacts of elevated chloride concentrations in the Acton WWTP effluent</li> <li>- It should be recommended that the new developments install high efficiency water softeners and incentives be provided for retrofitting of older softeners</li> <li>- CVC recommends that the Certificate of Approval include sampling for chloride in the effluent to determine trends in chloride concentrations over time to aid in the determination of relative contributions of chloride loadings in the watershed</li> </ul>	<ul style="list-style-type: none"> <li>- this section will be updated to discuss the potential need for mechanical mixing/aeration of the effluent, which will be considered by Dillon in the design of the outfall, if required</li> <li>- as outlined above, the addition of a new Station B2A will help assess whether Station B2 is impacted by a backwater movement</li> <li>- chloride was included in the Acton WWTP expansion routine monitoring program proposed for the effluent</li> <li>- Black Creek monitoring program, upstream and downstream of the outfall could also include this parameter</li> </ul>

**Table 2B. Black Creek Spawning Redd Survey Detailed Comments (Appended Report – Part I)**

<b>CVC Comments</b>	<b>Response</b>
<ul style="list-style-type: none"> <li>- confirmation of brook trout spawning redd allows for the conservative assumption that this may represent “critical habitat” as defined by DFO such that a “compensation” approach shall be avoided</li> <li>- for monitoring purposes it would be desirable to locate other redds responsible for sustaining the population of trout currently monitored by CVC at Third Line</li> <li>- CVC is planning to conduct surveys downstream of Third Line as part of the Black Creek subwatershed study that may address this gap and CVC would appreciate continued cooperation with the consultant</li> </ul>	<ul style="list-style-type: none"> <li>- It is acknowledged that CVC is planning to conduct further redd surveys as part of the Black Creek Sub-watershed Study</li> </ul>

Table 2C. Assimilative Capacity Field Study Report Detailed Comments (Appended Report – Part II)

CVC Comments	Response
<p>Page 3:</p> <ul style="list-style-type: none"> <li>- CVC staff have concerns with the use of parametric Tukey Tests on water quality data that tends not be normally distributed</li> <li>- All underlying statistical assumptions must be discussed and addressed in the statistical analysis</li> <li>- it is recommended that a test for normality be done on the data; otherwise a non-parametric comparison test should be used</li> </ul>	<ul style="list-style-type: none"> <li>- Tukey tests were shown for illustrative purposes only to show general trends in the concentrations of the parameters along the reach of Black Creek considered</li> <li>- Tukey tests results were not considered when setting the effluent water quality limits and objectives</li> <li>- The text will be updated to outline the above, as well as to comment on statistical assumptions associated with Tukey tests</li> </ul>
<p>3.0 Black Creek Water Temperature:</p> <ul style="list-style-type: none"> <li>- note that additional data are available from CVC prior to 2007 at Stations B2 and B3</li> </ul>	<ul style="list-style-type: none"> <li>- Dillon will request this additional temperature data from CVC for Stations B2 and B3 and refer to it in the Field Study Report</li> </ul>
<p>3.2 Black Creek Water Temperature - Results and Discussion</p> <p>Figures 3.1 to 3.3:</p> <ul style="list-style-type: none"> <li>- some of the colours used in the graph are not easily distinguished from one another</li> </ul> <p>Figure 3.3:</p> <ul style="list-style-type: none"> <li>- suggest adding the target temperature for a coldwater creek to Figure 3.3 (Black Creek is managed as a coldwater creek according to the Credit River Fisheries Management Plan; guideline for the average daily maximum temperature for a coldwater creek is 20°C)</li> </ul>	<ul style="list-style-type: none"> <li>- Figures 3.1-3.3 to be updated to include different colours, particularly for the Station B1 and T1 data series</li> <li>- Figure 3.3 Black Creek Daily Maximum Water Temperature to be updated to include a line showing this 20°C guideline</li> </ul>
<p>1<sup>st</sup> Bullet Point:</p> <ul style="list-style-type: none"> <li>- the data represent summer conditions only and therefore any conclusions as to the impacts of the WWTP effluent on Black Creek in the winter cannot be drawn</li> <li>- nonetheless, it is recognized that summer is the crucial period for impacts on water temperature</li> </ul>	<ul style="list-style-type: none"> <li>- Discussion of temperature data comparison to be updated to clearly reflect that data includes summer 2007 data only</li> </ul>
<p>Second last paragraph:</p> <ul style="list-style-type: none"> <li>- please include a reference for the interim guideline of 20°C for protection of the coldwater fishery</li> <li>- CVC would like to challenge the MOE Provincial Water Quality Objective for</li> </ul>	<ul style="list-style-type: none"> <li>- Dillon to acknowledge in the second last paragraph the CVC Credit River Fisheries Management Plan guideline for average daily maximum temperature for a coldwater creek of 20°C</li> </ul>

**For Discussion – Responses to the CVC Comments on Black Creek Assimilative Capacity Study – Letter dated July 25, 2008**

<b>CVC Comments</b>	<b>Response</b>
<p>temperature (10°C increase, max temp of 30°C) cited in the Tables</p> <ul style="list-style-type: none"> <li>- The 20°C target adopted by the proponent as suggested relates to average summer daily maximums</li> <li>- Instantaneous summer maximums of 25°C are reasonable</li> <li>- The text seems to suggest that the temperatures are in the order of 20°C but Figure 3.3 regularly peaks above that. Are calculated summer averages available?</li> <li>- The definitions and interpretation of temperature data using the Stoneman and Jones (1996) could be misleading based on definitions not provided and in comparison to CVC targets</li> <li>- CRFMP 2002 definitions and more recently updated MNR models (eg., Bolby)</li> </ul> <p>Section 4.2 Black Creek Benthic Invertebrate Community – Results and Discussion:</p> <ul style="list-style-type: none"> <li>- results from Station B2 should be compared with other (downstream) Stations</li> <li>- annual benthic invertebrate data collected by CVC since 1999 are available downstream of Acton WWTP (Third Line) and at Eighth Line in Georgetown</li> </ul>	<ul style="list-style-type: none"> <li>- Dillon to request if CVC has a reference for an upper water temperature that is never to be exceeded, and if a value exists it will be included as a line in Figure 3.3</li> <li>- The text does not suggest that water temperatures are in the order of 20 °C</li> <li>- Calculated daily average temperatures for the summer months are shown in Figure 3.2</li> </ul>
<p>Section 4.2 Black Creek Benthic Invertebrate Community – Results and Discussion:</p> <ul style="list-style-type: none"> <li>- results from Station B2 should be compared with other (downstream) Stations</li> <li>- annual benthic invertebrate data collected by CVC since 1999 are available downstream of Acton WWTP (Third Line) and at Eighth Line in Georgetown</li> </ul>	<ul style="list-style-type: none"> <li>- Dillon will request this long term benthic invertebrate community monitoring data from CVC</li> <li>- The text of this report will be updated to refer to existing long term benthic data</li> </ul>

**Table 2D. Assimilative Capacity Modelling Report Detailed Comments (Appended Report – Part III)**

<b>CVC Comments</b>	<b>Response</b>
<p>1.4 Policy Considerations –Non Acutely Lethal Effluent – Page 4:</p> <ul style="list-style-type: none"> <li>- it is strongly recommended that an “in situ” caged fish bioassay be conducted using native brook trout</li> <li>- toxicity tests conducted “in-situ” could potentially result in greater toxicity from high in-stream pH conditions than lab toxicity test results with effluent pH conditions</li> <li>- CVC could implement this in partnership with others</li> </ul>	<ul style="list-style-type: none"> <li>- “in situ” caged fish bioassay toxicity testing is not needed as stringent un-ionized ammonia land corresponding ammonia limits have been proposed (which take into account pH and temperature conditions), in the case of an Acton WWTP expansion</li> <li>- stringent effluent limits have been proposed on account of the low dilution ratio and to provide a non-toxic effluent</li> </ul>

**For Discussion – Responses to the CVC Comments on Black Creek Assimilative Capacity Study – Letter dated July 25, 2008**

CVC Comments	Response
<p>Section 3.3.3 Temperature Model:</p> <ul style="list-style-type: none"> <li>- CVC did not expect any impacts from the plant at a scale as far down as the confluence with Silver Creek</li> <li>- concerns regarding temperature at the reach scale require attention</li> <li>- the effects of beaver dams and the potential of bottom draw at Fairy Lake are not addressed</li> <li>- thermal retrofitting of SWM ponds and new design guidelines are recommended</li> <li>- the fact that the water temperature of the effluent is cooler than the receiving stream reach is normally assumed not to have an impact, as concluded</li> <li>- the situation of colder background temperatures downstream are likely and the volume of effluent is significant especially during low flows when temperatures peak. These factors need to be calculated</li> </ul> <p>Section 3.4 Dissolved Oxygen Impacts:</p> <ul style="list-style-type: none"> <li>- it would be more helpful to include the growth scenario cases in Figure 11, as opposed to the existing C of A case</li> <li>- it is not clear from the graph the length of the mixing zone, in which the exceedence of the dissolved oxygen Provincial Water Quality Objective occurs</li> <li>- CVC request that design of the outfall be investigated to minimize the dissolved oxygen impacts both up- and downstream of the outfall</li> <li>- This analysis did not include backwater effects, which is important as the upstream reaches do not receive significant groundwater recharge or are able to facilitate complete mixing in the wetland</li> </ul>	<ul style="list-style-type: none"> <li>- the temperature model takes into account the low dilution in Black Creek</li> </ul> <ul style="list-style-type: none"> <li>- the dissolved oxygen model predications of dissolved oxygen along Black Creek was determined for growth scenario 1 (Appendix B) and would be updated (for the new flowrate of 7,000 m<sup>3</sup>/d) to be included in Figure 11 with the existing C of A case (since the predicated dissolved oxygen data is similar for both cases)</li> <li>- mechanical mixing and/or aeration of the effluent to be considered by Dillon in the design of the outfall, if required</li> <li>- the dissolved oxygen model input values included an upstream value (based on the 75<sup>th</sup> percentile of 2007 field study data at upstream Station B2)</li> </ul>

CVC Comments	Response
<p>Section 3.5 Mixing Zone Consideration:</p> <ul style="list-style-type: none"> <li>- the concept of no mixing zone at the discharge point is not clear</li> <li>- how far downstream is a mixed non-acutely toxic effluent or no exceedences of the Provincial Water Quality Objective achieved?</li> <li>- backwater effects in the mixing zone analysis is required as effluent may move upstream to unmixed areas with low recharge and low mixing potential, producing potential toxic impacts</li> <li>- further discussion is required on backwater impacts and ways to mitigate these impacts</li> </ul>	<ul style="list-style-type: none"> <li>- text to be updated by Don Weatherbe to expand on discussion of the mixing zone analysis. The field survey indicated effluent dissolved oxygen was higher than the Provincial Water Quality Objective (PWQO) concentration. For the cases modeled, the dissolved oxygen upstream of the WWTP is actually increased to above the PWQO by the effluent. Consequently, from the point of discharge to downstream stations, all locations meet the PWQO for dissolved oxygen.</li> <li>- The effluent objective proposed for un-ionized ammonia effectively meets the PWQO concentration, and as a result there is no location that does not meet this objective concentration in-stream</li> </ul>
<p>Section 5.2 Chlorides and Water Softeners:</p> <ul style="list-style-type: none"> <li>- chloride effects are not expected so much on fatheads that are considered tolerant, nor to brook trout that still have the evolutionary capability to access ocean waters</li> <li>- impacts are more likely on invertebrates (such as drift avoidance and greater exposure to predation) and on amphibians</li> <li>- any potential effects on Redside Dace should be investigated</li> </ul>	<ul style="list-style-type: none"> <li>- chloride included as a parameter for the proposed monitoring program</li> <li>- text to be updated to include discussion on species that are sensitive to chloride</li> </ul>
<p>Section 5.3 Flow Augmentation:</p> <ul style="list-style-type: none"> <li>- CVC agrees that operation of the Fairy Lake Dam should be reviewed to improve ecological flows downstream</li> <li>- There must also be a balance with the wetland and fisheries functions above the dam but CVC would support a net gain for the downstream fishery (e.g., additional storage and release but erosion/flooding concerns?). Also note that water quality parameters may not be the most limiting factor in such studies. It is possible that this option may be reserved for climate change adaptation vs. expansion purpose</li> </ul>	<ul style="list-style-type: none"> <li>- flow augmentation from Fairy Lake to be presented in the report as a contingency measure, as well as a future operating strategy to address climate change adaptation</li> </ul>



**McKillop, Marcy**

**From:** Donald Weatherbe [dgweath@pathcom.com]  
**Sent:** Thursday, January 22, 2009 2:50 PM  
**To:** Belayneh, Ted (ENE)  
**Cc:** McKillop, Marcy; Tasfi, Louis; Weston, Jacqueline; Ken Thompson  
**Subject:** Re: Acton WWTP Class EA - TP criteria  
**Follow Up Flag:** Follow up  
**Flag Status:** Red  
**Attachments:** Acton WWTP Expansion TP Criteria (1).pdf

Hi Ted,

Thanks for discussing the Acton WWTP TP effluent criteria with me last week, following your Jan. 13, 2009 email. As discussed, the consulting team is working under the earlier direction received from your office that the current TP loading condition of 315 kg/yr is the basis for analysis in meeting the Policy 2 conditions. I have attached a document that presents the various loading conditions (effluent limits and objectives) for the different expansion scenarios. Note that Scenario 2 (7,000 m<sup>3</sup>/d) would likely only proceed on the basis of TP offsets. As described in the attachment, the expanded Acton WWTP will be operated at a reduced TP loading objective, in comparison to existing conditions. This along with the decrease in the mixed in-stream TP concentration in Black Creek (downstream of the outfall), is felt to be in accordance with the intent of Policy 2.

Please discuss this issue with your colleagues as we need to proceed and finalize the Assimilative Capacity Study. I will call you next week to discuss.

Donald Weatherbe, P.Eng.

Donald G Weatherbe Associates, 1352 Safeway Cres., Mississauga, ON L4X 1H7, Tel: 905 896 4759, Cel: 416 648 7548,  
 Email: [dgweath@pathcom.com](mailto:dgweath@pathcom.com)

----- Original Message -----

**From:** Belayneh, Ted (ENE)  
**To:** Bielawski, Magda  
**Cc:** Donald Weatherbe ; Schmarje, Ellen (ENE) ; McKillop, Marcy ; Tasfi, Louis ; Scobie, Rebecca (ENE)  
**Sent:** Tuesday, January 13, 2009 3:10 PM  
**Subject:** RE: Acton WWTP Class EA - TP criteria

Hi Magda, Don:

Sorry for the very late response.

In short....

In my view, the 315 kg/year is the **minimum** requirement (and we have not really "agreed" on that yet. It still bothers me that we are not giving more weight to the more recent (2007) data that suggests that the Creek now meets PWQO upstream (around 0.028 mg/L). If that is indeed the case, then the mixed water must not exceed the PWQO! This is what I wrote to you a while back (below, in red)... Don, you'd need to give us a comprehensive overview of all this info and we need to clear this up. I am not quite comfortable "signing off" on 315 at this time either. For example, do we have additional data from 2008 for the upstream location?

We need two things:

- i) no net increase in loads (essentially means 315 is the maximum to consider);
- ii) in-stream concentrations. If water is already policy 2, then do not make it worse (at the very least). In fact, some improvement is desired. If it is deemed that it meets PWQO, then, mixed water must not exceed PWQO. Don's table suggests that upstream concentration is 0.06 mg/L. In this case, the wastewater must be treated to as low as 0.06 mg/L (0.0599 mg/L to be exact) so that requirement is met. This is for the ultimate scenario. If, say upstream conc is 0.03 mg/L, this means the wastewater (at ultimate scenario of 7,000 m<sup>3</sup>/day) would need to be treated to as low as 0.03 to meet this requirement.

Don, please feel free to give me a call if I made an error in the calculations or assumption. This is important and we need to clear this up ASAP

1/22/2009

Please include Rebecca and Ellen in e-mails.

Ted

**From:** Belayneh, Ted (ENE)

**Sent:** December 11, 2007 5:09 PM

**To:** 'Baker, Colin'

**Cc:** Tasfi, Louis; McKillop, Marcy; Weston, Jacqueline; Schmarje, Ellen (ENE); Donald Weatherbe; Wendy.Darjugin@halton.ca

**Subject:** RE: Black Creek Assimilative Capacity Study - Phosphorus Loading

This is a follow-up from our meeting. One of the actions items was for the MOE to provide feedback regarding the TP loading limits to apply for the expansion. The following is my suggestion- subject to Ellen's approval:

**Action Item from Meeting Minutes:** Ellen and Ted indicated that they will get back to Dillon/Don/Region of Halton regarding the proper current phosphorus loading value to consider... MOE to get back to Don/Dillon/Region of Halton regarding current phosphorus loading to consider by November 30, 2007.

My suggestions are based on the following facts:

- The plant currently is operating at near its rated capacity (4,545 m<sup>3</sup>/day);
- The current C of A objective and limit for TP are 0.2 mg/L and 0.3 mg/L, respectively. There is no loading objective or limit in the C of A.
- Black Creek is currently considered Policy 2 water w.r.t. phosphorus. The Prelim work by Dillon (March 23, 2007) indicates that the average and 75<sup>th</sup> percentile concentrations of TP in Black Creek upstream of the STP were: 0.07 mg/L and 0.057 mg/L (based on post 1993 – 2006 data). The concentrations downstream of the STP for the same period were: 0.061 mg/L and 0.07 mg/L. The effluent quality during 2000-2006 was 0.14 mg/L and 0.19 mg/L (average and 75<sup>th</sup> percentile). During the 2007 supplementary survey, the TP concentration upstream of the STP (station B2) were: 0.025 mg/L and 0.028 mg/L (average & 75<sup>th</sup> percentile). Downstream (at B3), the concentrations were 0.039 mg/L and 0.041 mg/L (average & 75<sup>th</sup> percentile). The effluent quality was 0.082 mg/L and 0.089 mg/L.
- Halton wishes to use as the loading limit for the expansion: 4545 m<sup>3</sup>/day x 0.3 mg/L = 1.36 kg/day. Even using the higher estimate of current TP discharge (0.19 mg/L based on 75<sup>th</sup> percentile value of 2000-2006 data) and assuming the plant is already at capacity the highest loading currently occurring would be around 0.86 kg/day. Note that this is very close to what would result if the plant is operated at its design objective (as it should be) even when it is at full rated capacity. If 2007 survey data is considered more representative of recent plant performance conditions (and hence in-stream conditions as well), the "maximum loading estimate would be close to 0.41 kg/day.
- Based on the above, I recommend that the loading cap for the expansion be limited to a value between 0.41 kg/day and 0.86 kg/day (please recheck my calculations). It certainly should not exceed 0.86 kg/day. The loading cap should be a compliance limit to be met on a mutually agreed upon averaging time base (preferably monthly)

Hope this helps.

Ted Belayneh

Ted Belayneh, M.Sc., P.Geo.  
Surface Water analyst/ Group Leader  
416-326-3472

**From:** Bielawski, Magda [mailto:Magda.Bielawski@halton.ca]

**Sent:** October 08, 2008 2:54 PM

**To:** Belayneh, Ted (ENE)

**Cc:** Donald Weatherbe; Schmarje, Ellen (ENE); McKillop, Marcy; Tasfi, Louis

**Subject:** Acton WWTP Class EA - TP criteria

Hello Ted,

Please review the table below. I left you a tele message to discuss this further; could you please call me when you have a moment?

Basically, what we are showing is that if we maintain the current C of A objective loading of 332 kg/yr and increase the flow, we would decrease the current instream mixed TP concentration.

On that basis, it the MOE willing to consider yearly loading limit of 332 kg/yr versus 314/315 kg/yr?

Magda

PS : I will be sending meeting minutes soon.

1/22/2009

Magda Bielawski, P.Eng.  
Infrastructure Planning Engineer

Legislative and Planning Services  
Infrastructure Planning  
Tel: 905-825-6000, ext.7426

**From:** Donald Weatherbe [mailto:dgweath@pathcom.com]  
**Sent:** Tuesday, October 07, 2008 4:18 PM  
**To:** Bielawski, Magda  
**Cc:** McKillop, Marcy; Louis Tasfi  
**Subject:** Re:

Magda  
Per our discussion, Below is a table with the assumption that CoFA objective loadings are maintained. Resulting in-stream concentration is improving.

Qs	Q1 (7Q20)	C1 (75th%ile)	Cs	Eff load		C3 Instream conc		
m3/d	m3/d	mg/L	mg/L	kg/d	kg/y	mg/L		
4545	1244.16	0.06	0.190	0.864	315.196	0.161	base case Cs observed	
4545	1244.16	0.06	0.200	0.909	331.785	0.169	base case Cs CoFA	
5600	1244.16	0.06	0.162	0.909	331.785	0.143	Cs derived to maintain load	
7000	1244.16	0.06	0.130	0.909	331.785	0.119	Cs derived to maintain load	

Q1, C1 - upstream flow and concentration  
Qs, Cs - WWTP flow and concentration.  
C3 = instream mixed concentration

Donald Weatherbe, P.Eng.

Donald G Weatherbe Associates, 1352 Safeway Cres., Mississauga, ON L4X 1H7, Tel: 905 896 4759, Cel: 416 648 7548,  
Email: [dgweath@pathcom.com](mailto:dgweath@pathcom.com)

**From:** Belayneh, Ted (ENE) [mailto:Ted.Belayneh@ontario.ca]  
**Sent:** Wednesday, October 01, 2008 11:22 AM  
**To:** Donald Weatherbe; Scobie, Rebecca (ENE); Schmarje, Ellen (ENE)  
**Cc:** Bielawski, Magda; Louis Tasfi; Marcy McKillop  
**Subject:** RE: Black Creek Assimilative Capacity Study - Phosphorus Loading

Hi Donald:

I guess I should have been clearer. My intent was that, in addition to demonstrating that annual loads are not increased, given that this is a flowing system, it is desired that you also demonstrate that loads and in-stream concentrations are also improved or not made worse as a consequence of the expansion.

Ted Belayneh, M.Sc. , P.Geo.

**From:** Donald Weatherbe [mailto:dgweath@pathcom.com]  
**Sent:** September 24, 2008 3:49 PM  
**To:** Belayneh, Ted (ENE)  
**Cc:** Bielawski, Magda; Louis Tasfi; Marcy McKillop  
**Subject:** Re: Black Creek Assimilative Capacity Study - Phosphorus Loading

Ted.

Before I do the calculation monthly, I want to clarify the rationale. If maintaining or improving the instream concentration is more important than maintainin loads, then we can solve the mass balance equation to meet this criteria. The following calculation shows this. The first row of calculations establishes the criteria according to your e-mail dated December 11, 2007 . The next two rows show a derived effluent limit based on maintaining the instream concentration. Would the MOE accept this effluent limit scenario.

Qs	Q1 (7Q20)	C1 (75th%ile)	Cs	Eff load		C3 Instream conc		
m3/d	m3/d	mg/L	mg/l.	kg/d	kg/y	mg/L.		

1/22/2009

4545	1244.16	0.06	0.190	0.864	315.2	0.161	base case C <sub>s</sub> observed
5600	1244.16	0.06	0.185	1.034	377.4	0.161	C <sub>s</sub> derived
7000	1244.16	0.06	0.180	1.260	459.8	0.161	C <sub>s</sub> derived

Q1, C1 - upstream flow and concentration

Qs, C s - WWTP flow and concentration.

C3 = instream mixed concentration.

Donald Weatherbe, P.Eng

Donald G Weatherbe Associates, 1352 Safeway Cres., Mississauga, ON L4X 1H7, Tel: 905 896 4759, Fax: 905 896 7954, Cel: 416 648 7548, Email: dgweath@pathcom.com

	<b>Rated Capacity/Flow  m³/d</b>	<b>Effluent Conc  mg/L</b>	<b>Loading Rates  kg/yr</b>	<b>Change from CofA  %</b>	<b>Notes</b>
Existing CofA	4545	0.2	331.8		CofA objective
	4545	0.3	497.7		CofA limit
Current effluent conc.	4545	0.19	315		MOE determined base case for load limit
Scenario 1	5600	0.1	204	-38.4	Proposed objective
	5600	0.154	315	-36.7	Proposed limit
Scenario 2*	7000	--	--		Proposed objective
	7000	--	--		Proposed limit
* TP offsets will be considered for a rated capacity > 5,600 m³/d. The associated effluent loading and concentrations will be established.					

[illegible]

## Acton WWTP Expansion Total Phosphorus (TP) Effluent Criteria

### Comments:

- *MOE's Water Management Policies, Guidelines, and Provincial Water Quality Objectives* (1994) specifies that compliance and non-compliance with the Provincial Water Quality Objective (PWQOs) should be determined from data that adequately reflects the spatial and temporal variations of the waterbody under consideration. Historical data versus present data should, therefore, be considered when considering compliance with the PWQOs, and for classifying the water body as either Policy 1 or Policy 2, on a parameter by parameter basis.
- Historical background data upstream of the Acton WWTP outfall indicates that the water quality does NOT presently meet the Provincial Water Quality Objective (PWQO) for TP of 0.03 mg/L. The 75<sup>th</sup> percentile background concentration is 0.06 mg/L, based 1993 to 2006 data. This implies that Black Creek is a Policy 2 Receiver with respect to Total Phosphorus (TP) based on historical data, according to *MOE's Water Management Policies, Guidelines, and Provincial Water Quality Objectives* (1994).
- Policy 2 Statement:
 

“Water quality which presently does not meet the Provincial Water Quality Objectives shall not be degraded further and all practical measures shall be taken to upgrade the water quality to the Objectives.”

“Evaluations of existing conditions in problem areas shall be conducted and all reasonable and practical measures shall be taken to upgrade the water quality to the Provincial Water Quality Objectives. Where new or expanded discharges are proposed, no further degradation will be permitted and all practical measures shall be undertaken to upgrade water quality. However, it is recognized that, in some circumstances, it may not be technically feasible, physically possible or socially desirable to improve the water quality toward the Provincial Water Quality Objectives.”
- The proposed TP effluent criteria (5,600 m<sup>3</sup>/d) meets the intent of requirements for a Policy 2 Receiver with respect to TP:
  - The current measured Acton WWTP TP loading of 315 kg/yr will be considered as the maximum loading rate, or the future TP loading limit.
  - The Acton WWTP will operate at a TP effluent loading objective (204 kg/yr), which is approximately 62% of the present TP loading objective (332 kg/yr).
  - Water quality in Black Creek will be improved or upgraded since the mixed in-stream concentration (C<sub>3</sub>) of TP will be reduced, as shown in **Table 2**.
  - TP is regulated because it promotes eutrophication of waterways, stimulating excess plant and algal growth. It is not directly toxic at concentrations typically seen in wastewater. No signs of impairment or eutrophication of Black Creek were documented as part of the summer 2007 Assimilative Capacity Study Field Work.



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*Ross Tassie* 06-6413  
*Correspondence*  
**RECEIVED**  
**MAY 11 2009**  
**DILLON, LONDON**

May 1, 2009

Ontario Ministry of the Environment  
Central Region Office  
Attention: Ms. Ellen Schmarje, Supervisor, Water Resources Unit  
5575 Yonge Street, 8<sup>th</sup> Floor  
North York, ON M2M 4J1

Dear Ellen:

**Re: Acton Wastewater Treatment Plant Class Environmental Assessment Proposed Total Phosphorus Effluent Criteria**

Thank you for meeting with Halton Region staff and project consultants on March 12, 2009 to review the project background and effluent phosphorus criteria for the future expansion of the Acton Wastewater Treatment Plant (WWTP).

Draft minutes of the March 12<sup>th</sup> meeting were previously circulated to meeting attendees by E-mail on April 15<sup>th</sup>. A copy of the minutes is appended to this correspondence for your review and reference.

The Acton WWTP is currently operating near the rated capacity of 4,545 m<sup>3</sup>/d. The Class Environmental Assessment currently underway for expansion of the facility has identified an ultimate capacity requirement of 7,000 m<sup>3</sup>/d. This will be the final expansion of the Acton WWTP and will accommodate build-out of the Acton urban area.

Discussion at our meeting focused on effluent criteria for total phosphorus (TP) for future expansion of the Acton WWTP. The meeting minutes provided a summary of additional information to be provided to the Ministry of the Environment by Halton Region. This included the following items:

1. Revised tables for WWTP flow versus total phosphorus loadings using Compliance Criteria and Design Objectives proposed by the Region.
2. Revised Mass Balance Calculations based on the proposed Compliance Criteria and 7Q20 stream flow for the Black Creek.
3. A review of historical plant operation records for treated effluent phosphorus to determine the frequency of and time of year of excursions.
4. Provide Black Creek Water Quality data in an Excel spreadsheet format. (Data previously forwarded by E-mail to Ted Belayneh by Don Weatherbe).

**The Regional Municipality of Halton**

**HEAD OFFICE** 1151 Bronte Road, Oakville, Ontario L6M 3L1 • Tel: 905-825-6000 • Toll free: 1-866-442-5866 • TTY: 905-827-9833 • [www.halton.ca](http://www.halton.ca)

5. Provide a copy of the Water Environment Federation Report on Long term sustainable performance of tertiary wastewater treatment plants related to treated effluent phosphorus concentrations.

## 1. Acton WWTP Existing & Proposed Total Phosphorus Effluent Criteria

Table No.1 provides proposed effluent criteria for total phosphorus (TP) for an expansion of the Acton WWTP from an average day rated capacity of 4,545 m<sup>3</sup>/d to 7,000 m<sup>3</sup>/d.

**Table No.1**

Condition	Monthly Average Effluent Concentration (mg/L)	Annual Loading Rate (kg/yr)	Comments
Existing C of A 4,545 m <sup>3</sup> /d	0.30	497.7	C of A Limit
	0.20	331.8	C of A Objective
Existing Conditions 4,545 m <sup>3</sup> /d	0.19	315	Current Loading Rate
Plant Expansion to 7,000 m <sup>3</sup> /d	0.19	485	Proposed C of A Limit with 1 excursion per year permitted
	0.10	256	Proposed C of A Objective

Halton Region is satisfied that the expanded Acton WWTP would meet a TP effluent Compliance Limit of 0.19 mg/L (monthly average), with an allowance of one excursion per year from this limit by the MOE. This proposed limit is based on the statistical assessment of historical TP effluent quality data for the existing Acton tertiary WWTP and investigation into the long term sustainable treatment efficiencies of tertiary wastewater treatment plants.

A TP effluent objective of 0.10 mg/L is proposed by Halton Region, which is appropriate given the proposed use of the best available technology for the Acton WWTP expansion. The expanded Acton WWTP would be designed and operated to meet a TP effluent objective of 0.10 mg/L.

Halton Region is currently undertaking a Total Phosphorus Management Study (TPM) for the Acton Urban Area. The study will identify the feasibility of implementing phosphorus offsets and will include the identification of potential sites and candidate TPM projects.

Halton Region proposes that once Total Phosphorus from the expanded facility exceeds 256 Kg/Year, the Region will develop an implementation plan to meet the objective loading which will consider both changes to WWTP operations and/or the implementation of TPM offset projects.

## 2. Mass Balance Calculation

A revised Mass Balance Calculation based on the proposed TP Compliance Criteria and Treatment Objectives as set out in Section 1.0 of this correspondence is provided by Table No.2.



Table No.2

Mass Balance Calculation to Show In-stream Total Phosphorus Concentration Maintaining Existing Effluent Concentration - Acton WWTP Discharge to Black Creek							
Qs	Q1 (7Q20)	C1 (75 <sup>th</sup> Percentile)	Cs Effluent Conc.	Effluent load		C3 In-stream Conc.	Comment
m3/d	m3/d	mg/L	mg/L	kg/d	kg/y	mg/L	
4545	1244.16	0.06	0.190	0.864	315.2	0.161	Base case Cs observed
7000	1244.16	0.06	0.190	1.330	485.5	0.170	Cs proposed limit
7000	1244.16	0.06	0.10	0.700	255.5	0.094	Cs proposed objective
Mass Balance solved for C3 where: $C3 = (C1 \times Q1 + CsxQs)/(Q1 + QS)$							

### 3. Statistical Review of Acton WWTP Phosphorus Removal Performance:

In 2002, Halton Region installed best available technology for phosphorus (chemical coagulation followed by tertiary sand filtration) at the Acton WWTP. A review of historical performance was conducted for the period from 2003 to 2008, to assess the site specific variability in treatment performance.

The analysis included a review of all TP sample results for this period with graphs prepared showing results for TP Effluent Probability, TP Effluent Reliability and WWTP Flow versus Monthly TP Effluent. The graphs present data for three separate periods including 2003 to 2008, 2003 to 2006 and 2006 to 2008 covering a range in average monthly flows from approximately 3,500 m3/d to approximately 5,800 m3/d. A copy of this information is appended to this correspondence.

In summary, the results suggest that an average performance (50% monthly probability) of 0.1 mg/L TP is reasonable while a monthly performance limit of 0.19 mg/L is possible 99% of the time. The results for Acton are generally consistent with a recent WEF statistical review on the actual performance of facilities employing best available technology for nutrient removal. While the average performance at Acton was similar, the 99% performance for the referenced facilities was generally higher (in the range of 0.25 to 0.3 mg/L). If the 0.19 mg/L value was used as a monthly compliance limit there could still be months when the compliance limit is exceeded. To fully account for variations in performance and influent quality, some provision allowing infrequent exceedance should be included in the final compliance criteria.

### 4. Black Creek Water Quality Data

As requested the background data for Black Creek Water Quality was previously provided in Excel spreadsheet format directly to Ted Belayneh by Don Weatherbe.

**5. Water Environment Federation Report Performance of Tertiary WWTP**

Also appended to this correspondence are copies of two documents from the Water Environment Technical Workshop held in October of 2008. The documents provided include:

- *"Demonstrated Processes for Limit of Technology Nutrient Removal: Achievable Limits and Statistical Reliability"*.
- *"Achieving Limits of Technology (LOT) Effluent Nitrogen and Phosphorous Removal at the Fiesta Village Advanced Wastewater Treatment Plant"*.

**6. Summary**

Halton Region is committed to finalizing the Class Environmental Assessment for the Acton WWTP Expansion this fall. Agreement on the design criteria to be utilized for an expansion to the facility is essential in order to maintain the project schedule.

Halton Region will ensure through the Class Environmental Assessment process that a wide range of treatment technologies will be evaluated for the expansion of the Acton WWTP. Alternative solutions and design concepts are proposed to be developed from May through July with a Project Consultation Meeting with the Environmental Assessment and Approvals Branch scheduled for August. The second Public Information Centre on the initiative is scheduled for early fall.

I trust that the information provided in the correspondence will assist the Ministry of Environment in providing confirmation on the effluent criteria to be utilized for the future expansion of the Acton WWTP.

If you require additional information or have any questions, please contact the undersigned at 905-825-6000 extension. 7433.

Yours sincerely,

**REGIONAL MUNICIPALITY OF HALTON**



Jacqueline Weston, M.A.Sc., P.Eng.  
Manager of Infrastructure Planning

cc: Ted Belayneh, Surface Water Group Leader, Ministry of the Environment  
Shannon McNeill, Environmental Assessment Coordinator, Ministry of the Environment  
Rebecca Scobie, Surface Water Specialist, Ministry of the Environment  
Ken Thompson, Project Manager, Halton Region  
David Andrews, Manager of Wastewater Treatment Plant Operations  
Don Weatherbe, Donald G. Weatherbe Associates Inc.  
Louis Tasfi, Dillon Consulting

Don Weatherbe, Donald G. Weatherbe Associates Inc.

Louis Tasfi, Dillon Consulting

Enclosures:

1. Draft Minutes of March 12, 2009 Meeting MOE / Halton Region of Halton
2. Review of Acton WWTP Plant Operations Records for TP Excursions
3. WEF Report "Demonstrated Processes for Limit of Technology Nutrient Removal: Achievable Limits and Statistical Reliability".
4. "Achieving Limits of Technology (LOT) Effluent Nitrogen and Phosphorous Removal at the Fiesta Village Advanced Wastewater Treatment Plant".

Note: Enclosures 1 & 2 provided to all recipients of correspondence.

Enclosures 3 & 4 provide to Ellen Schmarje for distribution to Ted Belayneh

---

**From:** Belayneh, Ted (ENE) [mailto:Ted.Belayneh@ontario.ca]

**Sent:** Monday, May 11, 2009 3:28 PM

**To:** Simpson, David; Schmarje, Ellen (ENE); Scobie, Rebecca (ENE); McNeill, Shannon (ENE); Donald Weatherbe; Tasfi, Louis; McKillop, Marcy

**Cc:** Weston, Jacqueline; Andrews, Dave; Bonsteel, Jane; k.w.thompson@sympatico.ca; Thompson, Ken

**Subject:** RE: Final Minutes MOE Meeting: Acton WWTP Class EA

David:

I meant to send you a quick note about the draft meeting minutes. On page 2) you wrote:

The consultation process formed the basis for the subsequent work undertaken for the proposed Acton WWTP expansion. The concept of treated wastewater effluent having to meet the upstream phosphorus concentration was not brought up by the MOE until January 2009.

Please note that we have been holding discussions with the Region since 2007 to help the Region address the issues early in the process. These are pre-submission consultations and issues are brought up as we identify them and as you provide more info. For the record, we can even identify new issues and raise them even when formally reviewing the final ESR. The pre-submission consultations are not intended to "signoff" on the proposal. So, the notion that I raised the effluent limit issue "late in the process" is perhaps not justified. By the way, we did raise this matter since our meeting in Sept 2008 (see meeting notes for Sept 23<sup>rd</sup> and follow up e-mail of Oct 1, 2008). I am sure the Region also understands this - but I thought it's best to clarify it now.

Also, I meant to send you further clarifications and suggestions based on our discussions at the March 12<sup>th</sup> meeting. I have now also received a May 1<sup>st</sup>, 2009 letter report that contains some additional info/ discussion on TP. In the attached memo I have attempted to explain our views and all of the issues raised. The big issue appears to be revolving around policy 2 interpretation for TP. Instead of trying to answer this in just one line, I have tried to break it into several steps and see where exactly we agree and disagree. In preparing the following I have relied on our previous discussions and materials submitted; additional data and a recent (Feb 2009) report on Black Creek prepared by the CVC. Please also consider my memo as "draft" for discussion purposes and the calculations that I included as preliminary. The Region's own consultant should recheck all values for accuracy. I prefer to offer detailed discussions and also share with you my draft calculations so that you/ your consultant can see the rationale for my recommendations and can quickly check the numbers for accuracy.

Hope this helps.

Ted Belayneh (416-326-3472)



April 21, 2010

Ontario Ministry of the Environment, Central Region Office  
Attention: Mr. Ted Belayneh, Surface Water Group Leader,  
Water Resources Unit  
5575 Yonge Street, 8<sup>th</sup> Floor  
North York, ON M2M 4J1

Public Works  
Wastewater Services  
1151 Bronte Road  
Oakville ON L6M 3L1  
Fax: 905-825-0267

06-6413  
Correspondence

Dear Mr. Belayneh:

**RE: Acton Wastewater Treatment Plant Class Environmental Assessment  
Proposed Total Phosphorus Effluent Criteria**

As you are aware, Halton Region and the Ministry of the Environment (MOE) have had extensive discussions regarding the Total Phosphorous (TP) requirements related to the expansion of the Acton Wastewater Treatment Plant (WWTP). There have been a variety of positions and policy interpretations presented but, to-date, there has been no agreement on the final TP effluent criteria.

TP effluent criteria are fundamental to the development of treatment alternatives which will be evaluated as part of this Class Environmental Assessment (Class EA) and are critical to allow planned growth in this community to proceed.

Based on a comprehensive review of the information developed through the Class EA process as well as correspondence between the Region and the MOE (including your e-mail dated May 11, 2009), this letter presents the Region's position for the Acton WWTP Class EA.

**Policy 2 Interpretation**

The Ministry of the Environment's (*MOE Water Management Policies, Guidelines, and Provincial Water Quality Objectives* (1994) specifies that compliance and non-compliance with the Provincial Water Quality Objective (PWQOs) should be determined from data that adequately reflects the spatial and temporal variations of the waterbody under consideration. Historical data versus present data should, therefore, be considered when considering compliance with the PWQOs, and for classifying the water body as either Policy 1 or Policy 2, on a parameter by parameter basis.

Historical background data upstream of the Acton WWTP outfall indicates that the water quality in the receiver, Black Creek, does NOT presently meet the PWQO for Total Phosphorus (TP) of 0.03 mg/L. The 75<sup>th</sup> percentile background concentration for TP is 0.043 mg/L for the last 5 years (2005 - 2009). Based on the *MOE's Water Management Policies, Guidelines, and Provincial Water Quality Objectives* (1994), and the historical water quality data, Black Creek is a Policy 2 Receiver with respect to TP.

Policy 2 states that "*Water quality which presently does not meet the Provincial Water Quality Objectives shall not be degraded further and all practical measures shall be taken to upgrade the water quality to the Objectives*". As presented below the proposed Acton WWTP expansion will meet the intent of the requirements for this Policy 2 Receiver, with respect to TP.

**The Regional Municipality of Halton**

### Total Phosphorus Effluent Criteria

Based on the receiving water quality of Black Creek, the Region is proposing to employ the best available technology economically achievable for the removal of TP. Having reviewed the literature, several processes are available which represent the limit of technology for TP removal. While actual performance varies from site to site the accepted statistical performance limit for these proven technologies is 0.1 mg/L TP. This value was employed in the mass balance calculations, presented in Table 1, to derive the mixed-in stream concentration in Black Creek, downstream of the Acton WWTP outfall.

**Table 1 - Mass Balance Calculations to Derive Mixed In-Stream TP Concentration ( $C_3$ )**

Effluent Flow $Q_e$	Stream Flow $Q_1$ (7Q20)	Upstream Conc. 75 <sup>th</sup> percentile - $C_1$	WWTP Effluent Conc. - $C_s$	Effluent Load		In-stream Conc. $C_3$	Notes
m <sup>3</sup> /d	m <sup>3</sup> /d	mg/L	mg/L	kg/d	kg/yr	mg/L	
Present 4,545 m <sup>3</sup> /d	1244.16	0.043	0.20	0.909	331.8	0.166	$C_3$ based on current C of A objective
Present 4,250 m <sup>3</sup> /d	1244.16	0.043	0.12	0.510	186	0.102	Base case $C_3$ observed at 75 <sup>th</sup> percentile (2005-2009)
Expansion 7,000 m <sup>3</sup> /d	1244.16	0.043	0.10	0.700	255.5	0.091	$C_3$ set as proposed objective
* Mass balance solved for $C_3$ where: $C_3 = \frac{(Q_1 \times C_1) + (Q_s \times C_s)}{Q_3}$							

As indicated, expanding the WWTP capacity to 7,000 m<sup>3</sup>/d while reducing the TP concentration to 0.1 mg/L will result in water quality in Black Creek being improved or upgraded since the mixed in-stream TP concentration will be reduced from 0.166 to 0.091 mg/L.

Building on this evaluation, **Table 2** provides the proposed TP effluent criteria which will be used in the evaluation of treatment alternatives for the proposed WWTP expansion. This table includes loadings for the expansion of the Acton WWTP from its current average day rated capacity of 4,545 m<sup>3</sup>/d to 7,000 m<sup>3</sup>/d.

**Table 2 - Proposed Effluent Total Phosphorus Criteria**

Monthly Average Effluent Concentration (mg/L)	Annual Loading Rate (kg/yr)	Condition
0.30	497.7	C of A Limit
0.20	331.8	C of A Objective
0.12	186	Current Conditions (Loading Rate - 75 <sup>th</sup> percentile of 2005-2009 data)
0.20	511	Proposed C of A Limit
0.10	255.5	Proposed C of A Objective
Anticipated to be <0.1	--	Future Operating Conditions

### Summary

Black Creek is a Policy 2 Receiver with respect to TP according to *MOE's Water Management Policies, Guidelines, and Provincial Water Quality Objectives* (1994). The proposed TP effluent criteria for the Acton WWTP expansion, which are consistent with the long term performance of proven TP removal technologies, meet the intent of the requirements for a Policy 2 Receiver, with respect to TP:

- The expanded Acton WWTP is anticipated to achieve a TP concentration of less than 0.1 mg/L, resulting in an annual loading of below the current annual permitted loading of 331.8 kg/d.
- The mixed in-stream concentration of TP in Black Creek will be improved.

The Region is committed to finalizing the Class Environmental Assessment for the Acton WWTP this year. We request that the MOE provide a formal written response to the Region confirming the following for the Acton WWTP Class EA:

- Policy 2 Interpretation to be considered for the expansion of the Acton WWTP
- Concurrence with the proposed TP effluent criteria.

This formal written response from MOE is critical to the timely completion of the Acton WWTP Expansion Class EA Study and we would request that it be provided within the next two weeks.

As part of the Class EA process, a wide range of treatment plant expansion alternatives will be considered that would provide a high quality TP effluent concentration. The potential to remove TP through offsets in the Acton urban area and upstream agricultural area is also being considered and studied.

If you have any questions, please contact the undersigned at 905-825-6000 extension 7944.

Yours sincerely,



David M. Andrews, M.Sc., C.E.T.  
Director, Wastewater Services  
Regional Municipality of Halton

cc: Ellen Schmarje, Supervisor, Water Resources Unit, Ministry of the Environment  
Shannon McNeill, Environmental Assessment Coordinator, Ministry of the Environment  
Rebecca Scobie, Surface Water Specialist, Ministry of the Environment  
Don Weatherbe, Donald G. Weatherbe Associates Inc.  
Magda Bielawski, P.Eng., Project Manager, Wastewater Services, Halton Region  
John Duong, M.Eng., P.Eng., Acting Manager Wastewater Planning, Halton Region  
Susan Liver, P.Eng., Project Manager, Wastewater Services, Halton Region  
David Ohashi P.Eng., Manager Wastewater Design and Construction, Halton Region  
Louis Tasfi, Ph.D., P.Eng., Dillon Consulting Limited  
Marcy McKillop, P.Eng., Dillon Consulting Limited

## ACTON WWTP CLASS EA STUDY - TP EFFLUENT CRITERIA - MEETING WITH MOE

### Meeting Notes

**Date:** Friday, July 9, 2010  
**Time:** 9:00 am  
**Location:** MOE Offices/5775 Yonge Street (8<sup>th</sup> Floor)

#### Present:

**Halton Region:** Mitch Zamojc, Commissioner, Public Works  
David Andrews, Director, Wastewater Services  
John Duong, Manager, Wastewater Planning  
Magda Bielawski, Project Manager  
Don Weatherbe, Consultant

**Ministry of the Environment:** Greg Sones, Director, Central Region  
Dan Orr, Manager, Technical Support Section  
Ted Belayneh, Group Leader, Surface Water  
Rebecca Scobie, Surface Water Analyst  
Daniel Delaquis, Central Region EA Coordinator

Notes	Action
<p>1. Classifying Acton WWTP receiving stream – Policy 2</p> <ul style="list-style-type: none"> <li>All present agreed that Black Creek is a Policy 2 receiver.</li> <li>MOE stated that current water quality of the Black Creek is not acceptable and their goal is to improve the water quality in Black Creek. MOE would like the Region to propose a TP Offset program which will not only maintain the current TP loading from the WWTP but will also attempt to reduce the current loading.</li> </ul> <p>2. Current TP Loading to Black Creek from the Plant</p> <ul style="list-style-type: none"> <li>It was noted that there is some discrepancy between the current loading considered by the MOE versus the Region:</li> </ul>	



<ul style="list-style-type: none"> <li>- Region: Current loading of 186 kg/yr, based on the 75<sup>th</sup> percentile of 2005-2009 data (as per Region's April 21, 2010 letter to the MOE).</li> <li>- MOE: Current loading of 150 kg/yr, based on average data of 2005-008 data (as per Ted's May 11, 2009 email and memo).</li> </ul>	<p>Region and MOE to work together to confirm the current TP loading from Acton WWTP</p>
<p>3. Proposed Acton WWTP Expansion</p> <ul style="list-style-type: none"> <li>• Region stated that this will be the final expansion (7,000 m<sup>3</sup>/d) for the Acton WWTP which will accommodated Acton Urban Area build-out.</li> <li>• The expansion of the plant will be mostly funded by the developers.</li> <li>• The Acton WWTP Class EA should reference an I/I reduction program currently being implemented in Acton as well as water reduction strategy that is being undertaken by the Region.</li> </ul>	
<p>4. TP Design Criteria and Offsets</p> <ul style="list-style-type: none"> <li>• MOE indicated that they would accept TP concentration limit of 0.2 mg/L and objective of 0.1 mg/L for the proposed plant expansion if the Region will be able to maintain the current TP load from the Acton WWTP through TP Offset program.</li> <li>• TP Offset program will be developed in parallel with the Acton WWTP Expansion Class Environmental Study. The Class EA will reference this TP Offset Program, which will be reviewed by the MOE and CVC.</li> <li>• The total TP offsets of approximately 200 kg/yr would be required for the proposed plant expansion; however this number will still be confirmed by the MOE.</li> <li>• The following offset ratios were discussed with MOE for the Acton WWTP Class EA: <ul style="list-style-type: none"> <li>- urban offsets - offset ratio of 2:1</li> <li>- rural offsets – offset ratio of 4:1.</li> </ul> </li> <li>• MOE stated that they prefer urban offsets rather than rural offsets, due to issues with private land ownership and maintenance of rural offsets.</li> <li>• MOE suggested that rural TP Offsets be implemented as close to the Acton WWTP as possible as well as upstream of the plant. CVC should be consulted regarding the potential and benefit of implementing rural TP offsets downstream of the plant.</li> </ul>	<p>Total TP Offsets required to be confirmed by MOE</p> <p>TP Offset Ratios to be confirmed by MOE</p> <p>Region to follow up with CVC</p>

5. Certificate of Approval

- MOE will still have to advise as to how the TP Offset Program and TP loading limit be incorporated into the new C of A.

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**Errors and/or omissions**

Please notify Magda Bielawski of any errors and/or omissions.

**THE REGIONAL MUNICIPALITY OF HALTON  
ACTON WASTEWATER TREATMENT PLANT CLASS ENVIRONMENTAL ASSESSMENT**

**MINUTES OF PROJECT MEETING**

DATE: July 12, 2010

TIME: 1:30 p.m.

LOCATION: Halton Region Offices, 1075 North Service Road, Oak Room

PRESENT: Magda Bielawski ) Halton Region  
John Duong )  
Martin Thissen )  
Caroline Hales )

Jennifer Dougherty ) Credit Valley Conservation  
Julie Anne Lamberts )  
Bob Morris )

George Zukovs ) XCG Consultants

Don Weatherbe ) Donald G. Weatherbe and Associates

Louis Tasfi ) Dillon Consulting Limited  
Karla Kolli )  
Marcy McKillop )

FILE: 06-6413

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Action By

Item

July 9 Meeting with the Ontario Ministry of the Environment (MOE) – Key Points

- INFO Magda provided an update on the outcome of the meeting that was held with the Region, Don and MOE on Friday, July 9, 2010 regarding the Acton Wastewater Treatment Plant (WWTP) Class Environmental Assessment (EA), and in particular the Total Phosphorus (TP) effluent criteria required in the case of a plant expansion. MOE wants to see a reduction in the current TP effluent loading, and thus an improvement to the effluent discharged from the plant.
- INFO Magda and Don indicated that there is some discrepancy between the current loading considered by the MOE versus the Region:
- Region: Current loading of 186 kg/yr, based on the 75<sup>th</sup> percentile of 2005-2009 data (as per Region's April 21, 2010 letter to the MOE).
  - MOE: Current loading of 150 kg/yr, based on average data of 2005-008 data (as per Ted's May 11, 2009 email and memo).
- INFO Magda and John indicated that the following offset ratios were established with MOE for the Acton WWTP Class EA:
- urban offsets - offset ratio of 2:1
  - rural offsets – offset ratio of 4:1.

<u>Action By</u>	<u>Item</u>
INFO	Magda indicated that Ted Belayneh at the MOE has been provided with both of the Acton Total Phosphorus Management Reports, for urban and rural offsets.
HALTON	Jennifer requested that Magda forward her the email dated May 11, 2009 from Ted Belayneh. Jennifer also requested that she be provided with copies of any future email correspondence from the MOE related to the effluent criteria for this project.

#### TP Effluent Criteria for the Proposed Plant Expansion

INFO	Magda provided the following summary of the proposed TP effluent criteria in the case of an expansion of the Acton WWTP:
------	--

7,000 m <sup>3</sup> /d ultimate plant expansion TP effluent objective concentration = 0.1 mg/L (255.5 kg/yr) TP effluent limit concentration = 0.2 mg/L
Phase 1 Expansion: 5,600 m <sup>3</sup> /d TP effluent objective loading (at 0.1 mg/L) = 204.4 kg/yr
Required TP offsets*:  Phase 1 (5,600 m <sup>3</sup> /d): 204.4 – 150 kg/yr = 54.4 kg/yr 54.4 kg/yr x 2/1 = 108.8 kg/yr (urban) offsets  Ultimate (7,000 m <sup>3</sup> /d): 255.5-150 kg/yr = 105.5 kg/yr 105.5 kg/yr x 2/1 = 211 kg/yr (urban) offsets

\* calculations based on MOE current load of 150 kg/yr (as per Ted's May 11, 2009 email and memo)

The following two alternative design options will be presented and evaluated as part of the Acton WWTP Class EA to achieve TP removal:

- Membrane Bioreactor
- Activated Sludge with tertiary filtration technology (to meet 0.1 mg/L).

#### Assimilative Capacity Study Report

INFO	Magda indicated that the Assimilative Capacity Study Report will be updated to include more recent data (2007-2009). She explained that the discussion of TP offsets would be outlined separately from the Assimilative Capacity Study Report, as part of the Acton WWTP Class EA Environmental Study Report document.
DON	Don indicated that MOE would like more monthly TP data, for both the receiver and the plant effluent included in the study. This monthly data is available through MOE. Don will use this data to update the report accordingly, including the mass balance calculation.

<u>Action By</u>	<u>Item</u>
DON & DILLON	Bob indicated that the low flow analysis should be updated for the past three years (2007-2009). Bob indicated that he could provide fisheries data to allow for updates to the report. Bob indicated that there has been an improvement in the fisheries in Black Creek downstream of the Acton WWTP.
INFO	Jennifer indicated that no further field work is required as part of the Assimilative Capacity Study. Jennifer indicated that a monitoring program should be implemented following the plant expansion. CVC would prefer the monitoring program include nitrate.
INFO	CVC staff will have some internal discussion to determine if available data from the Black Creek Subwatershed Study could be provided to Region/Dillon/Don, prior to the release of the draft report at the end of August.
CVC	CVC will compile a handful of high-level comments to address as part of the update of the Assimilative Capacity Study. These comments will be provided within two weeks.
<u>TP Offsets – Rural</u>	
INFO	Magda indicated that MOE is more comfortable with urban offsets rather than rural offsets, due to issues with private land ownership and maintenance of rural offsets.
INFO	Madga indicated that Ted at the MOE suggested that CVC be consulted with regarding the potential to implement downstream rural TP offsets.
INFO	Jennifer noted that cropping Best Management Practices (BMPs) were not explored as part of the rural offset study. Don indicated that the rural offset study mainly focused on structural or infrastructure-type measures that are easier to account for, unlike cropping practices which may vary year to year.
INFO	Julie Anne indicated that they may be the opportunity for additional upstream TP offsets in the rural area surrounding the Town of Erin, which is within the Black Creek watershed. Don indicated that the Town of Erin is located in Wellington County, which is outside of Halton Region.
INFO	Jennifer indicated that CVC has an Agricultural Outreach Specialist on staff. Jennifer also indicated that the Region of Peel has a Rural Water Quality Program, which could be used as a template if the Region is interested in implementing a similar program. The Peel Rural Water Quality Program is a voluntary program for farmers to carry out measures to improve water quality, such as fencing cattle from watercourses. Peel administers the program and pays CVC through additional staff to implement and carry out the program.
INFO	Bob indicated that a Halton Rural Water Quality Program was in place about eight years ago mainly through the Halton Region Conservation Authority (Conservation Halton).
INFO	Jennifer indicated that the Acton TPM Rural Offset Report could be updated using imagery from the CVC Black Subwatershed Study for upstream areas in Wellington County.

Action By

Item

TP Offsets – Urban

- INFO Based on a 2:1 ratio for urban offsets, Jennifer indicated that CVC would recommend a monitoring program to confirm the performance of these urban controls. This would provide CVC with a higher level of confidence related to these offsets, such as the actual removal of TP from a stormwater management pond. Jennifer indicated that the monitoring program would occur within the first few years. The results would be analyzed to determine the performance and the need for future monitoring.
- INFO The Region indicated that the Acton WWTP Class EA would include a commitment to move forward with TP offsets, as well as monitoring which would come later.
- INFO Magda inquired about CVC's review of a Town of Halton Hills' report that outlined infrastructure upgrades in the vicinity of Fairy Lakes, based on the Fairy Lake Water Quality Study. Jennifer indicated that CVC received no definitive input as to whether these improvements have been committed to.

TP Offset Ratio

- DILLON & DON Jennifer indicated that the TP Offset Program report should include justification for the selection of proposed offset ratio. For instance, CVC would like the Region/Dillon/Don to demonstrate why a 2:1 offset ratio is a reasonable safety factor for the selected urban TP offsets. Jennifer referenced the XCG Background Report for the Lake Simcoe watershed justifies the selection of an offset ratio based on a review of international water quality trading.

TP Offset Reports – Rural and Urban

- CVC Jennifer indicated that CVC would also provide comments on the Acton Total Phosphorus Management Reports, for urban and rural offsets.

ERRORS AND/OR OMISSIONS

These minutes were prepared by Marcy McKillop, P.Eng., who should be notified immediately of any errors and/or omissions.

NEXT MEETING

Halton Region will advise.

DILLON CONSULTING LIMITED  
LONDON, ONTARIO

July 27, 2010

DISTRIBUTION:

All Present  
RJM/MAB/IOP/WWI



October 8, 2010

Region of Halton  
Planning & Public Works Department  
1151 Bronte Road  
Oakville Ontario  
L6M3L1

Attention: **Magda Bielawski,**

**RE: Black Creek Assimilative Capacity Study**

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As requested, CVC staff has reviewed several documents relating to the above study including:

- 1) Black Creek Assimilative Capacity Study Report– Dillon Consulting – October 31, 2007
- 2) Spawning Redd Survey - – Dillon Consulting Limited-Oct. 31, 2007
- 3) Assimilative Capacity Field Study Report – Dillon Consulting Limited-Oct. 31, 2007
- 4) Assimilative Capacity Modelling Report – Donald G. Weatherbe Ass. Inc – Oct. 31, 2007

CVC met with the Region of Halton and their consultant on July 12, 2010 regarding the Environmental Assessment for the expansion of the Acton Water Pollution Control Plant. At this meeting, the Region gave an update on the EA, including new population projections, effluent flows and an overview of the Region's ongoing discussions with Ministry of the Environment. Due to the new scope and conditions surrounding the Environmental Assessment and Assimilative Capacity Report the above listed reports are required to be updated. CVC offers the following comments to further aid the Region in scoping priorities and work plans for the new terms of the Environmental Assessment for 2010.

#### **GENERAL COMMENTS**

##### **1. Low Flow Conditions**

CVC reiterates previous concerns regarding the uncertainty of the continued flow from the Acton Quarry as there is presently no requirement for guaranteed minimum flows. CVC require further discussion on the impact if flows from the quarry are discontinued or are significantly reduced in the future in the Environmental Study Report. Fairy Lake discharges and the management of outflows needs is recommended to involve the Town and principals of Instream Flow Needs. Future scenarios and contingency plans must be considered as related to decreases in wetland discharge related to recharge impacts due to urbanization and/or municipal water takings, flows from the Acton Quarry and possibly climate change. Integration with the Subwatershed and Source Water / Municipal Well Studies and Fairy Lake Management Plan will help address these issues.

## **2. Prospect Well**

The relationship with the Prospect Well is noted in this assessment. CVC expects further evaluation of this relationship with a focus on potential cumulative impacts as more recent information has become available. The operation of the Fairy Lake Dam and guaranteed minimum flows must also be confirmed in the analysis and discussed in the Environmental Study Report.

## **3. Fisheries Concerns**

The presence of Redside Dace has been reported by MNR in this reach according to the Wetland Evaluation Record and that is not recognized in this report. It is recommended that MNR be contacted to confirm the designation of Black Creek under new Species at Risk Act.

## **4. Water Temperature Concern**

Thermal Impact Modelling will need to be updated with new flow projections. Groundwater temperatures should be confirmed with regional water supply monitoring information. Meteorological model input conditions should be consistent with upstream temperature model input data. In the previous report Met data was from August while upstream and tributary water temperature data was from June. In the model output (Figure 7 p.26) further discretization of data points between Fairy Lake and the outfall (first 5000 m from Fairy Lake) would be beneficial to determine the rebounding distance and impacts to minimum temperatures.

## **5. Water Chemistry Concerns**

- a. **Statistical Analysis** -CVC staff have concerns with the use of parametric Tukey Tests on water quality data that tends not to be normally distributed. All underlying statistical assumptions must be discussed and addressed in the statistical analysis. It is recommended that a test for normality be done on the data; and the data should be transformed to meet test assumptions. Otherwise a non-parametric statistical comparison test should be used in the analysis.



- b. **Dissolved Oxygen Conditions**— Further comment is needed on the causes of low dissolved oxygen at stations upstream of the Acton WWTP outfall. Contributions from backwater effects and the receiver are assimilating organic oxygen demand from the WWTP. The assimilative capacity study should recommend mitigation measures to ensure DO impacts are avoided. Figure 11 portrays the Dissolved oxygen sag for the existing CofA case. It would be more helpful to include the growth scenario cases as that is the purpose of the assessment. This assessment shows that a certain length of the river exceeds DO guideline limits. It is not clear from the graph the exact length of the mixing zone in which the exceedence occurs. CVC request that design of the outfall be investigated to minimize the dissolved oxygen impacts both up and down stream of the outfall.
- c. **Elevated Chloride Conditions** - CVC has concerns regarding impacts of elevated chloride concentrations in the Acton WWTP effluent. It should be recommended that the new developments install high efficiency water softeners and incentives be provided for retrofitting of older softeners. CVC recommends that the CofA to include sampling for chloride in the effluent to determine trends in chloride concentrations over time and to aid in the determination of relative contributions of chloride loadings in the watershed.

## **6. Updating of Monitoring Data**

The monitoring data presented in the Black Creek Assimilative Capacity Study is recommended to be updated. A significant source of data from 2007 and 2008 can be found in the CVC Black Creek Phase 1 Characterization Report. Please contact CVC to obtain raw data and summary tables to update the report to include the recent Black Creek monitoring data.

The Source Water Protection Tier 3 study should also be used a source of updated information for the updating of the Environmental Assessment Documents.

Benthic results from station B2 should be compared with other (downstream) stations. Annual benthic invertebrate data collected by CVC since 1999 are available downstream of Acton WWTP (3<sup>rd</sup> Line) and at 8<sup>th</sup> Line in Georgetown and should be incorporated into the study.

## **7. Development of Long Term Monitoring Plan**

CVC highly recommends the development of an integrated ecological monitoring program including fisheries and wetland parameters in partnership with CVC and other related studies. Implantation of a long term monitoring plan to investigate potential impacts from multiple sources is recommended for Black Creek, Fairy Lake and downstream wetlands to ensure the maintenance and improvement of habitat conditions. The monitoring plan program will need further discussion for goals and

details to be refined. A similar approach has been taken in Orangeville and is tied into the Certificate of Approval and this example may offer further guidance.

CVC looks forward to meeting with the Region of Halton and Ministry of Environment to discuss our comments further. CVC would appreciate an opportunity to review and the complete Terms of Reference for this EA.

Please do not hesitate to contact me, if you have any additional questions.

Yours truly,

Liam Marray  
Senior Planner/Ecologist

BM/AD/JD/JK

Cc      Ministry of Natural Resources  
         Aurora District Office  
         Attention:      Mark Heaton  
                              Area Biologist  
         Attention:      Melinda Thompson-Black  
                              Species at Risk Biologist



Canadian Environmental  
Assessment Agency

Agence canadienne  
d'évaluation environnementale

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M4T 1M2

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M4T 1M2

HALTON REGION

NOV 15 2010

PLANNING SERVICES

November 8, 2010

Magda Bielawski  
Wastewater Planning, Public Works  
Halton Region  
1151 Bronte Road  
Oakville, ON L6M 3L1

Dear Ms. Bielawski,

**Re: Acton Wastewater Treatment Plant  
Municipal Class Environmental Assessment Study  
Notice of Public Information Centre #2**

Thank you for your letter dated November 4, related to the above-noted project.

The *Canadian Environmental Assessment Act* (the Act) may apply to federal authorities when they contemplate certain actions or decisions in relation to a project that would enable it to proceed in whole or in part. A federal environmental assessment may be required when a federal authority: is the proponent of a project; provides financial assistance to the proponent; makes federal lands available for the project, or issues a permit, license or any other approval as prescribed in the *Law List Regulations*.

In the case of projects that are subject to the Ontario *Environmental Assessment Act*, if there is uncertainty as to whether the Act may also apply, the Agency can help proponents answer this question. For projects that are subject to the Act, the Agency will act as the federal environmental assessment coordinator and facilitate the involvement of the federal authorities in a co-ordinated assessment aimed at meeting all agencies' needs simultaneously.

In order for the Agency to undertake either of these roles, it must have a project description that can be distributed to various federal authorities to determine their interest in the project. It is recognized that at the early stages of the planning process, there may not be much detailed information to provide. However, proponents should try to provide some information on:

- the nature of the project and its location;
- federal decisions which may be made in relation to the project;
- whether federal funding is being contemplated or federal lands are required

..../2



To better assist proponents, the Agency has developed an Operational Policy Statement, which provides guidance in preparing project descriptions. This is available on the Agency's website at:

[http://www.ceaa-acee.gc.ca/013/0002/ops\\_ppd\\_e.htm](http://www.ceaa-acee.gc.ca/013/0002/ops_ppd_e.htm)

If your purpose in sending us notification of your project is to determine whether the *Canadian Environmental Assessment Act* applies, please be aware that simple notification will not be sufficient. A project description for the preferred alternative will be required.

**Important Note:** Please be aware that release of documents to the public may be part of the EA process. Information provided by you related to the EA for this project will be part of the Canadian Environmental Assessment Registry and will be made available to members of the public, if requested. A package with additional information will be provided to you upon submission of the project description. Should you provide any documents that contain confidential or sensitive information that you believe should be protected from release to the public, please contact the undersigned to obtain an Exclusion Form. This Form can be used to identify the information to be considered for exclusion from the Canadian Environmental Assessment Registry and the rationale for the exclusion.

If you have any questions regarding any of the above, please contact the undersigned at 416-954-7357.

Sincerely,



Amiel Blajchman, Project Manager  
Canadian Environmental Assessment Agency, Ontario Region

AB/jr

**Ministry of the Environment**

Central Region  
Technical Support Section

5775 Yonge Street, 8<sup>th</sup> Floor  
North York, Ontario M2M 4J1

Tel.: (416) 326-6700  
Fax: (416) 325-6347

**Ministère de l'Environnement**

Région du Centre  
Section d'appui technique

5775, rue Yonge, 8<sup>ème</sup> étage  
North York, Ontario M2M 4J1

Tél. : (416) 326-6700  
Télec. : (416) 325-6347



March 16, 2011

File: EA 05 03 05

Ms. Magda Bielawski  
Project Manager – Wastewater Planning  
Regional Municipality of Halton  
1151 Bronte Road  
Oakville, ON L6M 3M1

**RE: TSS Comments:  
Acton Wastewater Treatment Plant  
Regional Municipality of Halton  
Class Environmental Assessment  
Draft Environmental Study Report**

Dear Ms. Bielawski,

This letter is our response to your request for review of the draft Environmental Study Report (ESR) for the above noted project. We have reviewed the draft ESR for the project and provide the following comments:

**Groundwater**

The draft ESR mentions that previous study of the soils, but only in the area of the inlet to the plant, showed "poor quality soils". However, the type of quality that is considered to be poor is not explained. The draft ESR states that additional study in other locations that could be affected by construction will need to be examined before construction proceeds. It is recommended that any such studies examine the presence of any contaminants in the subsurface and the potential for induced migration of any such contaminants due to subsurface activities including dewatering.

There is no mention of whether there are any nearby well water supplies. This should be studied and, if necessary, the potential for significant effects on their water quality or capacity should be examined, and plans for immediate and long-term mitigation, as necessary, be made and presented.

## **Air Quality**

The draft ESR does not include an air quality impact assessment, which entails the assessment of all contaminants released to atmosphere including odour. Although section 8.4 notes that there have not been any odour complaints attributed to the facility in the last five years and no additional odour mitigation measures are considered necessary, documentation to support this conclusion must be provided.

Furthermore, although the predominant winds are from Northwest and West, there are times when the winds are from the Southwest, particularly during summer months. These winds could cause potential impacts to nearby sensitive receptors.

For these reasons, it is recommended that an air quality impact assessment is conducted to assess off-property air emissions and odour impacts from the proposed WWTP expansion operations.

Additionally, Section 9.3 of the draft ESR did not mention the requirement for a Certificate of Approval (Air & Noise). Section 9 of the *Environmental Protection Act* requires companies/municipalities to obtain an approval before construction, alteration, extension or replacement of any equipment or structure that may emit or from which may be emitted a contaminant, including odour, into the natural environment, other than water. The proposed expansion at Acton WWTP or the installation of any fuel-fired equipment (eg. gensets, heaters, air make-up units, etc.) will require a Certificate of Approval (Air & Noise) and thus should be discussed in Section 9.3.


## **Noise**

It is recommended that the supporting documents to the ESR also include a screening Noise Impact Assessment. This should assess potential noise impacts at the nearest sensitive receptor from all noise sources. The screening assessment will assist Halton Region in ensuring that the future expansion will meet MOE guidelines NPC-205, "Sound Level Limits for Stationary Sources in Class 1&2 Areas (Urban)", or NPC-232, "Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)".

Please note that during the Certificate of Approval (Air & Noise) Application process, a Noise Impact Assessment will be required. This assessment should include the evaluation of existing and future operations, impacts at nearby sensitive receptors, and noise reduction measures as required to meet limits identified in the MOE's NPC-205 or NPC-232 guidelines.

Thank you for the opportunity to comment on the draft ESR for this undertaking. Please feel free to contact me directly at (416) 325-6966, or via email at [dan.minkin@ontario.ca](mailto:dan.minkin@ontario.ca), if you have any questions about these comments.

Yours truly,



Dan Minkin  
Environmental Resource Planner and EA Coordinator  
Air, Pesticides and Environmental Planning

- c. Tina Dufresne, Halton Peel District Office, MOE  
Central Region EA File  
A & P File

## Memorandum

To: Magda Bielwski, P. Eng., Project Manager, Wastewater Planning  
Public Works, Wastewater Services

From: Steve Grace C.E.T., Manager of Development Engineering  
Adam Farr MCIP, RPP Manager of Development Review

Date: March 21, 2011

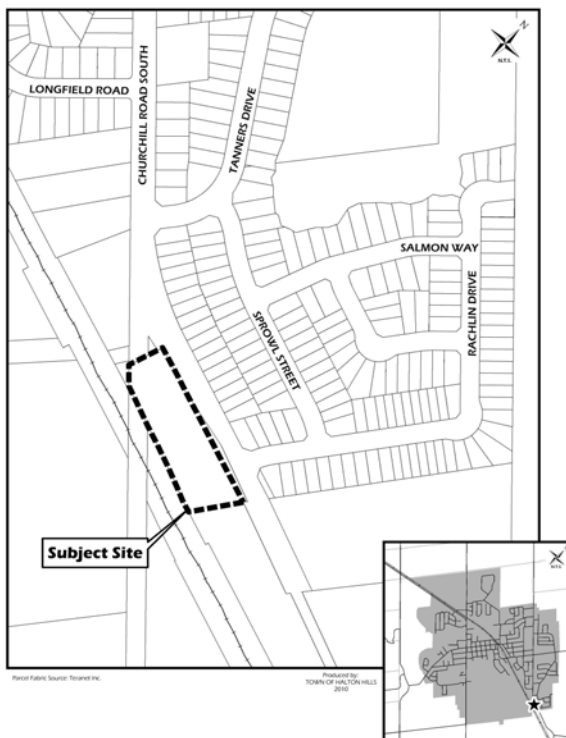
Re: **Acton WWTP E.S.R. Consolidated Comments**

### Planning Comments

I reviewed the draft Environmental Study Report (ESR) for Acton WWTP Class EA Schedule C.

In doing so I primarily reviewed sections 1,3,4,5, 6, 8, and 9 and have the following comments:

- Please confirm that the recently zoning approved (December 2010) Acton East housing project located at Churchill Valley South (see map below) was considered in the study area





- Regarding land use compatibility, long term odour in particular, please provide more information:
  - Tables 5.2-5.6 summarize the various long term odour impacts on surrounding development associated with the various processes. All of the preferred technologies indicate that:
    - Minimal impacts associated with operation could be mitigated.

Table 8.2 summarizes all impacts and indicates:

- Odour impacts are not anticipated and best management practices to minimize odour are already in place

Can the report confirm that the best management practices already in place fully constitute the required mitigation measures to address the minimal impacts – or - are additional measures required?

If additional mitigation measures are required, has the project budget and design incorporated the mitigation measures that could be applied to reduce the odour impact?

### Engineering Comments

Section 1 Introduction page 1  
Georgetown is not a Hamlet

Section 3 .2.1 page 17  
As noted above the Acton East housing project may be with 100 m of the site, please confirm.

Section 3.2.2 page 19  
Please include a third golf course at 4<sup>th</sup> Line and Highway 7 Black Creek in the site plan application filed.

Section 3.3.2.3 page 28  
Figure number missing.  
Section number 3.3.3 missing.

Section 4.3 page 35  
Section 4.1 has seven (7) "Alternative Solutions Considered" then Section 4.3 pages 33 to 35 has nine (9) "Alternative Solutions Considered" then Table 4.2 pages 36 to 39 has nine (9) Screened Alternatives.

SG:rd