December 2014

ENVIRONMENTAL ASSESSMENT OF THE PROPOSED CAPITAL REGION RESOURCE RECOVERY CENTRE

TAGGART GROUP OF COMPANIES

THE MILLER GROUP

The complete Environmental Assessment Study Report consists of the following components:

VOLUME I

Environmental Assessment

TECHNICAL SUPPORT DOCUMENTS

TSD #1 – Comparison of Alternative Sites

TSD #2 – Atmosphere - Noise

TSD #3 – Atmosphere – Air

TSD #4 – Biology

TSD #5 – Land Use & Socio-Economic

TSD #6 – Archaeological Assessment

TSD #7 – Cultural Heritage Evaluation Report

TSD #8 – Agriculture

TSD #9 – Traffic Impact Study

TSD #10 – Leachate Management

VOLUME II

Consultation Record

VOLUME III

Geology, Hydrogeology and Geotechnical Report

VOLUME IV

Design and Operations Reports

December 2014

Volume II

CONSULTATION RECORD

TAGGART GROUP OF COMPANIES

THE MILLER GROUP

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APPENDIX A

Open House #3 – February 25 and 27, 2013

Appendix A-1
Bilingual Media Release

MEDIA RELEASE

TAGGART MILLER ANNOUNCES PREFERRED SITE AND THIRD OPEN HOUSE FOR PROPOSED CAPITAL REGION RESOURCE RECOVERY CENTRE IN EASTERN ONTARIO

Ottawa, February 7, 2013: Taggart Miller Environmental Services (Taggart Miller) today announced the selection of the Boundary Road Site as the preferred site for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC). The CRRRC, if approved, would provide facilities and capacity for recovery of resources and diversion of materials from disposal that are generated by the Industrial, Commercial and Institutional (IC&I) and Construction and Demolition (C&D) sectors in Ottawa and eastern Ontario, as well as disposal capacity for material that is not diverted.

The preferred site is located east of Boundary Road and south of Highway 417 in the City of Ottawa adjacent to an existing industrial park. As set out in the approved Environmental Assessment Terms of Reference (TOR), Taggart Miller undertook a comparative evaluation of the two sites that were being considered for the CRRRC facility. One site, the North Russell Road Site, is located in the northwest part of Russell Township and the other site, the Boundary Road Site, is located in the City of Ottawa east of Boundary Road and south of Highway 417. Following the methodology outlined in the approved TOR for the comparative evaluation, the Boundary Road Site has been identified as the overall preferred site for the CRRRC.

"During the comparative evaluation of the two sites, it became clear that the Boundary Road Site was the best location for our proposed integrated waste management facility. The site has outstanding transportation links, is underlain by a deep clay deposit that provides very good natural containment for the landfill and other facilities, and is beside an existing industrial park," explained Hubert Bourque, the project manager for Taggart Miller. "The site is also part of the area identified in the late 1980s, by the former Region of Ottawa Carleton, as the preferred site for a new regional landfill."

As part of Taggart Miller's commitment to public consultation, two identical Open House sessions have been organized to provide local residents and other interested parties with information about the rationale for selection of the preferred site, the proposed CRRRC facility and the next steps in the environmental assessment process.

Open House # 3, Session 1	**Open House # 3, Session 2**
Monday February 25, 2013 4:00 to 9:00 pm Carlsbad Community Centre 6020 Eighth Line Road, Ottawa	Wednesday February 27, 2013 4:00 to 9:00 pm Russell Arena 1084 Concession Street, Russell

Public participation by local residents and other interested parties is an important part of the environmental assessment process. In addition to participating in these events, you are invited to submit your comments via the project website www.CRRRC.ca.

-30-

For further information, please contact:

Hubert Bourque, Project Manager
Taggart Miller (613) 454-5580
www.crrrc.ca

Media inquiries: Howard Williamson (613) 590-7880

COMMUNIQUÉ DE PRESSE

TAGGART MILLER ANNONCE L'EMPLACEMENT CHOISI ET LA TROISIÈME JOURNÉE PORTES OUVERTES POUR LE CENTRE DE RÉCUPÉRATION DES RESSOURCES DE LA RÉGION DE LA CAPITALE PROPOSÉ DANS L'EST DE L'ONTARIO

Ottawa, le 7 février 2013 – Taggart Miller Environmental Services (Taggart Miller) annonce aujourd'hui la sélection de l'emplacement du chemin Boundary aux fins d'un projet de gestion intégrée des déchets qui sera connu sous le nom de Centre de récupération des ressources de la région de la capitale (CRRRC).

L'emplacement choisi se situe à l'est du chemin Boundary et au sud de l'autoroute 417, dans la ville d'Ottawa, près d'un parc industriel existant. Conformément au cadre de référence approuvé aux fins de l'évaluation environnementale, Taggart Miller a mené une évaluation comparative des deux sites envisagés pour l'installation du CRRRC. Le premier, l'emplacement du chemin Russell Nord, se trouve dans la partie nord-ouest du canton de Russell et l'autre, l'emplacement du chemin Boundary, se situe dans la ville d'Ottawa, à l'est du chemin Boundary et au sud de l'autoroute 417. Selon la méthodologie présentée dans le cadre de référence approuvé aux fins de l'évaluation comparative, on a déterminé que l'emplacement du chemin Boundary est, dans l'ensemble, celui qui est préférable pour le CRRRC.

« Lors de l'évaluation comparative des deux sites, il est devenu évident que l'emplacement du chemin Boundary constituait le meilleur choix pour notre projet d'installation de gestion intégrée des déchets. L'emplacement est doté de réseaux de transports exceptionnels, d'une excellente topographie et, puisqu'il est situé à côté d'un parc industriel existant, il y a peu de résidents dans le voisinage. » explique Hubert Bourque, directeur de projet de Taggart Miller.

Dans le cadre de son engagement de consultations publiques, Taggart Miller a organisé deux séances portes ouvertes identiques afin de fournir aux résidents locaux et aux autres parties intéressées des renseignements sur le choix de l'emplacement préféré, l'installation proposée pour le CRRRC ainsi que les prochaines étapes du processus d'évaluation environnementale.

Troisième journée portes ouvertes, première séance	**Troisième journée portes ouvertes, deuxième séance**
lundi 25 février 2013 16 h à 21 h Centre communautaire de Carlsbad 6020, chemin Eighth Line, Ottawa	mercredi 27 février 2013 16 h à 21 h Aréna de Russell 1084, rue Concession, Russell

La participation aux consultations publiques, des résidents locaux, ainsi que des autres parties intéressées, constitue une partie essentielle du processus d'évaluation environnementale. Outre ces activités, vous pouvez aussi présenter vos commentaires par l'intermédiaire du site Web du projet à www.CRRRC.ca.

– 30 –

Pour obtenir de plus amples renseignements, veuillez communiquer avec la personne ci-dessous mentionnée :

Hubert Bourque, directeur de projet
Taggart Miller
613-454-5580
www.crrrc.ca

Appendix A-2

Le Reflet/The News French Ad

Avis du choix d'un site et de la tenue d'une troisième journée portes ouvertes dans le cadre de l'évaluation environnementale du Centre de récupération des ressources de la région de la capitale

Taggart Miller Environmental Services (Taggart Miller) entreprend une évaluation environnementale (ÉE), en vertu de la Loi sur les évaluations environnementales de l'Ontario, d'un projet proposé de gestion intégré des déchets, projet à être connu sous le nom de Centre de récupération des ressources de la région de la capitale (CRRRC). En décembre 2012, le ministre de l'Environnement a approuvé le cadre de référence pour cette évaluation environnementale.

Le CRRRC, si ce projet est approuvé, disposerait des installations et de la capacité requises pour la récupération des ressources et le réacheminement des matériaux destinés à être éliminés qui sont produits par les secteurs industriel, commercial et institutionnel (ICI) et par les entreprises de construction et de démolition (CD), à Ottawa et dans l'Est de l'Ontario, ainsi que de la capacité d'élimination des matériaux qui ne peuvent pas être réacheminés. Les composantes du CRRRC seront mises au point au cours d'autres consultations qui auront lieu au cours de l'ÉE, mais présentement comprennent:

- installation de récupération des matériaux;
- traitement des déchets de construction et de démolition;
- traitement des matières organiques;
- traitement des sols contaminés en hydrocarbures;
- gestion des sols excédentaires;
- centre de réception des matériaux triés ou triage des matériaux;
- compostage à partir de feuilles mortes et de matériaux de jardinage (si la quantité de matière est suffisante);
- site d'enfouissement aménagé pour l'élimination des résidus.

Comme décrit dans le cadre de référence approuvé, Taggart Miller a entrepris une évaluation comparative des deux sites considérés pour les installations du CRRRC. Le premier site est situé dans la partie nord ouest du comté de Russell et l'autre site est situé à l'est du chemin Boundary et au sud de l'autoroute 417, dans la ville d'Ottawa, près d'un parc industriel existant.

En suivant la méthodologie soulignée dans le cadre de référence approuvé pour l'évaluation comparative, le site du chemin Boundary a été retenu comme le site privilégié pour le CRRRC. L'emplacement du site retenu est illustré sur la carte ci-dessous.

Le but de la troisième journée portes ouvertes vise à expliquer le raisonnement du choix du site préféré pour le projet du CRRRC et à donner de plus amples renseignements concernant les composantes de réacheminement et d'enfouissement.

Deux journées portes ouvertes identiques ont été organisées afin de fournir aux résidents locaux ainsi qu'aux autres parties intéressées, des renseignements sur les installations proposées du CRRRC et sur le processus d'évaluation environnementale.

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6020, chemin Eighth Line, Ottawa

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La participation aux consultations publiques, des résidents locaux, ainsi que des autres parties intéressées, constitue une partie essentielle du processus d'évaluation environnementale. Outre ces activités, vous pouvez aussi présenter vos commentaires par l'intermédiaire du site Web du projet (soit www.CRRRC.ca), par la poste ou par télécopieur selon les coordonnées suivantes :

M. Hubert Bourque, directeur de projet
Taggart Miller Environmental Services
a/s 225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
Téléphone : 613-454-5580
Télécopieur : 613-454-5581
Courriel : hjbourque@crrrc.ca

Votre participation est sollicitée et appréciée.

14 - Le Reflet • The News, le 14 février 2013

Appendix A-3

The Villager English Ad

Announcement of Preferred Site and Third Open House for an Environmental Assessment of the Capital Region Resource Recovery Centre

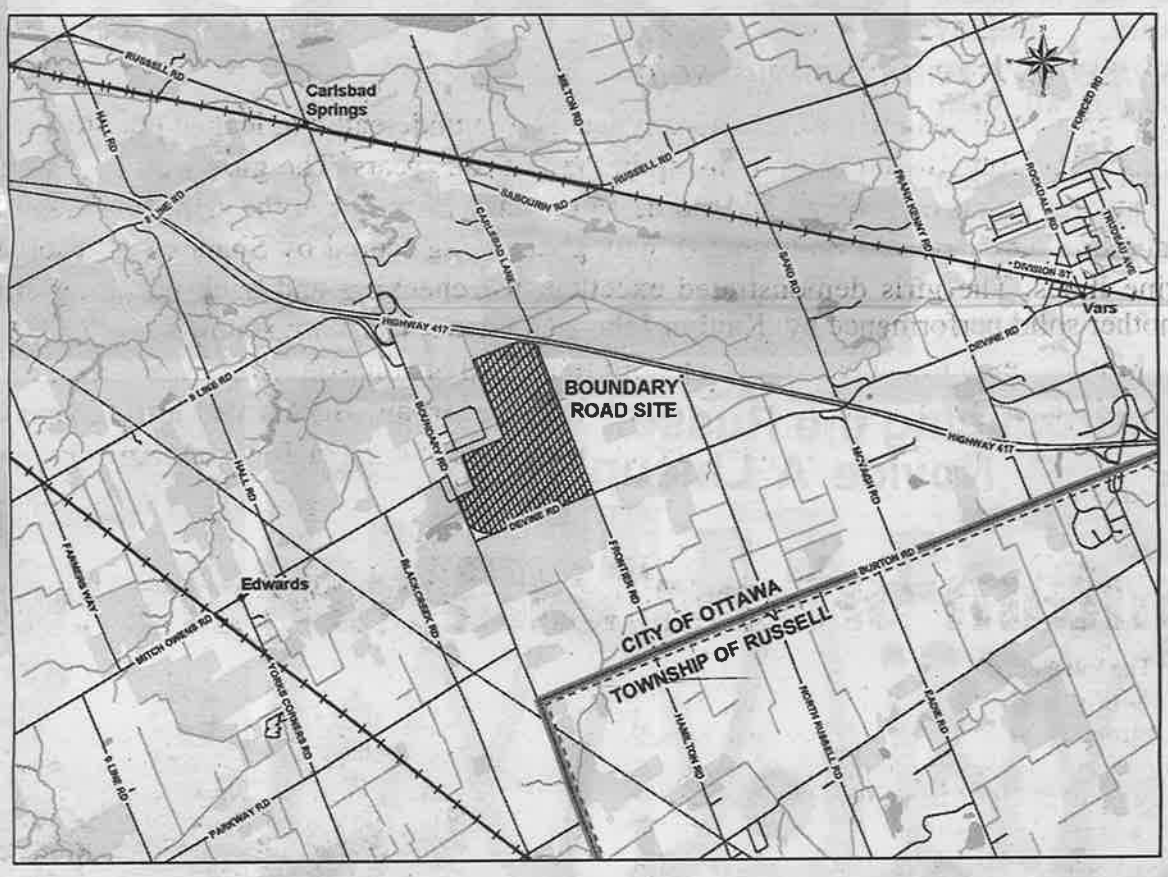
Taggart Miller Environmental Services (Taggart Miller) is undertaking an environmental assessment (EA) under the Ontario Environmental Assessment Act for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC). In December 2012, the Terms of Reference (TOR) for this environmental assessment were approved by the Minister of the Environment.

The CRRRC, if approved, would provide facilities and capacity for recovery of resources and diversion of materials from disposal that are generated by the Industrial, Commercial and Institutional (I&I) and Construction and Demolition (C&D) sectors in Ottawa and eastern Ontario, as well as disposal capacity for material that is not diverted. The components of the CRRRC will be developed through further consultation during the environmental assessment and are currently proposed to include:

- material recovery facility;
- construction and demolition waste processing;
- organics processing;
- hydrocarbon contaminated soil treatment;
- surplus soil management;
- a drop off for separated materials or separation of materials;
- leaf and yard materials composting (if there is enough material available); and
- an engineered landfill for residuals disposal.

As set out in the approved TOR, Taggart Miller has undertaken a comparative evaluation of the two sites being considered for the CRRRC facility. One site is located in the northwest part of Russell Township and the other site is located east of Boundary Road and south of Highway 417 in the City of Ottawa near an existing industrial park.

Following the methodology outlined in the approved TOR for the comparative evaluation, the Boundary Road Site has been identified as the preferred site for the CRRRC. The location of the preferred site is shown on the map below.



The purpose of the third Open House is to explain the rationale for identification of the preferred Site for the CRRRC project; and to provide more information on the proposed CRRRC diversion and landfill components.

Two identical Open House sessions have been organized to provide local residents and other interested parties with information about the proposed CRRRC facility and the environmental assessment process.

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Public participation by local residents and other interested parties is an important part of the environmental assessment process. In addition to participating in these events, you are invited to submit your comments via the project website www.CRRRC.ca, by mail, or fax to the address/number provided below.

Mr. Hubert Bourque, Project Manager
TTaggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

Your participation is requested and appreciated.

Appendix A-4

Le Droit French Ad

Avis du choix d'un site et de la tenue d'une troisième journée portes ouvertes dans le cadre de l'évaluation environnementale du Centre de récupération des ressources de la région de la capitale

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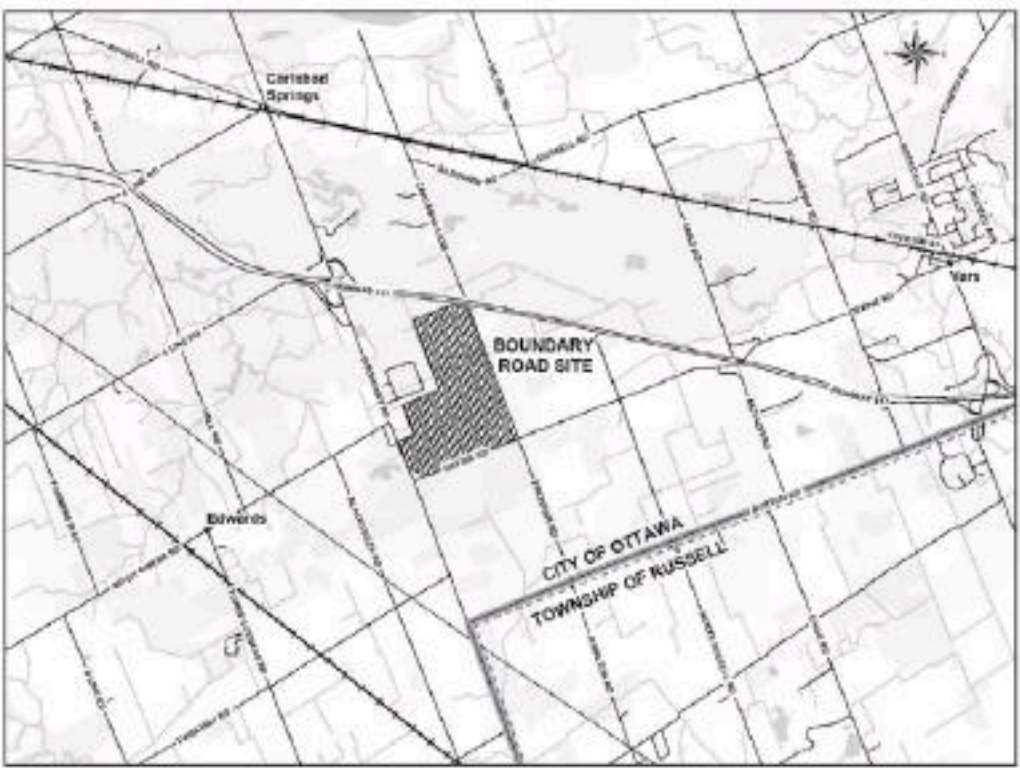

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Télécopieur : 613-454-5581
Courriel : hjbourque@crrrc.ca

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Appendix A-5

Ottawa Citizen English Ad

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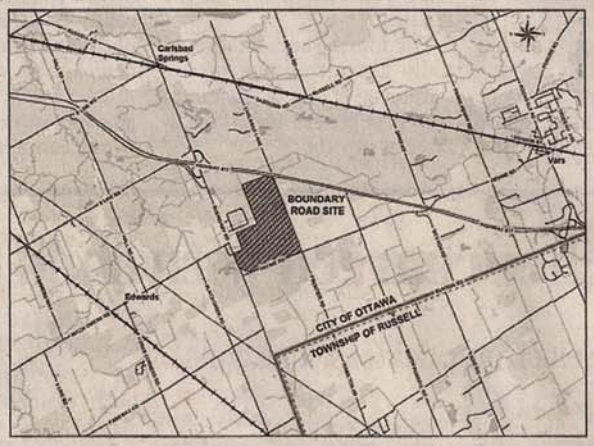

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Ottawa Citizen February 11/13

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Email: hjbourque@crrrc.ca

Your participation is requested and appreciated.

10601821

Appendix A-6

Bilingual E-mail Invitation to Mailing List

From: Hubert Bourque
To: Edmond, Trish
Subject: =?ISO-8859-1?B?
UHJlZmVycmVkIHNpdGUgYW5kIHVwY29taW5nIE9wZW4gSG91c2UgZm9yIENhcGl0YWwgUmVnaW9uIFJlc291cmNlIFJlY292ZXJ5IENlbnRyZSAvIEVtcGxhY2VtZW50IHBy6WbpcukgZXQgcHJvY2hhaW5lIGpvdXJu6WUgcG9ydGVzIG91dmVydGVzIGR1IENlbnRyZSBkZSBy6WN1cOlyYXRpb24gZGVzIHJlc3Nvd...
Date: February 7, 2013 3:49:57 PM

SVP défiler vers le bas pour la version française.

Taggart Miller Environmental Services (Taggart Miller) is undertaking an environmental assessment (EA) under the *Ontario Environmental Assessment Act* for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC). In December 2012, the Terms of Reference (TOR) for this environmental assessment were approved by the Minister of the Environment.

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Tel: 613-454-5580

Fax: 613-454-5581

Email: hjbourque@crrrc.ca

Taggart Miller Environmental Services (Taggart Miller) mène une évaluation environnementale (EE) en vertu de la *Loi sur les évaluations environnementales de l'Ontario* aux fins d'un projet de gestion intégrée des déchets qui sera connu sous le nom de Centre de récupération des ressources de la région de la capitale (CRRRC). En décembre 2012, le cadre de référence de cette évaluation environnementale a été approuvé par le ministre de l'Environnement.

Conformément au cadre de référence approuvé, Taggart Miller a mené une évaluation comparative des deux emplacements considérés aux fins de l'installation du CRRRC. Le premier, l'emplacement du chemin Russell Nord, se trouve dans la partie nord-ouest du canton de Russell et l'autre, l'emplacement du chemin Boundary, se situe à l'est du chemin Boundary et au sud de l'autoroute 417, dans la ville d'Ottawa, près d'un parc industriel existant.

Selon la méthodologie présentée dans le cadre de référence approuvé aux fins de l'évaluation comparative, on a déterminé que l'emplacement du chemin Boundary est celui qui est préférable pour le CRRRC.

Deux séances portes ouvertes identiques ont été organisées afin de fournir aux résidents locaux et aux autres parties intéressées des renseignements sur le choix de l'emplacement préféré, l'installation proposée pour le CRRRC ainsi que les prochaines étapes du processus d'évaluation environnementale.

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M. Hubert Bourque, directeur de projet

Taggart Miller Environmental Services

a/s de 225, rue Metcalfe, bureau 708

Ottawa (Ontario) K2P 1P9

Téléphone : 613-454-5580

Télécopieur : 613-454-5581

Courriel : hjbourque@crrrc.ca

Appendix A-7

E-mail and Record of Phone Conversations with Aboriginal Communities

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Chief Kirby Whiteduck, Algonquins of Pikwakanagan **DATE:** February 7, 2013

TELEPHONE No.: 613-625-2800 **PROJECT No.:** 12-1125-0045/5000

MADE/RECEIVED BY: Blair Haug **JOB TITLE:** Project Coordinator

RE: Left voicemail indicating that a preferred site has been selected, provided date, time and location of open houses and Hubert Bourque's contact no.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Mark Bowler Métis Nation of Ontario **DATE:** February 7, 2013

TELEPHONE No.: 416-977-9981 **PROJECT No.:** 12-1125-0045/5000

MADE/RECEIVED BY: Blair Haug **JOB TITLE:** Project Coordinator

RE:

Spoke to Mark Bowler, indicated that a preferred site has been chosen, provided date, time and location of open houses. Mr. Bowler requested that he be cc'ed on the follow-up e-mail.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: James Ransom (Mohawk Council of Akwesasne)

DATE: February 7, 2013

TELEPHONE No.: 613-575-2250

PROJECT No.: 12-1125-0045/5000

MADE/RECEIVED BY: Blair Hong

JOB TITLE: Project Coordinator

RE: Left voicemail indicating that a preferred site has been selected. Provided date, time, and location of open houses and Hubert Bourgeois contact no.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Ottawa Métis Council Pres. Daniel Gilbeau

DATE: February 7, 2013

TELEPHONE No.: 613-859-4782

PROJECT No.: 12-1125-0045/5000

MADE/RECEIVED BY: Blair Haug

JOB TITLE: Project Coordinator

RE: Spoke to Daniel Gilbeau, indicated that a preferred site has been chosen, provided date, time, and location of open houses, and confirmed a follow-up e-mail will be sent

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Algonquin Consultation Office - Janet Savinga

DATE: February 7, 2013

TELEPHONE No.: 613-735-3759

PROJECT No.: 12-1125-0045/5000

MADE/RECEIVED BY: Blair Hay

JOB TITLE: Project Coordinator

RE: Left a voicemail indicating a preferred site has been chosen, provided date, time and location of open houses, and Hubert Bourque's contact no.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Jp2g Consultants Tim Hunton

DATE: February 7, 2013

TELEPHONE No.: 613-735-2507

PROJECT No.: 12-1125-0045/5000

MADE/RECEIVED BY: Blair Hong

JOB TITLE: Project Coordinator

RE: Spoke to Mr Hunton, indicated that a preferred site has been chosen provided dates, times and locations for open houses. Mr. Hunton told me to call Janet Savinga at the Algonquin Consultation Office separately. Confirmed there would be a follow-up e-mail.

COMMENT/MEMO:

ACTION:

COPIES TO:

Edmond, Trish

From: Haug, Blair
Sent: February 7, 2013 2:53 PM
To: chiefcouncil@pikwakanagan.ca
Cc: Haug, Blair
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH3_Ad_Eng_Final.pdf; OH3_Ad_Fr_Final.pdf

Dear Chief Whiteduck,

This email is a follow up to my phone message I left on February 7, 2013. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement regarding the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC). The Boundary Road Site has been selected as the preferred Site for the proposed CRRRC. You are invited to the third Open House that is advertised in the attached document. If the Algonquins of Pikwakanagan First Nation would like to have a separate information session organized, or smaller discussion groups with interested persons by phone and/or in-person, please contact Hubert Bourque (contact details are in the attached document) and he would be happy to organize this for you.

Sincerely,

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: February 7, 2013 3:05 PM
To: consultations@metisnation.org; markbowler@metisnation.org
Cc: Haug, Blair
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH3_Ad_Eng_Final.pdf; OH3_Ad_Fr_Final.pdf

Dear Mr. Bowler,

This email is a follow up to our phone conversation this afternoon. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement regarding the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC). The Boundary Road Site has been selected as the preferred Site for the proposed CRRRC. You are invited to the third Open House that is advertised in the attached document. If the Métis Nation of Ontario would like to have a separate information session organized, or smaller discussion groups with interested persons by phone and/or in-person, please contact Hubert Bourque (contact details are in the attached document) and he would be happy to organize this for you.

Sincerely,

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent:
To:
Cc:
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH3_Ad_Eng_Final.pdf; OH3_Ad_Fr_Final.pdf

Dear Mr. Ransom,

This email is a follow up to my phone message I left this afternoon. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement regarding the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC). The Boundary Road Site has been selected as the preferred Site for the proposed CRRRC. You are invited to the third Open House that is advertised in the attached document. If the Mohawk Council of Akwesasne would like to have a separate information session organized, or smaller discussion groups with interested persons by phone and/or in-person, please contact Hubert Bourque (contact details are in the attached document) and he would be happy to organize this for you.

Sincerely,

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: February 7, 2013 3:21 PM
To: gilbeaud@gmail.com
Cc: Haug, Blair
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH3_Ad_Eng_Final.pdf; OH3_Ad_Fr_Final.pdf

Dear President Gilbeau,

This email is a follow up to our phone conversation this afternoon. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement regarding the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC). The Boundary Road Site has been selected as the preferred Site for the proposed CRRRC. You are invited to the third Open House that is advertised in the attached document. If the Ottawa Métis Council would like to have a separate information session organized, or smaller discussion groups with interested persons by phone and/or in-person, please contact Hubert Bourque (contact details are in the attached document) and he would be happy to organize this for you.

Sincerely,

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: February 7, 2013 3:33 PM
To: algonquins@nrtco.net; jhunton@jp2g.com
Cc: Haug, Blair
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH3_Ad_Eng_Final.pdf; OH3_Ad_Fr_Final.pdf

Dear Mr. Hunton and Ms. Stavinga,

This email is a follow up to my phone message this afternoon. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement regarding the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC). The Boundary Road Site has been selected as the preferred Site for the proposed CRRRC. You are invited to the third Open House that is advertised in the attached document. If the Algonquin Consultation Office would like to have a separate information session organized, or smaller discussion groups with interested persons by phone and/or in-person, please contact Hubert Bourque (contact details are in the attached document) and he would be happy to organize this for you.

Sincerely,

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
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Work Safe, Home Safe

Appendix A-8

E-mail Invitation to GRT

Edmond, Trish

From: Haug, Blair
Sent: February 7, 2013 2:04 PM
Cc: Haug, Blair
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH3_Ad_Eng_Final.pdf; OH3_Ad_Fr_Final.pdf

Hello,

On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the preferred Site and third Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre. You are being sent this as part of the Government Review Team. Should you have any problems viewing the attachment please let me know.

Sincerely,

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Appendix A-9

Bilingual Display Boards

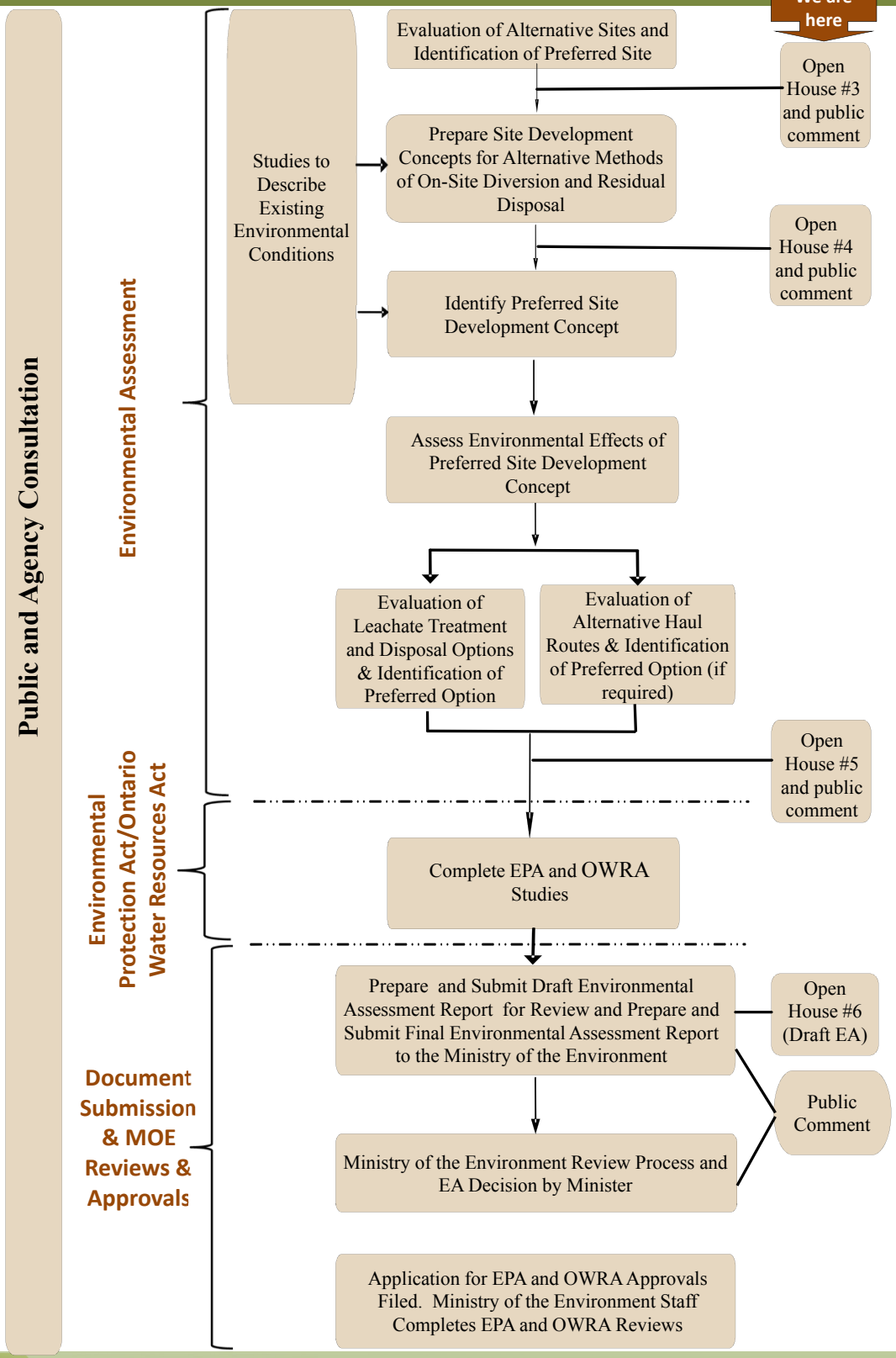
Welcome to Open House #3

Taggart Miller Environmental Services

Environmental Assessment of the Proposed Capital Region Resource Recovery Centre (CRRRC)

Please review our displays and speak with our representatives

Environmental Assessment/ Environmental Protection Act Process Flow Chart



Approved EA Methodology

PHASE 1: COMPARATIVE EVALUATION OF ALTERNATIVE SITES [Completed, February 2013]

- The comparative evaluation has been completed using the criteria, indicators and data sources in the approved Terms of Reference (TOR).
- The Boundary Road Site has been identified as preferred.
- The North Russell Road Site will be dropped from further consideration.

PHASE 2: EA STUDIES

- Phase 2 work will be carried out <u>only for the preferred Site (the Boundary Road Site)</u>, and will involve the following tasks.
  - <u>Describe Existing Environment</u> – studies will be undertaken to further describe the existing environment that could potentially be affected by the project for each of the proposed environmental components.
  - <u>Identify Preferred Site Development Concept</u> – The following will be considered:
    1) the potential amount of each waste stream to be received at the CRRRC;
    2) the amounts potentially diverted over time;
    3) the required landfill airspace for 30 years; and
    4) the associated Site-related traffic.

    A minimum of two site development options will be prepared for public consultation prior to identifying the preferred Site development concept.

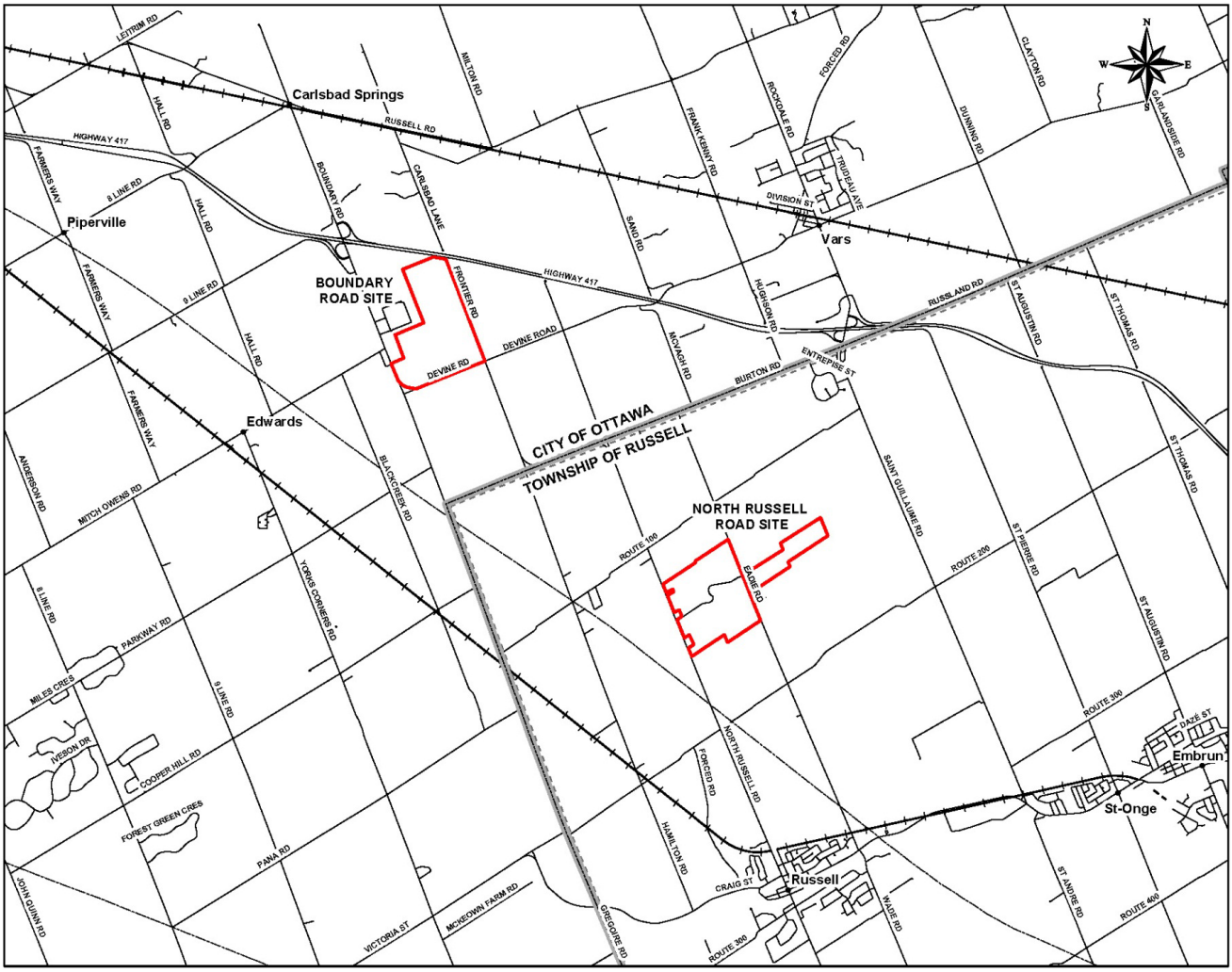
Approved EA Methodology, continued

- Assess Environmental Effects of Preferred Site Development Concept– predict the combined effects of the diversion facilities and the landfill component and associated activities. The assessment will consider a broad range of environmental components, including air quality, groundwater quality, etc.
- Assessment of Traffic Impacts– since the Boundary Road Site has been selected as the preferred Alternative Site, it is envisioned that there will be one primary haul route (off Highway 417) but perhaps more than one possible access location. The traffic assessment will focus on potential traffic impacts associated with Site-related traffic and identify any required mitigation measures.
- Evaluate Leachate Management Options and Identify Preferred Option – screen potential on-Site leachate treatment technologies and determine off-Site leachate receiver/treatment alternatives. Viable options will be compared to identify the preferred leachate management system.
- Cumulative Impact Assessment – the net effects of the proposed CRRRC project will be combined with the predicted effects of other existing and known proposed projects in the area of the Site.

PHASE 3: COMPLETE AND SUBMIT EA APPLICATION FOR PREFERRED ALTERNATIVE

- The EA will be submitted to the Minister of the Environmental for approval and will be accompanied by two documents :
  - Hydrogeology Study Report
  - Design and Operations Report (including Stormwater Management, Leachate Management, Acoustic Assessment, Air Quality and Odour Assessment and Site Design and Operations)

Alternative Sites for Proposed CRRRC



LEGEND

- POPULATED PLACE NAME
- ROADWAY
- RAIL
- UTILITY
- TOWNSHIP OF RUSSELL BOUNDARY
- CITY OF OTTAWA BOUNDARY

1 0.5 0 1 2 3
KILOMETRES

North Russell Road (NRR) Site

North Russell Road Site (NRR Site) - located in the northwest part of the Township of Russell about three kilometres east of the boundary with the City of Ottawa, and about five kilometres south of Provincial Highway 417 between the Boundary Road and Vars exits. The property consists of about 193 hectares (476 acres) of contiguous lands on Part of Lots 18 and 19, Concessions III and IV, Township of Russell.

Boundary Road (BR) Site

Boundary Road Site (BR Site) - located in the east part of the City of Ottawa and just southeast of the Highway 417/Boundary Road interchange. The property is on the east side of Boundary Road, east of an existing industrial park, north of Devine Road and west of Frontier Road. The property consists of about 175 hectares (430 acres) of land on Lots 23 to 25, Concession XI, Township of Cumberland.

Environmental Components Considered in Site Comparison

- Various aspects or components of the environment were studied and used to compare the two Alternative Sites.
- The components and criteria, as per the approved Terms of Reference (TOR), are provided below.
- On the following boards, the results for each component are discussed with their indicators, and the preferred Site for each component is identified.

Environmental Components	
Component	**Criteria**
Atmospheric Environment	Which site is preferred regarding potential for effects on air quality and noise?
Geology, Hydrogeology & Geotechnical	Which site is preferred for protection of groundwater quality?
Surface Water	Which site is preferred for protection of surface water quality?
Biology	Which site is preferred for protection of terrestrial and aquatic biological systems?

Socio-economic Components	
Component	**Criteria**
Land Use and Socio-Economic	Which site is more compatible with current and proposed planned future land uses in the Site-vicinity?
	Which site is preferred for the protection of mineral aggregate resources?
Cultural and Heritage Resources	Which site is preferred for the protection of archaeological and heritage resources, and cultural heritage landscapes?
Agriculture	Which site is preferred regarding potential for effects on agriculture?

Technical Component	
Component	**Criteria**
Design & Operations	Which site is preferred regarding the anticipated amount of engineering required to assure MOE groundwater quality criteria are met at the property boundary?
Traffic	Which site is preferred regarding potential effects from Site-related truck traffic?

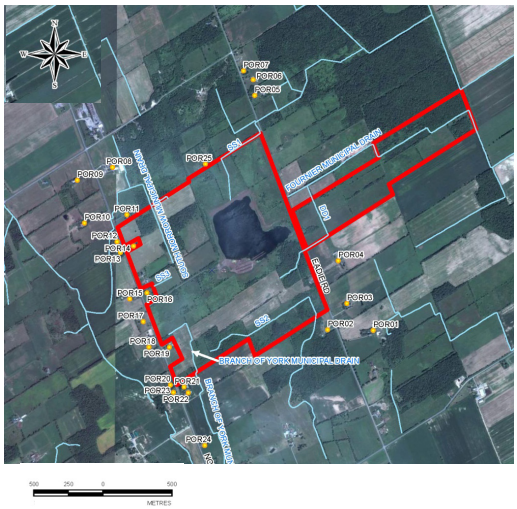
Atmospheric Component

Atmospheric Indicator:

- Number, type and location of off-Site receptors in Site-vicinity (within 500 m of Site boundary) Note: The atmospheric component will continue to evaluate and identify the appropriate Site-vicinity for subsequent impact assessment components of the Environmental Assessment.

SUMMARY OF NORTH RUSSELL ROAD SITE CONSIDERATIONS

- Existing background air quality levels are below current Ambient Air Quality Criteria (AAQC) limits.
- Existing noise levels consistent with a Class 3 area as defined by the Ministry of the Environment (MOE) in NPC-232 (i.e., 45 dBA daytime and 40 dBA nighttime).
- Twenty-five (25) sensitive points-of-reception (PORs) (primarily residences) in the Site-vicinity (i.e., within 500 m of the site boundary). The majority are located west of the North Russell Site.
- Several sensitive PORs adjacent to the site boundaries.



SUMMARY OF BOUNDARY ROAD SITE CONSIDERATIONS

- Existing background air quality levels are below current AAQC limits.
- Existing noise levels consistent with Class 2 (closer to Highway 417) and Class 3 areas as defined by the MOE in NPC-205 and NPC-232, respectively (i.e., 50 dBA daytime / 45 dBA nighttime and 45 dBA daytime / 40 dBA nighttime).
- Four sensitive PORs in the Site-vicinity (i.e., within 500 m of the site boundary).

Preferred Site:

- There are far fewer sensitive PORs in the Site-vicinity of the BR Site, the existing noise levels at some of the PORs in the Site-vicinity of the BR Site will have an elevated background noise level due to Highway 417 and there are fewer sensitive PORs directly adjacent to the BR Site boundary. Based on the comparative analysis, the Boundary Road Site is the preferred alternative for both air and noise constituents of the atmospheric environment.

Geology, Hydrogeology & Geotechnical Indicators:

- Geological setting;
- Type and thickness of any natural on-Site attenuation layer;
- Presence and quality of groundwater resources on-Site and in Site-vicinity; and
- Interpreted direction of vertical groundwater flow on-Site and in Site-vicinity, i.e., area of groundwater recharge, transitional flow, or groundwater discharge.

SUMMARY OF NORTH RUSSELL ROAD SITE CONSIDERATIONS

Geological Setting

- On a local bedrock high with the bedrock surface declining in elevation, and the overburden thickness overlying the bedrock, increasing in all directions away from the Site.
- Overburden typically less than 2 m thick consisting mainly of completely weathered shale overlying the shale bedrock or glacial till. On the eastern half of the Concession IV portion of the property, the bedrock surface is deeper resulting in significant thicknesses of overlying silty clay and glacial till.
- The majority of the North Russell Road Site is underlain by a variable thickness of Queenston Formation shale bedrock followed by the Carlsbad Formation limestone and shale.
- Overall, the majority of the Queenston Formation and the Carlsbad Formation at the North Russell Road Site have a low hydraulic conductivity (low ability to transmit water) (i.e., less than 2.5×10^{-8}m/sec); however, at some locations there is enhanced permeability in the upper portion of the Queenston Formation (10^{-8} m/sec to 10^{-2}m /sec).
- Bedrock groundwater flow direction is predominantly easterly.

Type and Thickness of any Natural on-Site Attenuation Layer(s)

- The on-Site natural attenuation layer for vertical flow would rely on hydraulic properties of the shallow shale bedrock.
- The hydraulic conductivity of the upper shale bedrock is variable, due to the presence of zones of enhanced permeability due to fracturing.

Presence and Quality of Groundwater Resources on-Site and in Site-vicinity

- Off-Site groundwater users mainly use drilled wells completed in the bedrock.
- The on-Site shallow bedrock groundwater is indicated to be relatively fresh; with depth, in both the Queenston and Carlsbad Formations, the groundwater quality deteriorates with elevated concentrations of chloride, sodium, iron and manganese.
- The results of a limited residential water supply sampling program indicate that all parameters analyzed were below the respective health based and aesthetic MOE standards, except for total dissolved solids (TDS), nitrate and sodium at specific water supply wells sampled.
- Groundwater quality at the private well locations is generally consistent with the groundwater quality observed at on-Site monitoring wells at the North Russell Road Site.

Interpreted Direction of Vertical Groundwater Flow

- Vertical gradients at the North Russell Road Site are typically downward, or absent, for most of the year.
- The North Russell Road Site is interpreted to be located within a large regional groundwater recharge area for the bedrock flow system. In view of the relatively small portion of the overall recharge from the Site area, and the relatively low overall water demand from the bedrock in the area, it is not expected that development of the Site would have a noticeable effect on off-Site groundwater availability.

Geology, Hydrogeology & Geotechnical Component, continued

SUMMARY OF BOUNDARY ROAD SITE CONSIDERATIONS

Geological Setting

- Variable thickness of surficial silty sand up to 1.5 m thick overlying about 30 m of clay to silty clay, followed by glacial till and Carlsbad Formation bedrock.
- Sand and silt seams variably present within the upper portion of the clay to silty clay, encountered at depths between about 1.8 and 6.6 metres and interpreted to vary in thickness from about 0.1 to 0.3 metres.
- The groundwater flow direction in the shallow overburden, shallow clay, glacial till and shallow bedrock is interpreted to be towards the east (i.e., away from nearby off-Site groundwater users).

Type and Thickness of any Natural on-Site Attenuation Layer(s)

- An on-Site natural low permeability attenuation layer for flow in the vertical direction is present (about 30 m of clay to silty clay).
- Upper surficial silty sand layer has a moderate horizontal hydraulic conductivity (moderate ability to transmit water) of between 10^{-7} m/sec to 10^{-5} m/sec.

Presence and Quality of Groundwater Resources on-Site and in Site-vicinity

- Off-Site groundwater users typically obtain water from dug wells completed in the upper 3 to 7 m of overburden.
- Groundwater quality at the BR Site varies from fresh to brackish and deteriorates with depth, where elevated concentrations of barium, chloride, sodium and TDS are observed in the shallow bedrock and glacial till. Groundwater from the shallow bedrock also contains dissolved methane.
- The results of the limited well water supply sampling program indicate that water met the MOE standards with exceptions of dissolved organic carbon (DOC), manganese, TDS and iron.
- In the surficial sand layer, the moderate horizontal hydraulic conductivity and low hydraulic gradient result in a relatively slow groundwater flow velocity through this unit.
- The presence of the thick clay or silty clay unit restricts the downward migration of leachate-impacted groundwater regardless of what the vertical gradients are.

Interpreted Direction of Vertical Groundwater Flow

- Based on the groundwater elevation data collected to date, vertical gradients at the site are indicated to be typically weakly downward, or absent.
- The Boundary Road Site is not part of a regional groundwater recharge system to the basal glacial till and bedrock.
- The shallow overburden used locally for dug wells is recharged locally by precipitation; therefore development of the BR Site will not affect off-Site groundwater availability.

Preferred Site:

- The Boundary Road Site and its associated natural silty clay attenuation layer offers more favourable natural containment properties compared to the North Russell Road Site. The North Russell Road Site has better groundwater quality on-Site and in the Site-vicinity in the hydrogeological zones where drinking water is obtained. The Boundary Road Site is not part of a regional groundwater recharge system to the basal glacial till and bedrock. The North Russell Road Site is interpreted to be located within a large regional groundwater recharge area, however only forms a small part of the recharge area.
- Based on the primary assessment criteria for the geology, hydrogeology and geotechnical disciplines and the associated indicators, the preferred site from the perspective of the protection of groundwater is the Boundary Road Site.

Surface Water Indicators:

- Number of existing surface water outlet points;
- Distance to nearest continuously flowing water course; and
- Characteristics of downstream surface water system and usage.

SUMMARY OF NORTH RUSSELL ROAD SITE CONSIDERATIONS

General Information

- Located in the Castor River Subwatershed.

Surface Water Outlets

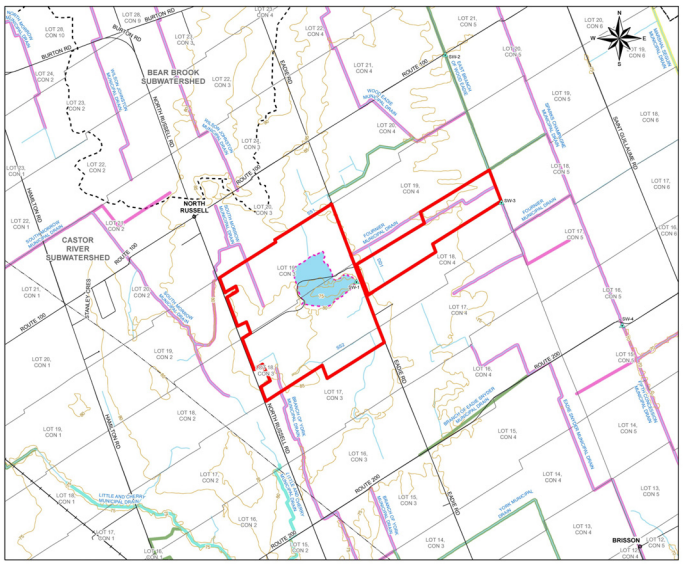
- Drainage generally conveyed by ditches to four intermittent municipal drains via six drainage outlet points.

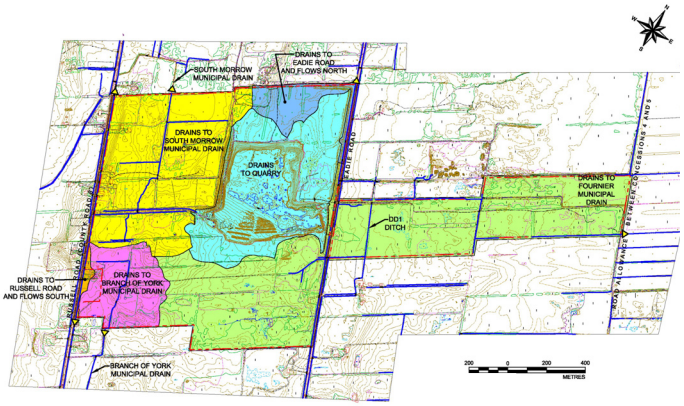
Map & Streamflow Distance to Nearest Continuous Flow Watercourse

- Little and Cherry Municipal Drain, a permanent flow, Class B drain is 300 m map distance from the North Russell Road Site (parallel to Branch of York Municipal Drain); drainage not directly connected to Site.
- 2 km map distance from Marshall Seguin Municipal Drain, a permanent flow, Class C drain; this is a receiver of North Russell Road Site drainage. Actually, 4.9 km streamflow length from NRR Site to Marshall Seguin Municipal Drain (following Fournier Municipal Drain).
- 5.4 km streamflow length from North Russell Road Site to North Castor River discharge point, and 12 km streamflow reach to the Castor River (following Branch of York Municipal Drain).

Castor River Water System Characteristics

- Meets water quality targets for phosphorus in 0% to 44% of samples, *E.coli* in 45% to 64% of samples, copper and zinc in 80% to 100% of samples.
- Average flow of 5.48 m^3/s.
- Three communities discharge wastewater into the Castor River, one community draws surface water from confluence of Castor and South Nation River.
- Water in ditches at or near the Site exhibit exceedances of Provincial Water Quality Objectives (PWQO) for pH, total phosphorus, boron, and iron.





Surface Water Component, continued

SUMMARY OF BOUNDARY ROAD SITE CONSIDERATIONS

General Information

- Located in the Bear Brook Creek subwatershed.

Surface Water Outlets

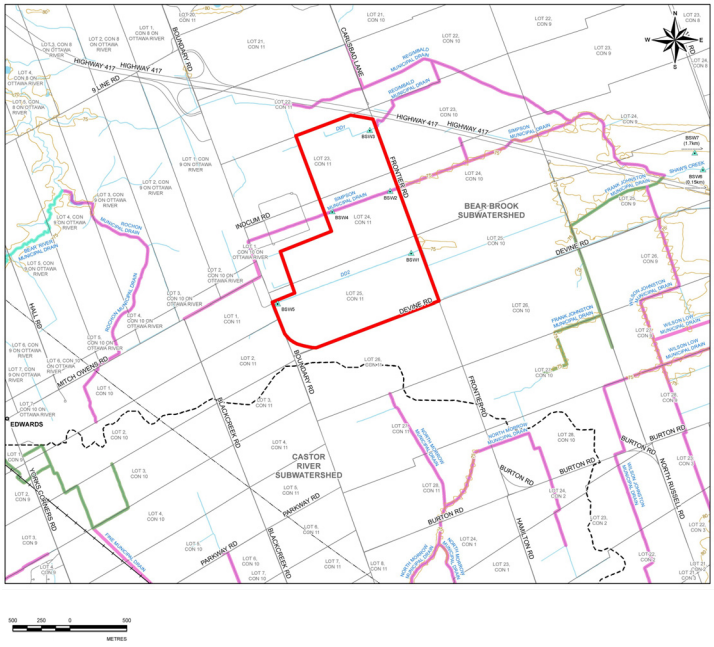
- Drainage generally conveyed by ditches to three intermittent municipal drains which combine east of the Site via three drainage outlet points.

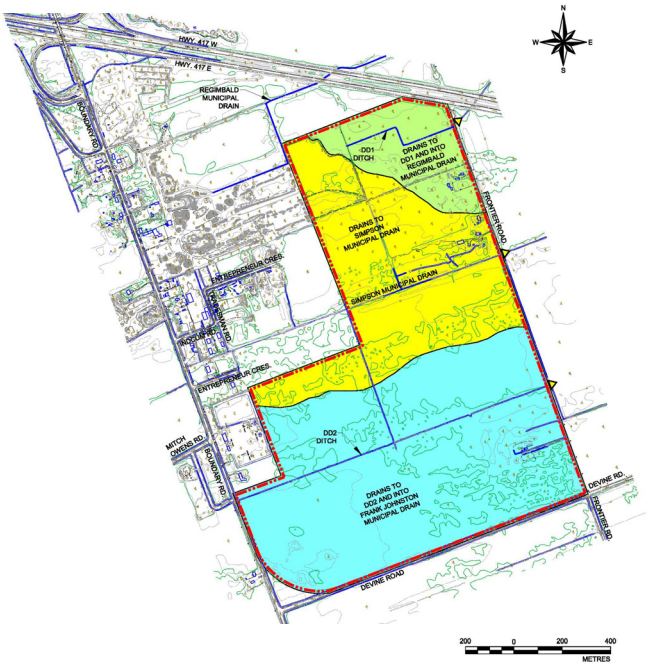
Map & Streamflow Reach Distance to Nearest Continuous Flow Watercourse

- Bear River Municipal Drain, a permanent flow, Class B waterway is 1.4 km map distance from the Boundary Road Site (drainage not directly connected to BR Site).
- 1.6 km map distance from Shaw's Creek (downstream of Site). Streamflow length from Boundary Road Site boundary to Shaw's Creek is approximately 2.1 km (following DD2 and Frank Johnston Municipal Drain), and approximately 2.2 km streamflow reach following the Simpson Drain.
- 11.4 km streamflow length from BR Site to Bear Brook Creek discharge point, via Simpson Drain and Shaw's Creek.

Bear Brook Creek Water System Characteristics

- Meets water quality targets for phosphorus in 0% to 44% of samples, *E.coli* in 45% to 64% of samples, copper and zinc in 45% to 94% of samples.
- Average flow of 7.42 m^3/s.
- Water in ditches at or near the Site exhibit exceedances of Provinicial Water Quality Objectives (PWQOs) for total phosphorus, copper and iron.





Preferred Site:

- The Boundary Road Site is preferred in terms of number of surface water outlets and characteristics of downstream surface water system while the North Russell Road Site is preferred in terms of distance to the nearest continuously flowing watercourse. The Boundary Road Site is preferred for 2 of the 3 indicators, and overall, the Boundary Road Site is preferred.

Biology Component

Biology Indicator:

- Amount of, quality of and impact on biological systems on-Site, including protected biological systems. Specifically including the total impact on: class 1-3 wetlands; life science Areas of Natural and Scientific Interest (ANSIs); wooded areas; species at risk (SAR) and endangered species and associated habitat; and waterbodies and water courses.

SUMMARY OF NORTH RUSSELL ROAD SITE CONSIDERATIONS

Class 1-3 Wetlands

- No Provincially Significant Wetlands (PSW) (Class 1-3 Wetlands) on the North Russell Road Site, or in the Site-vicinity.

Life Science ANSIs

- No Life Science ANSIs on the North Russell Road Site, or in the Site-vicinity.

Wooded Areas

- Although not officially designated, there is a woodlot on the east corner of the North Russell Road Site that meets the Natural Heritage Reference Manual (NHRM) criteria for a significant woodland.
- The North Russell Road Site contains deciduous and swamp wooded areas.

SAR and Associated Habitats

Type	Category*	# of Species	Potential to Occur on-Site or within 120 m
Bird	Threatened	2	Low to moderate
Mammal	Endangered	1	Moderate to high
Tree	Endangered	1	Moderate to high
Bird	Threatened	1	High
Bird	Special Concern	1	Low to moderate
Butterfly	Special Concern	1	Moderate
Snake	Special Concern	1	Moderate
Frog	Threatened	1	Low to moderate

* Under various Acts

Watercourses and Waterbodies

- Five seasonal surface water features and two drainage ditches on the North Russell Road Site and in the Site-vicinity.
- Two dug agricultural ponds and a flooded quarry on the North Russell Road Site.
- The surface water features on the North Russell Road Site and in the Site-vicinity are not coldwater, so not as sensitive as coldwater systems.

Biology Component, continued

SUMMARY OF BOUNDARY ROAD SITE CONSIDERATIONS

Class 1-3 Wetlands

- No Provincially Significant Wetlands (PSWs) (Class 1-3 Wetlands) on the Boundary Road Site, or in the Site-vicinity.

Life Science Areas of Natural or Scientific Interest (ANSIs)

- No Life Science ANSIs on the Boundary Road Site, or in the Site-vicinity.

Wooded Areas

- There is a potentially significant woodland in the Site-vicinity, to the south of the Boundary Road Site, south of Devine Road; and
- The Boundary Road Site contains deciduous and swamp wooded areas.

SAR and Associated Habitats

Type	Category*	# of Species	Potential to Occur on-Site or within 120 m
Bird	Threatened	1	Low to moderate
Bird	Threatened	1	Moderate
Mammal	Endangered	1	Moderate
Snake	Special Concern	1	Moderate
Butterfly	Special Concern	1	Low to moderate
Frog	Threatened	1	Moderate

* Under various Acts

Watercourses and Waterbodies

- Three surface features on the Boundary Road Site – a Municipal Drain and two drainage ditches.
- A large proportion of the Boundary Road Site is mineral thicket swamp.
- The surface water features on the Boundary Road Site and in the Site-vicinity are not coldwater, so not as sensitive as coldwater systems.

Preferred Site:

- The Boundary Road Site and North Russell Road Site were comparable in terms of potential for impact on Class 1-3 wetlands, ANSIs, wooded areas and waterbodies. The Boundary Road Site has less potential for SAR habitat, and no High potential for SAR to be present, and also has less diversity in vegetation cover. Therefore the Boundary Road Site is preferred.

Land Use & Socio-economic Component

Land Use & Socio-economic Indicators:

- Current land use within 1,000 m of Site; and
- Certain and probable planned future land use within 1,000 m of Site.
- Known and probable type and quality of mineral aggregate resources on-Site and within 500 m.

SUMMARY OF NORTH RUSSELL ROAD SITE CONSIDERATIONS

- Site is currently zoned Aggregate Extraction and Agricultural.
- Official Plan (OP) Amendment required.
- Some residential development, agricultural activities and a single institutional use, being a cemetery, within 1,000 m of the North Russell Road Site.
- The United Counties of Prescott and Russell (UCPR) indicate no significant designation changes expected surrounding the North Russell Road Site during the OP five-year review commencing in 2013. No zoning or site plan applications have been applied for, or are active in January of 2013, with the Township in the Site-vicinity of the North Russell Road Site.
- On a collector road (North Russell Road Site).
- A portion of the North Russell Road Site is underlain by a licensed quarry. The quarried material is Queenston shale that is a mineral aggregate resource used in the manufacture of brick in Ontario. It is understood that the quality of the shale at this location is not as economically favourable for brick manufacturing as the much larger Queenston shale deposits in southern Ontario.
- It is likely that this shale deposit extends beyond the licensed quarry and the North Russell Road Site limits, mainly to the north, south and west.
- There are no other known or probable aggregate resources on the Site or within 500 m.

SUMMARY OF BOUNDARY ROAD SITE CONSIDERATIONS

- Site is currently zoned General Rural and Rural Heavy Industrial.
- Provincial Policy Statement (PPS) does not identify lands of Provincial Interest.
- OP states that CRRRC use may be permitted in the designation.
- OP Amendment needed.
- Limited residential land uses and no institutional uses within 1,000 m of the Boundary Road Site.
- The City is currently undertaking a next five-year review of its OP which includes a Land Evaluation and Area Review for Agriculture areas. The draft released for the review of Agricultural lands has not identified the Boundary Road Site as being included within additional lands to designate agricultural. The Mineral Aggregate study is still under review and is not yet available to the public.
- The City is also currently undertaking an Infrastructure Master Plan Review for the Rural Area which is not yet available.
- There are currently no OP Amendments applied for with the City of Ottawa in the Site-vicinity of the Boundary Road Site.
- On Arterial Roads (Boundary and Devine Roads).
- There are no known or probable aggregate resources on the Site or within 500 m.

Preferred Site:

- In view of the lower number of sensitive land uses and the adjacent Industrial Park, the Boundary Road Site is preferred in terms of compatibility with existing and planned land uses within 1,000 m of the Site.
- A portion of the North Russell Road Site is underlain by a licensed quarry. There are no known or probable aggregate resources on the Boundary Road Site or within 500 m and therefore the Boundary Road Site is preferred for this indicator.

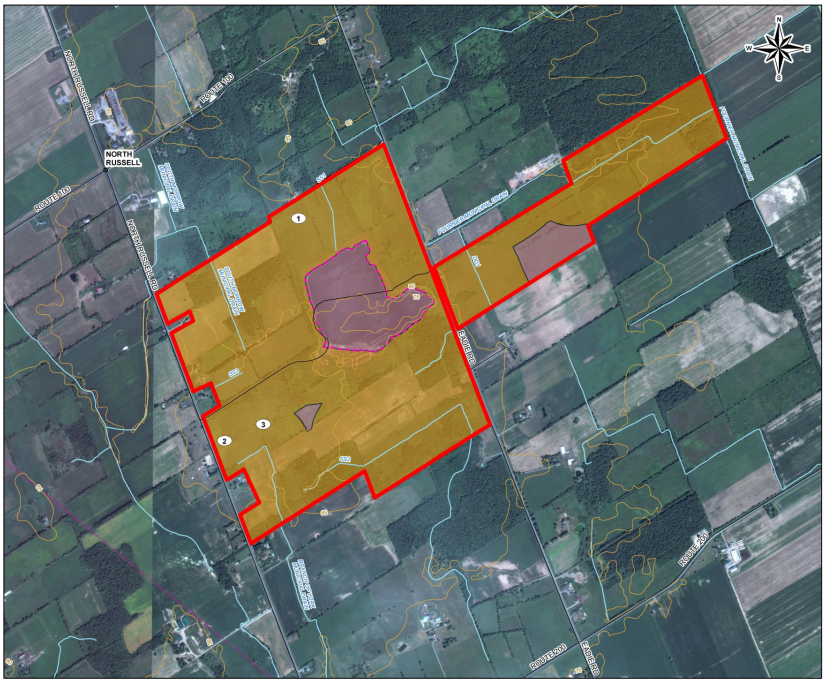
Cultural & Heritage Resources Component

Cultural & Heritage Resources Indicators:

- Number and significance of known archaeological and heritage features, and cultural heritage landscapes on-Site; and
- Area of on-Site lands with moderate to high potential for undiscovered archaeological sites.

SUMMARY OF NORTH RUSSELL ROAD SITE CONSIDERATIONS

- No registered archaeological sites within study area.
- Based on the 2011 *Standards and Guidelines for Consulting Archaeologists*, approximately 90% of on-Site lands are of medium to high archaeological potential, with the remaining 10% containing low or no archaeological potential.
- The North Russell Road Site study area was found to have 29 identified and potential cultural heritage resources, including 20 potential cultural heritage landscapes, a potential industrial heritage site (the quarry), a cemetery, a former school, and a former church. Because of these features, further assessment is required to determine if the area as a whole is potentially a larger scale cultural heritage landscape unit.



SUMMARY OF BOUNDARY ROAD SITE CONSIDERATIONS

- No registered archaeological sites within study area.
- All of the on-Site lands contain no or low archaeological potential.
- Four potential cultural heritage resources (identified as pre-1973 structures as per Ministry of Tourism, Culture and Sport (MTCS)guidelines) were identified.

Preferred Site:

- Following a comparison of the two sites it is concluded that the Boundary Road Site is preferred for the protection of cultural & heritage resources. The Boundary Road Site has low archaeological potential and therefore a much smaller possibility of impacting any undiscovered cultural heritage resources. It also has fewer identified and potential cultural heritage resources.

Agriculture Component

Agriculture Indicators:

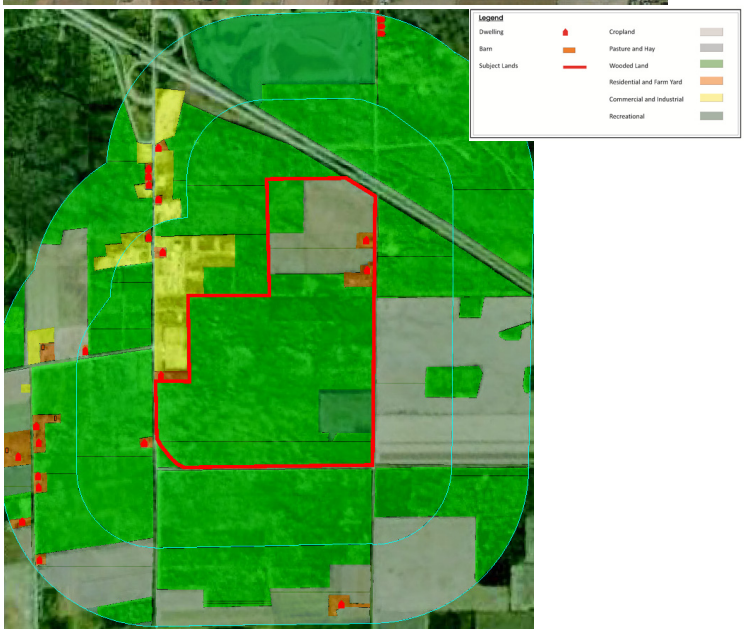
- Percentage of on-Site lands with soil capability classes 1 to 3;
- Amount, type(s) and quality of on-Site improvements for agricultural purposes, (i.e., structures, tile drainage);
- Percentage of on-Site land being used for agricultural purposes; and
- Types(s) and extent of agricultural operations on-Site and within 500 m of Site boundary, i.e., organic, cash crop, livestock.

SUMMARY OF NORTH RUSSELL ROAD SITE CONSIDERATIONS

- 20.9 % of land zoned agriculture between North Russell Road and Eadie Road is Class 1-3 agriculture lands*.
- There are no on-Site agricultural improvements.
- Only 12.6 % of the North Russell Road Site lands are in active agricultural production.
- Agriculture is not the predominant use on the subject lands and cropland makes up 40.5 % of the lands in the Site-vicinity area (within 500 m).

SUMMARY OF BOUNDARY ROAD SITE CONSIDERATIONS

- 0 % of area is Class 1-3 lands*.
- There are no on-Site agricultural improvements.
- Only 16.3 % of the lands at the Boundary Road Site are in active agricultural production (croplands).
- Agriculture is not the predominant use on the Boundary Road Site and cropland makes up only 14.5 % of the lands in the immediate area (within 500 m).



Note: * Based on site specific investigation

Preferred Site:

- The Boundary Road Site no Class 1 – 3 lands, only a slightly higher percentage of active agricultural production and the lowest amount of agricultural production in the Site-vicinity, therefore the Boundary Road Site is preferred for this component.

Design & Operations Component

Design & Operations Indicator:

- Degree of engineered containment expected to be required for on-Site systems.

SUMMARY OF NORTH RUSSELL ROAD SITE CONSIDERATIONS

- The landfill, and any leachate treatment or holding ponds, are expected to require a full engineered groundwater protection system (liner, leachate collection system). It is anticipated that for the landfill component, the system would be similar to the "Generic Design Option II" from the Ministry of the Environment (MOE) Landfill Standards (i.e., double composite liner with primary and secondary leachate collection systems).

SUMMARY OF BOUNDARY ROAD SITE CONSIDERATIONS

- The landfill, and any leachate treatment or holding ponds, are expected to require:
  - A single liner on the excavated below-ground sideslopes (e.g., geomembrane, geosynthetic clay liner (GCL) or compacted clay) that is keyed into the underlying unweathered silty clay.
  - A primary leachate collection system on the base and below-ground sideslopes of the waste disposal cells.
  - Possibly a single liner or single composite liner on the base of the waste disposal cells or ponds or a vertical cut-off feature around the landfill perimeter that could be incorporated into the design or as a contingency measure.

Preferred Site:

- The Boundary Road Site is likely to require a lower degree of engineered containment for the landfill and leachate treatment/holding pond components of the CRRRC and therefore the Boundary Road Site is preferred for this component.

Traffic Component

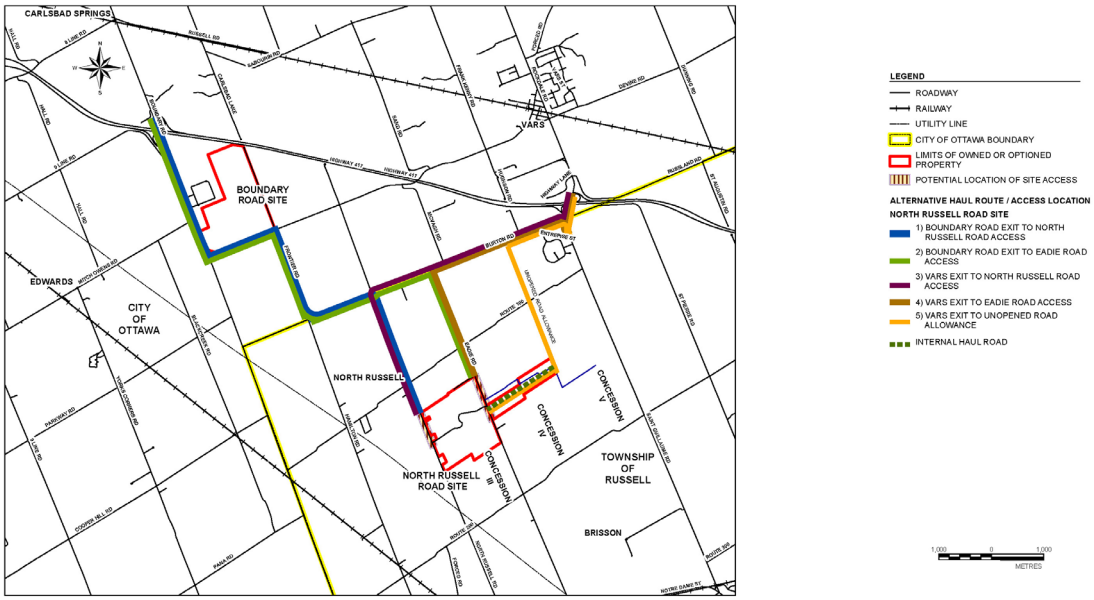
Traffic Indicators:

- Proximity of Site to Highway interchange;
- Characteristics of road network between Highway interchange and Site; and
- Land use from Highway interchange to Site along the main haul route(s).

SUMMARY OF NRR SITE CONSIDERATIONS

- Five haul route scenarios were examined. Two alternatives assumed traffic to originate from the Boundary Road/Highway 417 interchange, and three alternatives from the Vars/Highway 417 interchange.

Alternative	Distance from Highway 417	Adjacent Land Uses			
		Residential	Commercial/Light Industrial	Farm Access	Other
1	10 km	21 -30	15	11	Cemetery (possibly)
2	11.5 km	30	15	21	0
3	7 km	10 – 17	11	16	Cemetery (possibly)
4	6 km	16	11	16	0
5	4.5 km	0	10	0	0



SUMMARY OF BR SITE CONSIDERATIONS

- The roads (Boundary and Devine Roads) which would form the main haul route for the Boundary Road Site-related truck traffic are classified as rural arterial roads.
- The majority of the Site trips would be from/to Highway 417, which depending on Site access location could correspond to a travel distance of about 1.3 to 3.5 km from the Boundary Road Exit 96.
- Land uses along the haul route are mainly commercial/light industrial. Approximately nine residences are along the haul route and 14 commercial/light industrial properties.

Preferred Site:

- The Boundary Road Site is the preferred Site from a traffic perspective, providing the shortest haul route along roads designated as arterial roads that currently carry truck traffic with land uses adjacent to the haul route that are mainly commercial/light industrial or vacant with a limited number of houses.

Evaluation of Alternative Sites

- During the first and second Open Houses, proposed components and criteria to assess potential effects of alternative ways that the project could be implemented were presented and the public was invited to provide input and rank their relative importance.
- In addition, input has been received from the public throughout the TOR process as described in the TOR, and used to rank the relative importance of the components.
- The following table lists each component, grouped by their ranking of relative importance, and the results of the comparative assessment of the Alternative Sites.

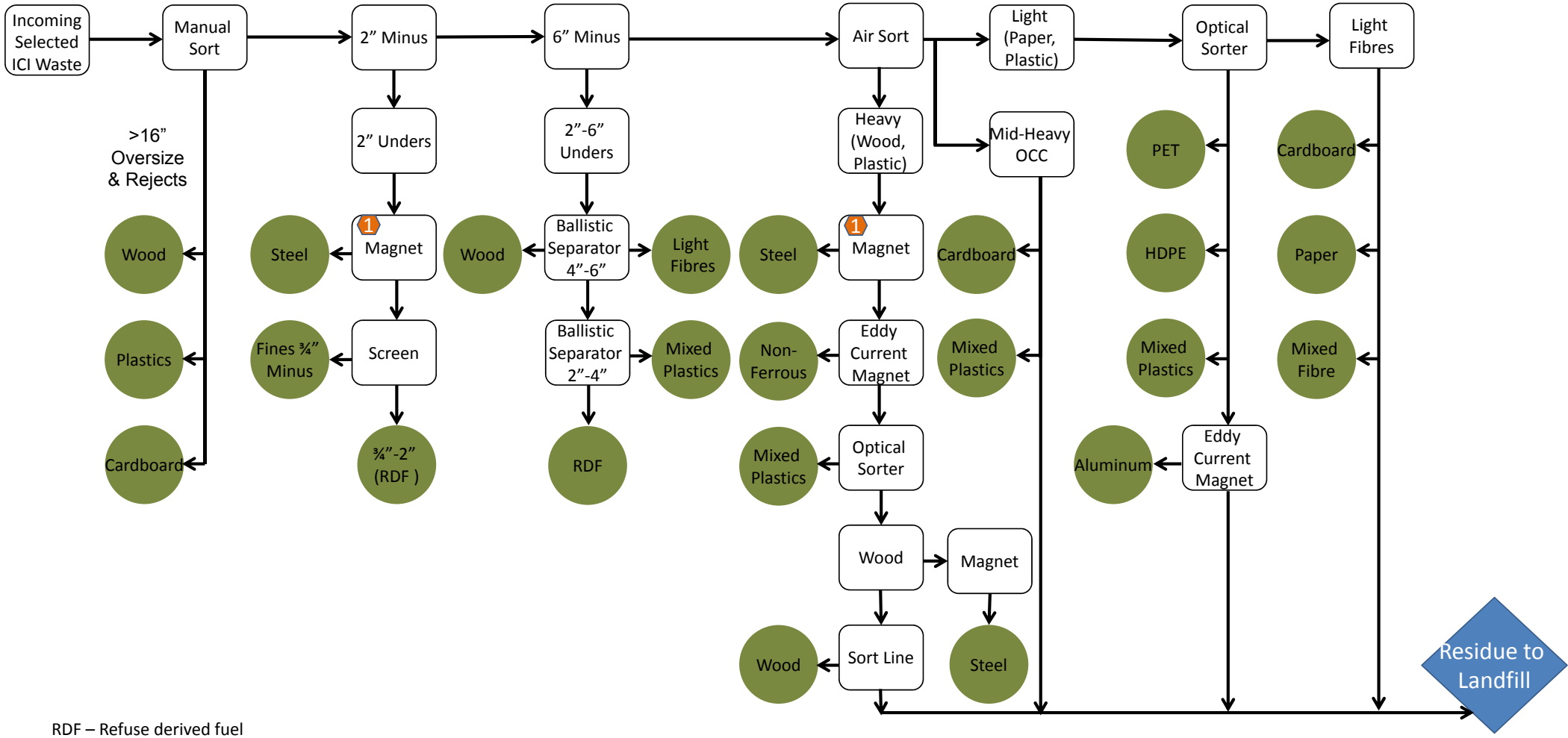
Most Important	
Component	**Preferred Site**
Atmospheric	Boundary Road Site
Geology, Hydrogeology & Geotechnical	Boundary Road Site
Land Use & Socio-economic	Boundary Road Site
Traffic	Boundary Road Site

Important	
Component	**Preferred Site**
Surface Water	Boundary Road Site
Biology	Boundary Road Site
Agriculture	Boundary Road Site
Design & Operations	Boundary Road Site

Less Important	
Component	**Preferred Site**
Cultural & Heritage Resources	Boundary Road Site

Boundary Road Site preferred for every environmental component for the proposed CRRRC project.

Typical Industrial & Commercial Waste Material Recovery Facility (MRF) [2]



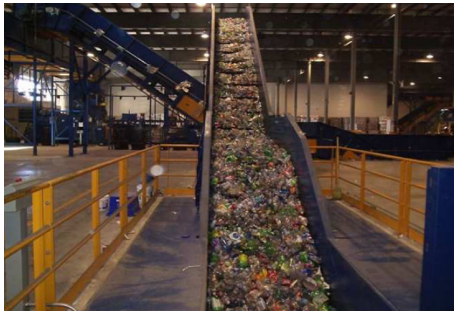
RDF – Refuse derived fuel

Typical Industrial & Commercial Waste Material Recovery Facility (MRF)

1 Steel Magnet

2 Material Recovery Facility

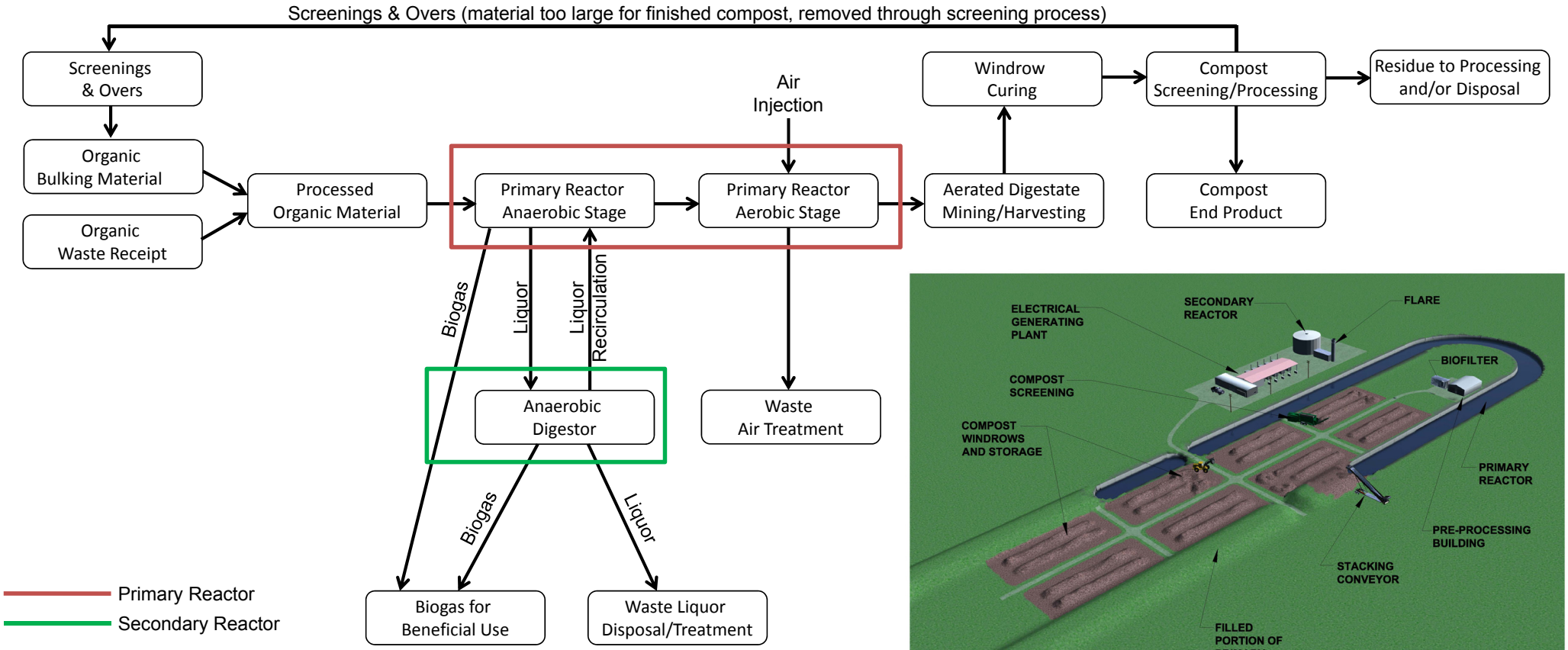
Typical Recovered Baled Material

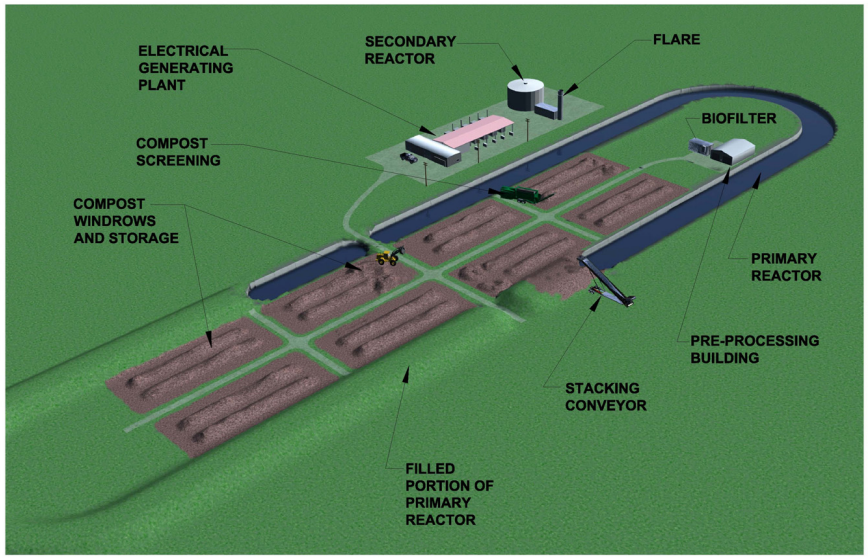


Recovered Material

Recovered Material Baler

Anaerobic Digestion System for Organic Waste





Modern Construction & Demolition (C&D) Waste Material Recovery Facility

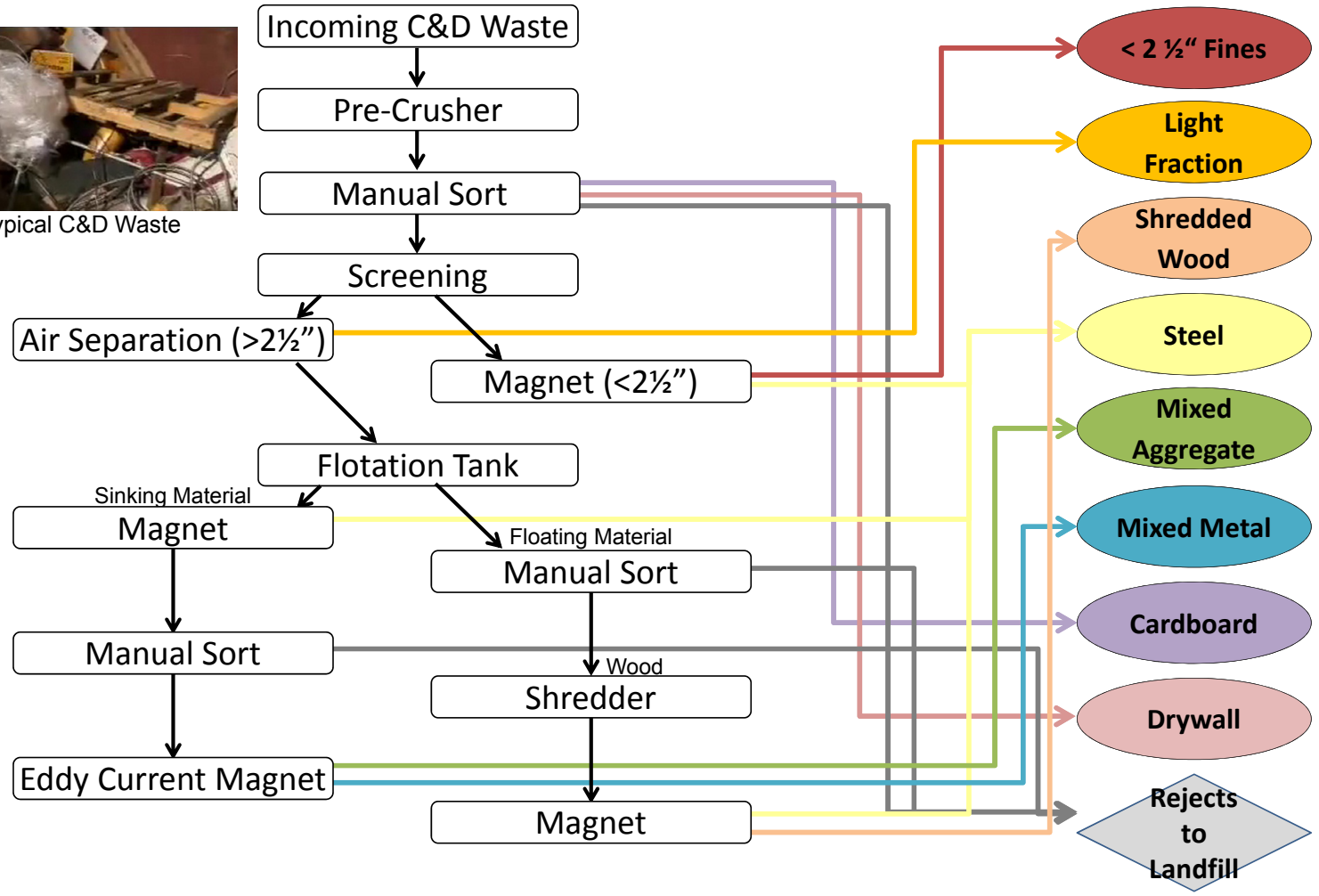
Modern C&D Waste Processing Facility

Typical C&D Waste

Ground Wood Product

C&D Waste Processing

Air Cleaning System

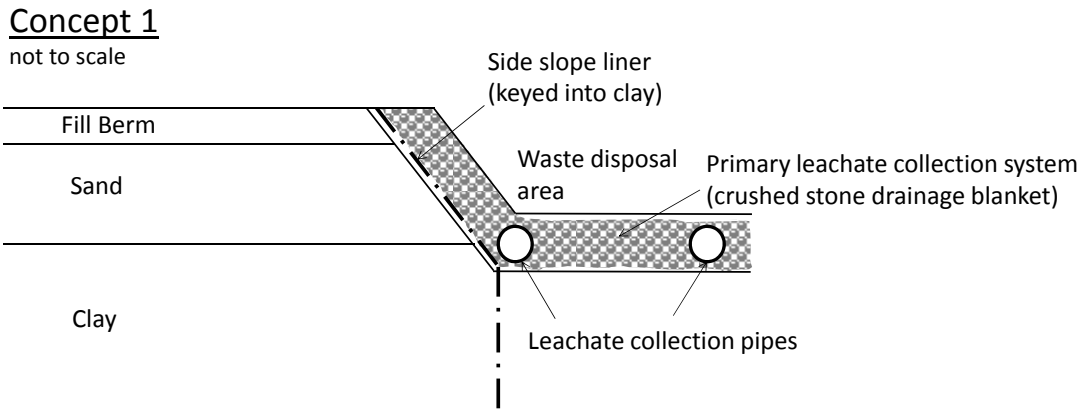


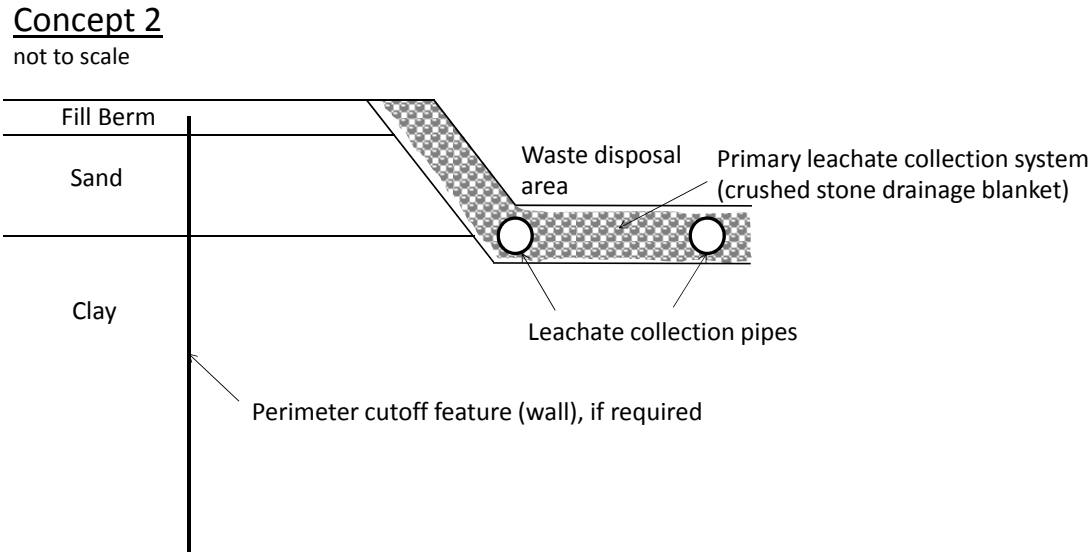
Landfill Component

The landfill component of the Boundary Road Site is expected to require:

- A single liner on the excavated below-ground sideslopes (e.g., geomembrane, geosynthetic clay liner (GCL) or compacted clay) that is keyed into the underlying unweathered silty clay.
- A primary leachate collection system on the base and below-ground sideslopes of the waste disposal cells.
- Possibly a single liner or single composite liner on the base of the waste disposal cells or ponds, or a vertical cut-off feature around the landfill perimeter.

Landfill Engineered Containment System Concepts





Potential CRRRC Project Benefits

The potential benefits of the CRRRC include:

- A multi-million dollar "green business" industrial/commercial development.
- A leading-edge waste recovery and diversion facility.
- Increased municipal tax revenue.
- Provision of local jobs and purchase of local services during construction, operation and after closure.
- Opportunities for development of new businesses associated with materials and products recovered by the CRRRC.
- A host community benefits package and property value protection plan.
- A local educational facility for responsible integrated waste management.
- Environmental benefits for the Capital Region with a recycling facility to reduce landfill disposal and increase IC&I diversion rates.

Next Steps and Schedule

Following this Open House #3 Taggart Miller anticipate:

- Continuing the drilling program at the Boundary Road Site in the winter and summer of 2013
- Completing the other studies of the existing environment at the Boundary Road Site as described in the approved TOR
- Preparing alternative Site development concepts for the BR Site
- Hosting Open House #4 to obtain input on preferred Site development concepts in April 2013

There are many opportunities for you to get involved and provide your views.

- Complete the comments sheet provided at this Open House #3.
- Request a meeting and/or additional information.
- Visit our website **CRRRC.ca** to obtain information and provide comments.

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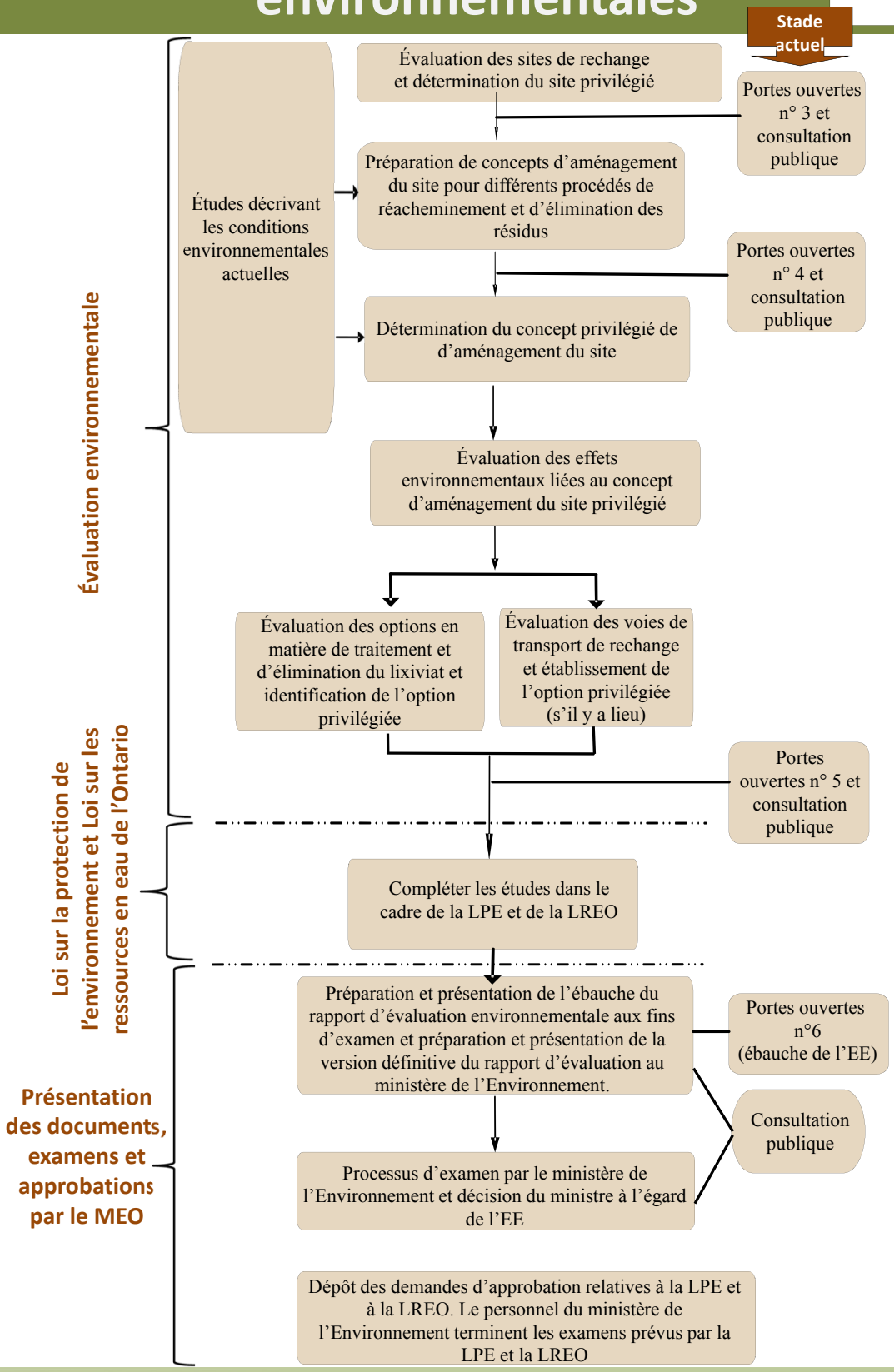
Bienvenue aux portes ouvertes n° 3

Taggart Miller Environmental Services

Évaluation environnementale du projet de Centre de récupération des ressources de la région de la capitale (CRRRC)

Veuillez examiner nos présentations et en discuter avec nos représentants

Organigramme du processus de la LPE et des évaluations environnementales



Méthodes d'EE approuvées

PHASE 1 : ÉVALUATION COMPARATIVE DES SITES DE RECHANGE [Terminée, février 2013]

- L'évaluation comparative a été réalisée au moyen des critères, des indicateurs et des sources de données prévus dans le cadre de référence (CdR) approuvé.
- Le site du chemin Boundary a été désigné comme étant le site privilégié.
- Le site du chemin North Russell sera exclu de considérations supplémentaires.

PHASE 2 : ÉTUDES D'EE

- Les travaux de la phase 2 seront uniquement réalisés sur le site privilégié (le site du chemin Boundary) et comprendront les tâches suivantes :
  - Description de l'environnement actuel – Des études seront menées pour décrire plus précisément l'environnement actuel et les effets que pourraient avoir le projet sur chacune des composantes environnementales proposées.
  - Déterminer le concept d'aménagement privilégié du site – On tiendra compte des éléments suivants :
    1) le volume potentiel de chaque flux de déchets qui sera acheminé au CRRRC;
    2) les quantités qui pourraient être détournées avec le temps;
    3) l'espace aérien du site d'enfouissement requis pendant 30 ans;
    4) la circulation liée au site.

    On proposera au moins deux options d'aménagement de site qui feront l'objet d'une consultation publique avant de déterminer le concept d'aménagement du site privilégié.

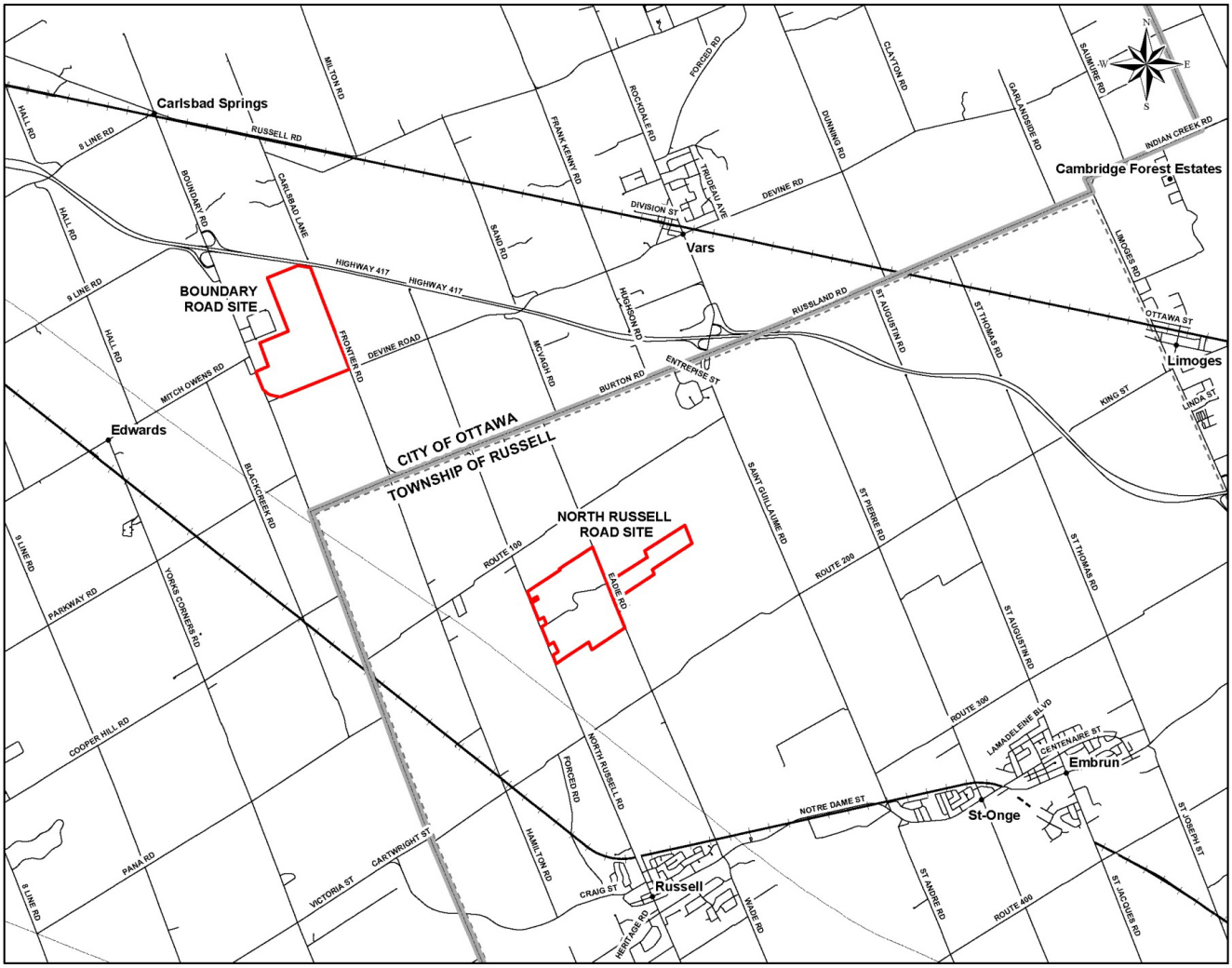
Méthodes d'EE approuvées (suite)

- Évaluation des effets environnementaux du concept privilégié d'aménagement de site – Prévoir les effets combinés des installations de réacheminement, de la composante d'enfouissement et des activités connexes. L'évaluation tiendra compte d'une vaste gamme de composantes environnementales, y compris la qualité de l'air et la qualité des eaux souterraines.
- Évaluation des effets en matière de circulation – Étant donné que le site du chemin Boundary a été désigné comme étant le site de rechange privilégié, on s'attend à ce qu'il y ait une route de transport principale (aux abords de l'autoroute 417) et peut-être plus d'un point d'accès possible. L'évaluation de la circulation mettra l'accent sur les effets que pourrait avoir la circulation liée au site et déterminera les mesures d'atténuation nécessaires.
- Évaluation des options de gestion du lixiviat et détermination de l'option privilégiée – Examiner des technologies potentielles de traitement du lixiviat et déterminer les solutions de rechange pour collecter ou traiter le lixiviat hors-site. On étudiera des options viables afin de déterminer le système privilégié de gestion du lixiviat.
- Évaluation des effets cumulatifs – Les effets nets du projet du CRRRC proposé seront combinés aux effets prévus d'autres projets proposés existants et connus dans a région du site.

PHASE 3 : COMPLÉTER ET PRÉSENTER DES DEMANDES D'EE POUR LE SITE DE RECHANGE PRIVILÉGIÉ

- L'EE sera présentée au ministre de l'Environnement pour fins d'approbation et sera accompagnée de deux documents suivants :
  - Un rapport d'étude hydrogéologique.
  - Un rapport sur l'aménagement et l'exploitation du site (notamment la gestion des eaux pluviales, la gestion du lixiviat, l'évaluation acoustique, la qualité de l'air, l'évaluation des odeurs et l'aménagement et l'exploitation du site).

Sites de rechange du CRRRC proposé



LEGEND / LÉGENDE

- POPULATED PLACE NAME / NOM DE LIEU HABITÉ
- ROADWAY / ROUTE
- RAIL / CHEMIN DE FER
- UTILITY / SERVICE PUBLIC
- TOWNSHIP OF RUSSELL BOUNDARY / LIMITE DU CANTON DE RUSSELL
- CITY OF OTTAWA BOUNDARY / LIMITE DE LA VILLE D'OTTAWA

1 0.5 0 1 2 3
KILOMETRES
KILOMÈTRES

Site du chemin North Russell (CNR)

Photo aérienne : 2 novembre 2009

Site du chemin North Russell (site CNR) – Situé dans la partie nord-ouest du canton de Russell à environ trois kilomètres à l'est des limites de la Ville d'Ottawa et à environ cinq kilomètres au sud de l'autoroute 417, entre les sorties du chemin Boundary et Vars. La propriété est constituée d'environ 193 hectares (476 acres) de terres contiguës et occupe une partie des lots 18 et 19, des concessions III et IV du canton de Russell.

Site du chemin Boundary (CB)

Photo aérienne : 7 novembre 2012

Site du chemin Boundary (site CB) –Situé dans la partie est de la Ville d'Ottawa et immédiatement au sud-est de l'échangeur reliant l'autoroute 417 et le chemin Boundary. La propriété se trouve à l'est du chemin Boundary, à l'est d'un parc industriel actuel, au nord du chemin Devine et à l'ouest du chemin Frontier. La propriété est constituée d'environ 175 hectares (430 acres) de terre et occupe les lots 23 à 25 de la concession XI du canton de Cumberland.

Composantes évaluées dans la comparaison des sites

- Divers aspects ou diverses composantes de l'environnement ont été étudiés et utilisés pour comparer les sites de rechange.
- Les composantes et les critères prévus dans le cadre de référence (CdR) approuvé sont présentés ci-dessous.
- Dans les tableaux suivants, on évalue les résultats de chacune des composantes par rapport à son indicateur et on indique le site privilégié en fonction de celles-ci.

Composantes environnementales	
Composante	**Critère**
Environnement atmosphérique	Quel site est privilégié pour les effets sur la qualité de l'air et le bruit?
Géologie, hydrogéologie et géotechnique	Quel site est privilégié pour la protection de la qualité des eaux souterraines?
Eau de surface	Quel site est privilégié pour la protection de la qualité de l'eau de surface?
Biologie	Quel site est pour la protection des systèmes biologiques, autant aquatiques que terrestres?

Composantes socioéconomiques	
Composante	**Critère**
Utilisation des terres et aspects socioéconomiques	Quel site est le plus compatible avec l'utilisation actuelle et proposée des terrains à proximité du site?
	Quel site est privilégié pour la protection des ressources d'agrégat de minéraux?
Ressources patrimoniales et culturelles	Quel site est privilégié pour la protection des ressources archéologiques et patrimoniales et des paysages du patrimoine culturel?
Agriculture	Quel site est site privilégié pour des répercussions possibles sur l'agriculture?

Composantes techniques	
Composante	**Critère**
Aménagement et exploitation	Quel site est privilégié concernant l'ingénierie requise afin que le site réponde aux critères de qualité des eaux souterraines imposés par le MOE aux limites du terrain?
Circulation	Quel site est privilégié concernant les effets possibles liées à la circulation de camions?

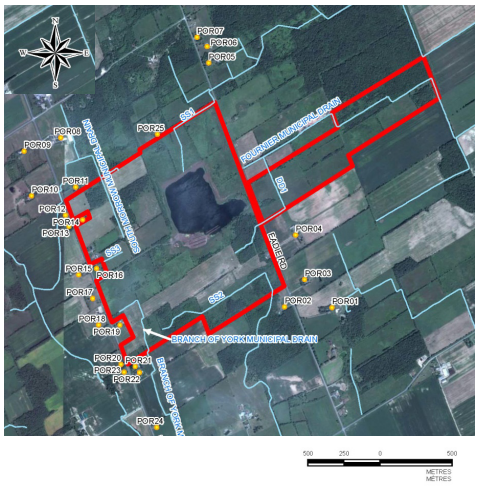
Composante atmosphérique

Indicateur atmosphérique

- Nombre, type et emplacement des récepteurs hors site situés à proximité (dans un rayon de 500 m des limites du site)
  Remarque : On continuera d'utiliser la composante atmosphérique pour évaluer et déterminer les endroits appropriés à proximité du site en fonction des composantes d'évaluation des effets ultérieures de l'évaluation environnementale.

RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN NORTH RUSSELL

- Les niveaux de qualité de l'air ambiant sont actuellement inférieurs aux limités fixées par les critères de qualité de l'air ambiant.
- Les niveaux de bruit actuels correspondent à ceux d'une zone de classe 3, telle que décrite par le ministère de l'Environnement (MEO) dans la publication « NPC-232 » (c.-à-d. 45 dBA le jour et 40 dBA la nuit).
- Il y a vingt-cinq (25) points de réception (PDR) critiques (majoritairement des résidences) à proximité du site (c.-à-d. à un maximum de 500 m des limites du site). La plupart d'entre eux sont situés à l'ouest du site de North Russell.
- Plusieurs PDR sensibles sont adjacents aux limites du site.



RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN BOUNDARY

- Les niveaux de qualité de l'air ambiant sont actuellement inférieurs aux limites fixées par les critères de qualité de l'air ambiant.
- Les niveaux de bruit actuels correspondent à ceux d'une zone de classe 2 (proximité de l'autoroute 417) et d'une zone de classe 3, telles que respectivement décrites par le MEO dans les publications « NPC-205 » et « NPC-232 » (c.-à-d. 50 dBA le jour et 45 dBA la nuit dans le premier cas et 45 dBA le jour et de 40 dBA la nuit dans l'autre).
- Il y a quatre PDR sensibles à proximité du site (c.-à-d. à un maximum de 500 m des limites du site).

Site privilégié

- Il y a beaucoup moins de PDR sensibles à proximité du site CB. Les niveaux de bruit ambiant dans certains des PDR à proximité du site du CB sont actuellement plus élevés en raison de l'autoroute 417 et il y a moins de PDR sensibles adjacents au site du CB. En fonction de l'analyse comparative, le site du chemin Boundary est le site de rechange privilégié quant aux composantes de l'air et du bruit de l'environnement atmosphérique.

Indicateurs liés à la géologie, à l'hydrogéologie et à la géotechnique

- Cadre géologique
- Type et épaisseur de la couche d'atténuation naturelle du site
- Présence et qualité des ressources d'eaux souterraines sur le site et à proximité de celui-ci
- Direction interprétée d'écoulement vertical des eaux souterraines sur le site et à proximité de celui-ci, c.-à-d. zone de recharge de l'eau souterraine, débit transitoire ou écoulement de l'eau souterraine

RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN NORTH RUSSELL

Cadre géologique

- Sur une assise rocheuse locale dont l'élévation de la surface diminue et l'épaisseur du recouvrement augmente dans toutes les directions en s'éloignant du site.
- Le recouvrement est généralement moins de 2 m d'épaisseur et se compose principalement de schiste complètement altéré qui enveloppe l'assise rocheuse schisteuse ou le till. Sur le côté est de la partie de la propriété qui se trouve dans la concession IV, la surface de l'assise rocheuse est plus profonde, ce qui explique l'épaisseur considérable de la couche d'argile limoneuse et de till.
- La plus grande partie du site du chemin North Russell repose sur l'assise rocheuse schisteuse de la formation de Queenston, dont l'épaisseur varie, puis sur le calcaire et le schiste de la formation de Carlsbad.
- Dans l'ensemble, la majeure partie de la formation de Queenston et de la formation de Carlsbad sur le site du chemin North Russell présentent de faibles conductivités hydrauliques (ne transmettent pas l'eau aisément) (à savoir moins de 2,5 x 10^{-8} m/s); toutefois, en certains endroits, on observe une perméabilité accrue dans la partie élevée de la formation de Queenston (de 10^{-8} m/s à 10^{-2} m/s).
- Les eaux souterraines de l'assise rocheuse coulent majoritairement vers l'est.

Type et épaisseur de la couche d'atténuation naturelle du site

- La coulée verticale de la couche d'atténuation naturelle du site dépendrait des propriétés hydrauliques de l'assise rocheuse schisteuse peu profonde.
- La conductivité hydraulique de cette assise varie en fonction de la présence de zones de perméabilité accrue causée par la fracturation.

Présence et qualité des ressources en eau souterraine sur le site et à proximité de celui-ci

- Les consommateurs d'eau souterraine hors site utilisent principalement des puits forés dans l'assise rocheuse.
- L'eau souterraine de l'assise rocheuse creuse du site est relativement douce; et davantage en profondeur dans les formations de Queenston et de Carlsbad; la qualité de l'eau souterraine se détériore en raison des concentrations élevées de chlorure, de sodium, de fer et de manganèse.
- Les résultats d'un programme limité d'échantillonnage des sources d'alimentation en eau résidentiel indiquent que tous les paramètres analysés se conforment aux normes du MEO en matière de santé et d'esthétique, sauf dans le cas des matières dissoutes totales, du nitrate et du sodium présents dans les puits d'approvisionnement en eau spécifiquement analysés.
- La qualité des eaux souterraines dans ces puits privés correspond généralement à la qualité observée des eaux souterraines dans les puits de surveillance du site du chemin North Russell.

Direction interprétée du débit vertical des cours d'eau souterrains

- La majeure partie de l'année, les gradients verticaux sont généralement vers le bas ou absents sur le site du chemin North Russell.
- On croit que le site du chemin North Russell est situé au-dessus d'une importante zone de recharge des eaux souterraines du système d'écoulement de l'assise rocheuse. Compte tenu de la petitesse de la partie située sur le site par rapport à la zone entière et de la faiblesse de la demande globale dans la région pour ce type d'eau, on ne croit pas que le développement du site aurait une incidence évidente sur l'accessibilité hors site à de l'eau souterraine.

RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN BOUNDARY

Cadre géologique

- L'épaisseur du sable limoneux superficiel varie pour atteindre jusqu'à 1,5 m, et recouvre une couche d'environ 30 m d'argile ou d'argile limoneuse qui, à son tour, enveloppe le till et l'assise rocheuse de la formation Carlsbad.
- On trouve en différentes quantités du sable et des couches limoneuses dans la partie supérieure de la couche d'argile et d'argile limoneuse qui est située à des profondeurs allant de 1,8 à 6,6 m et est interprétée à varier entre 0,1 à 1,3 m d'épaisseur.
- On suppose que les eaux souterraines dans la couverture creuse, composée de l'argile creuse, du till et de l'assise rocheuse creuse, coulent vers l'est (c.-à-d. en s'éloignant des utilisateurs d'eau souterraine hors site).

Type et épaisseur de la couche d'atténuation naturelle du site

- Une couche d'atténuation naturelle à faible perméabilité qui permet l'écoulement vertical est présente sur le site (environ 30 m d'argile et d'argile limoneuse).
- La couche de sable limoneux superficielle supérieure a une conductivité hydraulique horizontale modérée (capacité modérée de transmettre l'eau) qui va de 10^{-7} m par sec. à 10^{-5} m par sec.

Présence et qualité des ressources en eau souterraine sur le site et à proximité de celui-ci

- Les utilisateurs d'eau souterraine hors site puisent généralement leur eau dans des puits creusés à 3 à 7 m dans la partie supérieure du recouvrement.
- La qualité de l'eau souterraine sur le site du CB varie de douce à saumâtre et se détériore en profondeur où sont observées des concentrations élevées de baryum, de chlorure, de sodium et de MDT (Matières Totales Dissutes) dans l'assise rocheuse profonde et le till. L'eau souterraine de l'assise rocheuse profonde contient aussi du méthane dissous.
- Les résultats du programme limité d'échantillonnage des réseaux d'alimentation de l'eau des puits indiquent que le l'eau répond aux normes du MEO, sauf en ce qui concerne le carbone organique dissous (COD), le manganèse, les MDT et le fer.
- Dans la couche de sable superficielle, la conductivité hydraulique horizontale modérée et le faible gradient hydraulique se traduisent par la faiblesse relative de la vitesse d'écoulement des eaux souterraines dans l'unité.
- La présence d'épais dépôts d'argile ou d'argile limoneuse entrave la descente des eaux souterraines contaminées par du lixiviat, peu importe le type de gradients verticaux.

Direction interprétée du débit vertical des cours d'eau souterrains

- En fonction des données sur l'élévation des eaux souterraines recueillies jusqu'à maintenant, on suppose que les gradients verticaux vers le bas sont généralement en déclin ou absents sur le site.
- Le site du chemin Boundary ne fait pas partie d'un système d'alimentation régional en eaux souterraines lié au till inférieur et à l'assise rocheuse.
- Le recouvrement peu profond où l'on creuse des puits locaux est alimenté par les précipitations locales; par conséquent, le développement du site du CB n'aura aucune incidence sur l'accessibilité aux eaux souterraines hors site.

Site privilégié

- Le site du chemin Boundary et sa couche d'atténuation naturelle d'argile limoneuse offrent des conditions de confinement naturel plus favorables que celles du site du chemin North Russell. L'eau souterraine sur le site du chemin North Russell et à proximité de celui-ci est de meilleure qualité dans les zones hydrogéologiques où l'on puise de l'eau potable. Le site du chemin Boundary ne fait pas partie d'une source d'alimentation régionale en eau souterraine liée au till inférieur et à l'assise rocheuse. On croit que le site du chemin North Russell est situé au-dessus d'une importante zone d'alimentation en eau souterraine, mais il ne touche cependant qu'une petite partie de cette zone. En fonction des critères d'évaluation principaux en matière de géologie, d'hydrogéologie et de géotechnique et des indicateurs associés, le site privilégié, en ce qui a trait à la protection des eaux souterraines est le site du chemin Boundary.

Composante de l'eau en surface

Indicateurs des eaux de surface

- Nombre de points d'écoulement d'eau de surface
- Distance à parcourir pour arriver au cours d'eau à écoulement continu le plus près
- Caractéristiques du régime des eaux de surface en aval et utilisation de celui-ci

RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN NORTH RUSSELL

Renseignements généraux

- Situé dans le sous-bassin versant de la rivière Castor.

Points d'écoulement d'eau de surface

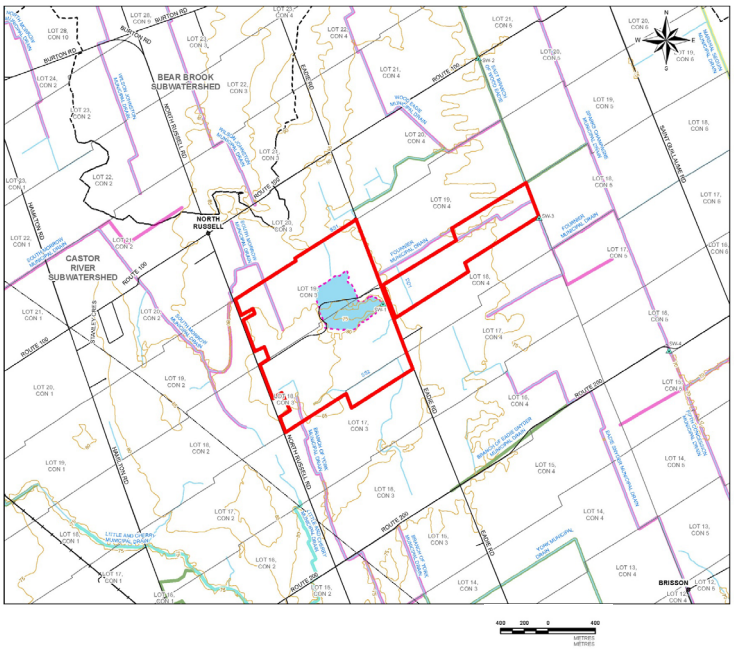
- Le drainage est généralement effectué par des fossés qui acheminent l'eau vers quatre drains municipaux au moyen de six sorties d'écoulement.

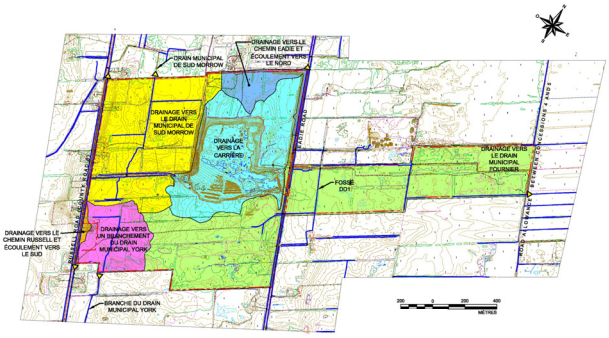
Carte et distance séparant l'écoulement fluvial du cours d'eau à écoulement continu le plus près

- Le drain municipal Little et Cherry, un drain d'écoulement continu de classe B, est situé à une distance de 300 m du site du chemin North Russell (parallèle au branchement du drain municipal de York), le canal de drainage n'est pas directement branché au site.
- À une distance en ligne directe de 2 km du drain municipal de Marshall Seguin, il y a un drain à écoulement continu de classe C qui draine le site du chemin North Russell. En fait, l'écoulement fluvial fait 4,9 km de long entre le site du CNR et le canal de drainage municipal Marshall Seguin (le long du drain municipal Fournier).
- Il y a un écoulement pluvial de 5,4 km entre le site du chemin North Russell et le point d'émergence de la rivière Castor et un écoulement pluvial de 12 km vers la rivière Castor (le long du branchement au drain municipal York).

Caractéristiques du réseau hydrographique de la rivière Castor

- Conforme aux objectifs de qualité d'eau en matière de phosphore dans 0 % à 44 % des échantillons, d'*E. Coli* dans 45 % à 64 % des échantillons et de cuivre et de zinc dans 80 % à 100 % des échantillons.
- Le débit moyen est de 5,48 m^3 par sec.
- Trois communautés rejettent leurs eaux usées dans la rivière Castor, une communauté puise les eaux de surface de la confluence des rivières Castor et South Nation.
- L'eau des fossés que l'on trouve sur le site ou à proximité de celui-ci excède les normes prévues par les *Provincial Water Quality Objectives* (PWQO) en raison de son pH et de la quantité totale de phosphore, de bore et de fer.





RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN BOUNDARY

Renseignements généraux

- Situé dans le sous-bassin-versant du ruisseau Bear.

Points d'écoulement d'eau de surface

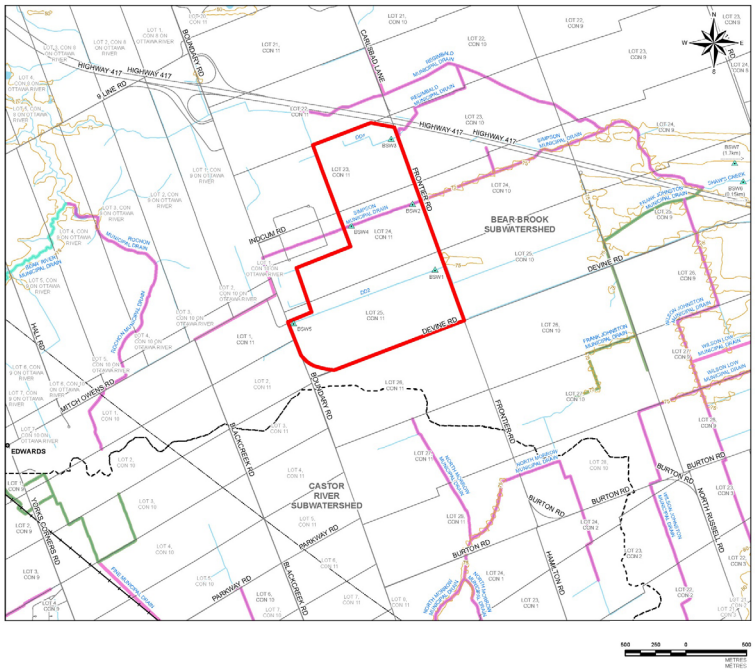
- Le drainage est généralement effectué par des fossés qui acheminent l'eau vers trois drains municipaux intermittents qui se rejoignent à l'est du site au moyen de trois sorties de drainage.

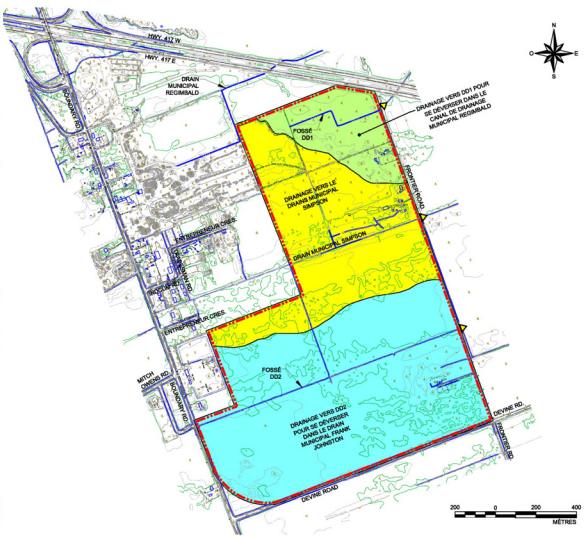
Carte et distance séparant l'écoulement fluvial du cours d'eau à écoulement continu le plus près

- Le drain municipal du ruisseau Bear, un débouché à écoulement continu de classe B, est situé une distance en ligne directe de 1,4 km du site du chemin Boundary (le drain n'est pas directement branché au site du CB).
- Situé à une distance graphique de 1,6 km de Shaw's Creek (en aval du site). L'écoulement fluvial reliant le site du chemin Boundary à Shaw's Creek mesure environ 2,1 km (le long de DD2 et du drain municipal Frank Johnston) et l'écoulement pluvial le long du canal de drainage Simpson fait environ 2,2 km.
- L'écoulement pluvial du site du CB au point d'émergence du ruisseau Bear, en passant par le drain Simpson et Shaw's Creek, mesure 11, 4 km.

Caractéristiques du réseau hydrographique du ruisseau Bear

- Conforme aux objectifs de qualité d'eau en matière de phosphore dans 0 % à 44 % des échantillons, d'*E. Coli* dans 45 % à 64 % des échantillons et de cuivre et de zinc dans 45 % et 94 % des échantillons.
- Le débit moyen est de 7,42 m^3 par sec.
- L'eau des fossés que l'on trouve sur le site ou à proximité de celui-ci excède les normes prévues par les *Provincial Water Quality Objectives* (PWQO) en raison de la quantité totale de phosphore, de suivre et de fer.





Site privilégié

- Le site du chemin Boundary est privilégié en raison du nombre de points de prélèvement d'eau de surface et des caractéristiques du régime des eaux de surface en aval, alors que le site du chemin North Russell est privilégié en raison de la distance à parcourir pour arriver au cours d'eau à écoulement continu le plus près. Le site du chemin Boundary est privilégié pour 2 des 3 indicateurs, et, dans l'ensemble, le site du chemin Boundary est privilégié.

Indicateur biologique

- Prévalence et qualité des systèmes biologiques sur le site et les effets auxquels ils s'exposent, notamment les systèmes biologiques protégés. Cela comprend spécifiquement les effets globales sur les zones humides de classes 1 à 3, les zones d'intérêt naturel et scientifique liées à la science biologique, les régions boisées, les espèces en péril et leurs habitats, de même que les étendues d'eau et les cours d'eau.

RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN NORTH RUSSELL

Zones humides de classes 1 à 3

- Aucune zone désignée « terres humides d'importance provinciale » (Zones humides de classes 1 à 3) sur le site du chemin North Russell ou à proximité de celui-ci.

Zones d'intérêt naturel et scientifique liées à la science biologique

- Aucune zone d'intérêt naturel et scientifique liée à la science biologique sur le site du chemin de North Russell ou à proximité de celui-ci.

Régions boisées

- Bien qu'il ne soit pas officiellement désigné comme tel, il y a un terrain boisé au coin est du site du chemin North Russell qui répond aux critères du Natural Heritage Reference Manual (NHRM) pour être considéré comme un terrain boisé d'importance.
- Le site du chemin North Russell contient des décidus et des marécages en terrains boisés.

Espèces en péril et leurs habitats

Type	Catégorie*	Nombre d'espèces	Possibilité de les trouver sur le site ou dans un rayon de 120 mètres de celui-ci
Oiseau	Menacé	2	Faible à modéré
Mammifère	En voie de disparition	1	Modéré à élevé
Arbre	En voie de disparition	1	Modéré à élevé
Oiseau	Menacé	1	Élevé
Oiseau	Préoccupant	1	Faible à modéré
Papillon	Préoccupant	1	Modéré
Serpent	Préoccupant	1	Modéré
Grenouille	Menacé	1	Faible à modéré

* En vertu de différentes lois

Étendues d'eau et cours d'eau

- Il y a cinq étendues d'eau de surface saisonnière et deux fossés de drainage sur le site du chemin North Russell et à proximité de celui-ci.
- Il y a deux bassins agricoles creusés et une carrière inondée sur le site du chemin North Russell.
- Les étendues d'eau de surface sur le site du chemin North Russell et à proximité de celui-ci ne sont pas constituées d'eau froide et n'ont pas la sensibilité des systèmes d'eau froide.

Composante biologique (suite)

RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN BOUNDARY

Zones humides de classes 1 à 3

- Aucune zone désignée « terres humides d'importance provinciale » (Zones humides de classes 1 à 3) sur le site du chemin Boundary ou à proximité de celui-ci.

Zones d'intérêt naturel et scientifique liées à la science biologique

- Aucune zone d'intérêt naturel et scientifique liée à la science biologique sur le site du chemin Boundary ou à proximité de celui-ci.

Régions boisées

- Il y a un terrain boisé qui pourrait être considéré comme un boisé d'importance à proximité du site, c'est-à-dire au sud du site du chemin Boundary et au sud du chemin Devine.
- Le site du chemin Boundary contient des décidus et des marécages en terrains boisés.

Espèces en péril et leurs habitats

Type	Catégorie*	Nombre d'espèces	Possibilité de les trouver sur le site ou dans un rayon de 120 mètres de celui-ci
Oiseau	Menacé	1	Faible à modéré
Oiseau	Menacé	1	Modéré
Mammifère	En voie de disparition	1	Modéré
Serpent	Préoccupant	1	Modéré
Papillon	Préoccupant	1	Faible à modéré
Grenouille	Menacé	1	Modéré

* En vertu de différentes lois

Étendues d'eau et cours d'eau

- Il y a trois étendues d'eau de surface sur le site du chemin Boundary – un drain municipal et deux fossés de drainage.
- Une grande partie du site du chemin Boundary est occupée par des marécages minéraux.
- Les étendues d'eau de surface sur le site du chemin Boundary et à proximité de celui-ci ne sont pas constituées d'eau froide et n'ont pas la sensibilité des systèmes d'eau froide.

Site privilégié

- Les sites du chemin Boundary et du chemin North Russell étaient comparables en ce qui a trait aux incidences potentielles sur les zones humides de classes 1 à 3, aux Zones d'intérêt naturel et scientifique, aux régions boisées et aux étendues d'eau. Le site du chemin Boundary a moins de chance d'offrir un habitat à des espèces en péril et la possibilité d'y trouver des représentants d'une espèce en péril n'est pas élevé, sa couverture végétale est également moins diversifiée. Par conséquent, le site du chemin Boundary est privilégié.

Composante de l'utilisation des terres et des aspects socioéconomiques

Indicateurs liés à l'utilisation des terres et aux aspects socioéconomiques

- Utilisation actuelle des terres dans un rayon de 1 000 m du site
- Utilisation certaine et probable des terres à l'avenir dans un rayon de 1 000 m du site
- Type et qualité des ressources en granulats minéraux connues et probables sur le site et dans un rayon de 500 m de celui-ci

RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN NORTH RUSSELL

- Le site est actuellement désigné zone de réserve de granulat minéral et zone d'agriculture.
- Le plan officiel devra être modifié.
- Il y a du développement résidentiel, quelques activités agricoles et un établissement institutionnel, un cimetière, dans un rayon de 1 000 m du site du chemin North Russell.
- Les comtés unis de Prescott et Russell (CUPR) indiquent ne prévoir aucun changement majeur de désignation aux environs du site du chemin North Russell au cours de la révision de cinq ans du plan official commençant en 2013. Aucune demande de plan de zonage ou d'aménagement n'a été présentée ou était en vigueur en date de janvier 2013 dans les cantons à proximité du site du chemin North Russell.
- Situé sur un chemin collecteur (site du chemin North Russell).
- Une partie du site du chemin North Russell est occupée par une carrière autorisée. Le minéral extrait est du schiste Queenston, un agrégat minéral utilisé pour la fabrication des briques en Ontario. On comprend qu'il n'est pas intéressant sur le plan économique d'exploiter schiste que l'on trouve à cet endroit pour en faire des briques parce que les gisements de schiste de Queenston dans le sud de l'Ontario sont beaucoup plus importants.
- Il est probable que ce gisement de schiste s'étende au-delà des limites de la carrière autorisée et du site du chemin , principalement vers le nord, le sud et l'ouest.
- Il n'y a aucune autre ressource en agrégat connu ou probable sur le site ou dans un rayon de 500 m de celui-ci.

RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN BOUNDARY

- Le site est actuellement désigné zone rurale générale et zone d'industrie lourde rurale.
- La Déclaration de principes provinciale ne désigne pas des terres d'intérêt provincial.
- Le plan official mentionne que l'utilisation du CRRRC pourrait être autorisée par sa désignation.
- Le plan officiel devra être modifié.
- Utilisation résidentielle limitée des terres et aucune utilisation institutionnelle dans un rayon de 1 000 m du site du chemin Boundary.
- La Ville mène actuellement une révision de son plan official qui s'étalera sur les cinq prochaines années et qui comprend une évaluation des terres et un examen des terres agricoles du territoire. L'ébauche présentée pour l'examen des terres agricoles n'incluait pas le site du chemin Boundary aux terres qui seront désignées agricoles. L'étude du granulat minéral est toujours en processus d'examen et cette étude n'est pas encore disponible pour le public.
- La Ville entreprend également un examen du plan directeur de l'infrastructure des régions rurales qui n'est pas encore disponible.
- À l'heure actuelle, aucune modification au plan officiel n'a été présentée à la Ville d'Ottawa concernant les environs du site du chemin Boundary.
- Situé sur les réseaux routiers (chemins Boundary et Devine).
- Il n'y a aucune ressource en agrégat connu ou probable sur le site ou dans un rayon de 500 m de celui-ci.

Site privilégié

- Compte tenu du nombre peu élevé de cas d'utilisation sensible des terrains et du fait qu'un parc industriel y est adjacent, le site du chemin Boundary est privilégié en raison de sa compatibilité avec l'utilisation actuelle ou planifiée des terres dans un rayon de 500 m du site.
- Une partie du site du chemin North Russell est occupée par une carrière autorisée. Il n'y a aucune ressource en agrégat connu ou probable sur le site du chemin Boundary ou dans un rayon de 500 m de celui-ci, le site du CB est donc privilégié en ce qui a trait à cet indicateur.

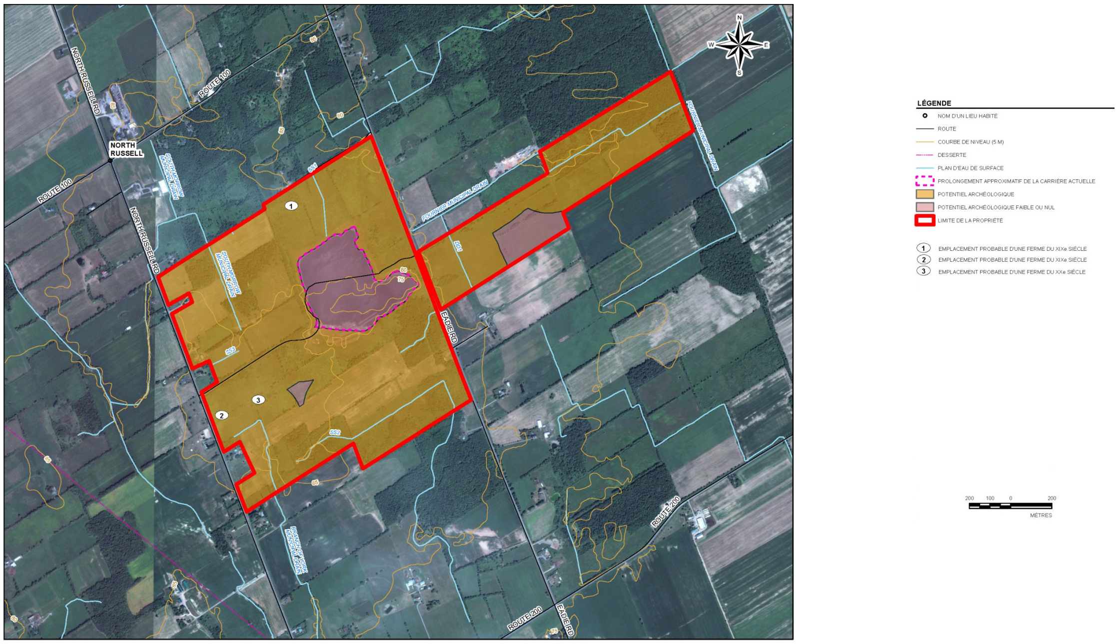
Composante des ressources patrimoniales et culturelles

Indicateurs liés aux ressources patrimoniales et culturelles

- Nombre et importance des sites archéologiques et patrimoniaux connus et paysage du patrimoine culturel sur le site, et
- Zones du site présentant un potentiel modéré à élevé pour la découverte de sites archéologiques

RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN NORTH RUSSELL

- Aucun site archéologique enregistré dans le territoire à l'étude.
- Selon l'édition 2011 de *Normes et lignes directrices à l'intention des archéologues-conseils*, environ 90 % de la surface du site offre un potentiel archéologique moyen à élevé, alors que le 10 % restant présente un potentiel archéologique allant de faible à nul.
- On a trouvé que le territoire à l'étude du site du chemin North Russell renferme 29 ressources du patrimoine culturel connues ou potentielles, notamment 20 paysages culturels patrimoniaux potentiels, un site patrimonial industriel potentiel (la carrière), un cimetière, une ancienne école et une ancienne église. En raison de cela, de nouvelles évaluations sont nécessaires pour déterminer si le territoire en entier pourrait constituer un paysage patrimonial culturel de plus grande envergure.



RÉSUMÉ CONSIDÉRATIONS DU SITE DU CHEMIN BOUNDARY

- Aucun site archéologique enregistré dans le territoire à l'étude.
- Le site en entier offre un potentiel archéologique allant de faible à nul.
- On a déterminé qu'il pourrait y avoir quatre ressources du patrimoine culturel (en fonction des critères relevés avant 1973 par le ministère du Tourisme, de la Culture et du Sport)

Site privilégié

- Après comparaison des deux sites, on a choisi de privilégier le site du chemin Boundary pour la protection des ressources patrimoniales et culturelles. Le site du chemin Boundary offre un faible potentiel archéologique, par conséquent les chances que l'on endommage une ressource patrimoniale culturelle non découverte sont plus faibles. Il présente également un plus petit nombre de ressources patrimoniales culturelles connues et potentielles.

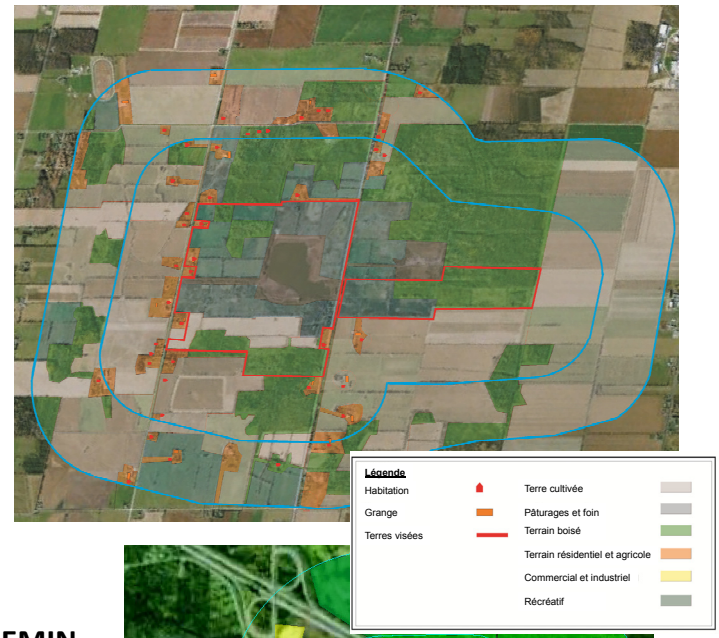
Composante agricole

Indicateurs agricoles

- Pourcentage des terres sur le site ayant un potentiel agricole des sols de classes 1 à 3
- Quantité, type et qualité des améliorations apportées sur le site à des fins agricoles, p. ex. les structures et le drainage au moyen de drains agricoles
- Pourcentage des terres sur le site qui sont utilisées à des fins agricoles
- Type et envergure des activités agricoles sur le site ou dans un rayon de 500 m de ses limites, c.-à-d. culture de produits biologiques, culture commerciale, élevage

RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN NORTH RUSSELL

- Il y a 20,9 % des terres zonées agriculture entre les chemins North Russell et Eadie qui sont des terres agricoles de classes 1 à 3*.
- On n'a apporté aucune amélioration sur le site à des fins agricoles.
- Seules 12,6 % des terres du site du chemin North Russell sont activement utilisées pour la production agricole.
- L'agriculture n'est pas l'une des activités principales sur les terres visées et les terres cultivées représentent 40,5 % des terres à proximité du site (dans un rayon de 500 m).



RÉSUMÉ DES ÉLÉMENTS À PRENDRE EN CONSIDÉRATION PAR RAPPORT AU SITE DU CHEMIN BOUNDARY

- Il y a 0 % du territoire qui est occupé par des terres de classes 1 à 3*.
- On n'a apporté aucune amélioration sur le site à des fins agricoles.
- Seules 16,3 % des terres du site du chemin Boundary sont activement utilisées pour la production agricole (terres cultivées).
- L'agriculture n'est pas l'une des activités principales sur le site du chemin Boundary et les terres cultivées ne représentent que 14,5 % des terres de la région immédiate (dans un rayon de 500 m).

Note: * Basé sur l'enquête de terrain

Site privilégié

- Le site du chemin Boundary ne compte pas de terres de classes 1 à 3, son pourcentage de productions agricoles actives n'est que légèrement plus élevé et la production agricole à proximité de celui-ci est la plus basse, par conséquent le site du chemin Boundary est privilégié en ce qui a trait à cette composante.

Indicateur lié à l'aménagement et à l'exploitation

- Niveau nécessaire prévu des installations de confinement conçues par ingénierie pour les systèmes du site

RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN NORTH RUSSELL

- On s'attend à ce que le site d'enfouissement, les procédés de traitement du lixiviat et les bassins de rétention nécessitent un système de protection des eaux souterraines de haute technologie (membrane, système de collecte du lixiviat). Pour ce qui est de la composante de l'aménagement et de l'exploitation, on prévoit que le système sera conforme aux normes s'appliquant aux sites d'enfouissement « Generic Design Option II » du ministère de l'Environnement (MEO) (c.-à-d. système de double confinement faite de deux matériaux composites dans le système de collecte primaire et secondaire du lixiviat).

RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN BOUNDARY

- On s'attend à ce que le site d'enfouissement, de même que les procédés de traitement du lixiviat et les bassins de retenue, nécessite ce qui suit :
  - Une membrane simple sur les pentes de talus creusées dans le sol (p. ex. géomembrane, d'argile géosynthétique ou d'argile compactée) que l'on fixe à l'argile limoneuse abritée en dessous.
  - Un système de collecte primaire du lixiviat situé à la base des cellules d'élimination des déchets et au pied des pentes de talus creusées dans le sol.
  - L'ajout possible d'une membrane simple ou d'une membrane fait d'un matériau composite au pied des cellules d'élimination des déchets ou celui d'un mur vertical isolateur autour du périmètre du site d'enfouissement. Ces éléments pourraient être intégrés à l'aménagement ou être utilisés pour parer aux imprévus.

Site privilégié

- Le site du chemin Boundary va possiblement nécessiter un plus petit niveau des installations de confinement en ce qui a trait au site d'enfouissement, de même qu'aux procédés de traitement du lixiviat et aux étangs de rétention du CRRRC; par conséquent, le site du chemin Boundary est privilégié en ce qui a trait à cette composante.

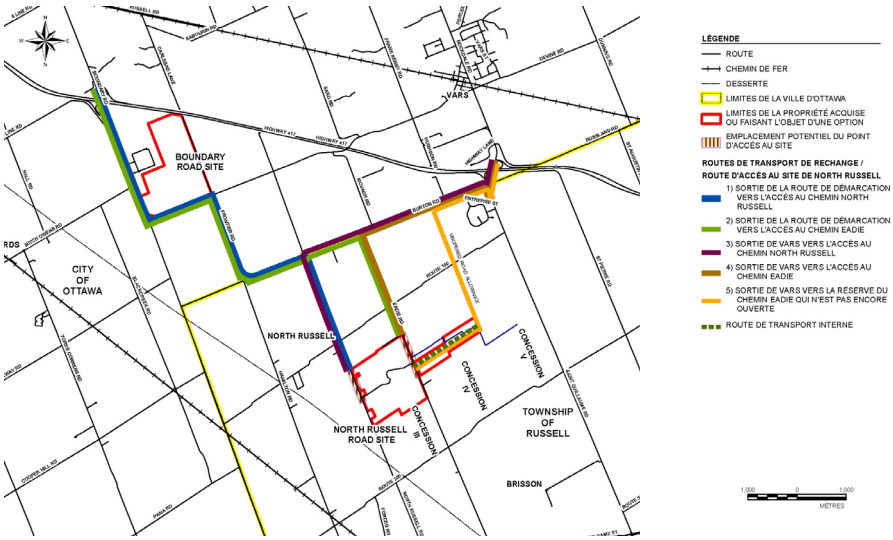
Indicateurs liés à la circulation

- Distance séparant le site et l'échangeur routier
- Caractéristiques du réseau routier entre l'échangeur routier et le site
- Utilisation des terres séparant l'échangeur routier au site le long des routes de transport principales

RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN NORTH RUSSELL

- Cinq propositions de routes principales ont été étudiées. Deux solutions de rechange supposaient que la circulation émanerait de l'échangeur du chemin Boundary et de l'autoroute 417. Dans le cas des trois autres, on considérait que la circulation viendrait de l'échangeur entre Vars et l'autoroute 417.

Alternative	Distance à parcourir pour arriver à l'autoroute 417	Utilisation des terres adjacentes			
		Résidentielle	Commerciale ou petites industries	Accès à des exploitations agricoles	Autre
1	10 km	21 - 30	15	11	Cimetière (peut-être)
2	11,5 km	30	15	21	0
3	7 km	10 - 17	11	16	Cimetière (peut-être)
4	6 km	16	11	16	0
5	4,5 km	0	10	0	0



RÉSUMÉ DES CONSIDÉRATIONS DU SITE DU CHEMIN BOUNDARY

- Les chemins (Boundary et Devine) qui constitueraient la principale route de transport pour la circulation des camions associée au site du CB sont désignés comme des artères rurales.
- La plupart des déplacements liés au site s'effectueraient en provenance de l'autoroute 417 ou vers celle-ci. En fonction du point d'accès au site, la distance entre l'autoroute 417 et la sortie 96 du chemin Boundary serait de 1,3 km à 3,5 km.
- Les terres le long de la route de transport sont principalement utilisées par des commerces ou de petites industries. Il y a environ neuf résidences le long de la route de transport et 14 commerces ou petites industries.

Site à privilégier

- Le site du chemin Boundary est privilégié en ce qui a trait à la circulation. Il possède les routes de transport les plus courtes le long des chemins qui sont désignés comme artères et qui assurent actuellement la circulation des camions qui se rendent dans les terres adjacentes à la route de transport; en général, ces terres sont occupées par des commerces ou de petites industries ou sont occupées par un nombre limité de résidences.

Évaluation des sites de rechange

- Au cours de la première et de la deuxième journée portes ouvertes, on a présenté au public les composantes et les critères proposés pour évaluer les répercussions possibles relatives aux différentes façons de mettre en œuvre le projet. On a ensuite invité le public à formuler ses commentaires et à attribuer un niveau d'importance pour chacun des critères et des composantes.
- De plus, on a recueilli les commentaires du public pendant la mise en œuvre du processus du cadre de référence ,comme décrit dans ce dernier, et on les a utilisés pour attribuer un niveau d'importance relative aux composantes.
- Le tableau ci-dessous indique chacune des composantes, qui sont classées en fonction de l'importance relative leur étant attribuée, et les résultats de l'évaluation comparative des sites de rechange.

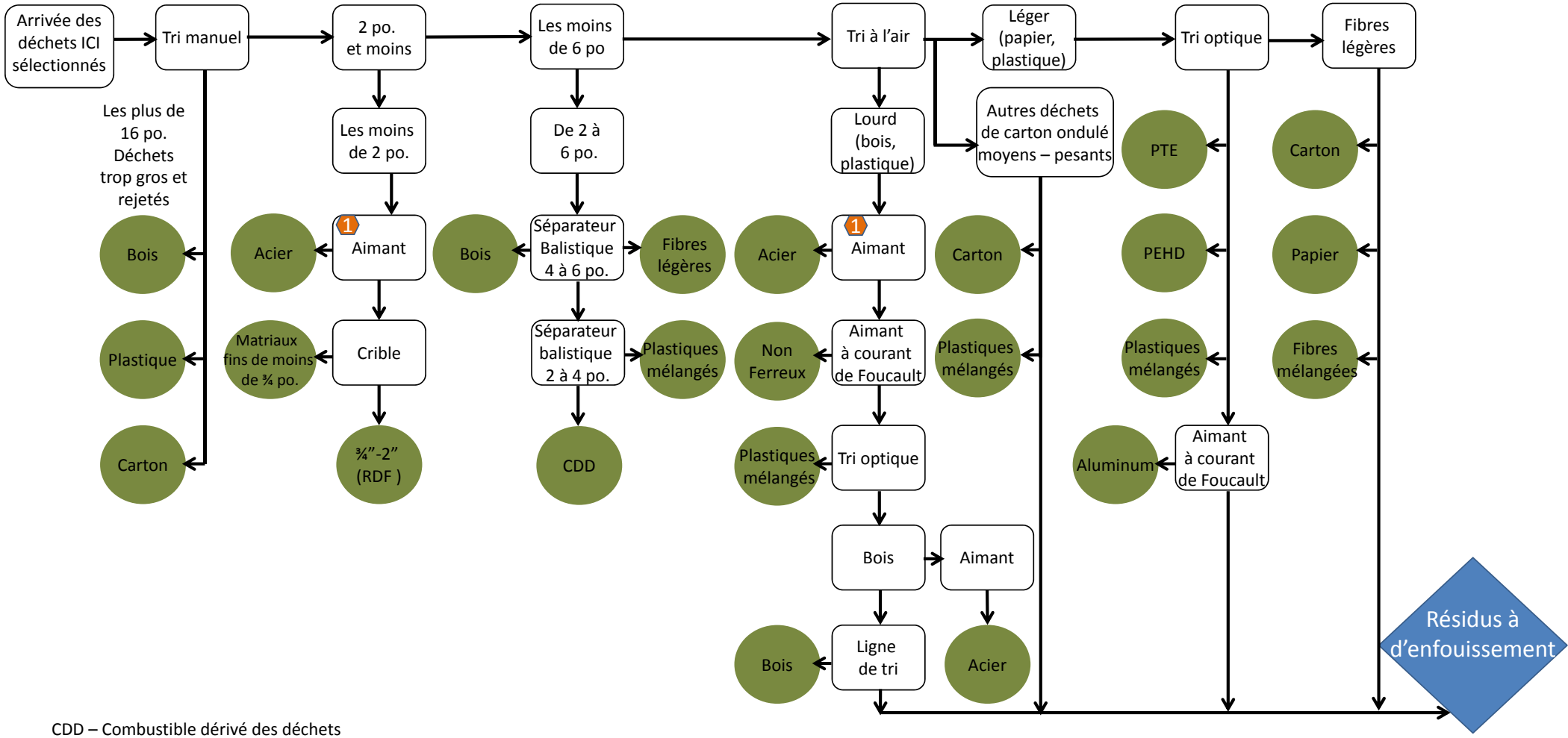
Composantes les plus importantes	
Composante	**Site privilégié**
Atmosphérique	Site du chemin Boundary
Géologie, hydrogéologie et géotechnique	Site du chemin Boundary
Utilisation des terres et socioéconomique	Site du chemin Boundary
Circulation	Site du chemin Boundary

Composantes importantes	
Composante	**Site privilégié**
Eaux de surface	Site du chemin Boundary
Biologie	Site du chemin Boundary
Agriculture	Site du chemin Boundary
Aménagement et exploitation	Site du chemin Boundary

Composantes les moins importantes	
Composante	**Site privilégié**
Ressources du patrimoine et de la culture	Site du chemin Boundary

Le site du chemin Boundary a été privilégié pour chacune des composantes environnementales du projet de CRRRC proposé.

Installation typique de récupération des déchets industriels et commerciaux [2]



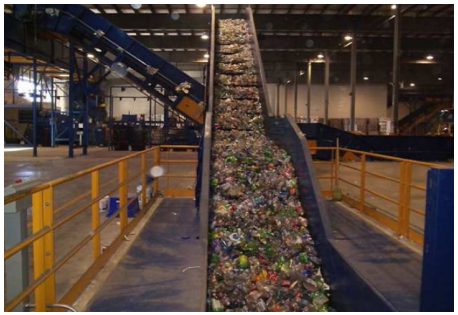
CDD – Combustible dérivé des déchets

Installation typique de récupération des déchets industriels et commerciaux

1 Aimant de fer

2 Centre de tri

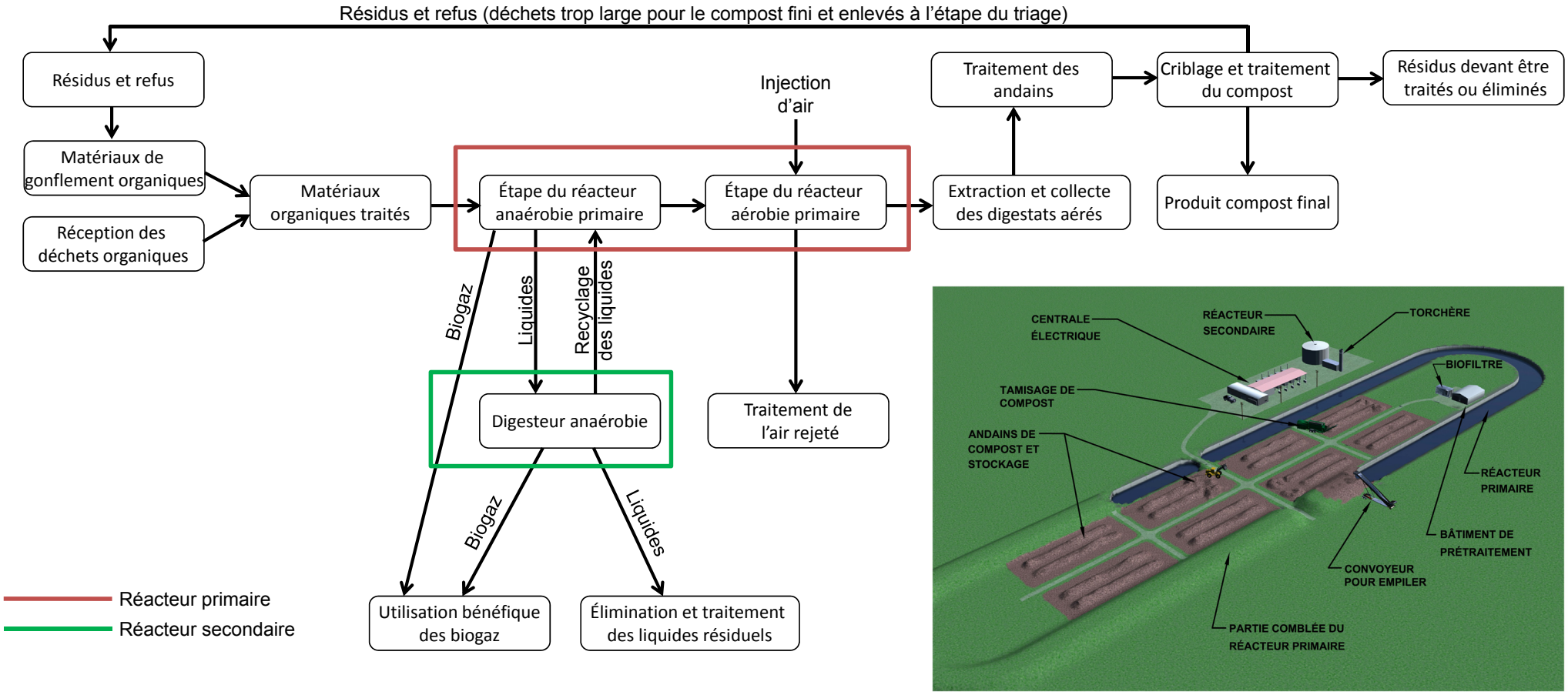
Matériel typique ayant été récupéré et mis en balles



Matériel récupéré

Presse à balles du matériel récupéré

Système de digestion anaérobie pour le traitement des déchets organiques



Installation moderne de récupération des déchets de construction et démolition (CD)

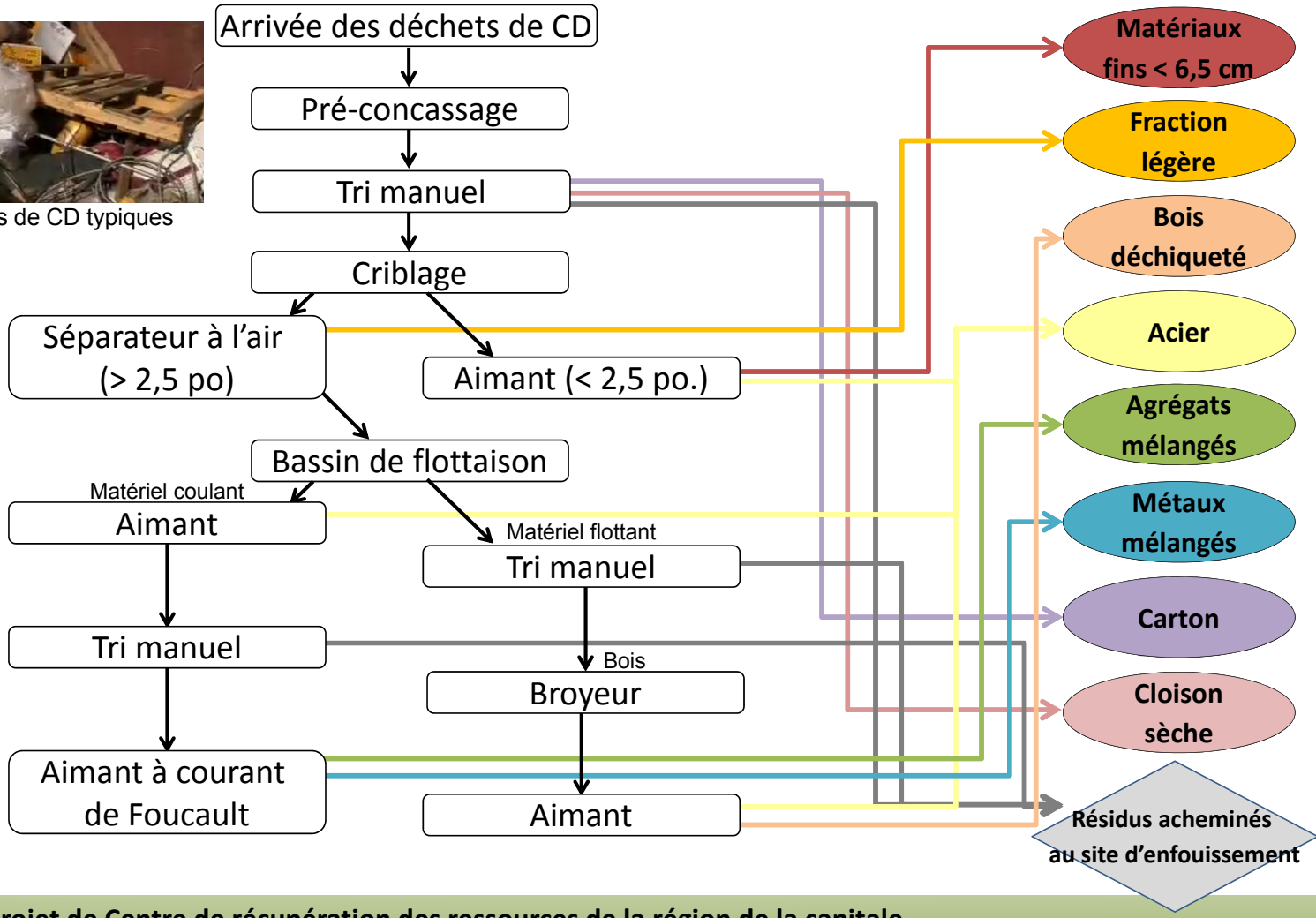
Installation moderne de récupération des déchets de CD

Déchets de CD typiques

Produits de bois broyé

Traitement des déchets de CD

Appareils d'épuration d'air



Composante du site d'enfouissement

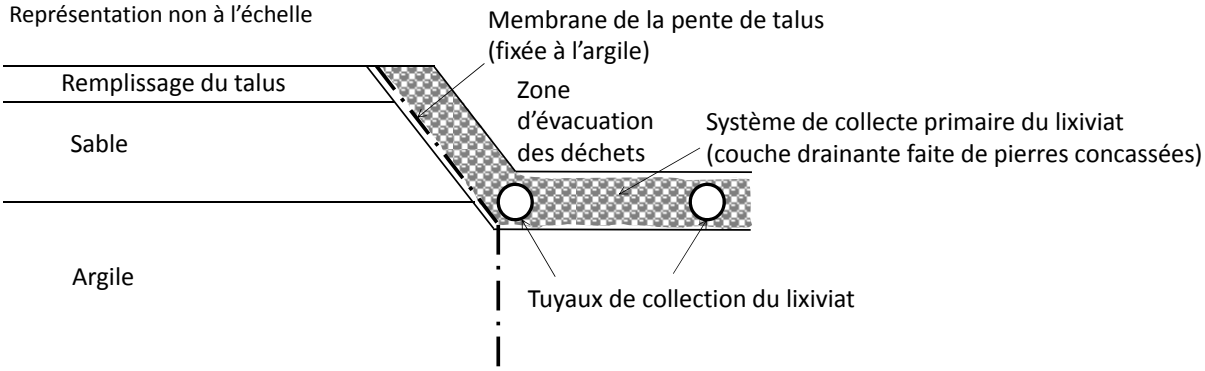
On s'attend à ce que la composante du site d'enfouissement du site du chemin Boundary nécessite ce qui suit :

- Une membrane simple sur les pentes de talus creusées dans le sol (p. ex. géomembrane, doublure d'argile géosynthétique (DAG) ou d'argile compactée) que l'on fixe à l'argile limoneuse abritée en dessous.
- Un système de collecte primaire du lixiviat situé à la base des cellules d'élimination des déchets et au pied des pentes de talus creusées dans le sol.
- Éventuellement l'ajout d'une membrane simple ou d'une membrane fait d'un seul matériau composite au pied des cellules d'élimination des déchets ou celui d'un élément vertical isolateur autour du périmètre du site d'enfouissement.

Propositions de systèmes de confinement de haute technologie pour le site d'enfouissement

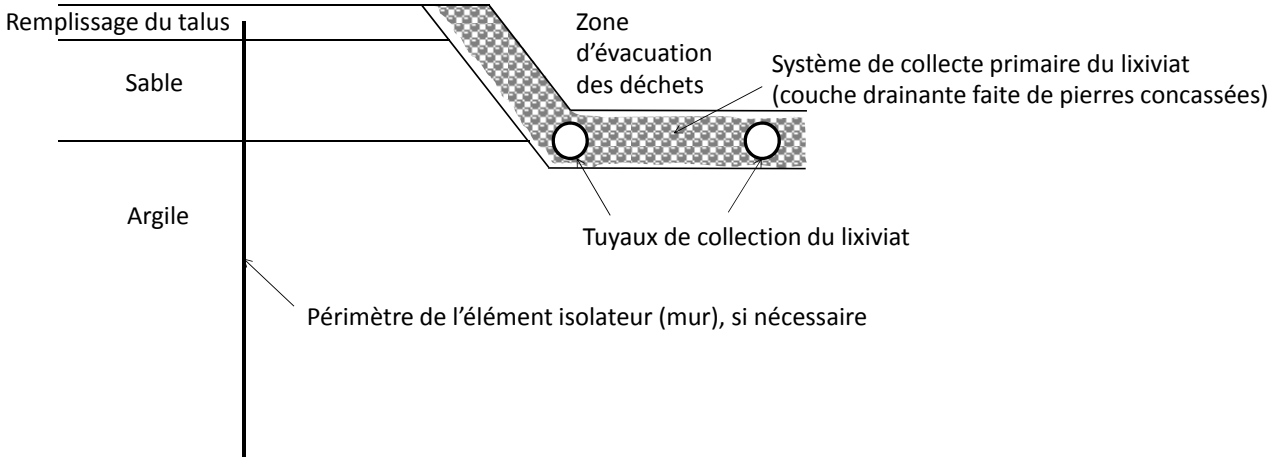
Proposition n° 1

Représentation non à l'échelle



Proposition n° 2

Représentation non à l'échelle



Bénéfices éventuels liés au projet de CRRRC

Parmi les avantages que pourraient engendrer le CRRRC, mentionnons ceux-ci :

- Un développement industriel et commercial vert se chiffrant à plusieurs millions de dollars.
- Une installation de récupération et de réacheminement des déchets avant-gardiste.
- Des recettes fiscales accrues pour la municipalité.
- La création d'emplois locaux et l'achat de services locaux pendant la construction, l'exploitation et après la fermeture.
- La possibilité que se développent de nouvelles entreprises associées aux matières et aux produits récupérés par le CRRRC.
- Un ensemble d'avantages offerts à la collectivité d'accueil et un plan de protection de la valeur des propriétés.
- Un centre d'information local pour la gestion des déchets intégrée et responsable.
- Une installation de recyclage qui réduira les rejets dans les sites d'enfouissement et augmentera les taux de détournement de matériaux industriels, commerciaux et institutionnels (ICI), ce qui procurera des avantages en matière d'environnement à la région de la capitale.

Prochaines étapes et échéancier

À la suite de cette journée portes ouvertes n° 3, Taggart Miller prévoit ce qui suit :

- Poursuivre le programme de forage sur le site du chemin Boundary au cours de l'hiver et de l'été 2013.
- Mener à bien les autres études sur l'environnement du site du chemin Boundary, comme décrit dans le cadre de référence approuvé.
- Préparer les propositions de développement des sites de rechange au site du CB.
- Tenir la journée portes ouvertes n° 4 pour recueillir des commentaires sur les propositions de développement du site privilégié en avril 2013.

De nombreuses possibilités s'offrent à vous pour participer et exprimer votre opinion.

- Remplir la fiche de commentaires qui vous a été remise à la troisième journée portes ouvertes.
- Demander la tenue d'une réunion ou des renseignements supplémentaires.
- Consulter le site Web **CRRRC.ca** pour obtenir des renseignements et formuler des commentaires.

Responsable du projet
Monsieur Hubert Bourque, directeur de projet
a/s Taggart Miller Environmental Services
225, rue Metcalfe, bureau 708
Ottawa ON K2P 1P9
Téléphone : 613-454-5580
Télécopieur : 613-454-5581
Courriel : hjbourque@crrrc.ca

Appendix A-10

Bilingual Comment Sheet

CRRRC Comment Sheet:

Open House #3

February 25 & 27, 2013

Name **Address**

Email **Phone**

Do you have any comments on the comparative evaluation used to determine the preferred site for the Capital Region Resource Recovery Centre (CRRRC) facility? If so, please elaborate.

(Please use the back of this comment sheet for additional comments)

Under the Freedom of Information and Protection of Privacy Act and the EAA, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.

If you do not have time to submit your comment sheet this evening, please email or mail your comments to:
Williamson Consulting Inc. P.O. Box 14556, 2954 St. Joseph Blvd., Ottawa, ON K1C 1J0
Email: howard@williamsonconsulting.ca

For additional information about the project see the project website: www.CRRRC.ca

Fiche de commentaires au CRRRC
Portes ouvertes n° 3
Les 25 et 27 février 2013

Nom **Adresse**
Courriel **Téléphone**

Avez-vous des commentaires au sujet l'évaluation comparative employée pour déterminer l'emplacement privilégié pour le Centre de récupération des ressources de la région de la capitale (CRRRC)? Si c'est le cas, veuillez préciser.

(Veuillez vous servir du verso de cette fiche pour y inscrire d'autres commentaires.)

En vertu de la *Loi sur l'accès à l'information et la protection de la vie privée* et la *Loi sur les évaluations environnementales*, sauf indication contraire dans la soumission, tout renseignement personnel, comme le nom, l'adresse, le numéro de téléphone et l'emplacement de votre propriété, mentionné dans une soumission fera partie des archives publiques relatives au dossier et mis à la disposition de quiconque en fait la demande.

Si vous n'avez pas le temps de présenter votre fiche de commentaires ce soir,
veuillez faire parvenir vos commentaires par la poste ou par courriel à :
Williamson Consulting inc. C. P. 14556, 2954, boul. Saint-Joseph, Ottawa (Ontario) K1C 1J0
Courriel : howard@williamsonconsulting.ca

Pour de plus amples renseignements sur le projet, veuillez consulter le site Web du projet : http://www.crrrc.ca/index_FR.htm

Appendix A-11

Bilingual Summary Report of the Comparative Evaluation of Alternative Sites

February 2013

COMPARATIVE EVALUATION OF ALTERNATIVE SITES – ENVIRONMENTAL ASSESSMENT OF THE PROPOSED CAPITAL REGION RESOURCE RECOVERY CENTRE

SUMMARY

TAGGART GROUP OF COMPANIES

THE MILLER GROUP

1.0 INTRODUCTION

The Capital Region Resource Recovery Centre (CRRRC) is a new integrated waste management facility proposed by Taggart Miller Environmental Services (Taggart Miller). The CRRRC, if approved, would provide facilities and capacity for recovery of resources and diversion of materials from disposal that are generated by the Industrial, Commercial and Institutional (IC&I) and Construction and Demolition (C&D) sectors in Ottawa and eastern Ontario, as well as landfill disposal capacity for material that is not diverted. The facility would primarily serve Ottawa and secondarily portions of eastern Ontario.

In order to proceed, this project first requires approval under the Ontario *Environmental Assessment Act*, followed by other provincial and municipal approvals. The first requirement of the environmental assessment (EA) process is approval of a Terms of Reference (TOR), which provides the framework under which the EA is to be completed. The TOR for this project was approved by the Minister of Environment on December 17, 2012.

Taggart Miller identified and secured two potential Sites for development of the proposed project, as shown in the figure below:

One Site - the North Russell Road (NRR) Site - is a 193 hectare (476 acre) property located in the northwest part of the Township of Russell, about five kilometres south of Provincial Highway 417 between the Boundary Road and Vars exits.

The second Site - the Boundary Road (BR) Site - is a 175 hectare (430 acre) property located in the east part of the City of Ottawa just southeast of the Highway 417/Boundary Road interchange.

The first step in the EA was a comparative evaluation of the two Alternative Sites to identify the preferred site for the CRRRC project. The evaluation has been carried out using the methodology in the approved TOR. The comparison considered nine environmental components, each having indicators and a set of data sources to be used to consider the potential effects of the project on the associated environment.

2.0 COMPARATIVE EVALUATIONS

2.1 Atmospheric Environment

The atmospheric component compared the Alternative Sites using the following criterion and indicator:

- Criterion: Which site is preferred regarding potential effects due to air quality and noise?
- Indicator: The number, type and location of off-Site receptors in the Site-vicinity (within 500 m of the Site boundary).

The data sources used included aerial photographic mapping and field reconnaissance, land-use and zoning maps and consultation with Russell Township and the City of Ottawa (as required).

The Ontario Ministry of the Environment (MOE) considers potential receptors to be “sensitive receptors”, where sensitive receptors are locations such as residential dwellings, childcare facilities, hospitals, hotels, campsites and places of worship.

Points of reception (PORs) located closest to the Undertaking have the greatest potential to receive air quality and noise impacts.

North Russell Road Site: Twenty-five (25) sensitive receptors have been identified within the North Russell Road Site-vicinity. Of these, 13 are located adjacent to the property line.

Boundary Road Site: Four (4) sensitive receptors have been identified within the Boundary Road Site-vicinity. Of these, only one is directly adjacent to the property line.

Preferred Site for Atmospheric Component: The Boundary Road Site is preferred for both air and noise aspects of the atmospheric environment.

2.2 Geology, Hydrogeology & Geotechnical Environment

The geology, hydrogeology & geotechnical component compared the Alternative Sites using the following criterion and indicators:

- Criterion: Which Site is preferred for protection of groundwater?
- Indicators:
  - Geological setting;

- Type and thickness of any natural on-Site attenuation layer;
- Presence and quality of groundwater resources on-Site and in Site-vicinity; and
- Interpreted direction of vertical groundwater flow on-Site and in Site-vicinity, i.e., area of groundwater recharge, transitional flow, or groundwater discharge.

The data sources used were published geological, hydrogeological and geotechnical maps and reports including applicable source water protections plans and related studies/reports; municipal Official Plans, specifically any groundwater protection zones, recharge areas, etc.; Ministry of the Environment (MOE) water well records and determination of water well users in the area (using topographic maps, aerial photos and field reconnaissance); and findings of on-Site testing completed for this project or otherwise available to confirm/compare information.

North Russell Road Site: The portion of the NRR Site west of Eadie Road is located on a local bedrock high with a soil cover of completely weathered shale or glacial till typically less than 2m thick, underlain by a variable thickness of Queenston Formation shale bedrock. To the east of Eadie Road, the bedrock surface declines and the soil cover increases to a significant thickness of silty clay and glacial till soil. Also, about half way across the part of the Site east of Eadie Road the shale was not encountered and the bedrock consists of Carlsbad Formation limestone and shale. The horizontal groundwater flow direction in the bedrock is predominantly towards the east. The vertical groundwater gradients are indicated to be generally downward; the NRR site is located within a large regional groundwater recharge area.

The on-Site natural attenuation (or containment) layer for vertical groundwater flow is the shallow portion of the Queenston shale bedrock. The shale is indicated to have an overall low hydraulic conductivity; however there are higher permeability zones in some areas of the upper shale due to fracturing and weathering. Groundwater quality is relatively fresh in the upper bedrock, but deteriorates with depth. Water supply in the area is mostly from drilled wells completed in bedrock. In the unlikely event of an unmitigated leachate release from the project's landfill component, the leachate-impacted groundwater would enter the bedrock and migrate downward and then easterly.

Boundary Road Site: The BR site is underlain by a variable thickness of silty sand up to about 1.5 m thick, followed by an extensive, about 30 m thick deposit of clay soil. A variable presence of silty sand seams have been noted within the upper 5 m of the clay deposit. The clay is underlain by glacial till and then shale and limestone bedrock of the Carlsbad Formation. The direction of horizontal groundwater flow in all soil types and the upper bedrock is towards the east. The vertical groundwater gradients are weakly downward to absent; the clay deposit restricts downward movement of water to the till and bedrock, and the BR Site is not within a groundwater recharge area.

The on-Site natural attenuation layer for vertical groundwater movement is the thick, low permeability clay deposit. Groundwater quality in the area is poor and deteriorates even more with depth; water supply in the area around the Site is obtained from shallow dug wells. In the unlikely event of an unmitigated leachate release from the project's landfill component, the leachate-impacted groundwater would migrate primarily through the surficial silty sand layer towards the east.

Preferred Site for Geology, Hydrogeology & Geotechnical Component: The Boundary Road Site is preferred for all aspects of this component.

2.3 Surface Water Environment

The surface water component compared the Alternative Sites using the following criterion and indicators:

- Criterion: Which site is preferred for protection of surface water quality?
- Indicators:
  - Number of existing surface water outlet points;
  - Distance to nearest continuously flowing water course; and
  - Characteristics of downstream surface water system and usage.

The data sources used were topographic maps, air photos, discussions with municipalities and conservation authorities, published water quality and flow information, site reconnaissance, and surface water flow and water quality monitoring stations.

North Russell Road Site: The NRR Site is located within the Castor River subwatershed. Existing drainage on the NRR Site is conveyed by ditches to four (4) intermittently flowing Municipal Drains via six (6) drainage outlet points from the Site. The closest continuously flowing watercourse that receives drainage from the NRR Site is the Marshall Seguin Municipal Drain to the east; it is located 2 km map distance from the Site, but actually a streamflow distance of 4.9 km from the Site via the Fournier Municipal Drain. The water quality in the Castor River, and in ditches in the area of the Site, is typical of eastern Ontario, with elevated phosphorous and several metals. Three communities discharge treated wastewater into the Castor River, and one community, Casselman, draws surface water for water supply just downstream of the confluence of the Castor and South Nation Rivers.

Boundary Road Site: The BR Site is located in the Bear Brook subwatershed. Existing drainage on the BR Site is conveyed by ditches from three (3) outlet points to three (3) intermittently flowing Municipal Drains which combine east of the Site at the start of Shaw's Creek. The closest continuously flowing watercourse that receives drainage from the BR Site is Shaw's Creek to the east; it is located 1.6 km map distance from the Site, but actually streamflow distances of 2.1 and 2.2 km from the Site via the Frank Johnston Municipal Drain and the Simpson Municipal Drain, respectively. The water quality in Bear Brook, and in ditches in the area of the Site, is typical of eastern Ontario, with elevated phosphorous and several metals. There are no communities that discharge treated wastewater or draw surface water for water supply from Bear Brook Creek.

Preferred Site for Surface Water Component: The BR site is preferred for 2 of the 3 indicators, while the NRR Site is preferred in terms of distance to the nearest continuously flowing watercourse. Overall, the Boundary Road Site is preferred for this criterion.

2.4 Biology Environment

The biology component compared the Sites using the following criterion and indicators:

- Criterion: Which site is preferred for protection of terrestrial and aquatic biological systems?
- Indicator: Amount of, quality of and impact on biological systems on-Site, including protected biological systems. Specifically including the total impact on: Class 1 to 3 wetlands; Life science Areas of Natural and

Scientific Interest (ANSIs); Wooded areas; Species at risk and endangered species and associated habitat; and water bodies and water courses.

The wetlands portion of the assessment was based more on the current classification of "provincially significant" versus "not provincially significant", which replaced the Class 1 to 7 rankings.

The data sources used were site reconnaissance and preliminary field surveys, a variety of published data sources as listed in the approved TOR, and aerial photography. A BioBlitz (Hanrahan et al. 2011), which is a 24-hour survey of the biological diversity of a selected area, was conducted in 2011 on parts of the NRR Site and the Site-vicinity; as part of the desktop assessment, the BioBlitz report was used as background information (Hanrahan et al. 2011).

North Russell Road Site: The preliminary studies provided the following:

- There are no Provincially Significant Wetlands (PSWs) Areas of Natural and Scientific Interest, or significant woodlots on the NRR Site;
- Vegetation communities on the NRR Site include meadows, pasture and hayfields, forest, swamp and thicket areas. A total of 155 species of plants have been observed on the NRR Site during field surveys completed to date; all vegetation communities observed on the NRR Site are common and widespread in the region;
- Seven insect, four herpetile, 34 bird and 10 mammal species were observed during the field surveys; all species observed on the NRR Site to date are common and widespread in the region;
- Species at Risk (SAR): Eleven SAR (eight provincially listed SAR, two that will be assessed in January 2013 and one federally threatened species) were identified, through the desktop screening and preliminary habitat assessment, with some potential (ranging from Low-Moderate to High potential) to occur on the NRR Site. None of these species were observed on the NRR Site during field surveys to date; and
- There are five (5) seasonal surface water features and two (2) drainage ditches (all of which have intermittent flow), two (2) dug agricultural ponds, and a flooded quarry on the Site. The surface water features on the NRR Site are not coldwater, so not as sensitive as coldwater systems.

Boundary Road Site:

The preliminary studies provided the following:

- There are no Provincially Significant Wetlands (PSWs) Areas of Natural and Scientific Interest, or Significant Woodlots on the NRR Site;
- Vegetation communities on the BR Site include immature deciduous forest and swamp, deciduous thickets and thicket swamp, plantation, agricultural fields and small residential properties. A total of 115 species of plants have been observed on the BR Site during field surveys to date. Flooding occurs throughout the BR Site during periods of high water (i.e., storm events and spring freshet), and the soil remains saturated in several areas for much of the year. A large proportion of the BR Site consists of mineral thicket swamp;
- Nine insect, two herpetile, 32 bird, and 10 mammal species have been observed during all field surveys to date. The wildlife community on the BR Site appears, to date, to be typical of the region, and consistent with the observed habitats;

- Species at Risk (SAR): Seven SAR (five provincially listed SAR, one that will be assessed in January 2013, and one federally threatened species) were identified, through the desktop screening and preliminary habitat assessment, with some potential (ranging from Low-Moderate to Moderate potential) to occur on the BR Site. None of these species were observed on the NRR Site during field surveys in 2012; and
- Three (3) surface water features were identified on the BR Site: an agricultural ditch in the northern portion, an old farm ditch in the southern portion, and the Simpson Municipal Drain in the north-central portion. All of these have intermittent flow and are not coldwater, so not as sensitive as coldwater systems.

Preferred Site for Biology Component: Based primarily on consideration of the potential for Species at Risk to be present on-Site or in the Site-vicinity, the Boundary Road Site is preferred for this component.

2.5 Land Use & Socio-economic Environment

The land use & socio-economic component compared the Alternative Sites using the following criteria and indicators:

- Criteria:
  - Which Site is more compatible with current and proposed planned future land uses in the Site-vicinity?
  - Which Site is preferred for the protection of mineral aggregate resources?
- Indicators for the first criterion:
  - Current land use within 1,000 metres of the Site; and
  - Certain and probable planned future land use within 1,000 metres of the Site.
- Indicator for the second criterion: Known and probable type and quality of mineral aggregate resources on Site and within 500 metres.

The data sources used for the first criterion were aerial photographic and topographic mapping and field reconnaissance, published data on public recreational facilities/activities, provincial documents as listed in the approved TOR, discussions with municipalities and institutions, and Municipal Official Plans and Zoning. The data sources used for the second criterion were published reports as listed in the approved TOR, the existing quarry aggregate license, Municipal Official Plans and Zoning and findings of on-Site investigations completed for this project or otherwise available.

North Russell Road Site: The NRR Site is currently zoned Agricultural and Aggregate Extraction. Land use in the area is mainly various forms of agriculture with some residential lots fronting on the road system, and one institutional use (cemetery). The United Counties of Prescott-Russell do not anticipate any significant designation changes in the area of the Site, nor are there any active or expected zoning or site plan applications. There is a licenced shale quarry on a portion of the Site; it is likely this shale deposit extends beyond the licensed quarry at the NRR Site limits, mainly to the north, south and west. There are no other known or probable aggregate resources on the Site or within 500 m.

Boundary Road Site: The BR Site is currently zoned General Rural and Rural Heavy Industrial. Land use in the area is commercial/light industrial in the Industrial Park to the west, limited residential development, agricultural to the east and vacant lands. From discussion with the City, it was determined that the City is currently

undertaking a review of Agricultural lands as well as Mineral-Aggregate Resources throughout the City; also, no zoning or site plan applications have been applied for with the City in the Site-vicinity of the BR Site. There are no known or probable aggregate resources on the Site or within 500 m.

Preferred Site for the Land Use & Socio-economic Component: The Boundary Road Site is preferred for all aspects of this component.

2.6 Culture & Heritage Resources Environment

The cultural & heritage resources component compared the Alternative Sites using the following criterion and indicators:

- Criterion: Which site is preferred for the protection of archaeological and heritage resources, and cultural heritage landscapes?
- Indicators:
  - Number and significance of known archaeological and heritage features, and cultural heritage landscapes on-Site; and
  - Area of on-Site lands with moderate to high potential for undiscovered archaeological sites.

The data sources used were published data sources as listed in the approved TOR, Site reconnaissance, Stage 1 archaeological assessments, a Cultural Heritage Overview assessment including air photo analysis to determine any pre-1973 resources as per Ministry of Tourism, Culture and Sports (MTCS) requirements for the identification of any structures older than 40 years, and applicable provincial guidance documents.

North Russell Road Site: There are no registered archaeological sites within the study area. Based on the 2011 *Standards and Guidelines for Consulting Archaeologists*, approximately 90% of on-Site lands are of medium to high archaeological potential, with the remaining 10% having low or no archaeological potential; the lands having potential will require a Stage 2 archaeological assessment. The NRR Site study area was found to have 29 identified and potential cultural heritage resources (identified as pre-1973 structures as per MTCS guidelines), including 20 potential cultural heritage landscapes (farmsteads with multiple buildings), a potential industrial heritage site (the quarry), a cemetery, a former school and a former church. Because of these features, further assessment is required to determine if the area as a whole is potentially a larger scale cultural heritage landscape unit.

Boundary Road Site: There are no registered archaeological sites within study area. All of the on-Site lands contain no or low archaeological potential; no additional archaeology study is required. The BR Site study area was found to have four potential cultural heritage resources (identified as pre-1973 structures as per MTCS guidelines) were identified.

Preferred Site for Cultural & Heritage Resources Component: Based on the potential for these resources to be present, the Boundary Road Site is preferred for all aspects of this component.

2.7 Agriculture Environment

The agricultural component compared the Alternate Sites using the following criterion and indicators:

- Criterion: Which site is preferred regarding potential for effects on agriculture?
- Indicators:
  - Percentage of on-Site lands with soil capability classes 1 to 3;
  - Amount, type(s) and quality of on-Site improvements for agricultural purposes (i.e. structures, tile drainage);
  - Percentage of on-site land being used for agricultural purposes; and
  - Type(s) and extent of agricultural operations on-Site and within 500 m of the Site boundary, i.e. organic, cash crop, livestock.

The data sources used were as listed in the approved TOR.

North Russell Road Site: The preliminary studies provided the following:

- Based on a preliminary agricultural assessment, 20.9 % of on-Site land zoned Agricultural between North Russell Road and Eadie Road is Class 1-3 agriculture lands (Class 3), while the remainder are considered to be Class 4. The lands east of Eadie Road are zoned Aggregate Extraction;
- There are no on-Site agricultural improvements;
- Only 12.6 % of the lands at the NRR Site are in active agricultural production (croplands); and
- Agriculture is not the predominant use on the NRR Site and cropland makes up 40.5 % of the lands in the immediate area (within 500 m).

Boundary Road Site: The preliminary studies provided the following:

- None of the land area on the BR Site is Class 1-3 lands;
- There are no on-Site agricultural improvements on the subject lands;
- Only 16.3 % of the lands at the BR Site are in active agricultural production (croplands); and
- Agriculture is not the predominant use on the BR Site and cropland makes up only 14.5 % of the lands in the immediate area (within 500 m).

Preferred Site for Agricultural Component: Considering the agricultural soil classifications and the off-Site cropland uses within 500 m, the Boundary Road Site is preferred for this component.

2.8 Design & Operations Environment

The design & operations component compared the Alternative Sites using the following criterion and indicator:

- Criterion: Which site is preferred regarding the anticipated amount of engineering required to assure Ministry of the Environment (MOE) groundwater quality criteria are met at the property boundary?
- Indicator: Degree of engineered containment expected to be required for on-Site systems.

The data sources used were Ontario Regulations 232/98 and 268/11, published hydrogeological and geotechnical maps and reports, findings of on-Site testing completed for this project or otherwise available to confirm/compare information, preliminary determination of on-Site engineered leachate management system requirements and review of previous knowledge or experience for designs in similar geological settings in Ontario.

North Russell Road Site: Even though the shale bedrock underlying the NRR Site is indicated to generally have a relatively low hydraulic conductivity, because the site is underlain by bedrock, the landfill portion and any leachate treatment or holding ponds is expected to require an engineered groundwater protection system. It is anticipated that for the landfill, the system would be similar to the "Generic Design Option II" from the MOE Landfill Standards (i.e., double composite liner with primary and secondary leachate collection systems).

Boundary Road Site: The thick clay deposit that underlies the BR Site provides natural low hydraulic conductivity barrier. The landfill portion and any leachate treatment or holding ponds are expected to require:

- A single liner (because of the surface sand and/or upper weathered clay zone) on the excavated below-ground sideslopes (e.g., geomembrane, GCL or compacted clay) that is keyed into the underlying unweathered silty clay;
- A primary leachate collection system on the base and below-ground sideslopes of the waste disposal cells; and
- Possibly a single liner or single composite liner on the base of the waste disposal cells or ponds, or a vertical cut-off feature around the landfill perimeter. A perimeter cut-off would also replace a liner on the below-ground sideslopes of the waste cells.

Preferred Site for Design & Operations Component: The Boundary Road Site is preferred for this component.

2.9 Traffic Environment

The traffic component compared the Alternative Sites using the following criterion and indicators:

- Criterion: Which Site is preferred regarding potential effects from Site-related truck traffic?
- Indicators:
  - Proximity of Site to Highway interchange;
  - Characteristics of road network between Highway interchange and Site; and
  - Land use from Highway interchange to Site along the main haul route(s).

The data sources used were available road and intersection characteristics, and traffic count information on potential haul routes; historical traffic and collisions, if available; aerial photographic mapping and field reconnaissance; location and nature of potential receptors; and consultation with Russell Township and the City of Ottawa, as appropriate.

North Russell Road Site: Five main haul route alternatives to the NRR Site were examined. Two alternatives assumed the majority of Site-related traffic to originate from the Boundary Road/Highway 417 interchange, and three alternatives from the Vars/Highway 417 interchange. Four of the alternatives use existing roadways (a combination of rural arterials, rural collectors, and one secondary rural road- Eadie Road); the fifth alternative

involves the Vars interchange and construction of a new road for the project along an unopened road allowance. The travel distance along the road network for the first four alternative haul routes ranges from 6 to 10 km, with from 10 to 30 residences, 11 to 15 commercial uses and 11 to 21 farm accesses along the route. For two of these routes, there could also possibly be a cemetery, depending on the location of the Site access point. For the fifth alternative, the travel distance is 4.5 km, and there are no residential uses, no farm accesses, and 11 commercial uses along the route.

Boundary Road Site: The roads which would form the main haul route for the BR Site-related truck traffic from Highway 417, Boundary Road and possibly Devine Road, are classified as rural arterial roads. The Site access location from Highway 417 could correspond to a travel distance of about 1.3 to 3.5 km from Boundary Road Exit 96 depending on where site access is provided. Land uses along the haul route are mainly commercial/light industrial; approximately nine residences are along the haul route and 14 commercial/light industrial properties.

Preferred Site for Traffic Component: The Boundary Road Site is preferred.

3.0 RESULTS OF SITE COMPARISON

The Boundary Road Site is preferred for all nine of the environmental components studied in the comparative evaluation.

As such, the Boundary Road site is the overall preferred site for the CRRRC project. The next phases of the EA will continue on this Site, following the methodology in the approved TOR.

Février 2013

ÉVALUATION COMPARATIVE DES SITES DE RECHANGE – ÉVALUATION ENVIRONNEMENTALE DU PROJET DE CENTRE DE RÉCUPÉRATION DES RESSOURCES DE LA RÉGION DE LA CAPITALE

PROJET DE RÉSUMÉ

TAGGART GROUP OF COMPANIES

THE MILLER GROUP

1.0 INTRODUCTION

Le Centre de récupération des ressources de la région de la capitale (CRRRC) est une nouvelle installation de gestion intégrée des déchets proposée par Taggart Miller Environmental Services (Taggart Miller). Le CRRRC, si il est approuvé, fournirait des installations et de la capacité requises pour récupérer les ressources et réacheminer les matériaux actuellement éliminés qui sont produits par les secteurs industriel, commercial et institutionnel (ICI) et par les secteurs de la construction et de la démolition (CD), à Ottawa et dans l'Est ontarien, ainsi qu'une capacité d'enfouissement pour les matériaux qui ne sont pas réacheminés. L'installation desservirait principalement Ottawa et secondairement des parties de l'Est ontarien.

Pour aller de l'avant, le projet exige d'abord l'approbation en vertu de la *Loi sur les évaluations environnementales de l'Ontario*, suivie par d'autres approbations provinciales et municipales. La première exigence du processus de l'évaluation environnementale (EE) est l'approbation d'un cadre de référence (CDR), qui fournit le cadre dans lequel l'EE devra être effectuée. Le CDR, pour ce projet, a été approuvé par le ministre de l'Environnement le 17 décembre 2012.

Taggart Miller a identifié et s'est procuré deux sites possibles pour l'élaboration du projet proposé, tel qu'il est indiqué dans la figure ci-dessous :

Un site – le site du chemin North Russell (CNR) – est une propriété de 193 hectares (476 acres) située entre la partie nord-ouest du canton de Russell, à environ cinq kilomètres au sud de l'autoroute 417 entre la sortie du chemin Boundary et celle menant à Vars.

Le deuxième site – le site du chemin Boundary (CB) – est une propriété de 175 hectares (430 acres) située dans la partie est de la ville d'Ottawa, immédiatement au sud-est de l'autoroute 417 et de l'échangeur du chemin Boundary.

La première étape dans l'EE était une évaluation comparative de deux sites de rechange afin de déterminer le site privilégié du projet du CRRRC. L'évaluation a été effectuée à l'aide de la méthodologie dans le CDR approuvé. Dans le cadre de la comparaison, on a considéré neuf composantes environnementales, chacune ayant des indicateurs et un ensemble de sources de données à utiliser pour considérer les effets éventuels du projet sur l'environnement connexe.

2.0 ÉVALUATIONS COMPARATIVES

2.1 Environnement atmosphérique

La composante atmosphérique compare les sites de rechange à l'aide du critère et de l'indicateur suivants:

- Critère: Quel site est privilégié lorsqu'on tient compte des effets sur la qualité de l'air et sur le bruit?
- Indicateur: Le nombre, le type et l'emplacement des récepteurs hors site situés à proximité (dans un rayon de 500 m des limites du site).

Les sources de données utilisées incluent la cartographie photographique aérienne et la reconnaissance terrestre, les cartes d'utilisation des terres et de zonage ainsi qu'une consultation avec des représentants du canton de Russell et la Ville d'Ottawa (au besoin).

Le ministère de l'Environnement de l'Ontario (MEO) considère des récepteurs potentiels étant des « récepteurs sensibles », où ces récepteurs sensibles sont des endroits tels que des habitations résidentielles, des garderies, des hôpitaux, des hôtels, des aires de camping et des lieux de culte.

Les points de réception (PDR) qui sont situés les plus près du site sont plus susceptibles de subir des répercussions de la qualité de l'air et du bruit.

Site du chemin North Russell: Vingt-cinq (25) récepteurs sensibles ont été recensés dans les environs du site du chemin North Russell. De ceux-ci, 13 sont situés à côté de la limite de la propriété.

Site du chemin Boundary: Quatre (4) récepteurs sensibles ont été recensés dans les environs du site du chemin Boundary. De ceux-ci, seulement un est directement adjacent à la limite de la propriété.

Site privilégié pour la composante atmosphérique: Le site du chemin Boundary est privilégié pour les aspects d'air et de bruit de l'environnement atmosphérique.

2.2 Environnement géologique, hydrogéologique et géotechnique

La composante géologique, hydrogéologique et géotechnique a permis de comparer les sites de rechange à l'aide du critère et des indicateurs suivants:

Critère: Quel site est privilégié pour la protection des eaux souterraines?

- Indicateurs:
  - Cadre géologique;
  - Type et épaisseur de couche d'atténuation naturelle du site;
  - Présence et qualité des ressources en eau souterraine sur le site et à proximité de celui-ci; et
  - Direction interprétée du débit vertical de l'eau souterraine sur le site et à proximité de celui-ci, c.-à-d., zone de recharge de l'eau souterraine, débit transitoire ou écoulement de l'eau souterraine.

Les sources de données utilisées étaient des cartes et des rapports géologiques, hydrogéologiques et géotechniques publiés, y compris des plans de protection applicables des sources d'eau de et les études ou les rapports connexes; des plans municipaux officiels, particulièrement toute zone de protection des eaux souterraines, zones d'alimentation, entre autres; les dossiers du ministère de l'Environnement (MEO) des puits d'eau et la détermination des utilisateurs des puits d'eau dans la région (à l'aide de cartes topographiques, de photos aériennes et de reconnaissance sur le terrain); les constations des essais sur place effectués pour ce projet ou autrement accessibles pour confirmer et comparer les renseignements.

Site du chemin North Russell: La portion du site CNR à l'ouest du chemin Eadie est située sur une assise rocheuse locale élevée avec une couverture de sol composée de schiste décomposé ou de till typiquement de moins de 2 m d'épaisseur qui repose sur une assise rocheuse de schiste de la formation de Queenston, dont l'épaisseur varie. À l'est du chemin Eadie, la surface de l'assise rocheuse est en déclin et la couverture du sol augmente avec une épaisseur considérable d'argile limoneuse et de till. De plus, à environ mi-chemin à travers la partie du site à l'est du chemin Eadie, on n'a pas trouvé de schiste et l'assise rocheuse est composée de calcaire et de schiste de la formation Carlsbad. La direction horizontale d'écoulement de l'eau souterraine dans l'assise rocheuse est principalement vers l'est. Les pentes verticales de l'eau souterraine sont généralement vers le bas; le site du CNR est situé dans une importante zone d'alimentation en eau souterraine.

La couche d'atténuation (ou de confinement) naturelle sur place pour le débit vertical de l'eau souterraine est la portion peu profonde de l'assise rocheuse schisteuse de formation Queenston. Le schiste a une faible conductivité hydraulique générale; cependant, il y a des zones de perméabilité plus élevées dans quelques zones dans le schiste supérieur en raison de fracturation et de décomposition. La qualité de l'eau souterraine est relativement douce dans l'assise rocheuse supérieure, mais se détériore en profondeur. L'alimentation en eau dans la région provient principalement des puits forés effectués dans l'assise rocheuse. Dans l'éventualité peu probable d'une libération non atténuée du lixiviat de la composante du site d'enfouissement du projet, les eaux souterraines contaminées par le lixiviat entreraient dans l'assise rocheuse et migreraient vers le bas, puis vers l'est.

Site du chemin Boundary: Le site CB repose sur une épaisseur variable de sable limoneux jusqu'à environ 1,5 m en épaisseur, suivie par un dépôt considérable de sol argileux d'environ 30 m en épaisseur. Une présence variable de sable limoneux semble avoir été notée dans les 5 m les plus élevés du dépôt d'argile. L'argile repose

d'abord sur du till, ensuite sur du schiste, puis sur une assise rocheuse calcaire de la formation Carlsbad. La direction du débit horizontale de l'eau souterraine dans tous les types de sol et dans l'assise rocheuse supérieure est vers l'est. Les gradients verticaux de l'eau souterraine sont de légèrement vers le bas à absentes; le dépôt d'argile limite le mouvement vers le bas de l'eau au till et à l'assise rocheuse et le site du CB ne se situe pas dans une zone d'alimentation en eau souterraine.

La couche d'atténuation naturelle du site pour le mouvement vertical de l'eau souterraine est le dépôt d'argile épais et à faible perméabilité. La qualité de l'eau souterraine dans la région est faible et se détériore davantage avec la profondeur; l'alimentation en eau dans la région autour du site est obtenue de puits creusés peu profonds. Dans l'éventualité peu probable d'une libération non atténuée du lixiviat de la composante du site d'enfouissement du projet, l'eau souterraine contaminée par le lixiviat migrerait principalement au travers la couche de sable limoneux superficielle vers l'est.

Site privilégié pour la composante géologique, hydrogéologique et géotechnique: Le site chemin Boundary est privilégié pour tous les aspects de cette composante.

2.3 Environnement de l'eau en surface

La composante de l'eau de surface a permis de comparer les sites de rechange à l'aide du critère et des indicateurs suivants:

- Critère: Quel site est privilégié lorsqu'on tient compte de la protection de la qualité de l'eau de surface?
- Indicateurs:
  - Nombre de points de prélèvement d'eaux existants;
  - Distance à parcourir pour arriver au cours d'eau à écoulement continu le plus près; et
  - Caractéristiques du régime des eaux de surface en aval et l'utilisation de celui-ci.

Les sources de données étaient des cartes topographiques, des photos aériennes, des discussions avec des représentants des municipalités et des responsables de la conservation, des renseignements publiés sur la quantité et le débit de l'eau, la reconnaissance du site et les stations de surveillance de la qualité et du débit de l'eau de surface.

Site chemin North Russell: Le site CNR est situé dans le sous-bassin versant de la rivière Castor. Le drainage existant sur le site CNR est effectué par des fossés qui acheminent l'eau vers quatre (4) drains municipaux à débit intermittent au moyen de six (6) sorties de système de drainage du site. Le cours d'eau à débit continu le plus près qui reçoit le drainage du site CNR est le drain municipal Marshall Seguin à l'est; il est situé à une distance graphique de 2 km du site, mais réellement à une distance d'écoulement fluvial de 4,9 km du site par le drain municipal Fournier. La qualité de l'eau dans la rivière Castor et dans les fossés de la région du site est typique de l'est ontarien, avec des niveaux élevés de phosphore et de plusieurs métaux. Trois collectivités rejettent des eaux usées traitées dans la rivière Castor et une collectivité, Casselman, puise ces eaux de surface pour son alimentation en eau en aval de la confluence des rivières Castor et South Nation.

Site chemin Boundary: Le site CB est situé dans le sous-bassin versant du ruisseau Bear. Le drainage existant au site CB est effectué par des fossés de trois (3) sorties à trois (3) drains municipaux intermittents qui se rejoignent à l'est du site au début du ruisseau Shaw. Le cours d'eau à débit continu le plus près qui reçoit le

drainage du site CB est le ruisseau Shaw à l'est; il est situé à une distance directe de 1,6 km du site, mais réellement à des distances d'écoulement fluvial de 2,1 km et de 2,2 km du site par le drain municipal Frank Johnston et le drain municipal Simpson, respectivement. La qualité de l'eau dans le ruisseau Bear et dans les fossés de la région du site est typique de l'Est ontarien, avec des niveaux élevés de phosphore et de plusieurs métaux. Il n'y a aucune collectivité qui rejette des eaux usées traitées ou qui récupèrent de l'eau de surface pour l'alimentation en eau dans le ruisseau Bear.

Site privilégié pour la composante de l'eau en surface: Le site CB est privilégié pour 2 des 3 indicateurs, tandis que le site CNR est privilégié pour ce qui est de la distance au cours d'eau à débit continu le plus près. Dans l'ensemble, le site du chemin Boundary est le site privilégié pour ce critère.

2.4 Environnement biologique

La composante biologique a permis de comparer les sites à l'aide du critère et des indicateurs suivants :

- Critère: Quel site est privilégié lorsqu'on tient compte de la protection des systèmes biologiques aquatiques et terrestres?
- Indicateur: Quantité, qualité et les effets sur les systèmes biologiques sur le site, incluant les systèmes biologiques protégés. Comprend précisément les effets globaux sur les zones humides de classes 1 à 3, les zones d'intérêt naturel et scientifique liées à la science biologique, les boisés, les espèces en péril et leurs habitats, de même que les étendues d'eau et les cours d'eau.

La portion de terres humides de l'évaluation était basée plutôt sur la classification actuelle « d'importance provinciale » par rapport à « aucune importance provinciale », qui a remplacé les classements 1 à 7.

Les sources de données utilisées étaient la reconnaissance des terrains et des enquêtes préliminaires sur le terrain, une variété de sources de données publiées telles qu'elles ont été énumérées dans le CDR approuvé et la photographie aérienne. Un « BioBlitz » (Hanrahan *et coll*. 2011), une enquête de 24 heures de la diversité biologique d'une zone sélectionnée, a été effectuée en 2011 sur des parties du site CNR et les environs du site; dans le cadre de l'évaluation de bureau, le rapport BioBlitz a été utilisé comme information de fond. (Hanrahan *et coll.* 2011).

Site du chemin North Russell: Les études préliminaires ont fourni ce qui suit :

- Il n'y a aucune zone de terres humides d'importance provinciale (THIP) d'intérêt naturel ou scientifique ou de boisés importants sur le site CNR;
- Les communautés de végétation sur le site CNR comprennent des prés, des pâturages et des prairies de fauche ainsi que des zones de forêt, de marécages et de fourrés. On a observé un total de 155 espèces de plantes sur le site CNR dans le cadre d'enquêtes sur le terrain; toutes les communautés de végétation observées sur le site CNR sont communes et répandues dans la région;
- Sept espèces d'insectes, quatre espèces de reptiles et d'amphibiens, 34 espèces d'oiseaux et 10 espèces de mammifères ont été observées durant les enquêtes sur le terrain; toutes les espèces observées sur le site CNR jusqu'à présent sont communes et répandues dans la région;
- Les espèces en péril (EEP): Onze EEP (huit EEP sur la liste provinciale, deux qui seront évaluées en 2013 et une espèce menacée à l'échelle fédérale) ont été recensées dans le cadre de l'évaluation de bureau et de

l'évaluation préliminaire de l'habitat avec un potentiel (allant d'un potentiel de faible-modéré à élevé) de se produire sur le site du CNR. Aucune de ces espèces n'a été observée sur le site CNR durant les enquêtes sur le terrain jusqu'à présent; et

- Il y a cinq (5) étendues d'eau de surface saisonnières et deux (2) fossés de drainage (dont toutes ont un débit intermittent), deux (2) bassins agricoles creusés et une carrière inondée sur le site. Les étendues d'eau de surface sur le site CNR ne sont pas constituées d'eau froide et n'ont pas la sensibilité des systèmes d'eau froide.

Site du chemin Boundary:

Les études préliminaires ont fourni ce qui suit:

- Il n'y a aucune zone de terres humides d'importance provinciale (THIP) d'intérêt naturel ou scientifique ou des boisés importants sur le site du CNR;
- Les communautés de végétation sur le site CB comprennent des jeunes forêts et marécages décidus, des fourrés et des fourrés marécageux décidus, des plantations, des champs agricoles et de petites propriétés résidentielles. Un total de 115 espèces de plantes a été observé sur le site CB durant des enquêtes sur le terrain jusqu'à présent. Des inondations ont lieu dans le site CB durant des périodes de niveaux d'eau élevés (c.-à-d., événements pluvio-hydrologiques et la crue printanière) et le sol demeure saturé dans plusieurs régions pendant une grande partie de l'année. Une grande partie du site CB consiste en des fourrés marécageux minéraux;
- Neuf espèces d'insectes, 2 espèces de reptiles et d'amphibiens, 32 espèces d'oiseaux et 10 espèces de mammifères ont été observées durant les enquêtes sur le terrain jusqu'à présent. La communauté de faune sur le site CB semble être typique de la région et semble, jusqu'à maintenant, correspondre aux habitats observés;
- Les espèces en péril (EEP): Sept EEP (cinq EEP sur la liste provinciale, une qui sera évaluée en janvier 2013 et une espèce menacée à l'échelle fédérale) ont été recensées dans le cadre de l'évaluation de bureau et de l'évaluation préliminaire de l'habitat avec un potentiel (allant d'un potentiel de faible-modéré à modéré) de se produire sur le site CB. Aucune de ces espèces n'a été observée sur le site CNR durant les enquêtes sur le terrain en 2012; et
- Trois (3) étendues d'eau de surface ont été identifiées sur le site CB: un fossé agricole dans la partie nord, un vieux fossé agricole dans la partie sud et le drain municipal Simpson dans la partie nord-centrale. Toutes ces étendues d'eau ont un débit intermittent et ne sont pas constituées d'eau froide et n'ont pas la sensibilité des systèmes d'eau froide.

Site privilégié pour la composante biologique: Principalement basé sur la considération du potentiel de la présence d'espèces en péril sur le site ou dans les environs du site, le site du chemin Boundary est privilégié pour cette composante.

2.5 Environnement de l'utilisation des terres et des aspects socioéconomiques

La composante de l'utilisation des terres et des aspects socio-économiques a permis de comparer les sites de rechange à l'aide des critères et des indicateurs suivants:

Critères:

- Quel site est le plus compatible avec l'utilisation actuelle et proposée ou planifiée des terres à proximité du site?
- Quel site est privilégié lorsqu'on tient compte de la protection des ressources d'agrégat de minéraux?

- Indicateurs pour le premier critère:
  - Utilisation actuelle des terres dans un rayon de 1 000 m du site; et
  - Utilisation future prévue certaine et probable des terres dans un rayon de 1 000 m du site.
- Indicateur pour le deuxième critère: Type et qualité des ressources d'agrégat de minéraux connues et probables sur le site et dans un rayon de 500 m de celui-ci.

Les sources de données utilisées pour le premier critère étaient la cartographie photographique et topographique aérienne et la reconnaissance de terrains, des données publiées sur les installations et les activités publiques de loisirs, des documents provinciaux, tel qu'il a été énuméré dans le CDR, des discussions avec des représentants des municipalités et des institutions ainsi que des plans municipaux officiels et de zonage. Les sources de données utilisées pour le deuxième critère étaient des rapports publiés tels qu'ils ont été énumérés dans le CDR approuvé, le permis existant pour les carrières d'agrégats, des plans municipaux officiels et de zonage et les constatations des enquêtes sur place effectuées pour ce projet ou autrement accessibles.

Site du chemin North Russell: Le site du CNR est actuellement désigné zone agricole et zone de réserve de granulat minéral. Les terres dans cette zone sont principalement utilisées pour diverses formes d'agriculture et comprennent quelques lots résidentiels qui bordent le réseau routier et un lot institutionnel (cimetière). Les comtés unis de Prescott et Russell ne prévoient aucun changement important de désignation dans la zone du site et il n'y a aucune demande de plan de zonage ou d'aménagement active ou attendue. Il y a une carrière de schiste autorisée sur une portion du site; il est probable que ce dépôt de schiste s'étende au-delà de la carrière autorisée aux limites du site CNR, principalement vers le nord, le sud et l'ouest. Il n'y a aucune autre ressource en agrégat connue ou probable sur le site ou dans un rayon de 500 m de celui-ci.

Site du chemin Boundary: Le site CB est actuellement désigné zone rurale générale et zone d'industrie lourde rurale. Les terres dans cette zone sont occupées par des commerces et des petites industries qui sont situés dans le parc industriel à l'ouest, un développement résidentiel limité et des entreprises agricoles à l'est ainsi que des terrains vacants. À la suite d'une discussion avec des représentants de la Ville, on a décidé que la Ville entreprend présentement un examen des terres agricoles ainsi que des ressources minières et d'agrégats à l'échelle de la ville; de plus, la Ville n'a soumis aucune demande de plan de zonage ou d'aménagement pour les environs du site CB. Il n'y a aucune ressource en agrégat connue ou probable sur le site ou dans un rayon de 500 m de celui-ci.

Site privilégié pour la composante de l'utilisation des terres et des aspects socio-économiques: Le site du chemin Boundary est privilégié pour tous les aspects de cette composante.

2.6 Environnement des ressources culturelles et patrimoniales

La composante des ressources culturelles et patrimoniales a permis de comparer les sites de rechange à l'aide du critère et des indicateurs suivants:

- Critère: Quel site est privilégié lorsqu'on tient compte de la protection des ressources archéologiques et patrimoniales et du paysage du patrimoine culturel?
- Indicateurs:
  - Le nombre et l'importance des sites archéologiques et patrimoniaux connus et le paysage du patrimoine culturel sur le site; et
  - La zone du site présentant un potentiel modéré à élevé pour la découverte de sites archéologiques.

Les sources de données utilisées étaient des sources de données publiées telles qu'elles ont été énumérées dans le CDR approuvé, la reconnaissance du site, première étape d'évaluations archéologiques, une évaluation de l'aperçu du patrimoine culturel, y compris une analyse des photos aériennes pour déterminer toute ressource datant d'avant 1973, conformément aux exigences du ministère du Tourisme, de la Culture et du Sport (MTCS) pour le recensement de toute structure de plus de 40 ans et des documents d'orientation provinciaux applicables.

Site du chemin North Russell: Il n'y a aucun site archéologique inscrit dans le territoire à l'étude. Selon l'édition 2011 de *Normes et lignes directrices à l'intention des archéologues-conseils*, environ 90 % de la surface du site offre un potentiel archéologique moyen à élevé, alors que le 10 % restant présente un potentiel archéologique allant de faible à nul; les terrains qui ont un potentiel exigeront une évaluation archéologique de la deuxième étape. On a trouvé que le territoire à l'étude du site du CNR renferme 29 ressources du patrimoine culturel connues ou potentielles (désignées comme des structures datant d'avant 1973, conformément aux lignes directrices du MTCS), y compris 20 paysages culturels patrimoniaux potentiels (fermes avec plusieurs bâtiments), un site patrimonial industriel potentiel (la carrière), un cimetière, une ancienne école et une ancienne église. En raison de ces caractéristiques, de nouvelles évaluations sont nécessaires pour déterminer si le territoire en entier pourrait constituer un paysage patrimonial culturel de plus grande envergure.

Site du chemin Boundary: Il n'y a aucun site archéologique inscrit dans le territoire à l'étude. Tous les terrains sur site contiennent un potentiel archéologique allant de faible à nul; aucune autre étude archéologique n'est requise. On a déterminé qu'il pourrait y avoir quatre ressources du patrimoine culturel (désignés comme des structures datant d'avant 1973, conformément aux lignes directrices du MTCS) sur le territoire à l'étude du site CB.

Site privilégié pour la composante des ressources culturelles et patrimoniales: En fonction du potentiel de la présence de ces ressources, le site du chemin Boundary est privilégié pour tous les aspects de cette composante.

2.7 Environnement agricole

La composante agricole a permis de comparer les sites de rechange à l'aide du critère et des indicateurs suivants:

Critère: Quel site est le site privilégié lorsqu'on tient compte des effets possibles sur l'agriculture?

- Indicateurs:
  - Le pourcentage des terres sur le site ayant un potentiel agricole des sols de classes 1 à 3;
  - Quantité, type et qualité des améliorations apportées sur le site à des fins agricoles (c.-à-d. les structures et le drainage au moyen de conduites agricoles);
  - Pourcentage des terres sur le site qui sont utilisées à des fins agricoles; et
  - Type et envergure des activités agricoles sur le site et dans un rayon de 500 m de ses limites, c.-a-d. culture de produits biologiques, culture commerciale, élevage.

Les sources de données étaient utilisées telles qu'elles ont été énumérées dans le CDR approuvé.

Site du chemin North Russell: Les études préliminaires ont fourni ce qui suit:

- En fonction d'une évaluation agricole préliminaire, 20,9 % des terres zonées agricoles du site qui sont situées entre le chemin North Russell et le chemin Eadie sont des terres agricoles de classes 1 à 3 (classe 3), tandis que le restant sont considérés comme dans la classe 4. Les terrains à l'est du chemin Eadie sont désignés comme des zones d'extraction d'agrégats;
- On n'a apporté aucune amélioration sur le site à des fins agricoles;
- Seulement 12,6 % des terres du site CNR sont activement utilisées pour la production agricole (terres cultivées); et
- L'agriculture n'est pas une des activités principales sur le site CNR et les terres cultivées représentent 40,5 % des terres dans la région immédiate (dans un rayon de 500 m).

Site du chemin Boundary: Les études préliminaires ont fourni ce qui suit :

- Aucune superficie du territoire sur le site CB ne constitue des terres de classes 1 à 3;
- Il n'y a aucune amélioration agricole sur le site dans les terrains visés;
- Seul 16,3 % des terres du site CB sont activement utilisées pour la production agricole (terres cultivées); et
- L'agriculture n'est pas une des activités principales sur le site CB et les terres cultivées ne représentent que 14,5 % des terres dans la région immédiate (dans un rayon de 500 m).

Site privilégié pour la composante agricole: Compte tenu des classements du sol agricole et des utilisations des terres agricoles hors site dans un rayon de 500m, le site du chemin Boundary est le site privilégié pour cette composante.

2.8 Environnement d'aménagement et d'exploitation

La composante d'aménagement et d'exploitation a permis de comparer les sites de rechange à l'aide du critère et de l'indicateur suivants:

- Critère: Quel site est privilégié lorsqu'on tient compte de la quantité d'efforts prévus sur le plan de l'ingénierie afin que le site réponde aux critères de qualité de l'eau souterraine imposés par le ministère de l'Environnement (MEO) aux limites du terrain?
- Indicateur: Niveau nécessaire requis des installations de confinement conçues par ingénierie pour les systèmes du site.

Les sources de données utilisées étaient les règlements de l'Ontario 232/98 et 268/11, des cartes et rapports hydrogéologiques et géotechniques publiés, les constatations des essais sur place effectués pour ce projet ou autrement accessibles pour confirmer et comparer les renseignements, la détermination préliminaire des exigences du système de gestion du lixiviat du site et l'étude des connaissances ou de l'expérience antérieures des conceptions dans des emplacements géologiques semblables en Ontario.

Site du chemin North Russell: Même si l'assise rocheuse schisteuse à la base du site CNR est indiquée comme ayant une conductivité hydraulique relativement faible en général, comme le site repose sur une assise rocheuse, la portion du site d'enfouissement et tout traitement de lixiviat ou d'étang de retenue devraient nécessiter la mise au point d'un système de protection des eaux souterraines. Pour ce qui est de sites d'enfouissement, on prévoit que le système serait semblable à la « Generic Design Option II » (Option II de la conception générique) de les normes liées aux sites d'enfouissement du MEO (c.-à-d., système d'étanchéité composé de deux matériaux sous chacun des systèmes de collecte primaire et secondaire du lixiviat).

Site du chemin Boundary: Le dépôt d'argile épais sur lequel le site du CB repose fournit une barrière naturelle ayant une faible conductivité hydraulique. La portion de site d'enfouissement et tout traitement de lixiviat ou d'étang de retenue sont censés avoir ce qui suit:

- Une simple membrane (en raison du sable de surface ou de la zone d'argile supérieure décomposée) sur les pentes de talus creusées dans le sol (par ex. géomembrane, doublure d'argile géosynthétique (DAG) ou d'argile compactée) que l'on fixe à l'argile limoneuse décomposée en dessous;
- Un système de collecte primaire du lixiviat situé à la base des cellules d'élimination des déchets et au pied des pentes de talus creusées dans le sol; et
- Éventuellement l'ajout d'une membrane simple ou d'une membrane faite d'une seule couche composite au pied des cellules d'élimination des déchets ou celui d'un élément mur vertical isolateur autour du périmètre du site d'enfouissement. Une limite de périmètre remplacerait également une membrane sur les pentes souterraines des cellules d'élimination des déchets.

Site privilégié pour la composante d'aménagement et d'exploitation : Le site du chemin Boundary est privilégié pour cette composante.

2.9 Environnement de circulation

La composante de circulation a permis de comparer les sites de rechange à l'aide du critère et des indicateurs suivants:

- Critère: Quel site est privilégié lorsqu'on tient compte des incidences possibles liées à la circulation de camions?
- Indicateurs:
  - Distance séparant le site et l'échangeur routier;
  - Caractéristiques du réseau routier entre l'échangeur routier et le site; et
  - Utilisation des terres séparant l'échangeur routier au site le long des routes de transport principales.

Les sources des données utilisées étaient des caractéristiques des chemins et des intersections disponibles ainsi que des renseignements sur les recensements de la circulation sur les routes éventuelles de transport principales; les données historiques sur la circulation et les collisions, si elles sont accessibles; la cartographie photographique et la reconnaissance des terrains; le lieu et la nature des récepteurs éventuels; une consultation avec des représentants du canton de Russell et la Ville d'Ottawa, au besoin.

Site du chemin North Russell: Cinq options de rechange pour les routes de transport principales au site CNR ont été examinées. Pour deux solutions de rechange, on a présumé que la majorité de la circulation liée au site provenait du chemin Boundary et l'échangeur de l'autoroute 417 et trois solutions de rechange de l'échangeur du chemin Vars et de l'autoroute 417. Quatre des solutions de rechange utilisent les routes existantes (une combinaison d'autoroutes rurales, de routes collectrices et d'un chemin rural secondaire – chemin Eadie); la cinquième solution de rechange comprend l'échangeur Vars et la construction d'un nouveau chemin pour le projet le long d'une réserve pour chemin non ouvert. La distance de parcours le long du réseau routier pour les quatre premières routes de transport de rechange varie de 6 à 10 km, avec 10 à 30 résidences, 11 à 15 utilisations commerciales et 11 à 21 accès aux fermes le long de la route. Pour deux de ces routes, il pourrait éventuellement y avoir un cimetière, en fonction de l'endroit du point d'accès au site. Pour la cinquième solution de rechange, la distance de parcours est de 4,5 km et il n'y a aucune utilisation résidentielle, aucun accès aux fermes et 11 utilisations commerciales le long de la route.

Site du chemin Boundary: Les chemins qui formeraient la principale route de transport pour la circulation des camions associée au site CB de l'autoroute 417, le chemin Boundary et éventuellement le chemin Devine, sont classifiés comme des voies artérielles rurales. L'endroit d'accès au site à partir de l'autoroute 417 pourrait correspondre à une distance de parcours d'environ 1,3 km à 3,5 km de la sortie 96 du chemin Boundary, selon l'endroit où l'accès au site est fourni. Les terres le long de la route de transport sont principalement utilisées par des commerces ou de petites industries; il y a environ 9 résidences le long de la route de transport et 14 commerces ou petites industries.

Site privilégié pour la composante de circulation: Le site du chemin Boundary est privilégié.

3.0 RÉSULTATS DE LA COMPARAISON DES SITES

Le site du chemin Boundary est privilégié pour les neuf composantes environnementales examinées dans l'évaluation comparative.

Par conséquent, le site du chemin Boundary est le site privilégié en général pour le projet du CRRRC. La prochaine étape de l'EE sera également sur ce site, tout en suivant la méthodologie dans le CDR approuvé.

Appendix A-12

Comments Received From Comment Sheets, Session 1

Comment Sheets

When attendees arrived at the Open House # 3 Session 1, they were asked to sign in, and were given a comment sheet requesting comments on the comparative evaluation. In addition to the comment sheet, attendees were provided with a copy of the Summary Report of the Comparative Evaluation.

A total of 26 comment sheets were completed at the Open House. Below are the comments received.

Do you have any comments on the comparative evaluation used to determine the preferred site for the Capital Region Resource Recovery Centre (CRRRC) facility? If so, please elaborate.

- I do not believe your choice of property is in the best interest of the people who live anywhere on or near the water table related to this site. That it is inevitable that there will be contamination. That water is the most essential necessity for life and chances should NOT be taken whatsoever, in any way to compromise its quality. You CANNOT guarantee the water table will not be contaminated (therefore) this project should not!!!, go ahead unless some alternative project can be presented that will not put the water table & aquifer at risk! Show US you actually care about more than $$$.

- Are you studying the traffic implications on the north end of Boundary Road? We will get most of the traffic coming from Orleans.

- We are against this project and oppose it. Too close to our home/house. Too close to our neighbour's house. Too many "sensitive receptors" in vicinity. Negative image to our community. Brings down to value of our home. More, commercial traffic puts us and our children at higher risk of injury. Does not create a significant number of jobs for our community.

- The Carlsbad Boundary area is Leda clay. Unstable. Check the studies done years ago when there was a proposed satellite city in the area. This Boundary site is therefore unsuitable. Many people have surface wells. We do not want ① the value of properties to drop ② wells to be contaminated more. I am concerned for a property I partially own in Edwards as well as for everyone else this will affect.

- Can you control 100% of odour onsite? If not, I will organize a class action suit against Taggart Miller and sue for damage and health problems.

- I find it ridiculous that the Boundary Road site is found to be the preferred site for every single component. Why was Russell even considered when T-M knew all along they had a preferred site? This whole process is extremely degrading and the community is made to feel it is a losing battle, which I think it is not.

- ① I question that any containment apparatus/liner can (a) last, forever (b) withstand unknown reactions of untold compounds. ② Once a leak does take place, how can it be repaired, given the ever increasing weight above? How could one ever pinpoint it? ③ what are the potential health effects of unknown reactions of untold compounds? ④ as the Nation's capital; why not set the standard for about 85% recycling & energy recuperation (natural gas) incinerated/processing of any potential problem chemicals?

- I wish assurances that truck traffic on my road will not increase and that regulations concerning heavy vehicles will be as stringent or more stringent than at present.

- We do not want a 475 acre dump (Resource Recovery Facility) bordering the N.C.C. Greenbelt. 10 to 20 trucks (delivering waste) per hour 6 days a week will impact the already heavy traffic on the existing few access roads. The stigma attached to a "dump" will lower property values in my area. 100 acres of our land was expropriated in 1974 by the N.C.C. I have 44.7 acres remaining. I certainly do not want a dump in my backyard. The water table in our area is relatively high (Carlsbad Springs) contamination of same is a large concern.

- Completely opposed to any dump in the Carlsbad or Russell Areas. Leave the land pristine.

- It's immensely sad that sufficient "waste" should be generated to make a proposal like this conceivable. It seems that the basis of the present proposal is to allow the construction industry to continue to put up new buildings in the Ottawa area, with the resulting habitat destruction. It is nice to see the North Russell site recognized as unsuitable for such an operation but curious to us no apology for the years during which the proponent sold it is the ideal site for such an installation, which leads to the question – if Taggart Miller was so wrong about North Russell for so long, why is it likely to be right in its new found enthusiasm for Boundary Road? Also curious that "species at risk" are only listed by higher form. What part of "species" doesn't the proponent understand? Conclusion: if the facility is un-needed and unwanted, then there's no proper place to build it. p.s: fyi <u>every</u> area is of "National and Scientific Interest".

- I strongly oppose this dump. Very close to residential area. This will greatly devalue my property. I strongly oppose the smells that will result from this dump. I lived 2 kms from the Navan Road "dry dump" and would smell it often. This wet dump 2 kms from my home would destroy my dream property.

- Once more you have fixed the format of the meeting so as to prevent meaningful discussion. <u>All</u> of the posters I examined conclude that Boundary is the preferred site. This is most unlikely and suggests that you have selected data that supports your decision on this site. If all this is true (and I do not believe for a moment that it is), one wonders how you could have been so foolish as not to select this site in the first place. The game is <u>fixed</u>.

- I take exception to the lack of information sharing. Taggart is refusing to share questions and answers to help the community have a better understanding. They are hiding behind binders and binders in the hopes the community will back down. We will not back down.

- A comprehensive study should be done on turtles as all are endangered. What re-treeing will TM partake in after cutting? Russell Township at 12% tree coverage & 30% needed to sustain wildlife. A bat study needs to be done. Ontario little brown bat suffering from white noise syndrome. Endangered tree species as well as Black Ash. Clay landslide concerns. None of the risks identified by sub-committee or DTD have been addressed. What will happen to Russell site? Traffic issues – traffic from south?

- I would like the 4th open house to include a forum where we could hear other speakers/experts. It is frustrating to be given only 1 perspective – those of the site promoters. As a citizen trying to come

to an informed judgement, I need to hear other perspectives so I can weigh and judge information provided. Also more info in lay language would be useful.

- Miller go Home. Shame on Taggart.

- Please I do not want a dump in my area.

- Can't see how this can happen the environment can't possibly be compatible for this. We can't even set up a standard septic field anywhere in this region. This was all done before, where did that info go?? You're wasting your money and time, this will not happen!!!

- Are you sure Ottawa is going to grow fast enough for there to be sufficient landfill to justify all this investment in a new dump? Are the tipping fees for your own construction waste so high that it will be economically viable for you to sustain the planning costs, and the physical development costs of developing the Boundary Road site? After the housing bubble takes a downturn and recycling rises to the point of no household waste for your dump, will it be financially feasible for you to continue to maintain the dump with no income from it, and the expense of monitoring it and pumping leachate? Perhaps you'd better take another look at those numbers…take the rose coloured glasses off and back out NOW.

- Take a good look at Europe, there are better ways (incinerate) or is your investment too high vs. the cheap cost of ruining the environment.

- Not Carlsbad! Most distressing environmental impact. All that aside, the leaching into the ground water and run off into drainage ditches will definitely affect well water and leach into city water pipes. Next to the 417 having greatest impact. Then there is the issue with transportation routes. Noise levels on the 417 will increase, thus affecting surrounding residents. Atmospheric -> odour from any landfill will disperse to the surrounding area and travel vast distance depending on wind gusts. Frankly, I don't care what your design intentions are – anything like this built in my backyard needs to have triple redundancies – not a single liner! What about the deer, the moose, the crane, the turtles, the frogs, rabbits, coyotes. Just to name a few of the species that will be affected? What about the impact on health of residents?

- The comparative evaluation of the different landfill sites is quite biased. Taggart Miller informed the community about the proposed dump in June. By September we had to evaluate the TOR! Russell community had a lot more time to prepare and fight this dump. I propose Taggart Miller find a third site out of the city and away from farms, residents and wet lands. I'm not sure how many metres my 10ft well is to your proposed dump. But I do know that Carlsbad has a extremely high water table with most of its residents on shallow wells. I saw your proposed "liner" to keep out the "lichee". Water can get through clay… I want a better system to keep my drinking water safe for my family. If you do happen to pass all your environmental studies, which I doubt, I am going to sell my house and I feel as if your company should cover the monetary loss I will inevitably have. Thanks for nothing.

- No Dump! Go Home Taggart Miller!!!

- First of all, I live about 3-4 km east of the proposed site and I am not in favour of this dump for the following reasons: This dump is not needed. We have several dumps of this kind in the area:

Moose Creek, Navan, to name a few. The only reason for this dump is to make money. Lots of money. At your presentation I did not see any projection of the income from this project 5-10-15-20 years. Why? What, if this project goes ahead (hopefully not), is your company prepared to do in the event that my well water gets contaminated. And are you willing to put this in writing. Are you willing to compensate me the lost value of my property which will no doubt drop? Are you willing to put this in writing? You will be making millions and I will be losing. I have lived in the area all my life, why should I lease and people from god knows where sitting in their luxurious, big house far, far away. IF you are willing to buy me out now. Contact me. Then it will be your problem.

- Where is the site plan? You must have it. Your info on species at risk seems dubious. I do not believe that much will actually be recycled. It seems quite clear that you are not welcome at either site. Why don't you find a suitable site away from human habitation? Your info is vague and sketchy and I don't have any faith in your honesty or competence. The MOE has not done its job. Your TOR should never have been approved. What about truck traffic? That exit is already really congested.

Appendix A-13

Comments Received From Comment Sheets, Session 2

Comment Sheets

When attendees arrived at the Open House # 3 Session 2, they were asked to sign in, and were given a comment sheet requesting comments on the comparative evaluation. In addition to the comment sheet, attendees were provided with a copy of the Summary Report of the Comparative Evaluation.

A total of 2 comment sheets were completed at the Open House. Below are the comments received.

Do you have any comments on the comparative evaluation used to determine the preferred site for the Capital Region Resource Recovery Centre (CRRRC) facility? If so, please elaborate.

- Taggart Miller should donate its North Russell land to the Nature Conservancy. Surely there would be tangible benefits to T-M, the wildlife and environment and to the citizens of the area. If you plan to do any tree planting around your own dumpsite, please plant only native trees. You could consult a very keen botanist that we know, Owen Clarkin, who wanted to be here tonight.

- Congratulations on recognizing the validity of the objections to the North Russell site, which T-M had insisted for so many years was spurious! I suggest that in compensation for the harassment that the community has endured in this process the land be immediately donated to the SNC or Nature Conservancy. On a couple of minor notes – the "frog" on the SAR list –Pseudacris maculata – the Boreal Chorus frog – or boreal mitochondrial Race of Western Frog – has been documented at the Russell site – just google "Chorus Frog' Russell quarry and it's the third hit. There's also no provision in your plans for dealing with invasive species – yet the ditches around Boundary Road to a lesser degree around North Russell are dotted with colonies of the invasive Auragurites australis ssp austalis which will spread across any disturbed ground and transform the site into a mini New Jersey – planning for a facility that won't be built is futile, but it should, just to be complete, include provisions for controlling invasive species and providing habitat for a maximum number of species-at-risk and other rare flora and fauna.

APPENDIX B

Open House #4 – June 5, 2013

Appendix B-1

Le Reflet/The News French Ad

Quatrième journée portes ouvertes dans le cadre d'une évaluation environnementale du Centre de récupération des ressources de la région de la capitale

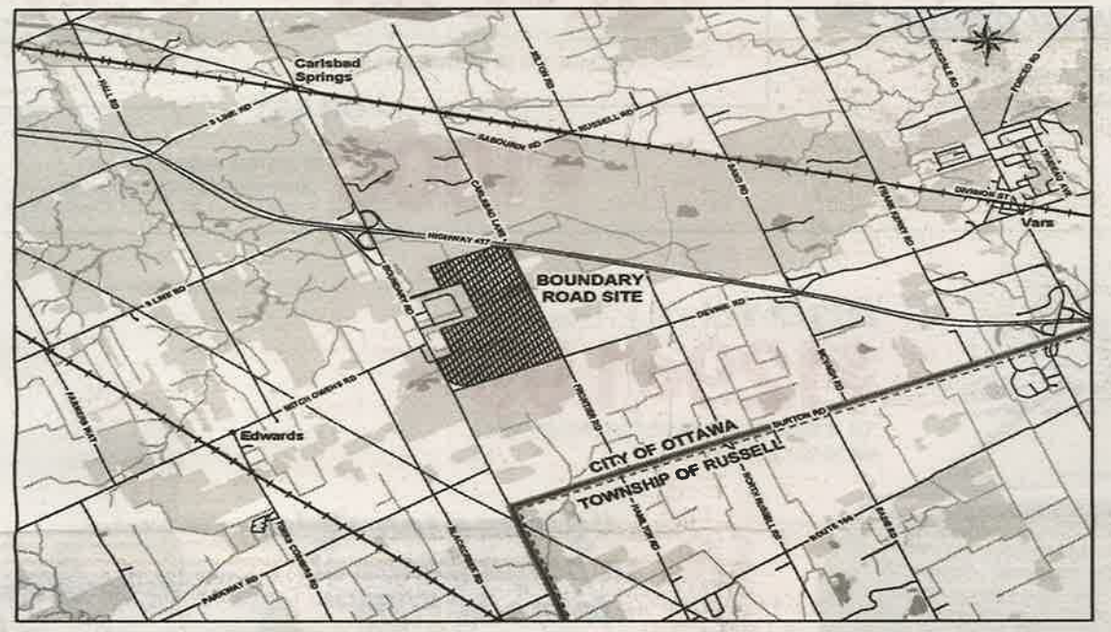
H171626

Taggart Miller Environmental Services (Taggart Miller) effectue une évaluation environnementale (EE) en vertu de la Loi sur les évaluations environnementales de l'Ontario pour un projet proposé de gestion intégrée des déchets qui portera le nom de Centre de récupération des ressources de la région de la capitale (CRRRC).

Si le projet est approuvé, le CRRRC disposerait des installations et de la capacité requises pour récupérer les ressources et réacheminer les matériaux autrement destinés à l'élimination qui sont produits par les secteurs industriel, commercial et institutionnel (ICI) et par les secteurs de construction et de démolition (CD), à Ottawa et dans l'Est ontarien, ainsi que de la capacité d'enfouissement des matériaux qui ne sont pas réacheminés. Les composantes du CRRRC seront mises au point à la suite d'une consultation plus exhaustive au cours de l'évaluation environnementale. À ce stade-ci, la proposition comprend ce qui suit :

- une installation de récupération des matériaux
- le traitement des déchets de construction et de démolition
- le traitement des matières organiques
- le traitement de sols contaminés aux hydrocarbures
- la gestion des sols excédentaires
- un eco-centre de récupération pour déposer les matières triées ou pour en faire le tri
- le compostage des feuilles mortes et des matériaux de jardin (si la quantité est suffisante)
- un site d'enfouissement aménagé pour l'élimination des résidus

L'emplacement du CRRRC est indiqué sur la carte ci-dessous.



Avant de donner son approbation en décembre 2012, le ministre de l'Environnement a modifié le mandat auquel est assujetti le CRRRC. Une copie du mandat approuvé après modification est disponible sur le site Web du projet. www.CRRRC.ca

L'évaluation environnementale sera exécutée conformément au mandat approuvé.

Les citoyens, les organismes et autres personnes intéressées sont invités à participer activement à la planification de cette entreprise en se présentant aux rencontres de consultation ou en communiquant directement avec le personnel pour lui faire part de renseignements, de commentaires ou de questions. La quatrième journée portes ouvertes vise principalement à présenter et à obtenir des commentaires du public au sujet des possibles concepts d'aménagement du site et de faire le point sur les travaux d'évaluation portant sur les domaines géologique, hydrogéologique & géotechnique, visuel (socio-économique) et de la circulation au site du chemin Boundary.

Portes ouvertes n° 4

Mercredi 5 juin 2013
De 16 h à 21 h
Centre communautaire Carlsbad Springs
6020, chemin Eighth Line (Piperville), Ottawa

La participation publique des résidents de la localité et d'autres parties intéressées représente un volet important du processus d'évaluation environnementale. Nous vous invitons non seulement à participer à cette rencontre, mais aussi à nous transmettre vos commentaires et à vous inscrire à notre liste de diffusion par la voie du site Web du projet, www.CRRRC.ca, par la poste ou par télécopieur aux coordonnées ci-dessous:

M. Hubert Bourque, directeur de projet
a/s de Taggart Miller Environmental Services
225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
Téléphone : 613 454 5580
Télécopieur : 613-454-5581
Courriel : hjbourque@crrrc.ca

Nous accordons une grande importance à votre participation.

Selon la *Loi sur l'accès à l'information et la protection de la vie privée* et la *Loi sur les évaluations environnementales*, sauf indication contraire dans le mémoire, tous les renseignements personnels, comme le nom, l'adresse, le numéro de téléphone et le lieu du terrain mentionné dans un mémoire, font partie des registres publics et, à cet égard, peuvent être communiqués à quiconque en fait la demande.

Appendix B-2

The Villager English Ad

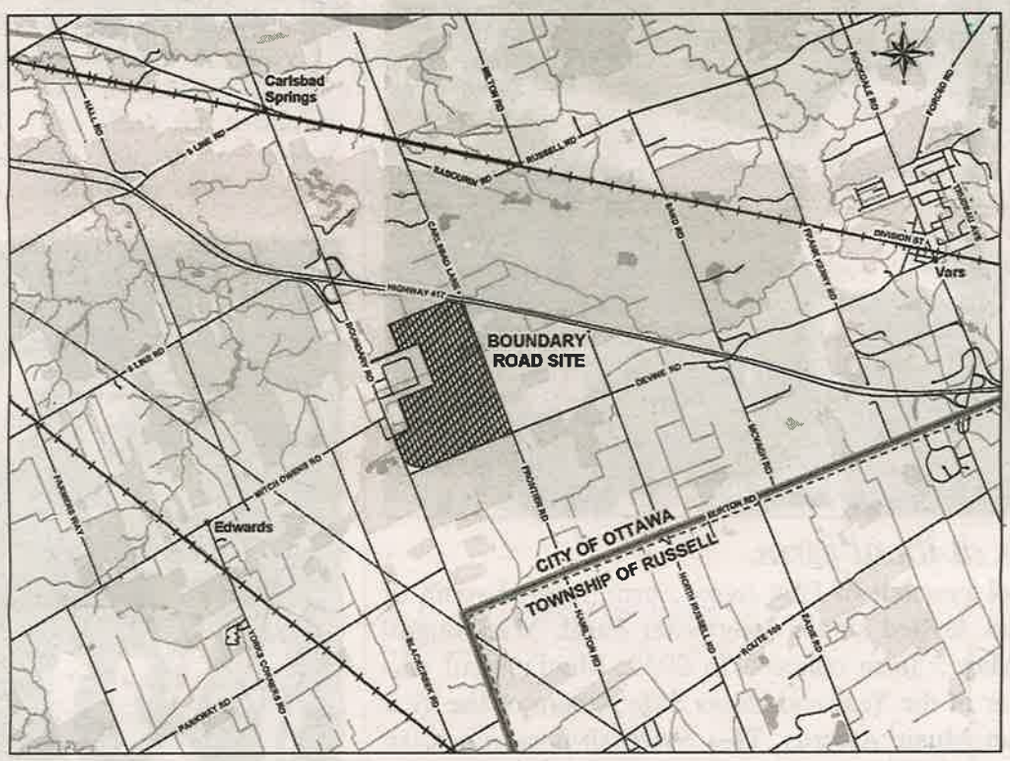
Fourth Open House for an Environmental Assessment of the Capital Region Resource Recovery Centre

Taggart Miller Environmental Services (Taggart Miller) is undertaking an environmental assessment (EA) under the Ontario Environmental Assessment Act for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC).

The CRRRC, if approved, would provide facilities and capacity for recovery of resources and diversion of materials from disposal that are generated by the Industrial, Commercial and Institutional (IC&I) and Construction and Demolition (C&D) sectors in Ottawa and eastern Ontario, as well as disposal capacity for material that is not diverted. The components of the CRRRC will be developed through further consultation during the environmental assessment and are currently proposed to include:

- material recovery facility;
- construction and demolition waste processing;
- organics processing;
- hydrocarbon contaminated soil treatment;
- surplus soil management;
- a drop off for separated materials or separation of materials;
- leaf and yard materials composting (if there is enough material available); and
- an engineered landfill for residuals disposal.

The location of the CRRRC site is shown on the map below.



Prior to approving in December 2012, the Minister of the Environment amended the terms of reference for the CRRRC. A copy of the approved amended terms of reference is available at the project website:
www.CRRRC.ca

The environmental assessment is being carried out according to the approved terms of reference.

Members of the public, agencies and other interested persons are encouraged to actively participate in the planning of this undertaking by attending consultation opportunities or contacting staff directly with information, comments or questions. The primary purpose of the Fourth Open House is to present and obtain comments from the public on possible site development concepts and to provide an update on assessment work related to the geology, hydrogeology & geotechnical, visual (socio-economic) and traffic disciplines at the Boundary Road Site.

Open House # 4
Wednesday June 5, 2013
4:00 to 9:00 pm
Carlsbad Community Centre
6020 Eighth Line (Piperville) Road, Ottawa

Public participation by local residents and other interested parties is an important part of the environmental assessment process. In addition to participating in these events, you are invited to submit your comments or be added to our project mailing list via the project website www.CRRRC.ca, by mail, or fax to the address/number provided below.

Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

Your participation is requested and appreciated.

Under the *Freedom of Information and Protection of Privacy Act* and the *Environmental Assessment Act*, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.

Appendix B-3

Le Droit French Ad

Quatrième journée portes ouvertes dans le cadre d'une évaluation environnementale du Centre de récupération des ressources de la région de la capitale

Taggart Miller Environmental Services (Taggart Miller) effectue une évaluation environnementale (EE) en vertu de la *Loi sur les évaluations environnementales* de l'Ontario pour un projet proposé de gestion intégrée des déchets qui portera le nom de Centre de récupération des ressources de la région de la capitale (CRRRC).

Si le projet est approuvé, le CRRRC disposerait des installations et de la capacité requises pour récupérer les ressources et réacheminer les matériaux autrement destinés à l'élimination qui sont produits par les secteurs industriel, commercial et institutionnel (ICI) et par les secteurs de construction et de démolition (CD), à Ottawa et dans l'Est ontarien, ainsi que de la capacité d'enfouissement des matériaux qui ne sont pas réacheminés. Les composantes du CRRRC seront mises au point à la suite d'une consultation plus exhaustive au cours de l'évaluation environnementale. À ce stade-ci, la proposition comprend ce qui suit :

- une installation de récupération des matériaux
- le traitement des déchets de construction et de démolition
- le traitement des matières organiques
- le traitement de sols contaminés aux hydrocarbures
- la gestion des sols excédentaires
- un eco-centre de récupération pour déposer les matières triées ou pour en faire le tri
- le compostage des feuilles mortes et des matériaux de jardin (si la quantité est suffisante)
- un site d'enfouissement aménagé pour l'élimination des résidus

L'emplacement du CRRRC est indiqué sur la carte ci-dessous.

Avant de donner son approbation en décembre 2012, le ministre de l'Environnement a modifié le mandat auquel est assujetti le CRRRC. Une copie du mandat approuvé après modification est disponible sur le site Web du projet. www.CRRRC.ca

L'évaluation environnementale sera exécutée conformément au mandat approuvé.

Les citoyens, les organismes et autres personnes intéressées sont invités à participer activement à la planification de cette entreprise en se présentant aux rencontres de consultation ou en communiquant directement avec le personnel pour lui faire part de renseignements, de commentaires ou de questions. La quatrième journée portes ouvertes vise principalement à présenter et à obtenir des commentaires du public au sujet des possibles concepts d'aménagement du site et de faire le point sur les travaux d'évaluation portant sur les domaines géologique, hydrogéologique & géotechnique, visuel (socio-économique) et de la circulation au site du chemin Boundary.

Portes ouvertes n° 4

Mercredi 5 juin 2013
De 16 h à 21 h
Centre communautaire Carlsbad Springs
6020, chemin Eighth Line (Piperville), Ottawa

La participation publique des résidents de la localité et d'autres parties intéressées représente un volet important du processus d'évaluation environnementale. Nous vous invitons non seulement à participer à cette rencontre, mais aussi à nous transmettre vos commentaires et à vous inscrire à notre liste de diffusion par la voie du site Web du projet, www.CRRRC.ca, par la poste ou par télécopieur aux coordonnées ci-dessous:

M. Hubert Bourque, directeur de projet
a/s de Taggart Miller Environmental Services
225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
Téléphone : 613-454-5580
Télécopieur : 613-454-5581
Courriel : hjbourque@crrrc.ca

Nous accordons une grande importance à votre participation.

Selon la *Loi sur l'accès à l'information et la protection de la vie privée* et la *Loi sur les évaluations environnementales*, sauf indication contraire dans le mémoire, tous les renseignements personnels, comme le nom, l'adresse, le numéro de téléphone et le lieu du terrain mentionné dans un mémoire, font partie des registres publics et, à cet égard, peuvent être communiqués à quiconque en fait la demande.

Appendix B-4

Ottawa Citizen English Ad

A LIVING NATIONAL TREASURE

South Africa's father figure

As a frail Nelson Mandela fades, his image is still in the political fray, writes **CHRISTOPHER TORCHIA**.

JOHANNESBURG

Nelson Mandela, old and frail, lives in seclusion in his Johannesburg home. Beyond the high walls of the house, the fighting over his image and what he stood for has already begun.

The sense of possibility that Mandela embodied is fading as a gulf between rich and poor widens. Many South Africans believe their leaders are out to help themselves and not the nation, which showed such promise when it broke the shackles of apartheid by holding the first all-race elections in 1994 and putting Mandela, who had been jailed for 27 years by the country's racist leaders, into the presidency.

Remarkably, South Africa has held peaceful elections since the end of apartheid. But it struggles on other fronts.

Last year, corruption deprived the country of nearly one billion rand ($109 million) in taxpayers' money, according to a recent report. In one of the latest scandals to shake South Africans' confidence in their government, authorities let a chartered plane carrying about 200 guests from India land at a South African air force base ahead of a lavish wedding hosted by a politically connected family.

South Africans, worried about graft, high unemployment and other problems, tend to compare their current leadership with the virtually unassailable record of Mandela as a freedom fighter and South Africa's first black president. No small wonder, then, that politicians and even family members are moving to use that image for their own benefit.

Mandela no longer speaks publicly. He retired after a single term as president that ended in 1999 then worked for some years as an advocate for peace, awareness for HIV-AIDS and other causes. His last public appearance on a major stage was in 2010, when South Africa hosted the soccer World Cup.

Last month, President Jacob Zuma and other leaders of the ruling African National Congress party visited Mandela. After the encounter at Mandela's home, Zuma cheerily said the 94-year-old was up and about, in good spirits and doing well. But the images carried by state TV showed Mandela sitting with a blanket covering his legs, silent and unmoving with his cheeks showing what appear to be marks from a recently removed oxygen mask. Mandela did not acknowledge Zuma, who sat right next to Mandela.

The footage unsettled some who considered the visit to be a stunt to make Zuma look good. A cartoon in The Star newspaper depicted a leering Zuma holding a clothes hanger from which the once robust Mandela dangled limply, eyelids sagging. The ANC insisted it had no ulterior motive ahead of elections next year and that it was only showing respect for a living national treasure.

For their part, ANC supporters said the opposition was crassly capitalizing on the Mandela name to get support when the Democratic Alliance party published a pamphlet showing an old photograph of Mandela embracing Helen Suzman, an anti-apartheid activist whose party was a forerunner of the DA.

Retired Anglican Archbishop Desmond Tutu, who, like Mandela, won the Nobel Peace Prize for being a leader in the struggle against apartheid, later clashed swords with the ANC when he spoke about Mandela's eventual passing.

"The best memorial to Nelson Mandela would be a democracy that was really up and running; a democracy in which every single person in South Africa knew that they mattered, and where other people knew that each person mattered," the Mail & Guardian, a South African newspaper, quoted Tutu as saying in a May 10 article.

Tutu said South Africa needs political change and that criticism of the ANC has so far been muted because South Africans felt it would be a "slap in the face to Mandela" who once headed the liberation movement-turned political party.

The ANC's youth league disputed Tutu's assertion that the ruling party had failed to deliver.

"Young people, who constitute a large voting bloc in the country, expect the archbishop and other leaders to speak truth anchored by reality and facts and not anecdotal information based on creativity and imagination," the league said in a statement.

The government, however, has said unemployment in the first quarter of this year was just over 25 per cent, a figure that analysts say has been caused by weak economic growth and layoffs in the mining sector and other industries. Also, protests against poor delivery of water, electricity and other government services periodically erupt in some South African communities.

Across South Africa, Mandela's face beams from T-shirts, drink coasters and new banknotes. South African bridges, hospitals and schools carry Mandela's name. Statues of him abound.

The Mandela name is being used commercially by members of his family. There is a House of Mandela wine label, and two granddaughters star in a U.S. reality TV show titled Being Mandela.

Mandela's stellar record is easily mined in commercial branding, which is based on a "notion of perfection around a set of ideas," said Michael J. Casey, author of Che's Afterlife: The Legacy of an Image.

"The narrative around Mandela is a man who stuck to his guns in terms of the struggle," said Casey, who noted some people bestow a "level of deity" on such transcendent figures.

"You want him to live for the man that he was," Casey said. "It's not to say that he's not a great man, but nobody's perfect."

Already, that sort of personification is turning, well, cartoonish.

For a music video, South African dance DJ Euphonik matched a beat with part of the recording of Mandela's 1964 speech at trial.

"I have fought against white domination, and I have fought against black domination," a cartoon Mandela intones in the video. Limber and white-haired, he busts a few moves on the dance floor.

THE ASSOCIATED PRESS

ALEXANDER JOE/AFP/GETTY IMAGES

A June 2010 photo shows former South African president Nelson Mandela. His health is fading, but his image is strong, found on everything from statues to T-shirts.

'The narrative around Mandela is a man who stuck to his guns in terms of the struggle. You want him to live for the man that he was. It's not to say that he's not a great man, but nobody's perfect.'

MICHAEL J. CASEY
Author

JENNIFER BRUCE/AFP/GETTY IMAGES

Nelson Mandela's daughter Makaziwe Mandela, left, and her daughter Tukwini Mandela pour a glass of House of Mandela wine in Johannesburg.

Appendix B-5

Bilingual E-mail Invitation to Mailing List

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: May 20, 2013 3:59 PM
To: Edmond, Trish
Subject: Fourth Open House for Capital Region Resource Recovery Centre/ Quatrième Journée portes ouvertes pour le Centre de récupération des ressources de la région de la capitale

SVP faites défiler vers le bas pour la version française.

Taggart Miller Environmental Services (Taggart Miller) is undertaking an environmental assessment (EA) under the Ontario Environmental Assessment Act for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC). The project site is located east of Boundary Road and south of Highway 417 in the City of Ottawa near an existing industrial park.

Prior to approving in December 2012, the Minister of the Environment amended the Terms of Reference for the CRRRC. A copy of the approved amended Terms of Reference is available at the project website:

www.crrrc.ca

The environmental assessment is being carried out following the approved amended Terms of Reference.

Members of the public, agencies and other interested persons are encouraged to actively participate in the planning of this undertaking by attending consultation opportunities or contacting staff directly with information, comments or questions. The primary purpose of the Fourth Open House is to present and obtain comments from the public on alternative site development concepts and to provide an update on assessment work related to the geology, hydrogeology & geotechnical, socio-economic (visual component) and traffic disciplines at the Boundary Road Site.

Open House # 4

Wednesday June 5, 2013
4:00 to 9:00 pm

Carlsbad Community Centre
6020 Eighth Line (Piperville) Road, Ottawa

Public participation by local residents and other interested parties is an important part of the environmental assessment process. In addition to participating in these events, you are invited to submit your comments or be added to our project mailing list via the project website www.crrrc.ca, by mail, or fax to the address/number provided below.

Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581

Email: hjbourque@crrrc.ca

Taggart Miller Environmental Services (Taggart Miller) effectue une évaluation environnementale (EE) en vertu de la Loi sur les évaluations environnementales de l'Ontario pour la proposition d'un projet de gestion intégrée des déchets qui portera le nom de Centre de récupération des ressources de la région de la capitale (CRRRC). Le site du projet se situe à l'est du chemin Boundary et au sud de l'autoroute 417 dans la Ville d'Ottawa près d'un parc industriel existant.

Avant de donner son approbation en décembre 2012, le ministre de l'Environnement a modifié le mandat auquel est assujetti le CRRRC. Une copie du mandat approuvé après modification est disponible sur le site Web du projet.

www.crrrc.ca

L'évaluation environnementale est exécutée conformément au mandat modifié approuvé.

Les citoyens, les organismes et autres personnes intéressées sont invités à participer activement à la planification de cette entreprise en se présentant aux rencontres de consultation ou en communiquant directement avec le personnel pour lui faire part de renseignements, de commentaires ou de questions. La quatrième Journée portes ouvertes vise principalement à présenter et à obtenir des commentaires du public au sujet des autres concepts d'aménagement du site et faire le point sur les travaux d'évaluation portant sur les domaines géologique, hydrogéologique et géotechnique, socio-économique (composante visuelle) et de la circulation au site du chemin Boundary.

Journée portes ouvertes n° 4

Le mercredi 5 juin 2013
De 16 h à 21 h

Centre communautaire Carlsbad Springs
6020, chemin Eighth Line (Piperville), Ottawa

La participation publique des résidents de la localité et d'autres parties intéressées représente un volet important du processus d'évaluation environnementale. Nous vous invitons non seulement à participer à cette rencontre, mais aussi à nous transmettre vos commentaires et à vous inscrire à notre liste de diffusion par la voie du site Web du projet, www.crrrc.ca, par la poste ou par télécopieur à l'adresse et au numéro qui figurent ci-dessous.

M. Hubert Bourque, directeur de projet

a/s Taggart Miller Environmental Services
225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
Téléphone : 613-454-5580
Télécopieur : 613-454-5581

Email: hjbourque@crrrc.ca

Cliquer Unsubscribe **pour ne pas recevoir ces messages à l'avenir**

Appendix B-6

E-mail and Record of Phone Conversations with Aboriginal Communities

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Chief Whiteduck **DATE:** May 29, 2013

TELEPHONE No.: 613-625-2800 **PROJECT No.:** 121125 0045

MADE/RECEIVED BY: Blair Haug **JOB TITLE:** Project Coord.

RE: Called Algonquins of Pikwakanagan to invite Chief Whiteduck to the 4th CRRRC open house. Left a voicemail, followed up with an e-mail re. details.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Hank Rowlinson **DATE:** May 28, 2013

TELEPHONE No.: 613-798-1488 **PROJECT No.:** 121125 0045

MADE/RECEIVED BY: Blair Haug **JOB TITLE:** Project Coord

RE: Called Metis Nation of Ontario to invite Hank Rowlinson to the 4th CRRRC open house. Was told he preferred e-mail, followed up with e-mail to Mr. Rowlinson and Mark Bowler (Metis Nation of ON Director).

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Mark Bowler **DATE:** May 28, 2013

TELEPHONE No.: 416-977-9881 **PROJECT No.:** 12 1125 0045

MADE/RECEIVED BY: Blair Haug **JOB TITLE:**

RE: Called Metis Nation of Ontario to invite Mark Bowler to the 4th CRDRC open house. Spoke with him re details, sent follow-up e-mail
He confirmed e-mails should be sent to himself and Hank Rawlinson.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: James Ransom **DATE:** May 28, 2013

TELEPHONE No.: 613-575-2250 **PROJECT No.:** 12-1125-0045

MADE/RECEIVED BY: Blair Haug **JOB TITLE:**

RE: Called Mohawk Council of Akwesasne to invite James Ransom to the 4th CRRRC open house. Left voicemail, followed up with an e-mail re. details

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Daniel Gilbeau **DATE:** May 28, 2013

TELEPHONE No.: 613-859-4782 **PROJECT No.:** 12 1125 0045

MADE/RECEIVED BY: Blair Haug **JOB TITLE:**

RE: Called Ottawa Metis Council to invite President Gilbeau to the 4th CRRRC open house. Went over details and promised a follow-up e-mail, sent directly after.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Janet Stavinga **DATE:** May 28/13

TELEPHONE No.: 613-735-3759 ext 202 **PROJECT No.:** 12-1125-0045/8100

MADE/RECEIVED BY: RLE **JOB TITLE:** CRRRC EA

RE:

Janet is in the office this week but at meetings on Fri May 31.

I left a voice mail explaining there is a CRRRC open house next Wed June 5. I indicated I would send her an e-mail with further coordinates regarding the open house.

One of the things to be presented at the open house is the alternative site design concepts. I know previously the ACO was interested in these. On June 5 I will send Janet a copy of the design concepts. We would love to get ACO's thoughts on the design concepts either at the open house or we could meet separately.

COMMENT/MEMO:

ACTION:

COPIES TO:

Edmond, Trish

From: Haug, Blair
Sent: May 28, 2013 10:21 AM
To: chiefcouncil@pikwakanagan.ca
Cc: Haug, Blair
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH # 4 final Ad_English.pdf; OH #4 final Ad_French.pdf

Dear Chief Whiteduck,

This email is a follow up to the voicemail I left with your office this morning. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the fourth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. The Algonquins of Pikwakanagan First Nation's opinion on the alternative design concepts which will be presented at the open house would be valued. We would be pleased to speak to you at the Open House on June 5 or alternatively we can meet you separately to receive your feedback.

Sincerely,

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: May 28, 2013 10:31 AM
To: markbowler@metisnation.org
Cc: hankr@metisnation.org; consultations@metisnation.org; Haug, Blair
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH # 4 final Ad_English.pdf; OH #4 final Ad_French.pdf

Dear Mr. Bowler,

This email is a follow up to our phone conversation this morning. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the fourth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. The Métis Nation of Ontario's opinion on the alternative design concepts which will be presented at the open house would be valued. We would be pleased to speak to you at the Open House on June 5 or alternatively we can meet you separately to receive your feedback.

Sincerely,

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: May 28, 2013 10:44 AM
To: karla.ransom@akwesasne.ca
Cc: Haug, Blair
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH # 4 final Ad_English.pdf; OH #4 final Ad_French.pdf

Dear Mr. Ransom,

This email is a follow up to the voicemail I left this morning. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the fourth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. The Mohawk Council of Akwesasne's opinion on the alternative design concepts which will be presented at the open house would be valued. We would be pleased to speak to you at the Open House on June 5 or alternatively we can meet you separately to receive your feedback.

Sincerely,

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: May 28, 2013 10:49 AM
To: gilbeaud@gmail.com
Cc: Haug, Blair
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH # 4 final Ad_English.pdf; OH #4 final Ad_French.pdf

Dear President Gilbeau,

This email is a follow up to our phone conversation this morning. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the fourth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. The Ottawa Métis Council's opinion on the alternative design concepts which will be presented at the open house would be valued. We would be pleased to speak to you at the Open House on June 5 or alternatively we can meet you separately to receive your feedback.

Sincerely,

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Janet Stavinga (Algonquins of Ontario) <jstavinga@nrtco.net>
Sent: July 8, 2013 2:51 PM
To: Edmond, Trish
Subject: RE: Announcement for Capital Region Resource Recovery Centre Environmental Assessment

Thank you for these attachments as well, Trish.

Janet Stavinga
Executive Director
_____
Algonquins of Ontario Consultation Office
31 Riverside Drive, Suite 101
Pembroke, ON K8A 8R6
Tel: 613-735-3759 ext 202
Fax: 613-735-6307
Email: jstavinga@nrtco.net
Website: www.tanakiwin.com

-----Original Message-----
From: Edmond, Trish [mailto:Trish_Edmond@golder.com]
Sent: May-28-13 11:34 AM
To: jstavinga@nrtco.net
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment

Dear Ms. Stavinga,

This email is a follow up to the voicemail I left with your office this morning. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the fourth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. The Algonquins of Ontario's opinion on the alternative site design concepts which will be presented at the open house would be valued. We would be pleased to speak to you at the Open House on June 5 or alternatively we can meet you separately to receive your feedback. As indicated in my voicemail, I will send you an electronic copy of the alternative site design concepts next week.

Sincerely,

_____
Trish Edmond (M.E.Sc., P.Eng.) | Associate, Geoenvironmental Engineer | Golder Associates Ltd.
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 x 3246 | F: +1 (613) 592 9601 | C: +1 (613) 799 1960 |
E: Trish_Edmond@golder.com<mailto:Trish_Edmond@golder.com> | www.golder.com<http://www.golder.com/>

Work Safe, Home Safe

Edmond, Trish

From: Thomson, Douglas R. <DTHOMSON@MCCARTHY.CA>
Sent: June 25, 2013 11:34 AM
To: Paul Lamothe
Subject: FW: CRRRC - OH#4 boards
Attachments: Open House #4 Display Boards.pdf

Hi Paul- didn't see you at the recent open house. Just keeping you in the loop. Here are the boards. As always any questions please let me know. Doug

---

Appendix B-7

E-mail Invitation to GRT

Edmond, Trish

From: Farnel, Megan
Sent: May 24, 2013 2:21 PM
To: Farnel, Megan
Subject: 4th Open House for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH #4 final Ad_French.pdf; OH # 4 final Ad_English.pdf

Hello,

On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the fourth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre. You are being sent this as part of the Government Review Team. Should you have any problems viewing the attachment please let me know.

Sincerely,

Megan Farnel (P.Eng) | Environmental Engineer | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 | **D:** +1 (613) 287 3286 ext. 3260 | **F:** +1 (613) 592 9601 | **C:** +1 (613) 402-3571 | **E:** Megan_Farnel@golder.com | **www.golder.com**

Work Safe, Home Safe

Appendix B-8

Bilingual Display Boards

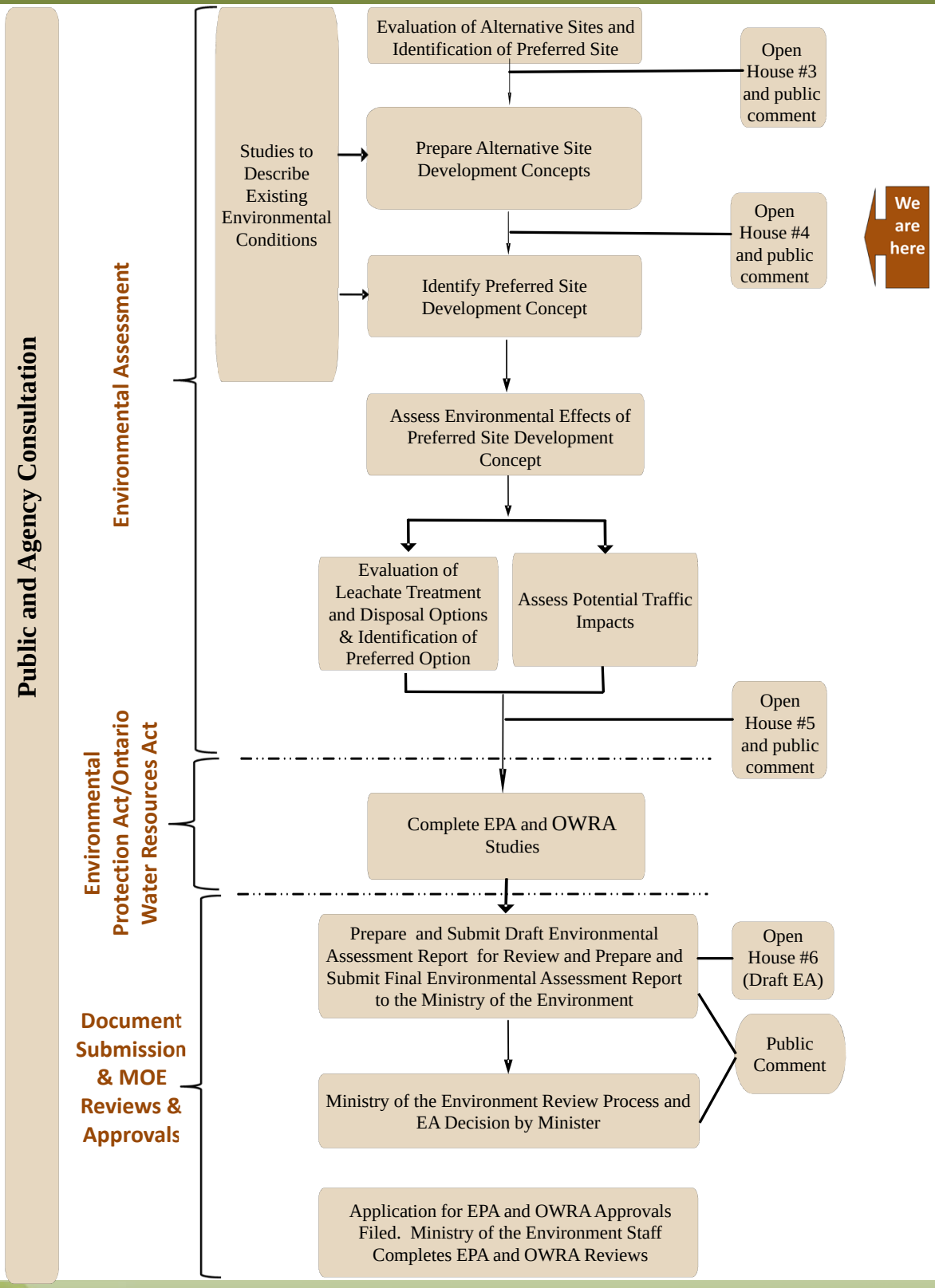
Welcome to Open House #4

Taggart Miller Environmental Services

Environmental Assessment
of the Proposed
Capital Region Resource Recovery Centre
(CRRRC)

Please review our displays and speak with
our representatives

Environmental Assessment/ Environmental Protection Act Process Flow Chart



Approved EA Methodology

PHASE 1: COMPARATIVE EVALUATION OF ALTERNATIVE SITES [Completed, February 2013]

- The comparative evaluation has been completed in accordance with the approved, amended Terms of Reference (TOR).
- The Boundary Road Site has been identified as preferred.
- The North Russell Road Site is no longer being evaluated.

PHASE 2: EA STUDIES

- Phase 2 work is being carried out <u>only for the Boundary Road Site</u> and involves the following tasks.
  - <u>Describe Existing Environment</u> [on-going] – studies are being undertaken to further describe the existing environment that could potentially be affected by the project for each of the proposed environmental components.
  - <u>Identify Preferred Site Development Concept</u> [alternative concepts being presented at Open House #4] – The following have been considered in preparing the alternative concepts:
    1) preliminary facility sizing;
    2) adjacent land uses;
    3) physical and subsurface features; and
    4) the associated Site-related traffic.

    Two site development options have been prepared for public and agency consultation prior to identifying the preferred Site development concept.

Approved EA Methodology, continued

PHASE 2: EA STUDIES (CONTINUED)

- Assess Environmental Effects of Preferred Site Development Concept– predict the environmental effects of the preferred site development concept. The assessment will consider a broad range of environmental components, including air quality, groundwater quality, etc.
- Assessment of Traffic Impacts– since the Boundary Road Site has been selected as the preferred Site, there will be one primary haul route (off Highway 417). The traffic assessment will focus on potential traffic impacts associated with Site-related traffic and identify any required mitigation measures.
- Evaluate Leachate Management Options and Identify Preferred Option – screen potential on-Site leachate treatment technologies and determine off-Site leachate receiver/treatment alternatives. Viable options will be compared to identify the preferred leachate management system.
- Cumulative Impact Assessment – the net effects of the proposed CRRRC project will be combined with the predicted effects of other existing and known proposed projects in the area of the Site.

PHASE 3: COMPLETE AND SUBMIT EA APPLICATION FOR PREFERRED ALTERNATIVE

- The EA will be submitted to the Minister of the Environmental for approval and will be accompanied by two documents :
  - Hydrogeology Study Report
  - Design and Operations Report (including Stormwater Management, Leachate Management, Acoustic Assessment, Air Quality and Odour Assessment and Site Design and Operations)

Boundary Road Site

Aerial photo: November 7, 2012

Boundary Road Site - located in the east part of the City of Ottawa and just southeast of the Highway 417/Boundary Road interchange, east of an existing industrial park. An additional piece of property approximately 10 hectares (25 acres) has recently been optioned on the northwest to allow for a quick site access location off Highway 417. The total property now consists of about 184 hectares (455 acres) of land on Lots 22 to 25, Concession XI, Township of Cumberland.

Geology, Hydrogeology & Geotechnical Summary of Current Findings

Work to Date on Boundary Road Site:

- The workplan to evaluate the existing conditions of the Boundary Road Site is outlined in Appendix C of Volume 1 of the approved amended Terms of Reference.
- The geology, hydrogeology & geotechnical assessment of existing conditions commenced in November 2012.
- Most of the drilling, testing and monitoring well installations have been completed.
- Groundwater level monitoring, sampling and testing, and geotechnical laboratory testing is underway and will continue.
- Assembly and interpretation of available regional information is in progress.

The findings of the drilling program and hydrogeology and geotechnical testing to date are as follows:

Geological Setting

- Variable thickness of surficial silty sand, typically up to about 1.5 m thick, overlying a thick deposit of about 30 m of clay to silty clay, followed by glacial till and Carlsbad Formation bedrock.
- One continuous layer within the silty clay deposit beneath the Site at a depth of about 4.5 to 7 m below ground, consisting of sandy silt to silty sand with a trace of clay and with a thickness ranging from 130 to 600 mm (average about 350 mm).

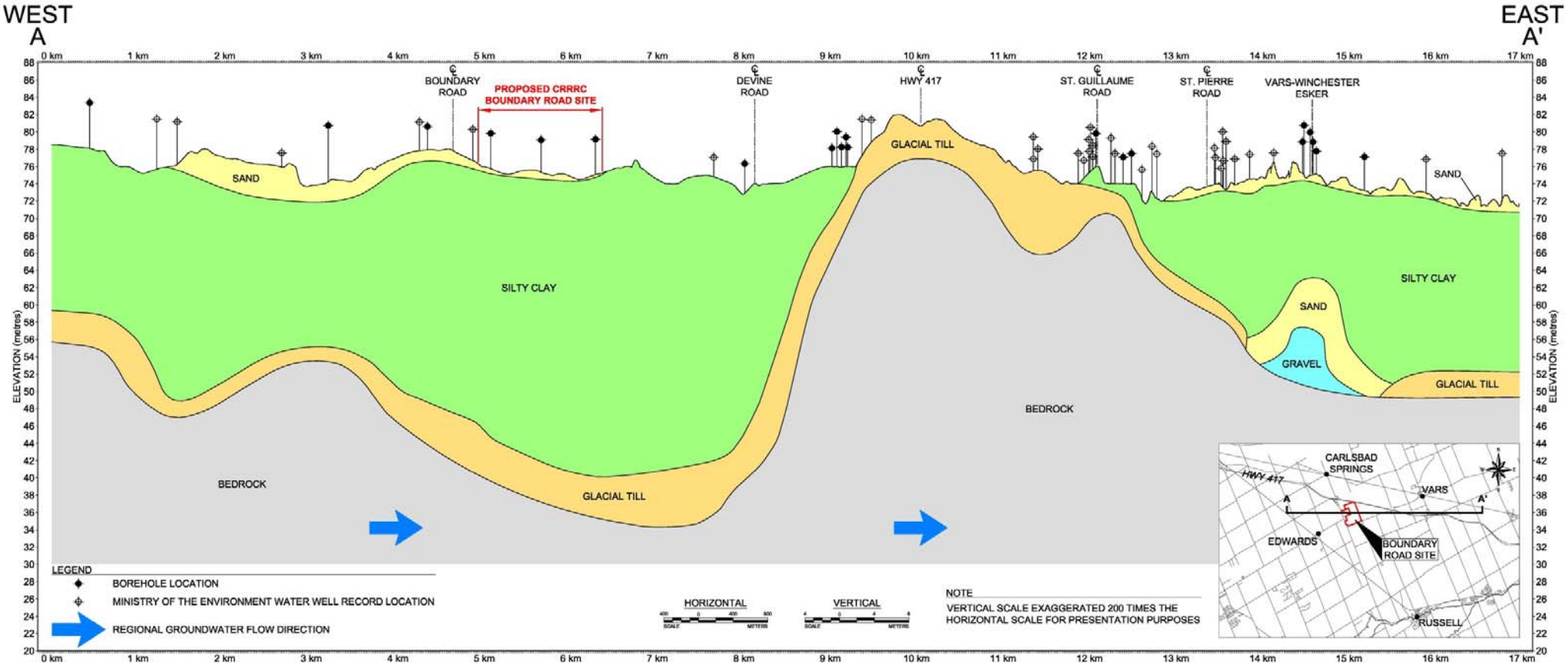
Horizontal Groundwater Flow

- The groundwater flow direction in the shallow silty sand, the upper part of thick silty clay, glacial till and shallow bedrock is interpreted to be towards the east (i.e., away from nearby off-Site groundwater users).
- The rate of groundwater flow in the surficial silty sand and silty clay is slow to very slow.

Interpreted Direction and Rate of Vertical Groundwater Flow

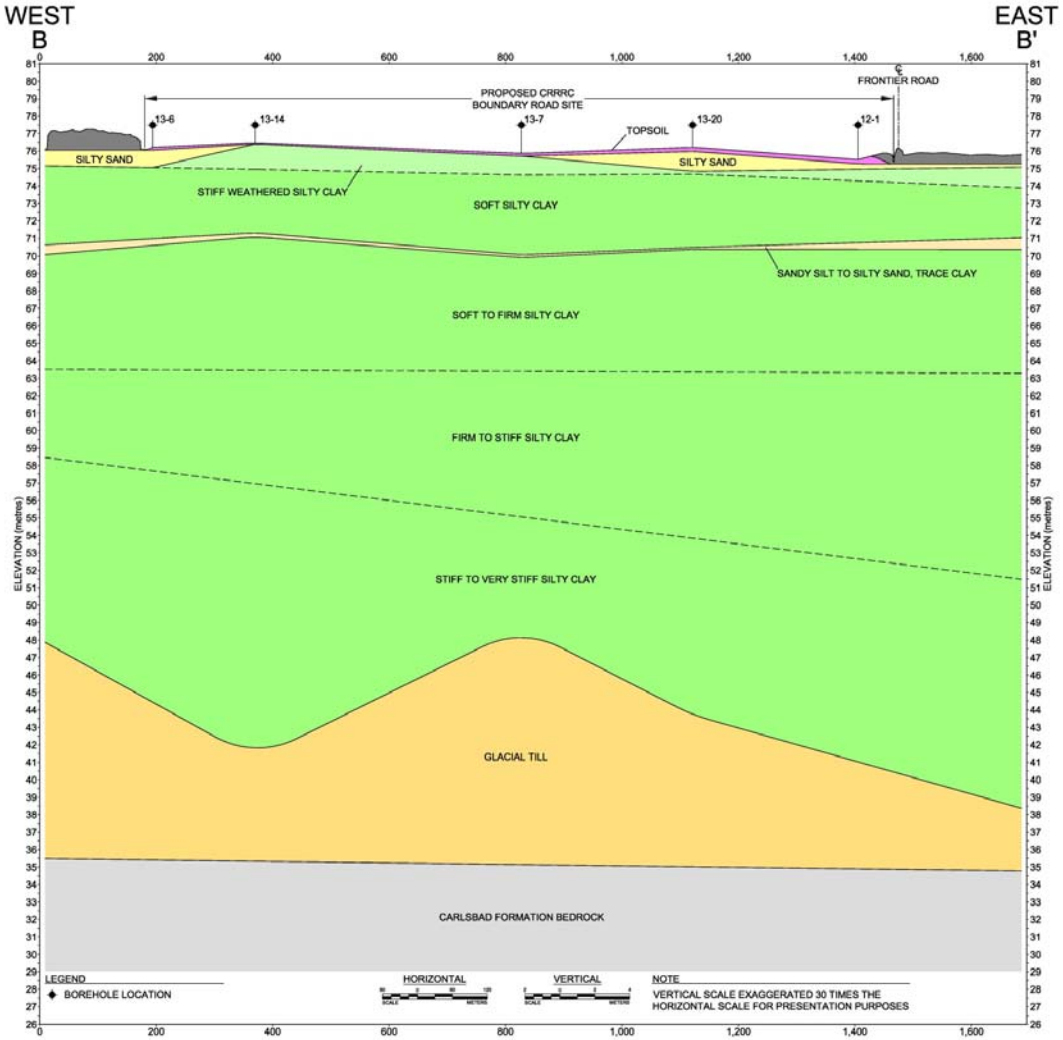
- Based on the groundwater elevation data collected to date, vertical gradients at the site are indicated to be either absent or downward. The thick silty clay deposit acts as a barrier to groundwater recharge from surface.

Geology, Hydrogeology & Geotechnical Summary of Current Findings, continued

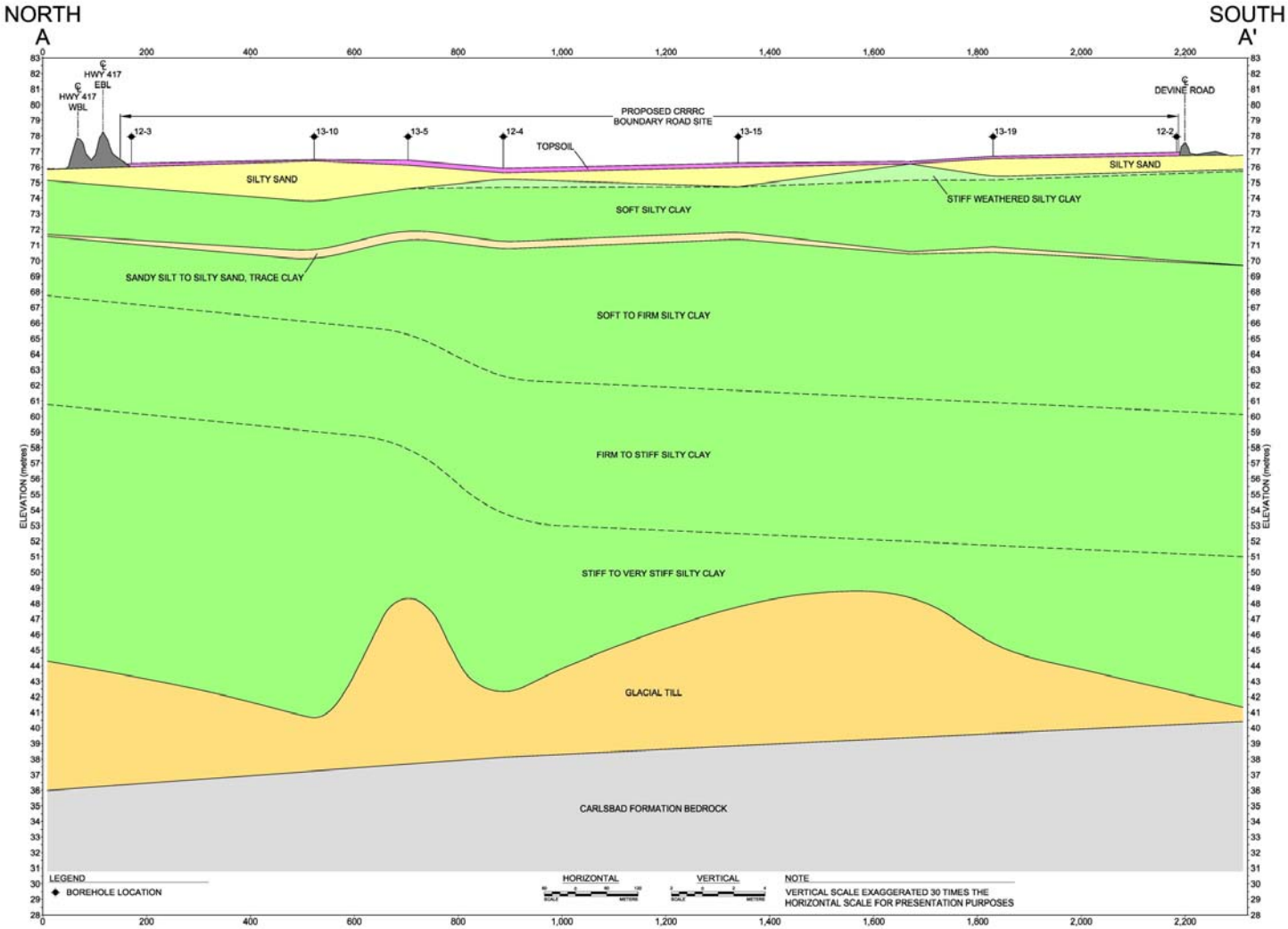


REGIONAL GEOLOGIC CROSS-SECTION

Geology, Hydrogeology & Geotechnical Summary of Current Findings, continued

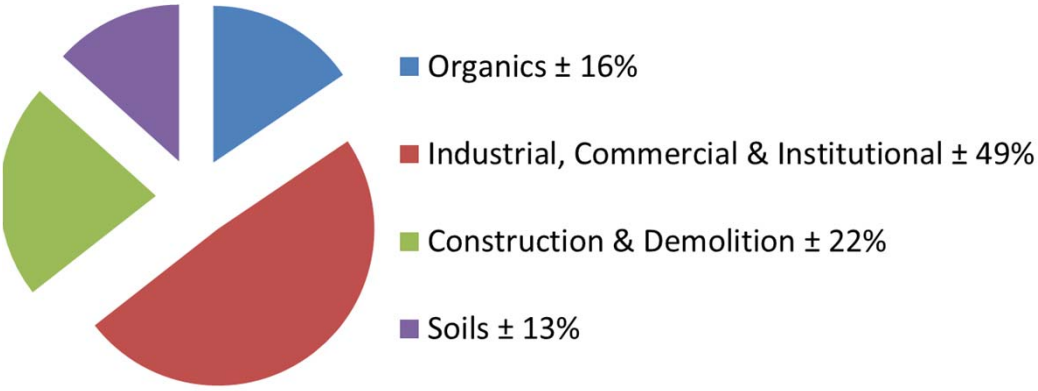


Geology, Hydrogeology & Geotechnical Summary of Current Findings, continued



Anticipated Material Receipt and Diversion Rates

Anticipated material receipts at the CRRRC



- Up to 450,000 tonnes/year
- Overall projected diversion rate over time 43-57%

Typical Industrial & Commercial Waste Material Recovery Facility (MRF) / Installation typique de récupération des déchets industriels et commerciaux

Steel Magnet / Aimant de fer

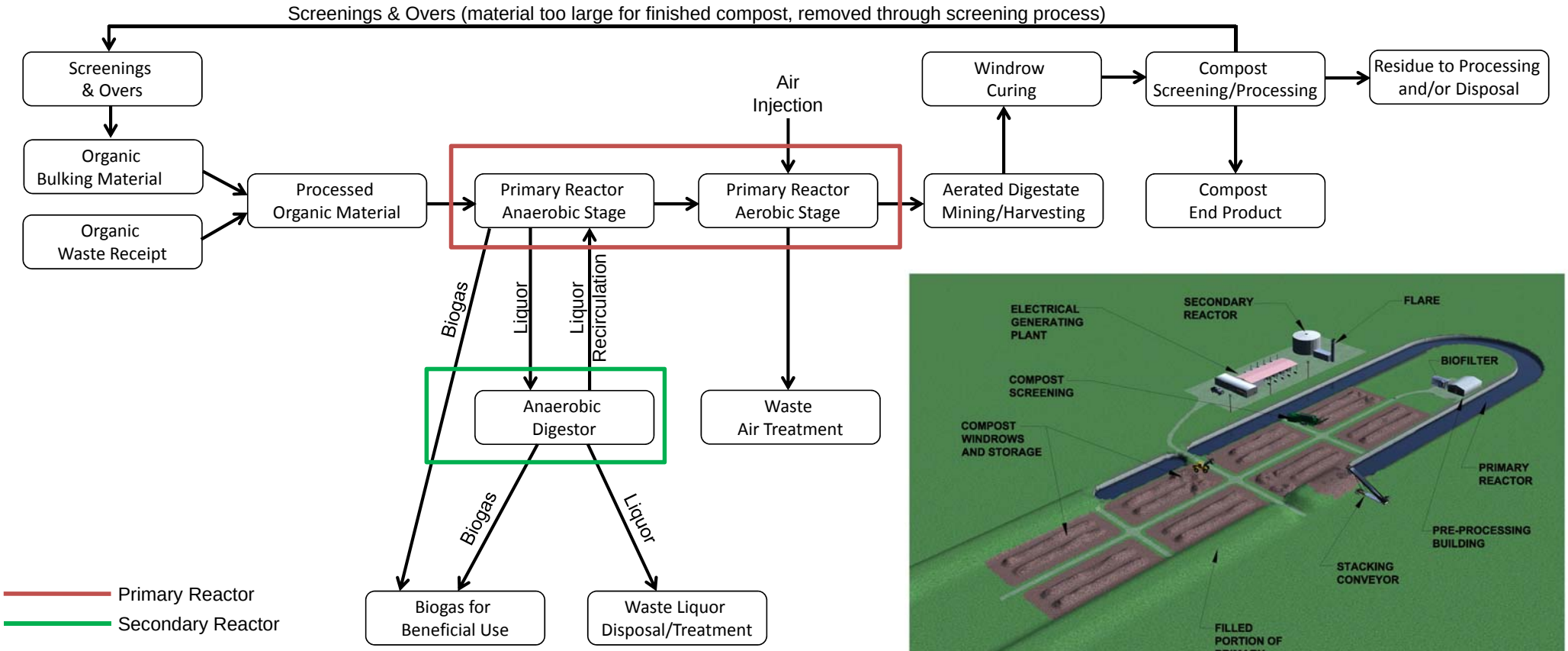
Material Recovery Facility / Centre de tri

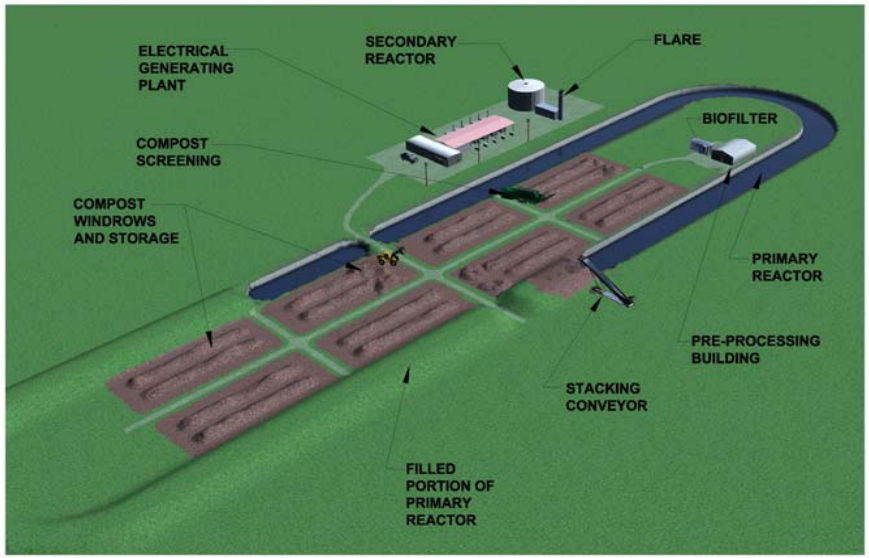
Typical Recovered Baled Material / Matériel typique ayant été récupéré et mis en balles

Recovered Material / Matériel récupéré

Recovered Material Baler / Presse à balles du matériel récupéré

Anaerobic Digestion System for Organic Waste





Modern Construction & Demolition (C&D) Waste Material Recovery Facility

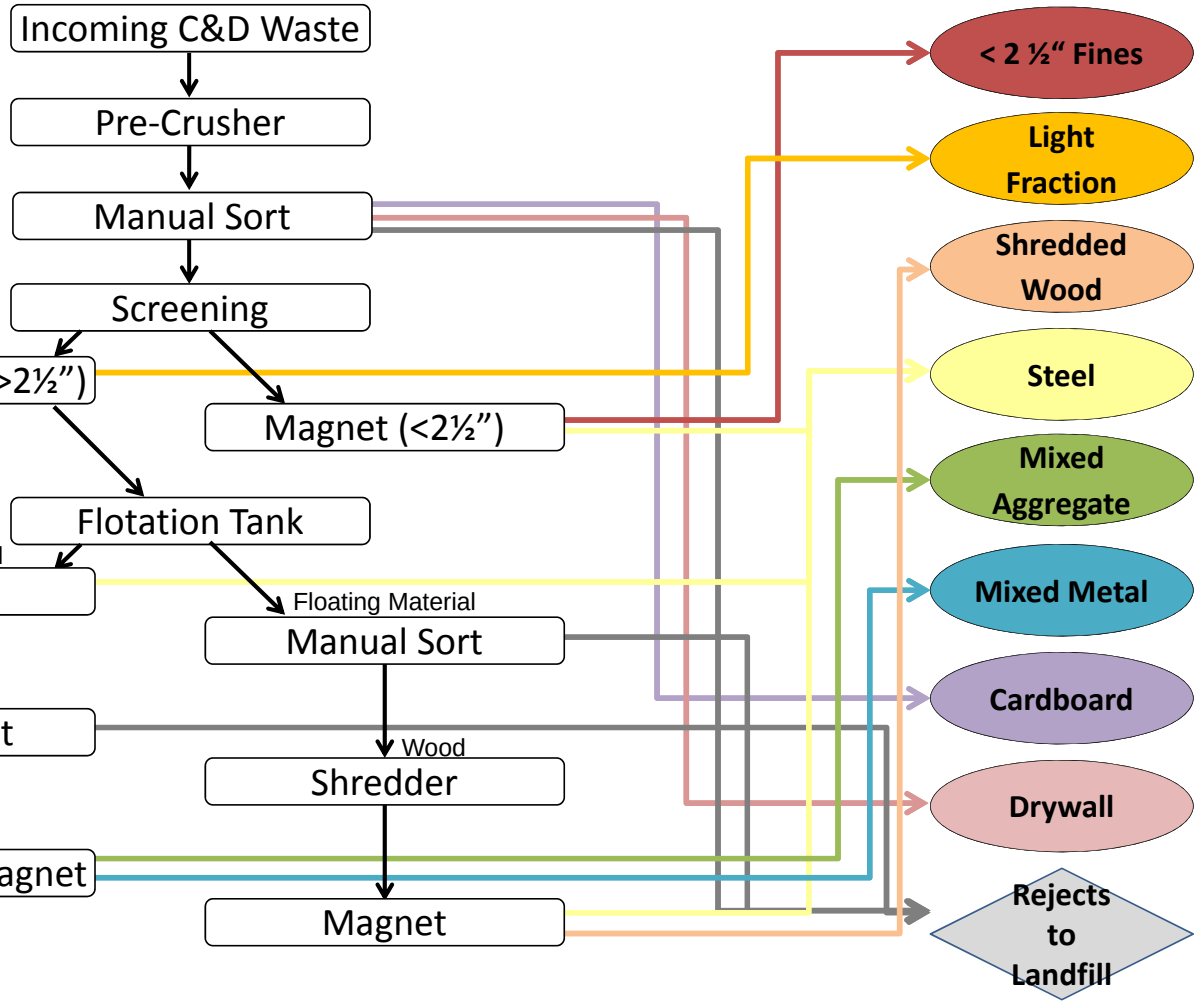
Modern C&D Waste Processing Facility

Typical C&D Waste

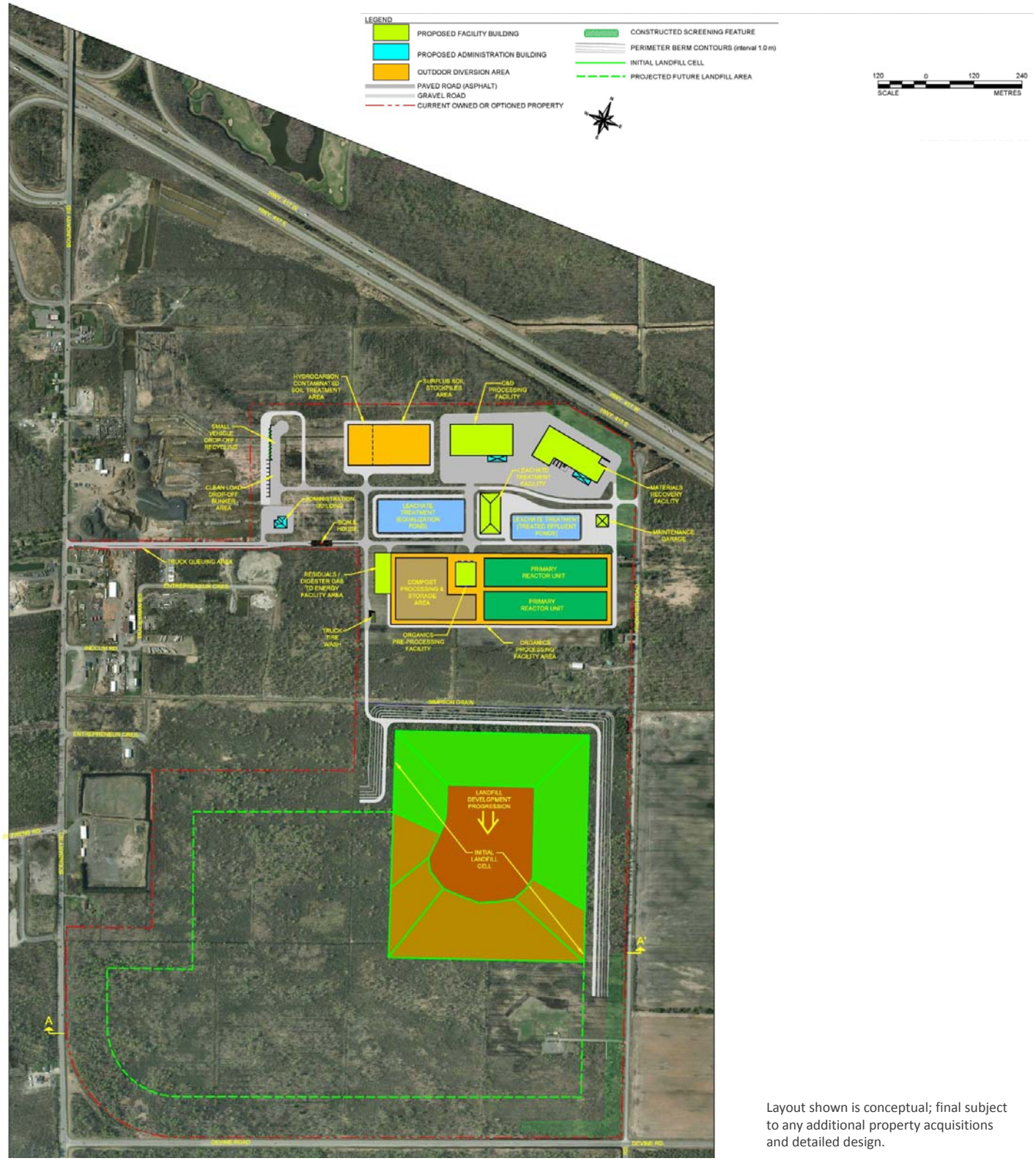
Ground Wood Product

C&D Waste Processing

Air Cleaning System

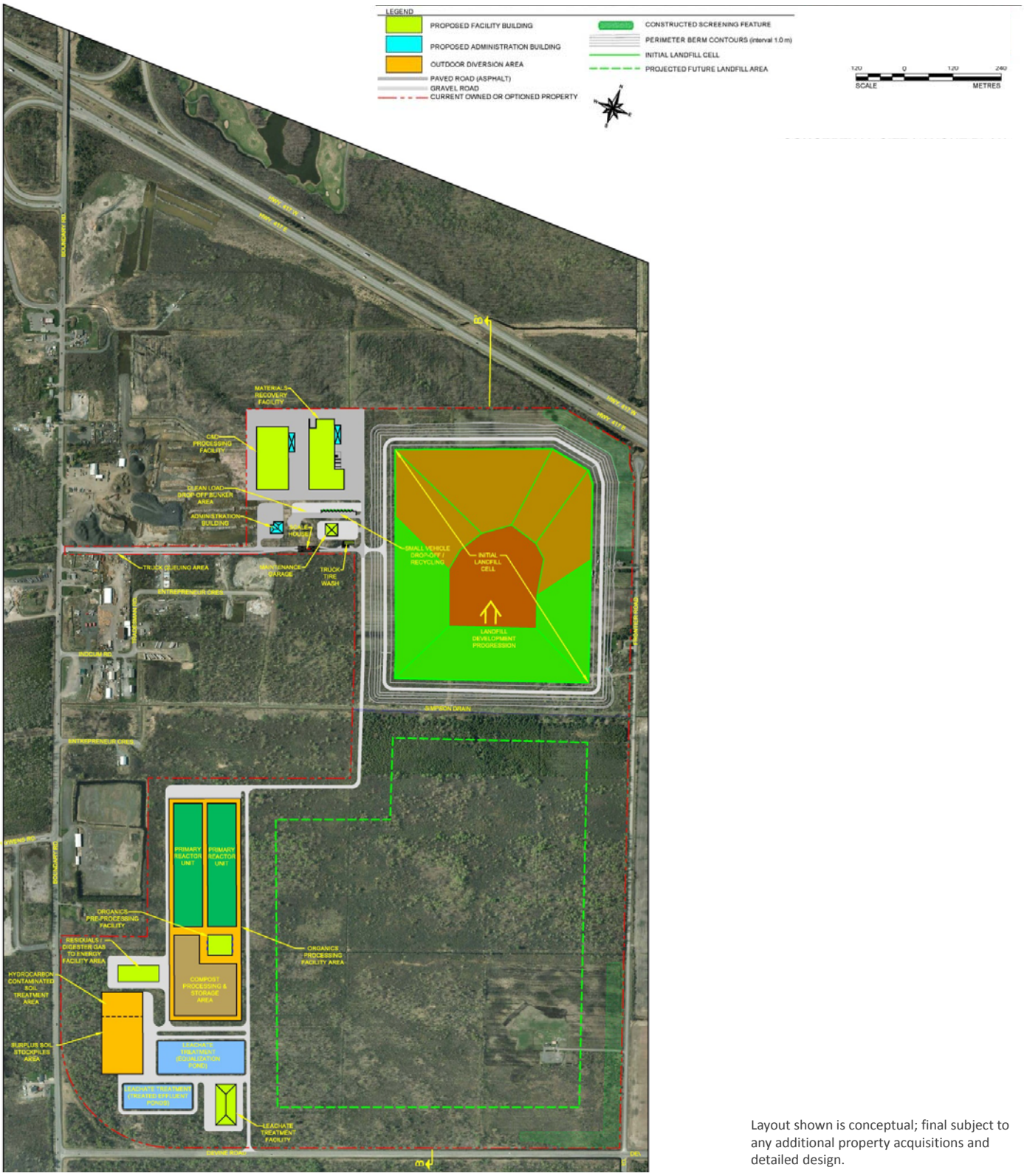


Alternative Conceptual Site Design A



Layout shown is conceptual; final subject to any additional property acquisitions and detailed design.

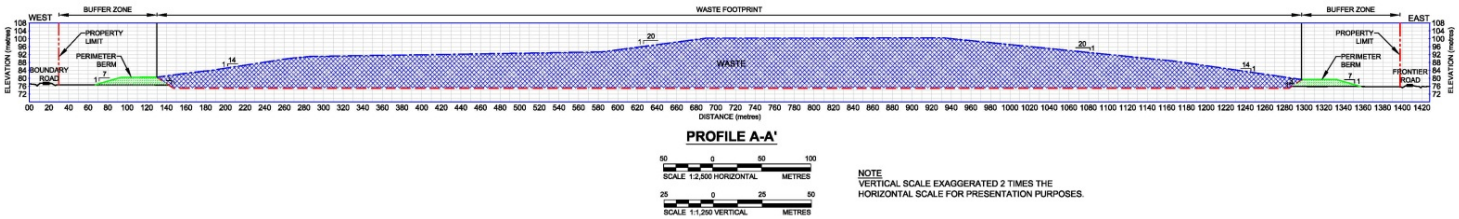
Alternative Conceptual Site Design B



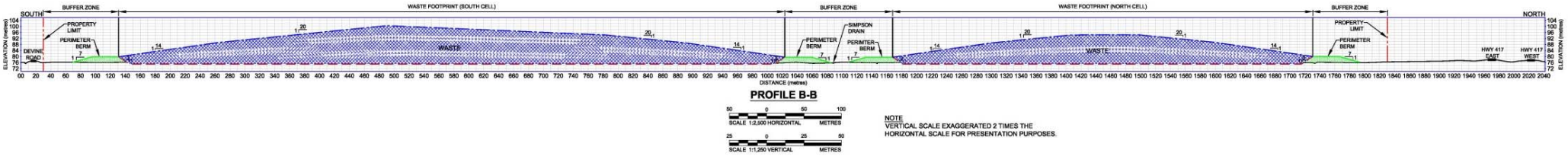
Layout shown is conceptual; final subject to any additional property acquisitions and detailed design.

Alternative Conceptual Site Designs A & B
Landfill Cross Sections

Alternative A



Alternative B



Preliminary Visual Assessment
Viewpoint 1 – Alternative A

Original Photo

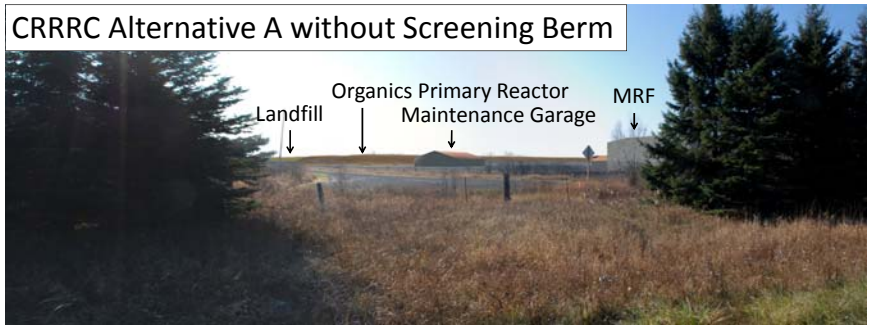
CRRRC Alternative A without Screening Berm

CRRRC Alternative A with Screening Berm

Preliminary Visual Assessment
Viewpoint 2 – Alternative A

Original Photo

CRRRC Alternative A without Screening Berm



CRRRC Alternative A with Screening Berm

Preliminary Visual Assessment
Viewpoint 2 – Alternative B

Original Photo

CRRRC Alternative B without Screening Berm

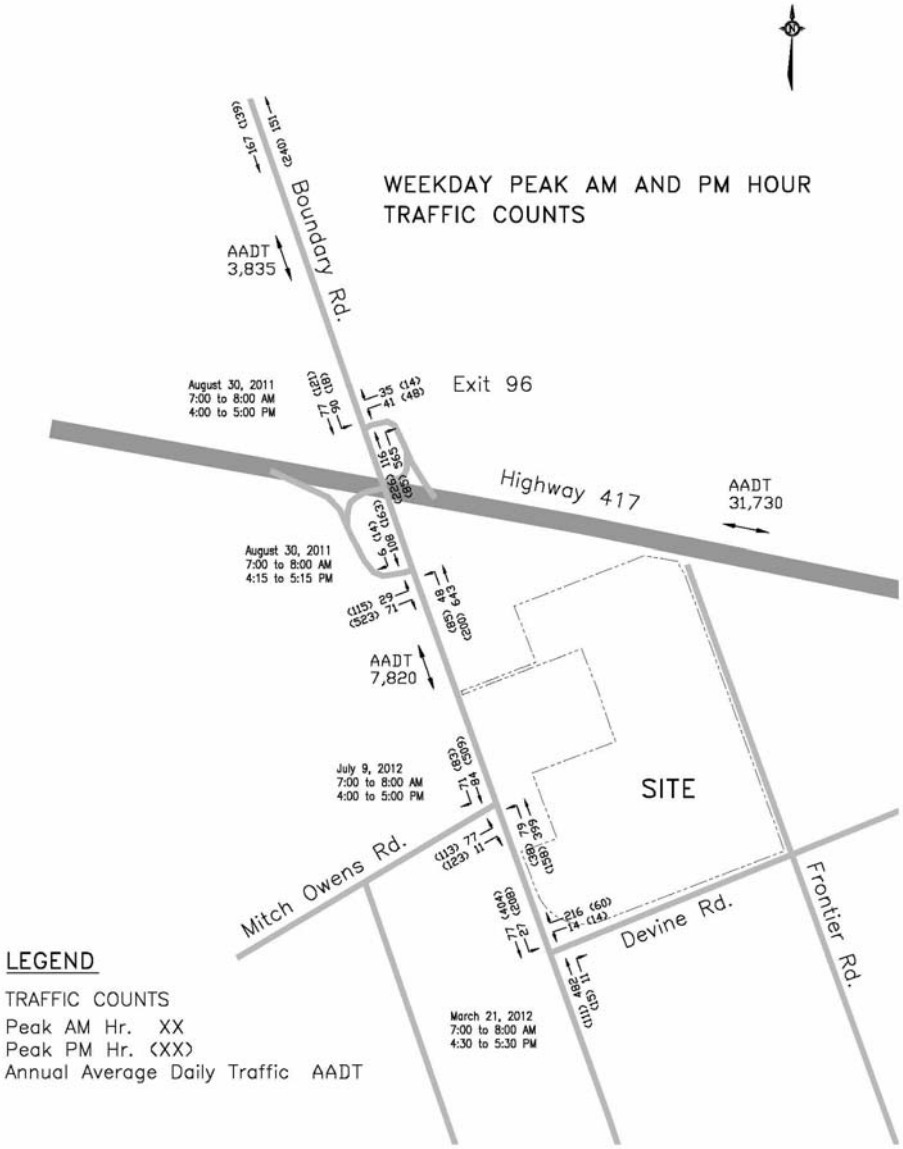
CRRRC Alternative B with Screening Berm

Preliminary Visual Assessment
Viewpoint 3 – Alternative A

Preliminary Visual Assessment
Viewpoint 3 – Alternative B

Existing Conditions

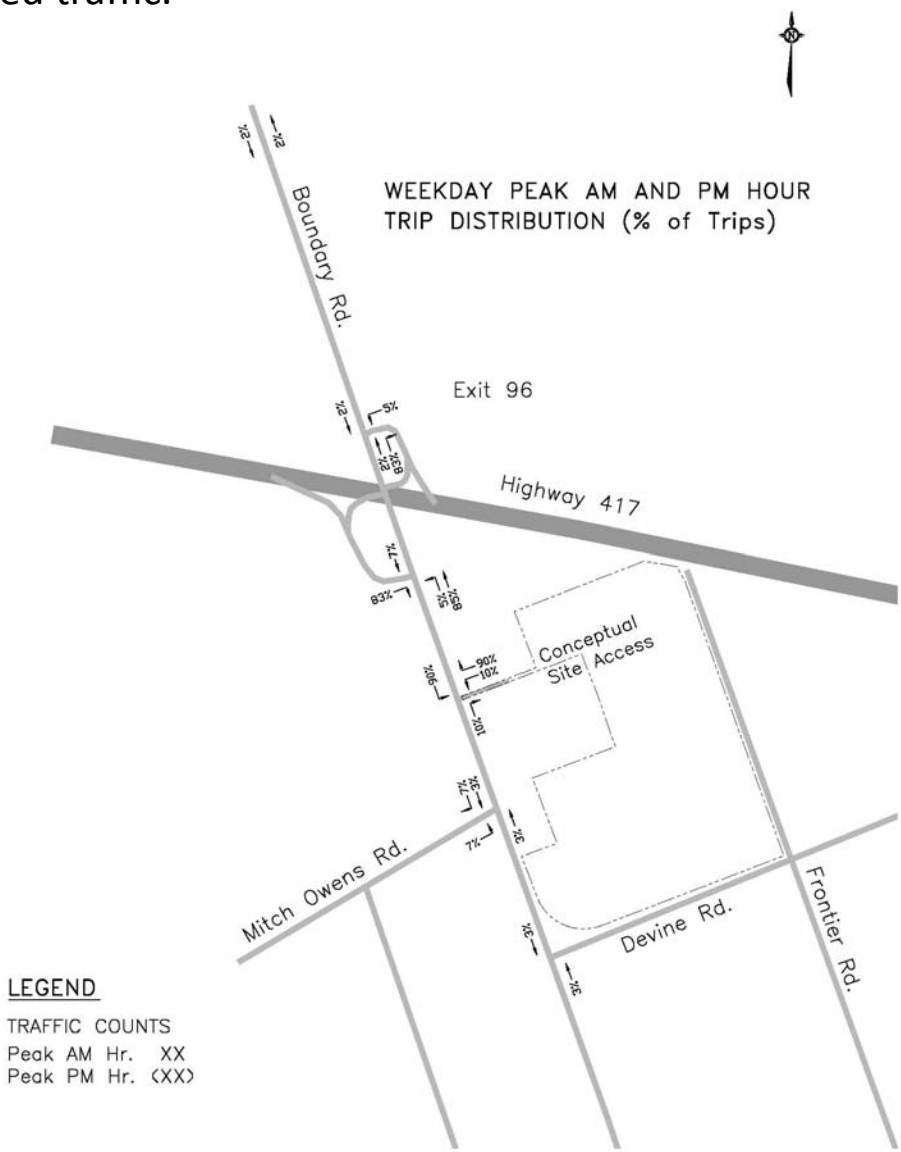
- Existing traffic counts from the City of Ottawa and the Ministry of Transportation.
- Peak hourly traffic counts outline the highest demand for travel in the AM and the PM.
- Average Annual Daily Traffic along Boundary Road is approximately 8,000 vehicles south of the 417 per day and the 8 hour truck traffic south of the 417 is approximately 9 to 10 % of the total daily traffic volumes.



Preliminary Traffic Assessment, continued

Expected Haul Routes and Site-Related Traffic Distribution

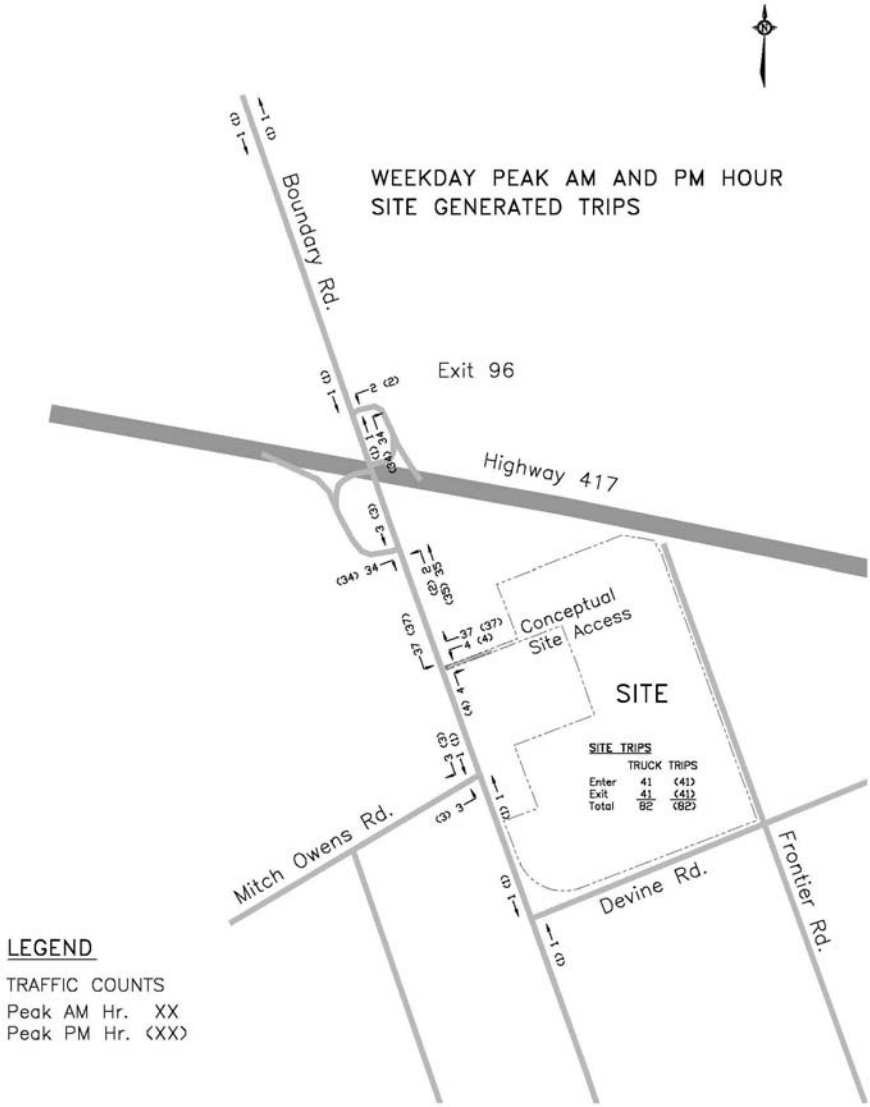
- The figure below shows the anticipated haul routes and what percentage of the CRRRC operational traffic each haul route is currently anticipated to receive.
- The main haul route is Highway 417 eastbound and Boundary Road southbound, handling approximately 80 to 85% of the incoming site-related traffic.



Preliminary Traffic Assessment, continued

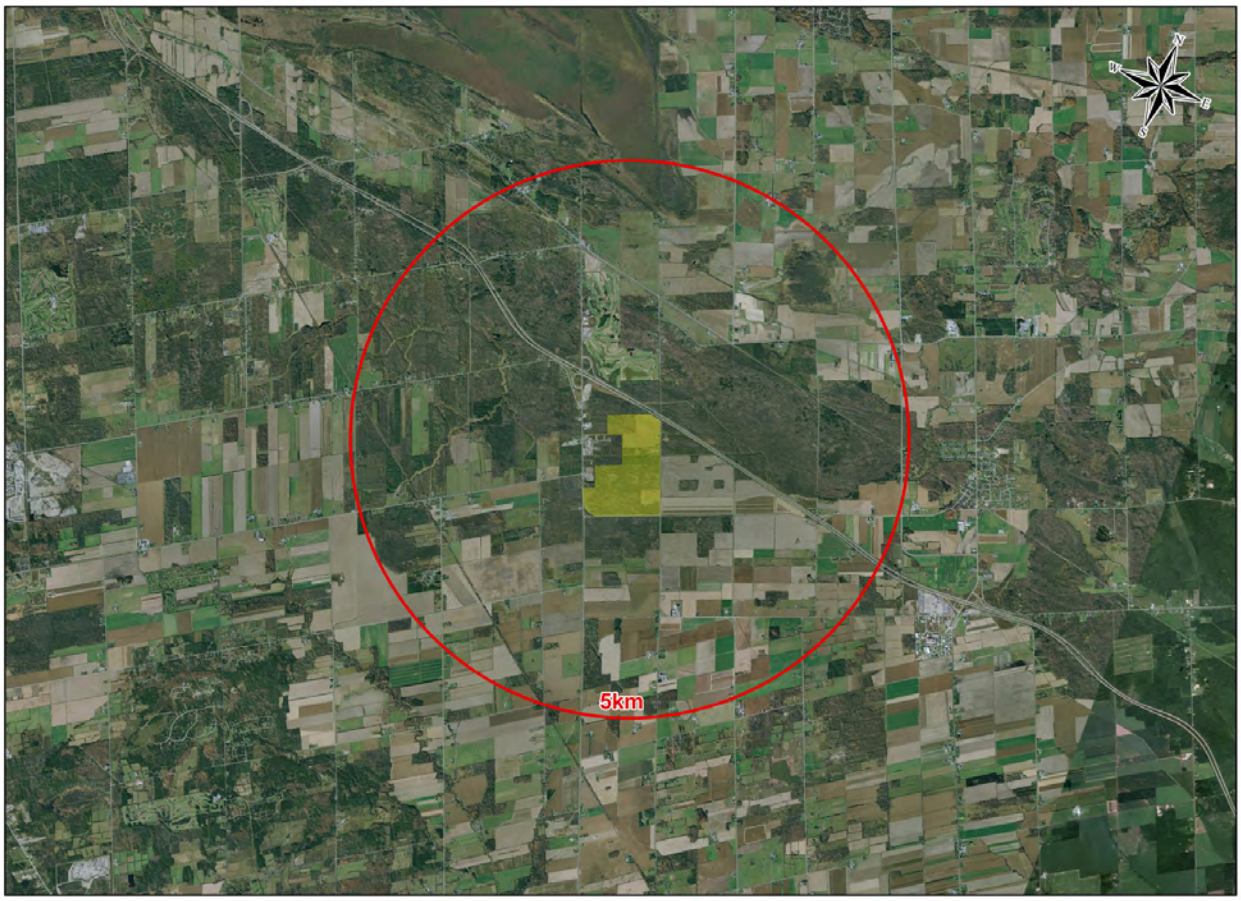
Expected Site-Related Traffic Impacts

- The figure below shows the peak hourly number of site-related trucks anticipated on each of the haul routes as a results of the CRRRC.
- The maximum total number of trucks per day (incoming and outgoing) is estimated at 271 during a 10 hour day.
- Existing traffic was projected to the future and operational analysis has been completed with the addition of the CRRRC.
- All existing intersections would operate at an acceptable level of service. A left turn lane is proposed for the southbound Boundary Road left turn into the site.
- Note that the peak hourly AM and PM existing traffic will not coincide with peak hourly CRRRC traffic, although the analysis has been completed this way.
- Final assessment of site access subject to discussion with the City.



Potential CRRRC Property Value Protection Plan (PVPP)

- The City of Ottawa has suggested that a 5 km radius is appropriate for the property value protection plan of the proposed re-opened landfill in West Carleton.
- This plan shows a 5 km distance around the CRRRC Boundary Road Site.
- Taggart Miller is interested in your comments.



Groundwater Workshop

Taggart Miller is proposing a groundwater workshop on Saturday June 22 in Carlsbad Springs.

Topics to be covered include groundwater in general, groundwater in the area of the Boundary Road Site proposed for the CRRRC project, and groundwater protection.

See the desk at the entrance for registration details.

Next Steps and Schedule

Following this Open House #4 Taggart Miller will be:

- Continuing the groundwater, surface water and biology monitoring at the Boundary Road Site;
- Completing drilling at the Boundary Road Site;
- Completing the other studies of the existing environment at the Boundary Road Site as described in the approved TOR;
- Notifying the public of the preferred Site development concept following this Open House;
- Completing the evaluation of environmental effects associated with the preferred Site development concept; and
- Hosting Open House #5 to present the assessment of environmental effects associated with the preferred Site development concept, the results of the leachate treatment assessment, an outline of the proposed EA/EPA documentation package, and an overview of the proposed schedule for submissions and the Ministry decision making process. Open House #5 is tentatively scheduled for the fall of 2013.

There are many opportunities for you to get involved and provide your views.

- Complete the comments sheet provided at this Open House #4.
- Sign up for the groundwater workshop.
- Request a meeting and/or additional information.
- Visit our website **CRRRC.ca** to obtain information and provide comments.

Project Contact:
Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Phone 613-454-5580
Fax 613-454-5581
Email: hjbourque@crrrc.ca

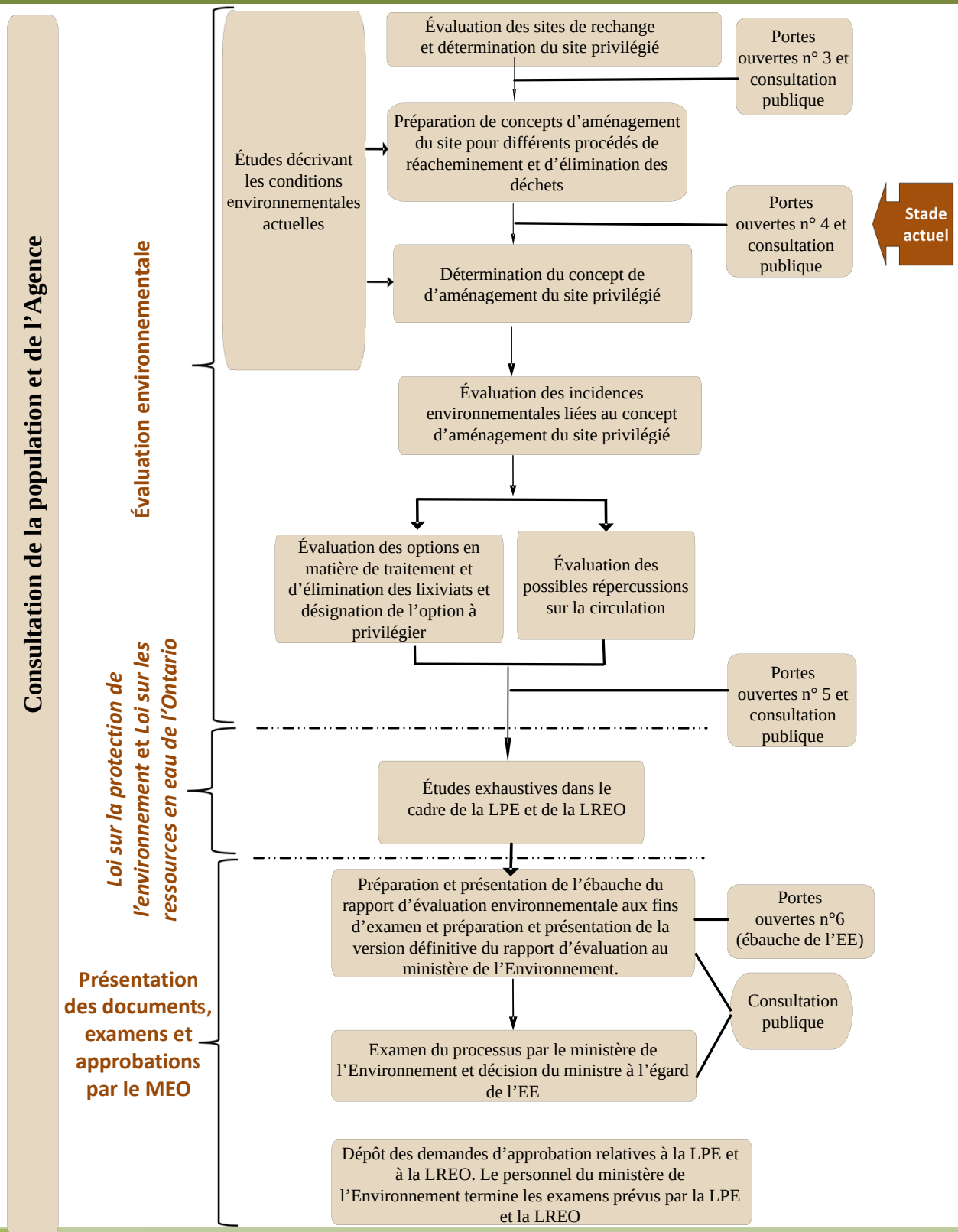
Bienvenue à la séance portes ouvertes nº 4

Taggart Miller Environmental Services

Évaluation environnementale du projet du Centre de récupération des ressources de la région de la capitale (CRRRC)

Veuillez examiner nos présentations et en discuter avec nos représentants.

Organigramme du processus de la LPE et des évaluations environnementales



Méthodes d'EE approuvées

PHASE 1 : ÉVALUATION COMPARATIVE DES SITES DE RECHANGE [terminée, février 2013]

- L'évaluation comparative a été réalisée selon le cadre de référence approuvé tel que modifié.
- Le site du chemin Boundary a été désigné comme étant le site privilégié.
- Le site du chemin Russell Nord n'est plus en cours d'évaluation.

PHASE 2 : ÉTUDES D'EE

- Les travaux de la phase 2 seront réalisés uniquement sur le site du chemin Boundary et comprendront les tâches suivantes :
  - Description de l'environnement actuel [en cours] – Des études sont menées pour décrire plus précisément l'environnement actuel et les incidences que pourrait avoir le projet sur chacune des composantes environnementales proposées.
  - Déterminer le concept d'aménagement du site privilégié [des options de concepts sont présentées lors de la journée portes ouvertes nº 4] – On a tenu compte des éléments suivants au moment de préparer les options de concepts :
    1) l'évaluation préliminaire des dimensions des installations
    2) la vocation des terres adjacentes
    3) les caractéristiques physiques et sous-terraines
    4) la circulation de véhicules relative au site

    On propose deux options d'aménagement du site qui feront l'objet d'une consultation auprès de la population et de l'agence avant de déterminer le concept d'aménagement du site privilégié.

PHASE 2 : ÉTUDES D'EE (SUITE)

- Évaluation des effets environnementaux du concept d'aménagement du site privilégié – Prévoir les effets du concept d'aménagement du site privilégié sur l'environnement. L'évaluation tiendra compte d'une vaste gamme de composantes environnementales, y compris la qualité de l'air et la qualité des eaux souterraines.
- Évaluation des incidences en matière de circulation – Étant donné que le site du chemin Boundary a été désigné comme étant le site privilégié, on s'attend à ce qu'il y ait une route de transport principale (aux abords de l'autoroute 417) et peut-être plus d'un point d'accès possible. L'évaluation de la circulation mettra l'accent sur les incidences que pourrait avoir la circulation liée au site et permettra de déterminer les mesures d'atténuation nécessaires.
- Évaluation des options de gestion des lixiviats et détermination de l'option privilégiée – Examiner des technologies potentielles de traitement des lixiviats et déterminer les solutions de rechange pour recueillir ou traiter les lixiviats sur le site ou traiter/déverser hors-site. On comparera différentes options viables afin de déterminer le système de gestion des lixiviats à privilégier.
- Évaluation des répercussions cumulatives – Les effets nets du projet du CRRRC proposé seront combinés aux effets prévus d'autres projets proposés existants et connus en périphérie du site.

PHASE 3 : REMPLIR ET PRÉSENTER DES DEMANDES D'EE POUR LE SITE DE RECHANGE PRIVILÉGIÉ

- L'EE sera présentée au ministère de l'Environnement aux fins d'approbation et sera accompagnée de deux documents suivants :
  - Un rapport d'étude de l'hydrogéologie.
  - Un rapport sur l'aménagement et l'exploitation du site (notamment la gestion des eaux pluviales, la gestion des lixiviats, l'évaluation acoustique, l'évaluation de la qualité de l'air et des odeurs de même que l'aménagement et l'exploitation du site).

Site du chemin Boundary

Photo aérienne : le 7 novembre 2012

Site du chemin Boundary – Situé dans la partie est de la Ville d'Ottawa et au sud-est de l'échangeur de l'autoroute 417 et le chemin Boundary, à l'est d'un parc industriel. Il y a peu, on a exercé une option portant sur un autre terrain d'une superficie d'environ 10 hectares (25 acres) au nord-ouest afin de permettre un accès rapide au site en quittant l'autoroute 417. La propriété a dorénavant une superficie d'environ 184 hectares (455 acres) de terre et occupe les lots 22 à 25 de la concession XI du canton de Cumberland.

Travaux réalisés à ce jour sur le site du chemin Boundary

- Le plan de travail portera sur l'évaluation des conditions actuelles du site du chemin décrites à l'annexe C du volume 1 du Cadre de référence approuvé tel que modifié.
- L'analyse des données géologiques, hydrogéologiques et géotechniques des conditions actuelles a débuté en novembre 2012.
- La plupart des travaux de forage, d'essais et de surveillance des puits sont terminés.
- La surveillance des niveaux des eaux souterraines, la prise et l'analyse d'échantillons ainsi que les essais en laboratoire de recherche géotechnique sont en cours d'exécution et se poursuivront.
- On procède actuellement à l'intégration et à l'interprétation des données régionales disponibles.

Voici les conclusions du programme de forage et des essais hydrogéologiques et géotechniques effectués à ce jour :

Cadre géologique

- L'épaisseur du sable limoneux en superficie varie pour atteindre jusqu'à 1,5 m. Ce sable recouvre un dépôt d'argile et d'argile limoneuse d'une profondeur de quelque 30 m, qui, à son tour est suivtill eti d'un till et le substrat rocheux de la formation Carlsbad.
- On trouve une strate continue à l'intérieur du dépôt d'argile limoneuse sous le site à une profondeur de 4,5 à 7 m sous la surface du sol. La composition de cette strate varie d'un silt sableux à un sable limoneux avec des traces d'argile; son épaisseur fluctue de 130 à 600 mm (environ 350 mm en moyenne).

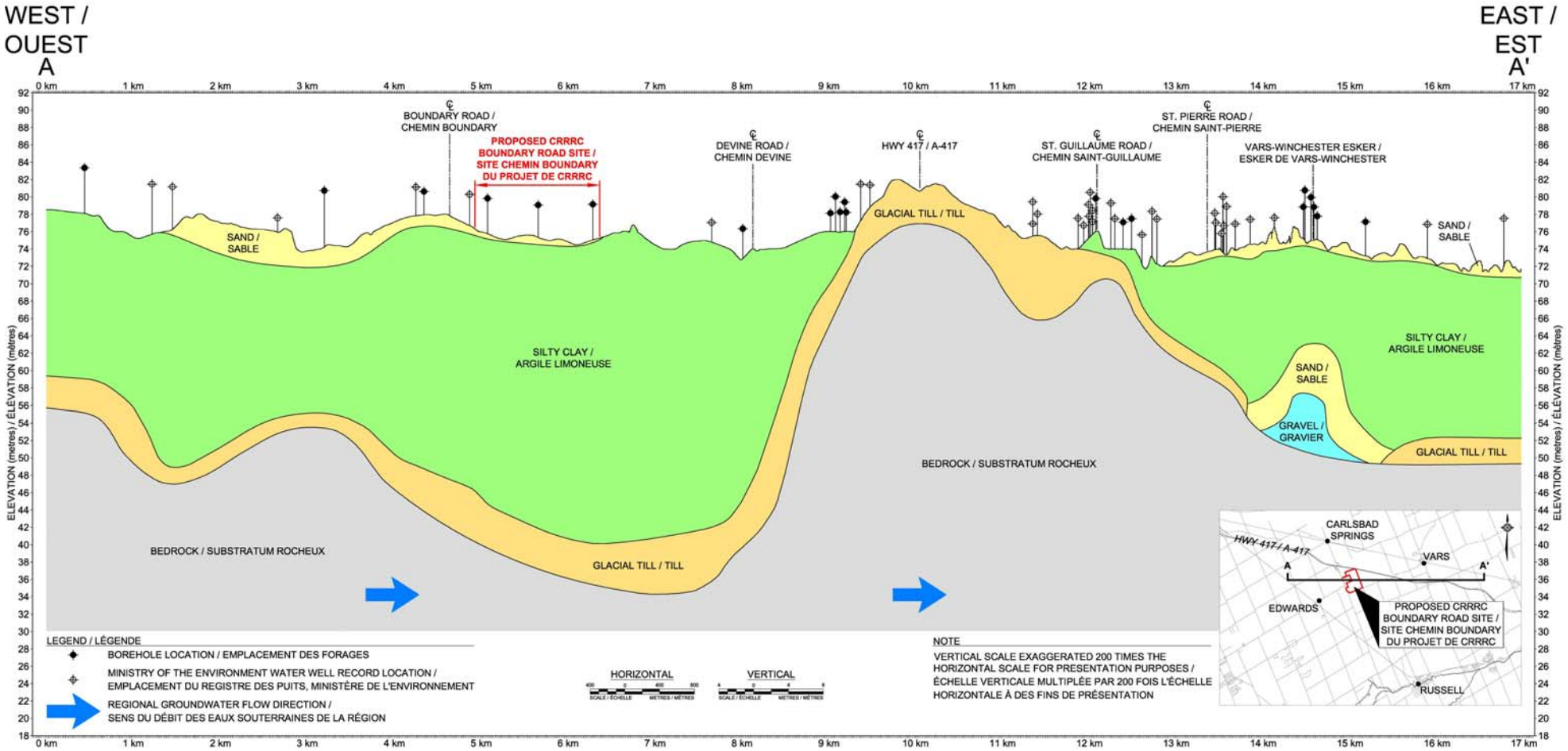
Écoulement horizontal des eaux souterraines

- Selon les interprétations, l'écoulement des eaux souterraines dans le sable limoneux peu profond, la partie supérieure de la couche épaisse d'argile limoneuse, de till et de substrat rocheux de faible profondeur se fait en direction de l'est (c.-à-d. dans le sens opposé des usagers des eaux souterraines à proximité du site).
- Le débit de l'écoulement des eaux souterraines dans les dépôts superficiels de sable limoneux et l'argile limoneuse en surface varie de lent à très lent.

Sens et débit de l'écoulement vertical des eaux souterraines après interprétation

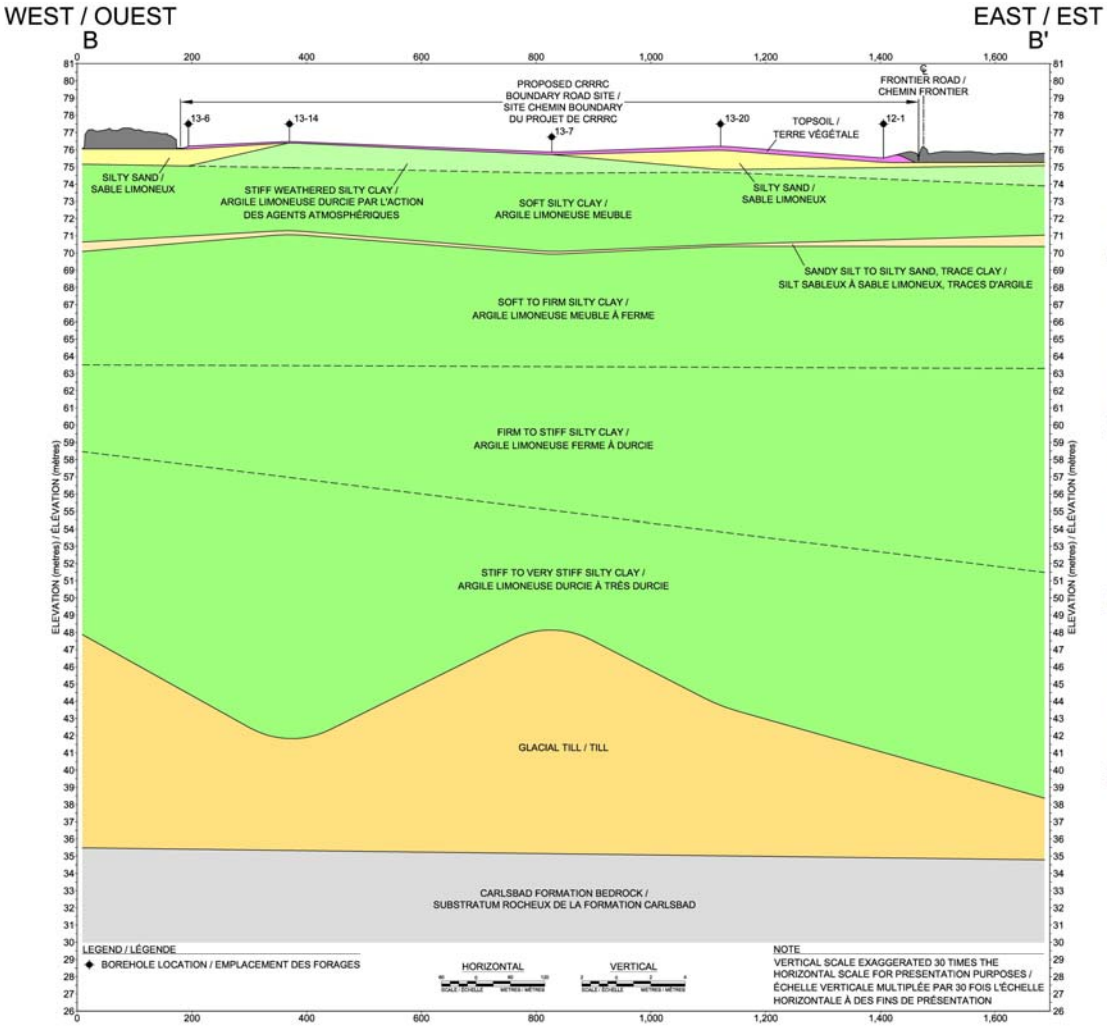
- Calculés en s'appuyant sur les données sur les niveaux hydrostatiques recueillis à ce jour, les gradients verticaux au site sont indiqués comme étant nuls ou en pente descendante. La densité des dépôts d'argile limoneuse constitue un obstacle à l'alimentation de la nappe phréatique par les eaux de surface.

Geology, Hydrogeology & Geotechnical Summary of Current Findings/ Sommaire des données actuelles (géologie, hydrogéologie et géotechnique)

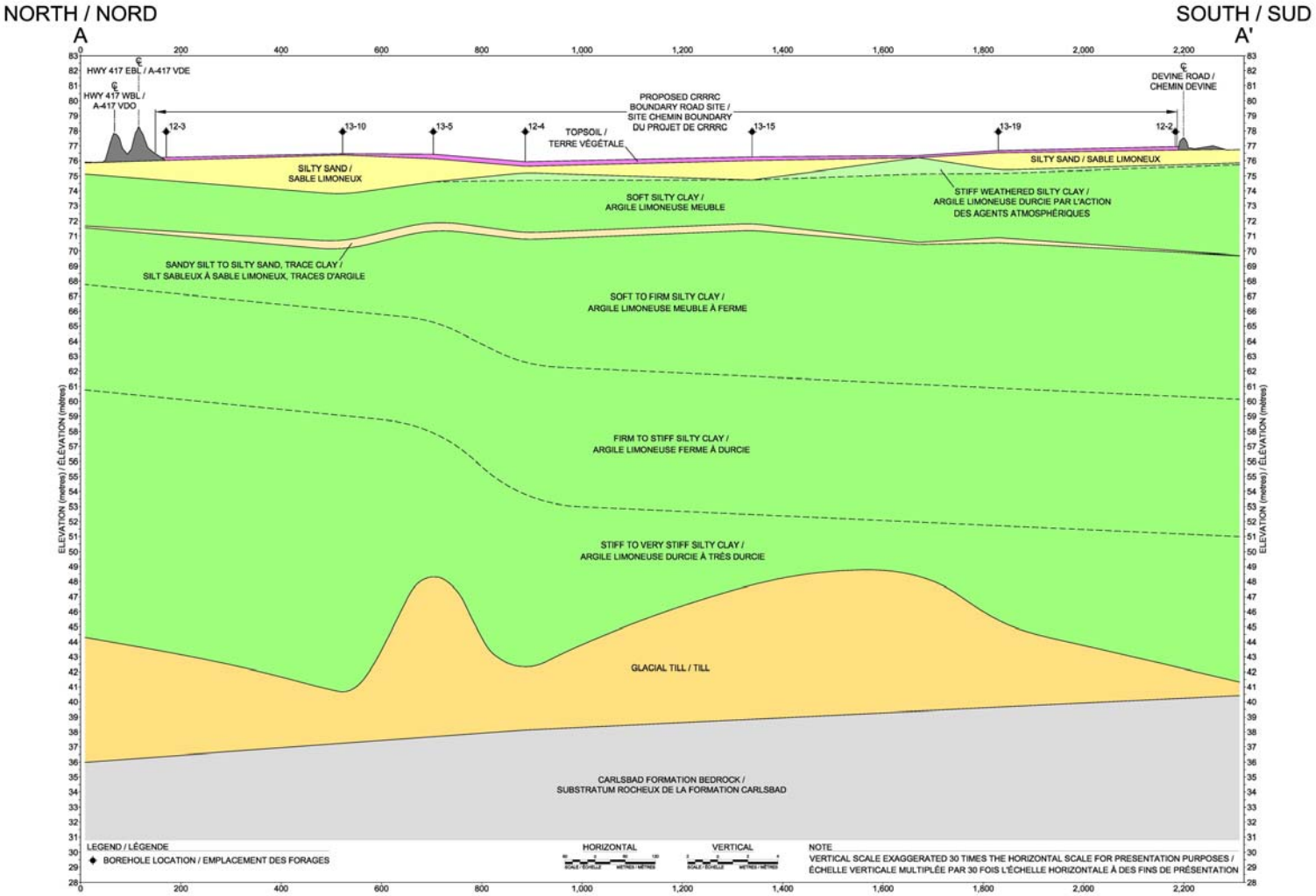


REGIONAL GEOLOGIC CROSS-SECTION / COUPE TRANSVERSALE DES CARACTÉRISTIQUES GÉOLOGIQUES DE LA RÉGION

Geology, Hydrogeology & Geotechnical Summary of Current Findings/ Sommaire des données actuelles (géologie, hydrogéologie et géotechnique)

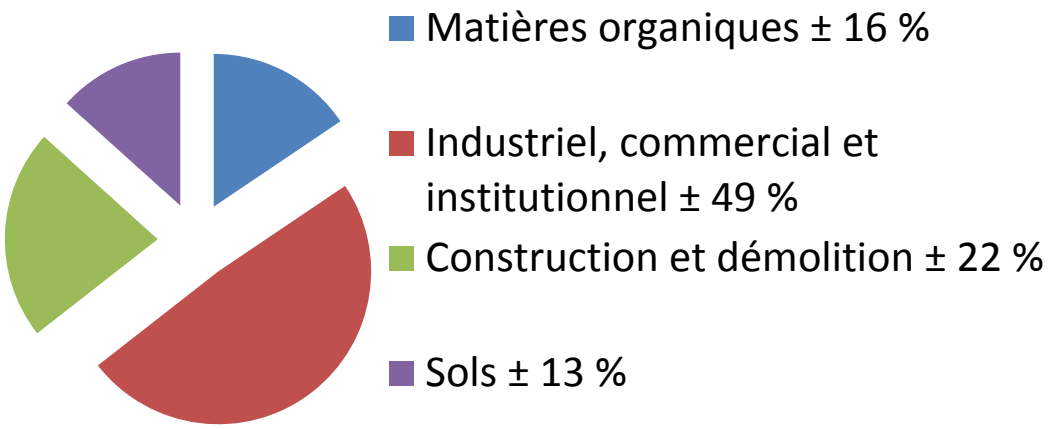


Geology, Hydrogeology & Geotechnical Summary of Current Findings/ Sommaire des données actuelles (géologie, hydrogéologie et géotechnique)



Taux prévus de réception et de détournement des matières

Taux prévus de réception des matières au CRRRC



- Jusqu'à 450 000 tonnes/année
- Le taux de réacheminement global projeté au fil du temps 43-57 %

Typical Industrial & Commercial Waste Material Recovery Facility (MRF) / Installation typique de récupération des déchets industriels et commerciaux

Steel Magnet / Aimant de fer

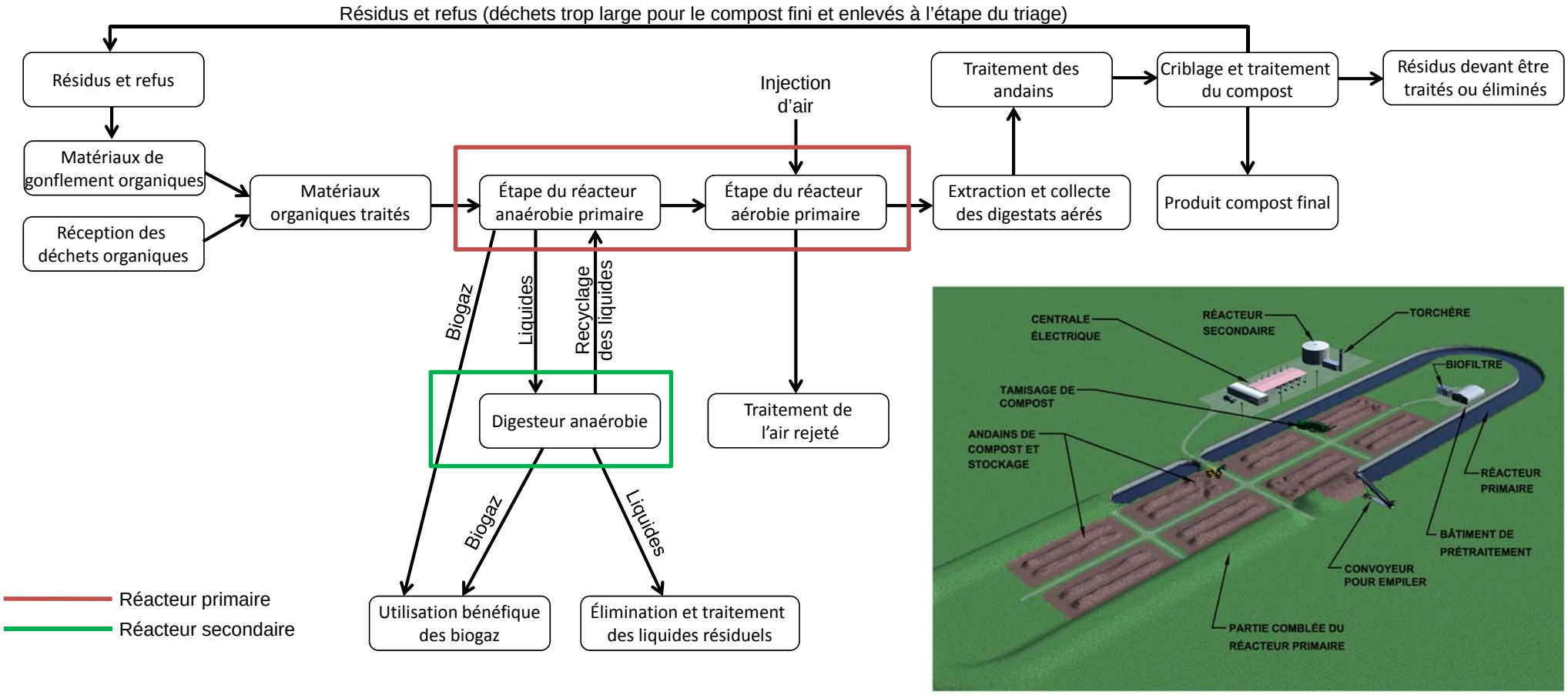
Material Recovery Facility / Centre de tri

Typical Recovered Baled Material / Matériel typique ayant été récupéré et mis en balles

Recovered Material / Matériel récupéré

Recovered Material Baler / Presse à balles du matériel récupéré

Système de digestion anaérobie pour le traitement des déchets organiques



Installation moderne de récupération des déchets de construction et démolition (CD)

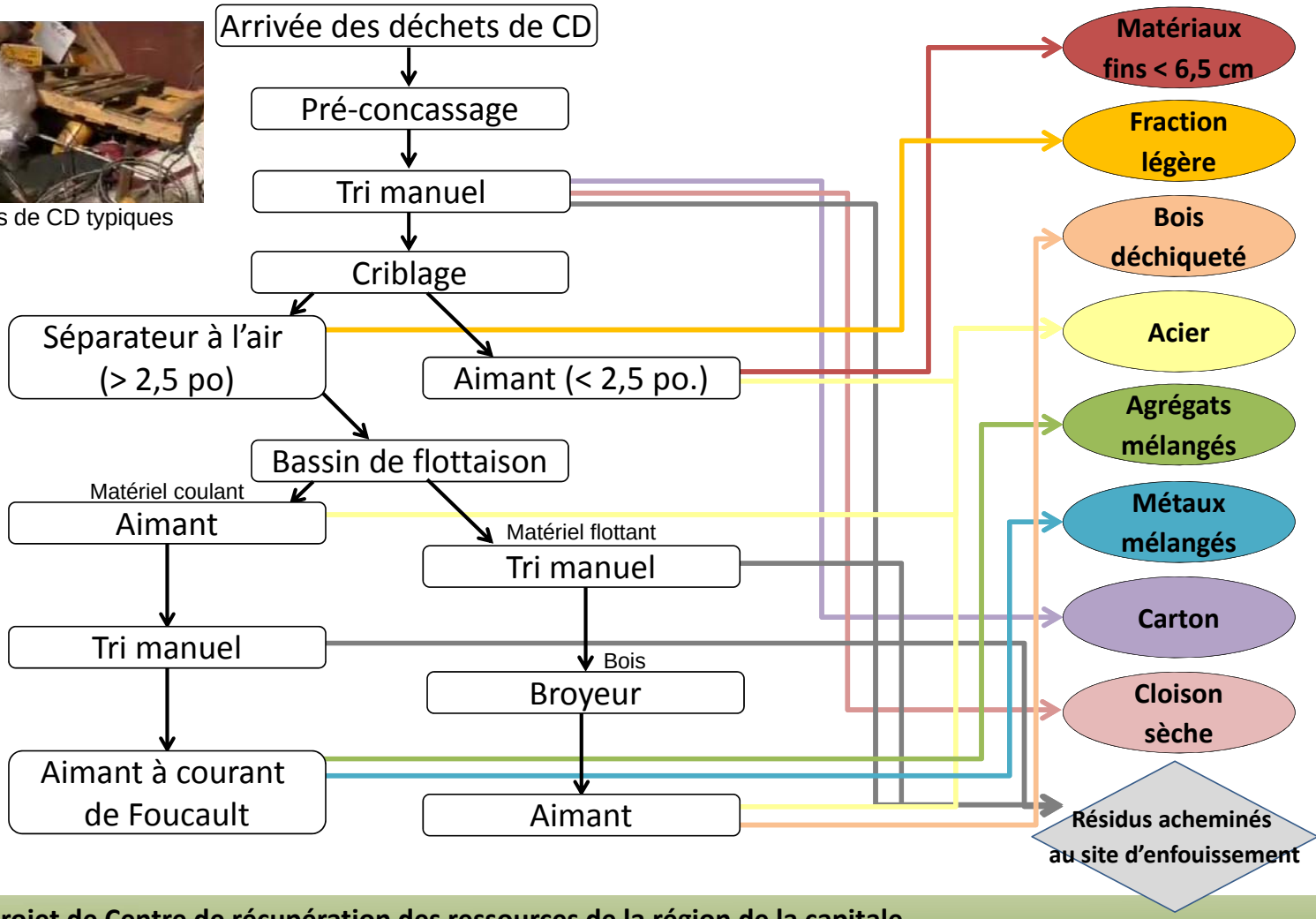
Installation moderne de récupération des déchets de CD

Déchets de CD typiques

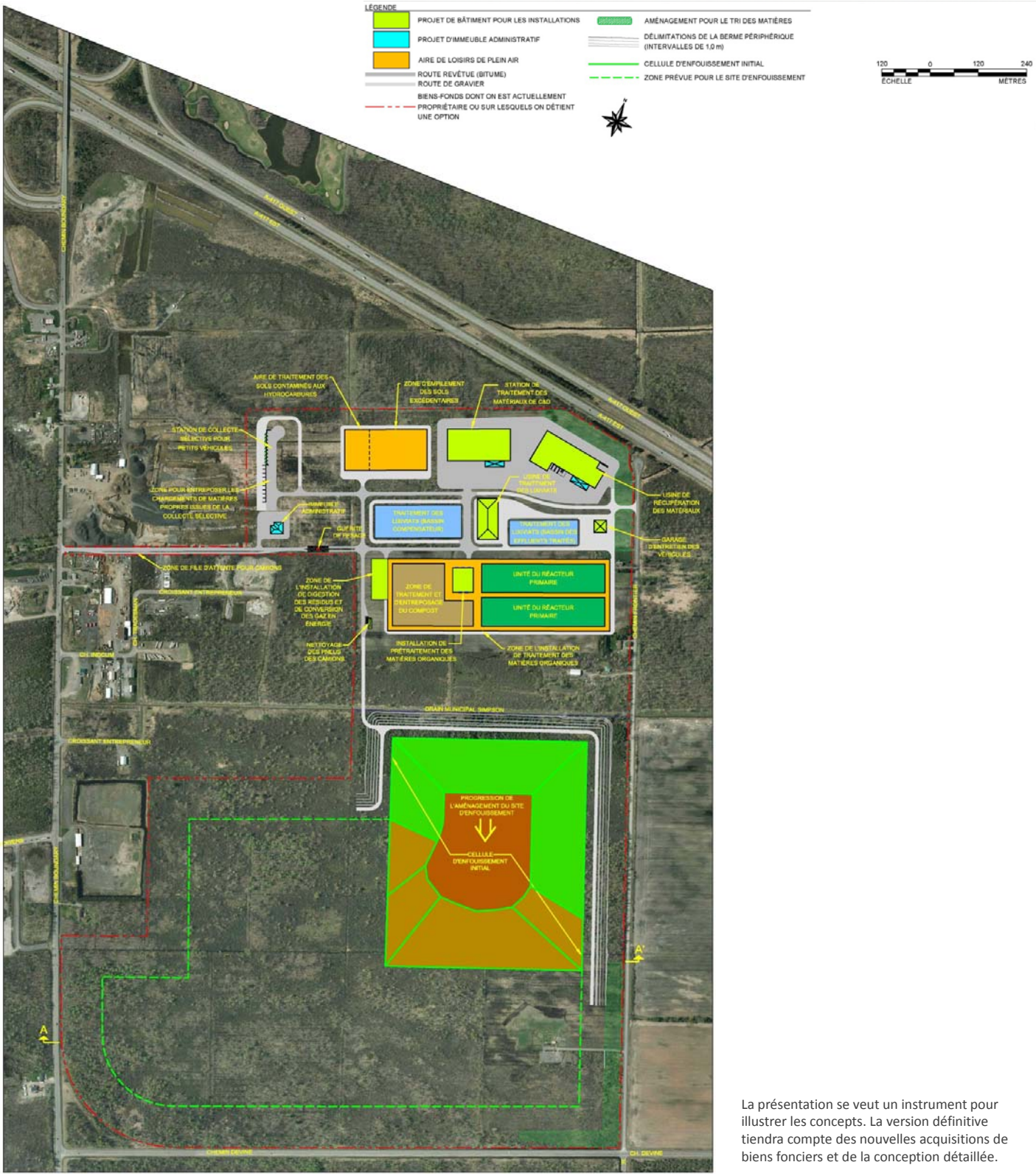
Produits de bois broyé

Traitement des déchets de CD

Appareils d'épuration d'air

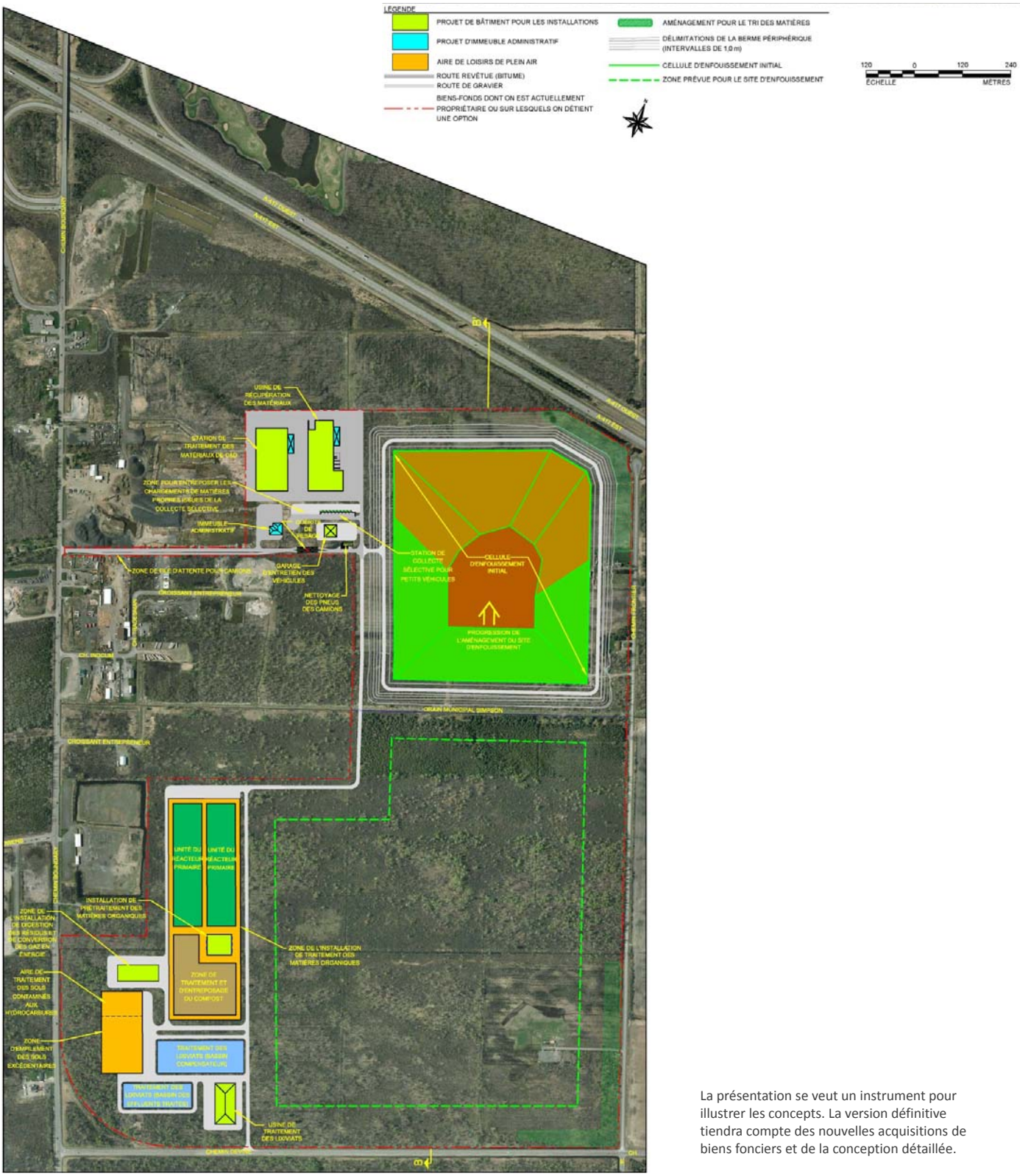


Option de concept du site
Concept A



La présentation se veut un instrument pour illustrer les concepts. La version définitive tiendra compte des nouvelles acquisitions de biens fonciers et de la conception détaillée.

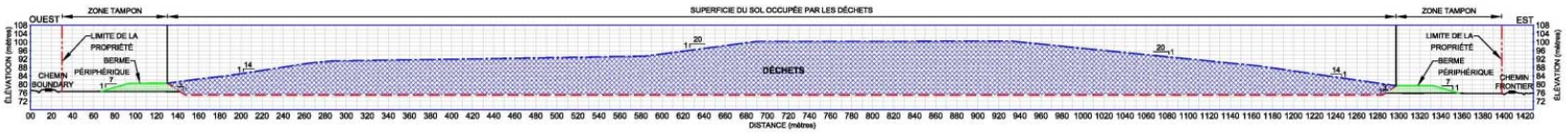
Option de concept du site
Concept B



La présentation se veut un instrument pour illustrer les concepts. La version définitive tiendra compte des nouvelles acquisitions de biens fonciers et de la conception détaillée.

Options A et B de concept du site
Coupes transversales du site d'enfouissement

Option A



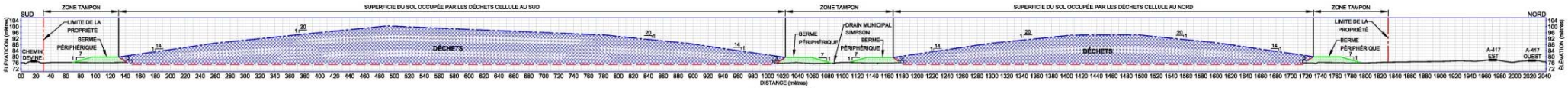
PROFIL A-A'

ÉCHELLE 1:2,500 HORIZONTAL MÈTRES

ÉCHELLE 1:1,250 VERTICAL MÈTRES

NOTE
ÉCHELLE VERTICALE MULTIPLIÉE PAR 2 FOIS L'ÉCHELLE HORIZONTALE À DES FINS DE PRÉSENTATION.

Option B



PROFIL B-B

ÉCHELLE 1:2,500 HORIZONTAL MÈTRES

ÉCHELLE 1:1,250 VERTICAL MÈTRES

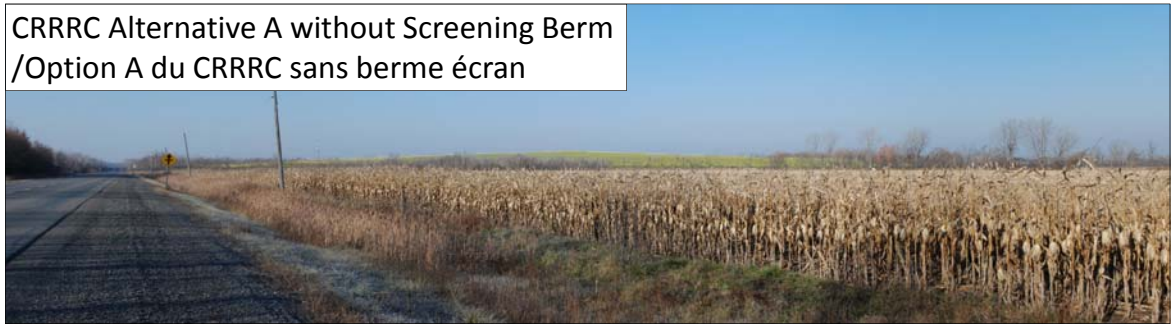
NOTE
ÉCHELLE VERTICALE MULTIPLIÉE PAR 2 FOIS L'ÉCHELLE HORIZONTALE À DES FINS DE PRÉSENTATION.

Preliminary Visual Assessment/Évaluation préliminaire des aspects visuels

Viewpoint/Perspective 1 – Alternative/Option A

Original Photo/Photo originale

CRRRC Alternative A without Screening Berm /Option A du CRRRC sans berme écran



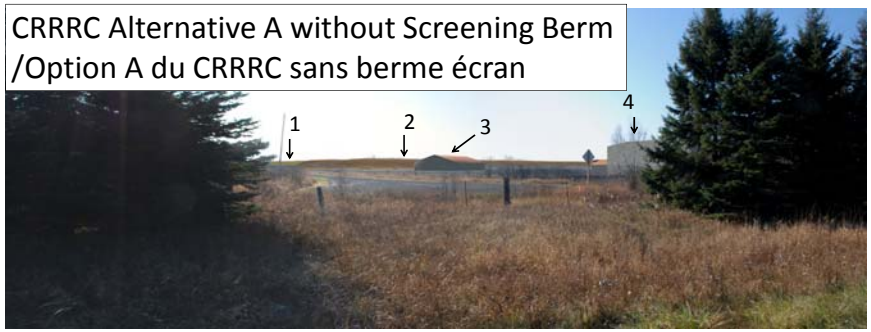
CRRRC Alternative A with Screening Berm /Option A du CRRRC avec berme écran

Preliminary Visual Assessment/Évaluation préliminaire des aspects visuels

Viewpoint/Perspective 2 – Alternative/Option A

Original Photo/Photo originale

CRRRC Alternative A without Screening Berm /Option A du CRRRC sans berme écran



CRRRC Alternative A with Screening Berm /Option A du CRRRC avec berme écran

1 – Landfill/Site d'enfouissement
2 - Organics Primary Reactor/Réacteur primaire, matières organiques
3 – Maintenance Garage/Garage
4 – MRF/IRM

Preliminary Visual Assessment/Évaluation préliminaire des aspects visuels

Viewpoint/Perspective 2 – Alternative/Option B

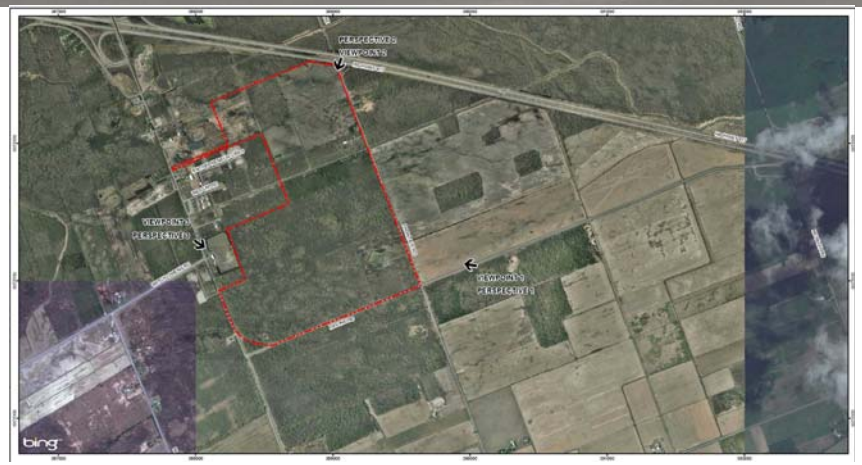
Original Photo/Photo originale

CRRRC Alternative B without Screening Berm /Option B du CRRRC sans berme écran

CRRRC Alternative B with Screening Berm /Option B du CRRRC avec berme écran

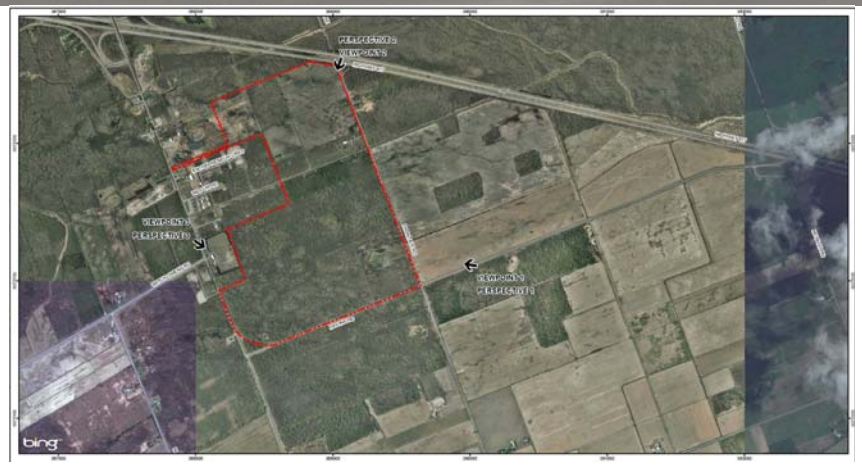
Preliminary Visual Assessment/Évaluation préliminaire des aspects visuels

Viewpoint/Perspective 3 – Alternative/Option A



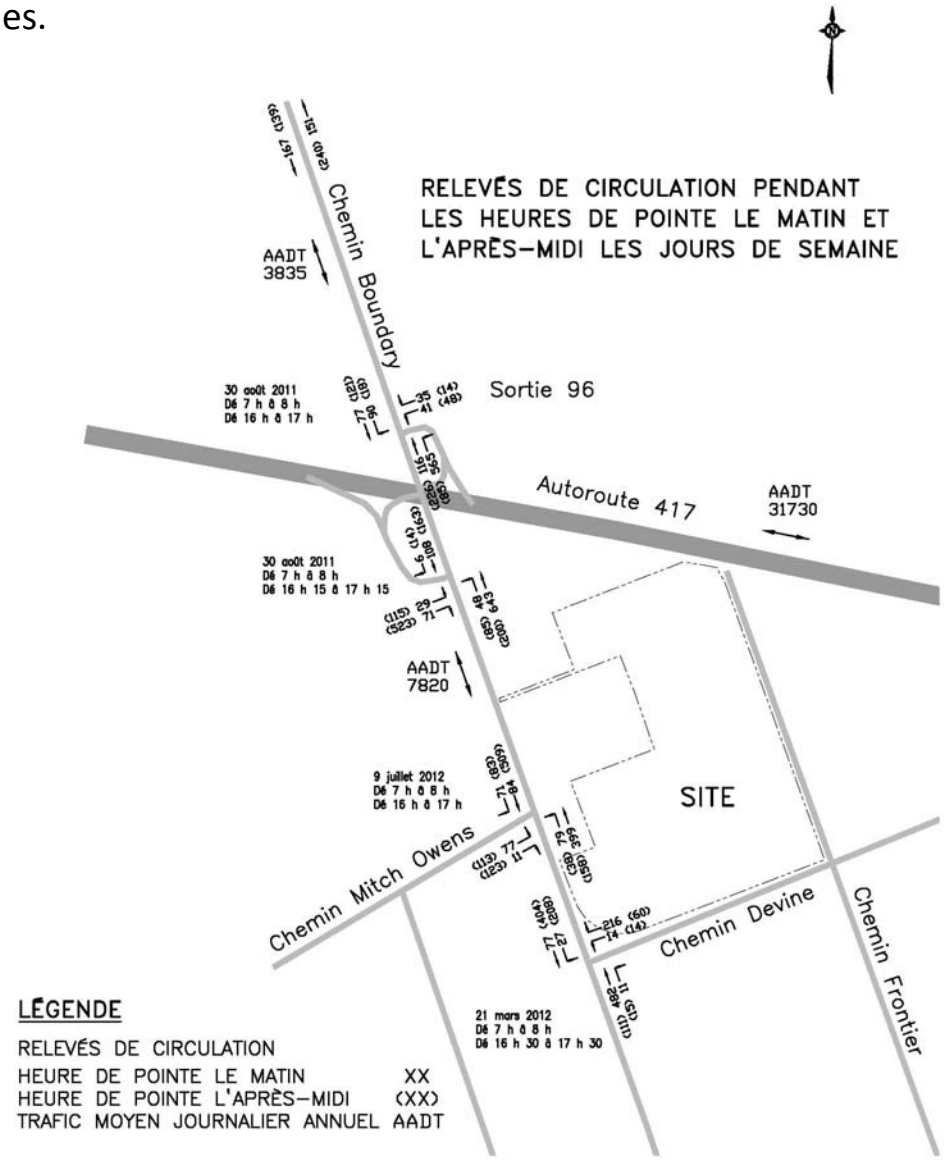
Preliminary Visual Assessment/Évaluation préliminaire des aspects visuels

Viewpoint/Perspective 3 – Alternative/Option B



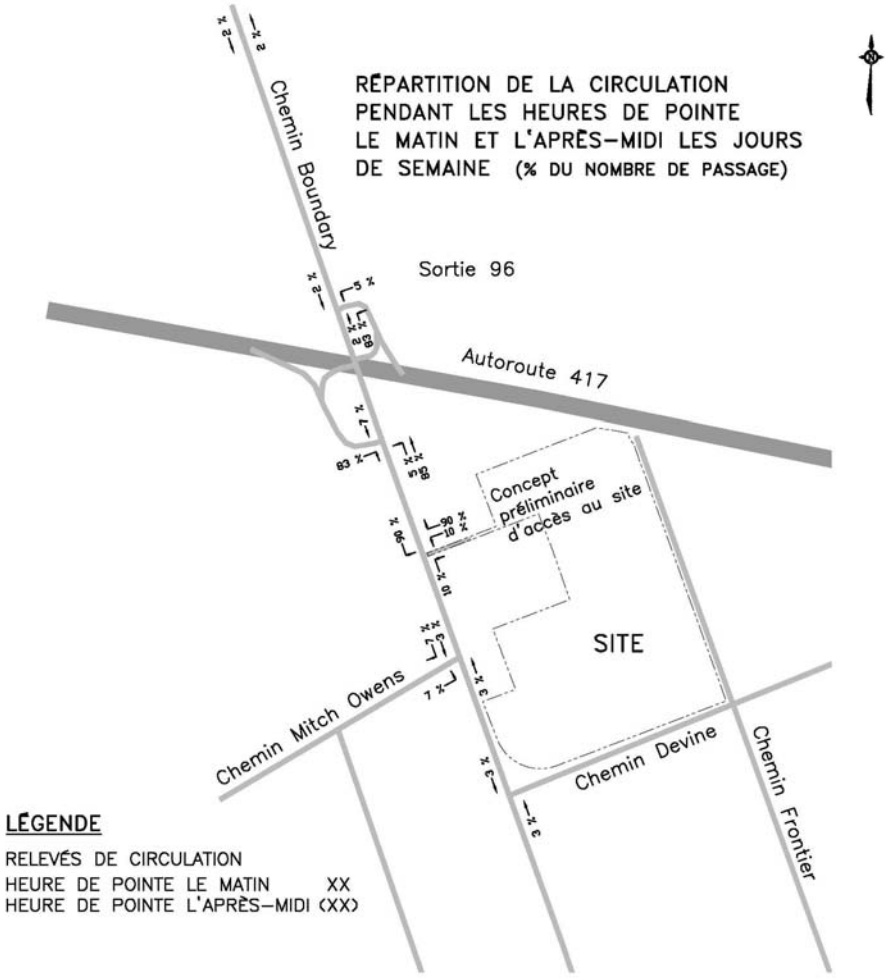
Conditions actuelles

- Relevés de circulation provenant de la ville d'Ottawa et du ministère des Transports
- Les relevés de la circulation aux heures de pointe indiquent les heures où la demande pour les déplacements est la plus forte le matin et l'après-midi.
- Le volume moyen annuel journalier (AADT) des véhicules qui circulent le long du chemin Boundary au sud de l'autoroute 417 pendant un total de 8 heures s'élève à environ 8 000 par jour; les camions représentent entre 9 et 10 % de ces véhicules.



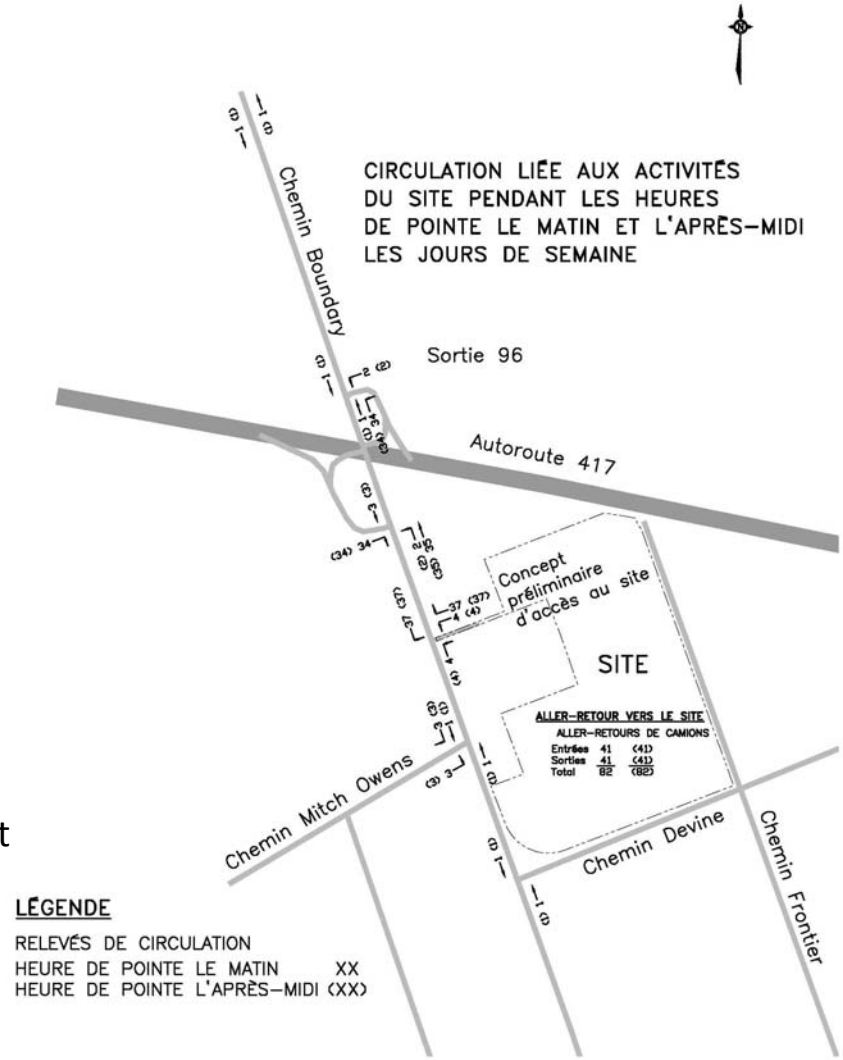
Routes de transport envisagées et répartition de la circulation découlant des activités du site

- La figure ci-dessous indique les routes de transport envisagées et la répartition, en pourcentage, de la circulation de véhicules liée aux activités du CRRRC qui est prévue à ce stade-ci pour chacune de ces routes.
- Les principales routes de transport sont l'autoroute 417 en direction de l'est et le chemin Boundary en direction du sud, où circuleront approximativement de 80 à 85 % des véhicules qui entrent au site.



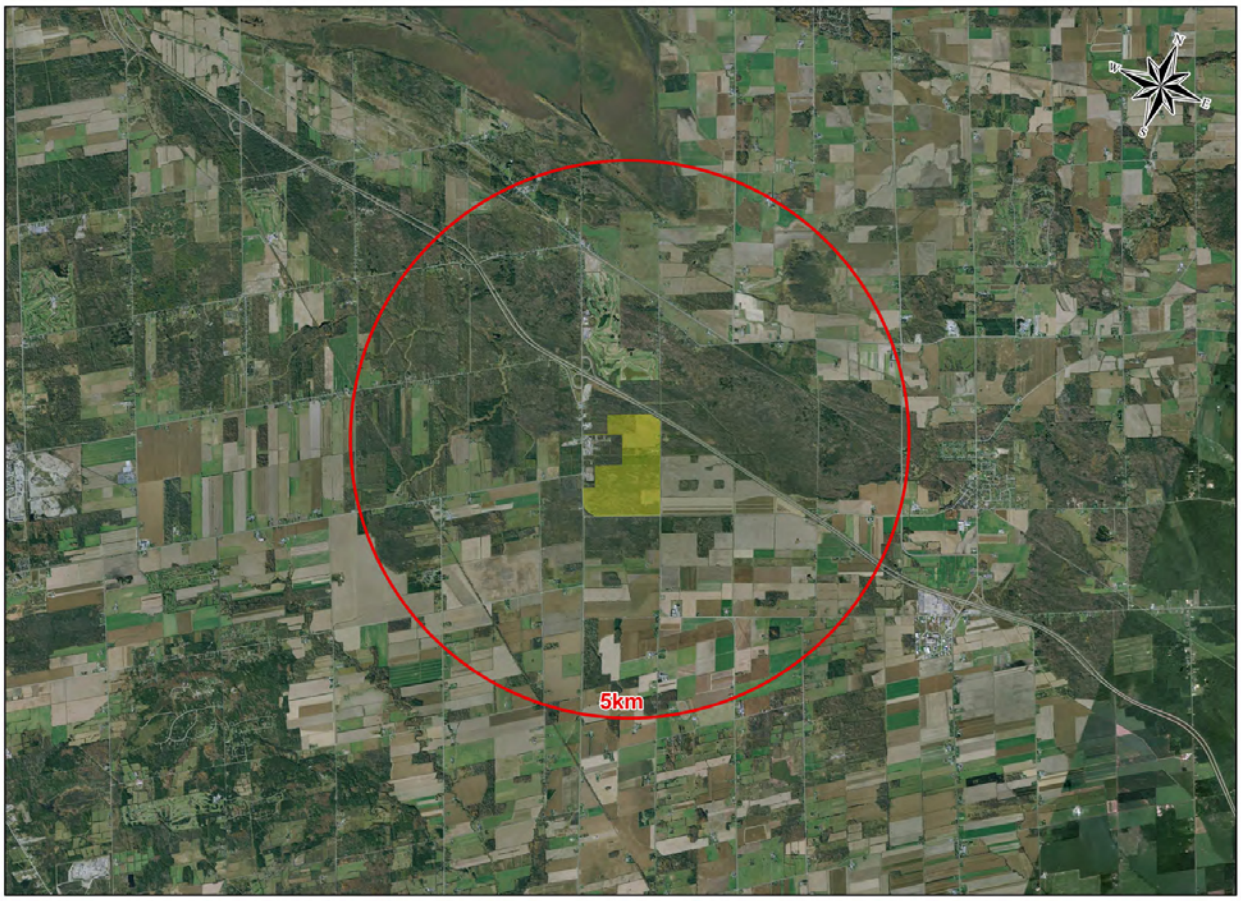
Répercussions prévues de la circulation de véhicules découlant des activités du site

- La figure ci-dessous indique le nombre prévu de camions qui circuleront sur chacune des routes aux heures de pointe en raison des activités du CRRRC.
- Le nombre maximal de camions qui entrent et sortent du site en une journée est évalué à 271 au cours d'une journée de 10 heures.
- On a procédé à une projection de la circulation actuelle et à une analyse des activités qui tient compte de la présence du CRRRC.
- Toutes les intersections actuelles fonctionneront à un niveau de service acceptable. Une voie pour les virages à gauche est proposée sur le chemin Boundary en direction du sud pour accéder le site.
- Soulignons que les heures de pointe du matin et de l'après-midi de la circulation actuelle ne coïncideront pas avec les heures de pointe de la circulation du CRRRC, bien que l'analyse ait été réalisée sous cette hypothèse.
- La ville sera consultée avant de présenter une analyse définitive de l'accès au site.



Plan de protection de la valeur foncière (PPVF) du CRRRC

- La ville d'Ottawa semblait indiquer qu'un périmètre de 5 km serait convenable pour le plan de protection de la valeur foncière dans le cadre du projet de réouverture du site d'enfouissement de Carleton-Ouest.
- Ce plan indique un périmètre d'un rayon de 5 km autour du site du chemin Boundary du CRRRC.
- Taggart Miller s'intéresse à vos commentaires.



Ateliers

Taggart Miller propose la tenue d'un atelier sur les eaux souterraines qui aura lieu le samedi 22 juin à Carlsbad Springs.

Les thèmes qui seront abordés comprennent entre autres les eaux souterraines en général, les eaux souterraines en particulier dans la zone du site du chemin Boundary tel que proposé dans le cadre du projet Centre de récupération des ressources de la région de la capitale (CRRRC), ainsi que la protection des eaux souterraines.

Pour en savoir davantage au sujet d'inscription, veuillez vous rendre au bureau à l'entrée.

Prochaines étapes et échéancier

Après cette journée portes ouvertes n° 4, Taggart Miller entend faire ce qui suit :

- Poursuivre la surveillance des eaux souterraines, des eaux de surface ainsi que sur le suivi biologique sur le site du chemin Boundary.
- Conclure le programme de forages sur le site du chemin Boundary.
- Mener à bien les autres études sur l'environnement actuel au site du chemin Boundary, tel que décrit dans le cadre de référence approuvé.
- Informer la population du concept d'aménagement privilégié du site à la suite de cette journée portes ouvertes n° 4.
- Conclure l'évaluation des effets sur l'environnement associés au concept d'aménagement du site privilégié.
- Tenir la journée portes ouvertes n° 5 afin de présenter l'évaluation des impacts environnementaux associés au concept d'aménagement privilégié du site, les résultats de l'évaluation du traitement des lixiviats, les grandes lignes de la proposition de dossier portant sur la documentation de l'EE en vertu de la LPE et un aperçu du calendrier proposé pour les présentations et le processus de prise de décisions du ministère. La journée portes ouvertes nº 5 devrait avoir lieu à l'automne 2013.

De nombreuses possibilités s'offrent à vous pour participer et exprimer votre opinion.

- Remplir la fiche de commentaires qui vous a été remise à la quatrième séance portes ouvertes.
- Vous inscrire à l'atelier sur les eaux souterraines.
- Demander la tenue d'une réunion ou des renseignements supplémentaires.
- Consulter notre site Web **CRRRC.ca** afin d'obtenir des renseignements et nous faire part de vos commentaires.

Responsable du projet
Monsieur Hubert Bourque, directeur de projet
a/s de Taggart Miller Environmental Services
225, rue Metcalfe, bureau 708
Ottawa ON K2P 1P9
Téléphone : 613-454-5580
Télécopieur : 613-454-5581
Courriel : hjbourque@crrrc.ca

Appendix B-9

Bilingual Comment Sheet

Name _____ **Address** _____

Email _____ **Phone** _____

Two Alternative Site Design Concepts have been prepared for the Boundary Road Site.

Do you have any comments on the alternative site design concepts?

_____

_____

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Which alternative site design concept do you prefer and why?

_____

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Under the Freedom of Information and Protection of Privacy Act and the EAA, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.

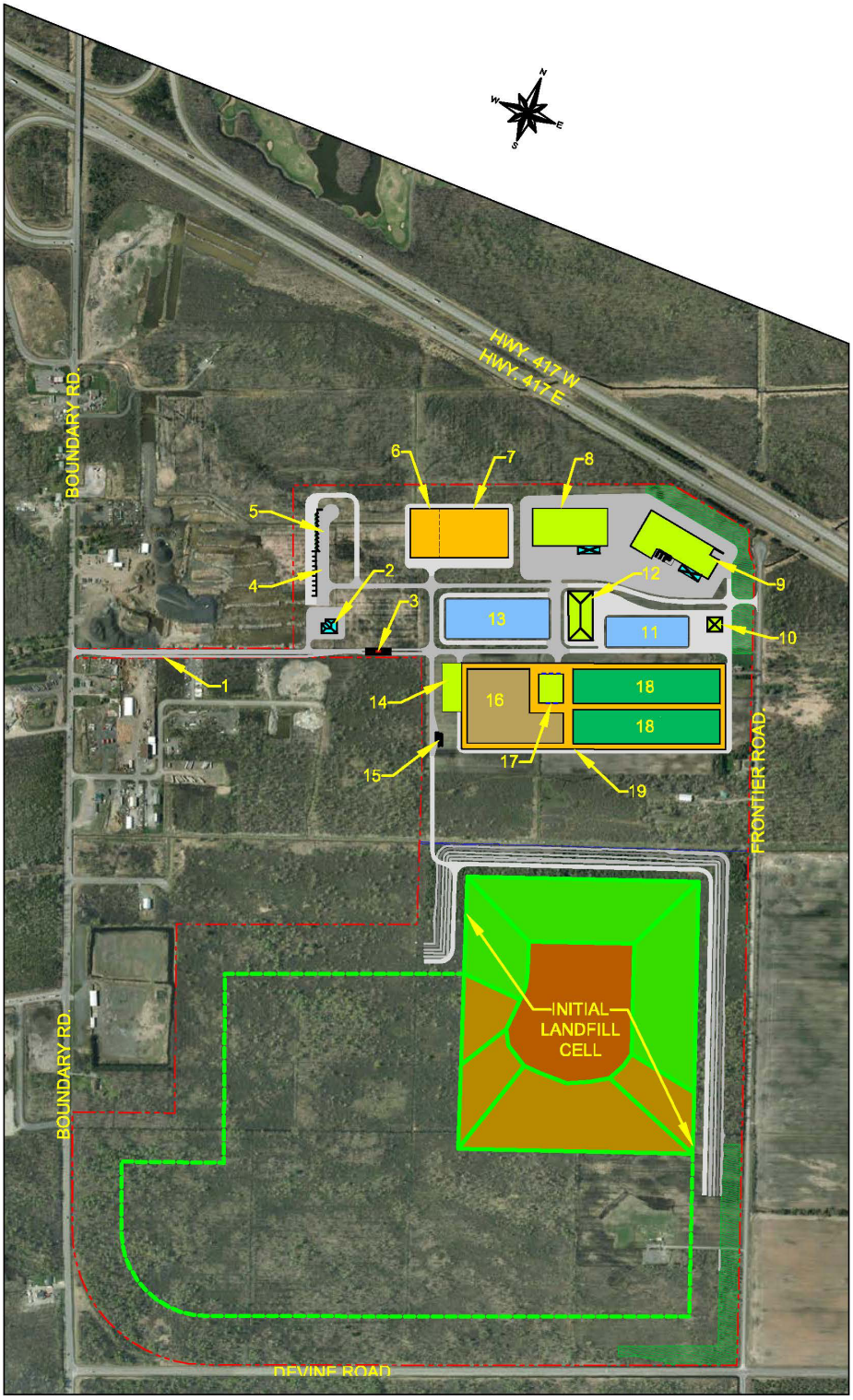
If you do not have time to submit your comment sheet this evening, please email or mail your comments to:
Williamson Consulting Inc. P.O. Box 14556, 2954 St. Joseph Blvd., Ottawa, ON K1C 1J0
Email: howard@williamsonconsulting.ca

For additional information about the project see the project website: www.CRRRC.ca

TAGGART GROUP OF COMPANIES

THE MILLER GROUP

Alternative Site Design Concept A



LEGEND

- PROPOSED FACILITY BUILDING
- PROPOSED ADMINISTRATION BUILDING
- OUTDOOR DIVERSION AREA
- PAVED ROAD (ASPHALT)
- GRAVEL ROAD
- CURRENT OWNED OR OPTIONED PROPERTY
- CONSTRUCTED SCREENING FEATURE
- PERIMETER BERM CONTOURS (interval 1.0 m)
- INITIAL LANDFILL CELL
- PROJECTED FUTURE LANDFILL AREA

DISCRIPTION

1 TRUCK QUEUING AREA
2 ADMINISTRATION BUILDING
3 SCALE HOUSE
4 CLEAN LOAD DROP-OFF BUNKER AREA
5 SMALL VEHICLE DROP-OFF / RECYCLING
6 HYDROCARBON CONTAMINATED SOIL TREATMENT AREA
7 SURPLUS SOIL STOCKPILES AREA
8 C&D PROCESSING FACILITY
9 MATERIALS RECOVERY FACILITY
10 MAINTENANCE GARAGE
11 LEACHATE TREATMENT (TREATED EFFLUENT PONDS)
12 LEACHATE TREATMENT FACILITY
13 LEACHATE TREATMENT (EQUALIZATION POND)
14 RESIDUALS / DIGESTER GAS TO ENERGY FACILITY AREA
15 TRUCK TIRE WASH
16 COMPOST PROCESSING & STORAGE AREA
17 ORGANICS PRE-PROCESSING FACILITY
18 PRIMARY REACTOR UNIT
19 ORGANICS PROCESSING FACILITY AREA

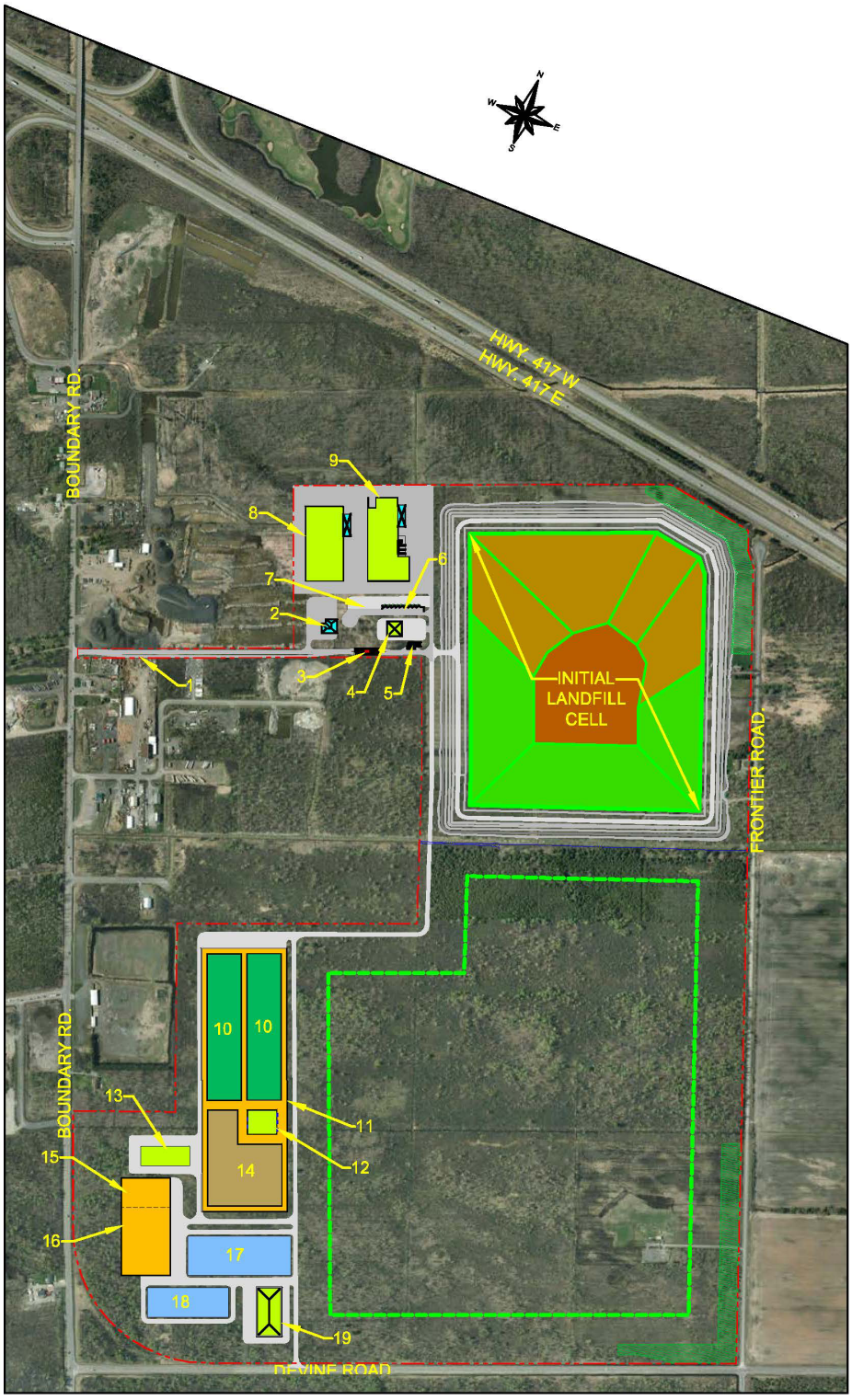
Layout shown is conceptual; final subject to any additional property acquisitions and detailed design.

120 0 120 240
SCALE METRES

TAGGART GROUP OF COMPANIES

THE MILLER GROUP

Alternative Site Design Concept B



LEGEND

- PROPOSED FACILITY BUILDING
- PROPOSED ADMINISTRATION BUILDING
- OUTDOOR DIVERSION AREA
- PAVED ROAD (ASPHALT)
- GRAVEL ROAD
- CURRENT OWNED OR OPTIONED PROPERTY
- CONSTRUCTED SCREENING FEATURE
- PERIMETER BERM CONTOURS (interval 1.0 m)
- INITIAL LANDFILL CELL
- PROJECTED FUTURE LANDFILL AREA

DISCRIPTION

1 TRUCK QUEUING AREA
2 ADMINISTRATION BUILDING
3 SCALE HOUSE
4 MAINTENANCE GARAGE
5 TRUCK TIRE WASH
6 SMALL VEHICLE DROP-OFF / RECYCLING
7 CLEAN LOAD DROP-OFF BUNKER AREA
8 C&D PROCESSING FACILITY
9 MATERIALS RECOVERY FACILITY
10 PRIMARY REACTOR UNIT
11 ORGANICS PROCESSING FACILITY AREA
12 ORGANICS PRE-PROCESSING FACILITY
13 RESIDUALS / DIGESTER GAS TO ENERGY FACILITY AREA
14 COMPOST PROCESSING & STORAGE AREA
15 HYDROCARBON CONTAMINATED SOIL TREATMENT AREA
16 SURPLUS SOIL STOCKPILES AREA
17 LEACHATE TREATMENT (EQUALIZATION POND)
18 LEACHATE TREATMENT (TREATED EFFLUENT PONDS)
19 LEACHATE TREATMENT FACILITY

Layout shown is conceptual; final subject to any additional property acquisitions and detailed design.

120 0 120 240
SCALE METRES

Nom _____ **Adresse** _____

Courriel _____ **Téléphone** _____

Deux concepts alternatifs d'aménagement pour le site du chemin Boundary ont été préparés.

Avez-vous des commentaires sur l'un ou l'autre des concepts alternatifs d'aménagement du site?

_____

_____

_____

_____

_____

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_____

Lequel des concepts alternatifs d'aménagement du site préférez-vous et pourquoi?

_____

_____

_____

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Aux termes de la *Loi sur l'accès à l'information et la protection de la vie privée* et de la *Loi sur les évaluations environnementales*, et sauf indication contraire dans la présentation, tous les renseignements personnels tels que le nom, l'adresse, le numéro de téléphone et l'emplacement de la propriété qui sont mentionnés dans la présentation feront partie des dossiers publics relativement à cette affaire et seront communiqués à quiconque en fait la demande.

Si le temps vous manque et que vous ne pouvez pas remettre votre fiche de commentaires ce soir, veuillez nous faire parvenir vos commentaires par courriel ou par la poste à :
Williamson Consulting Inc. C.P 14556, 2954, boul, Saint-Joseph, Ottawa (Ontario) K1C 1J0
Courriel : howard@williamsonconsulting.ca

Pour obtenir de plus amples renseignements au sujet du projet, veuillez consulter le site Web www.CRRRC.ca.

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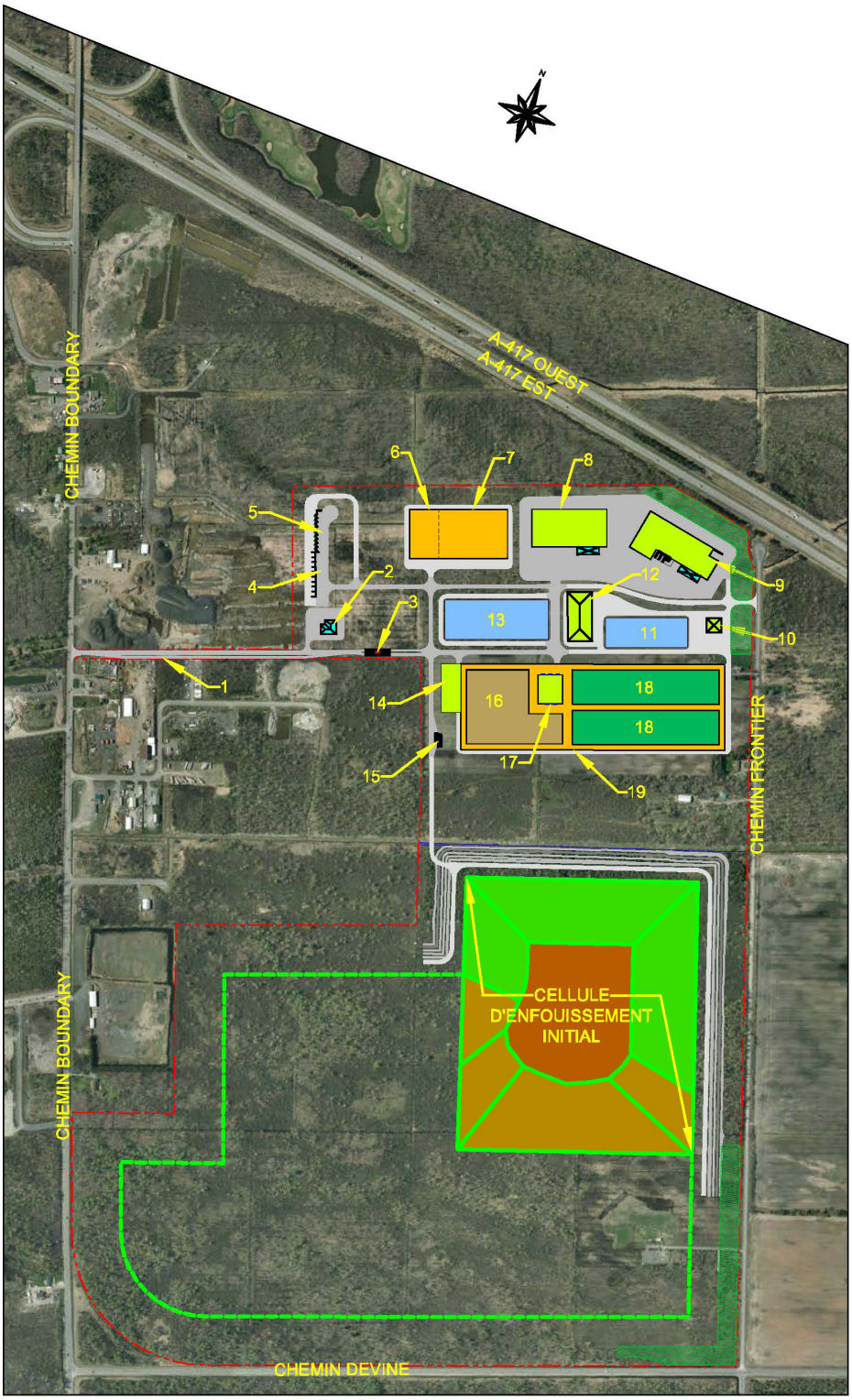
THE MILLER GROUP



LÉGENDE

- PROJET DE BÂTIMENT POUR LES INSTALLATIONS
- PROJET D'IMMEUBLE ADMINISTRATIF
- AIRE DE LOISIRS DE PLEIN AIR
- ROUTE REVÊTUE (BITUME)
- ROUTE DE GRAVIER
- BIENS-FONDS DONT ON EST ACTUELLEMENT PROPRIÉTAIRE OU SUR LESQUELS ON DÉTIENT UNE OPTION
- AMÉNAGEMENT POUR LE TRI DES MATIÈRES
- DÉLIMITATIONS DE LA BERME PÉRIPHÉRIQUE (INTERVALLES DE 1,0 m)
- CELLULE D'ENFOUISSEMENT INITIAL
- ZONE PRÉVUE POUR LE SITE D'ENFOUISSEMENT

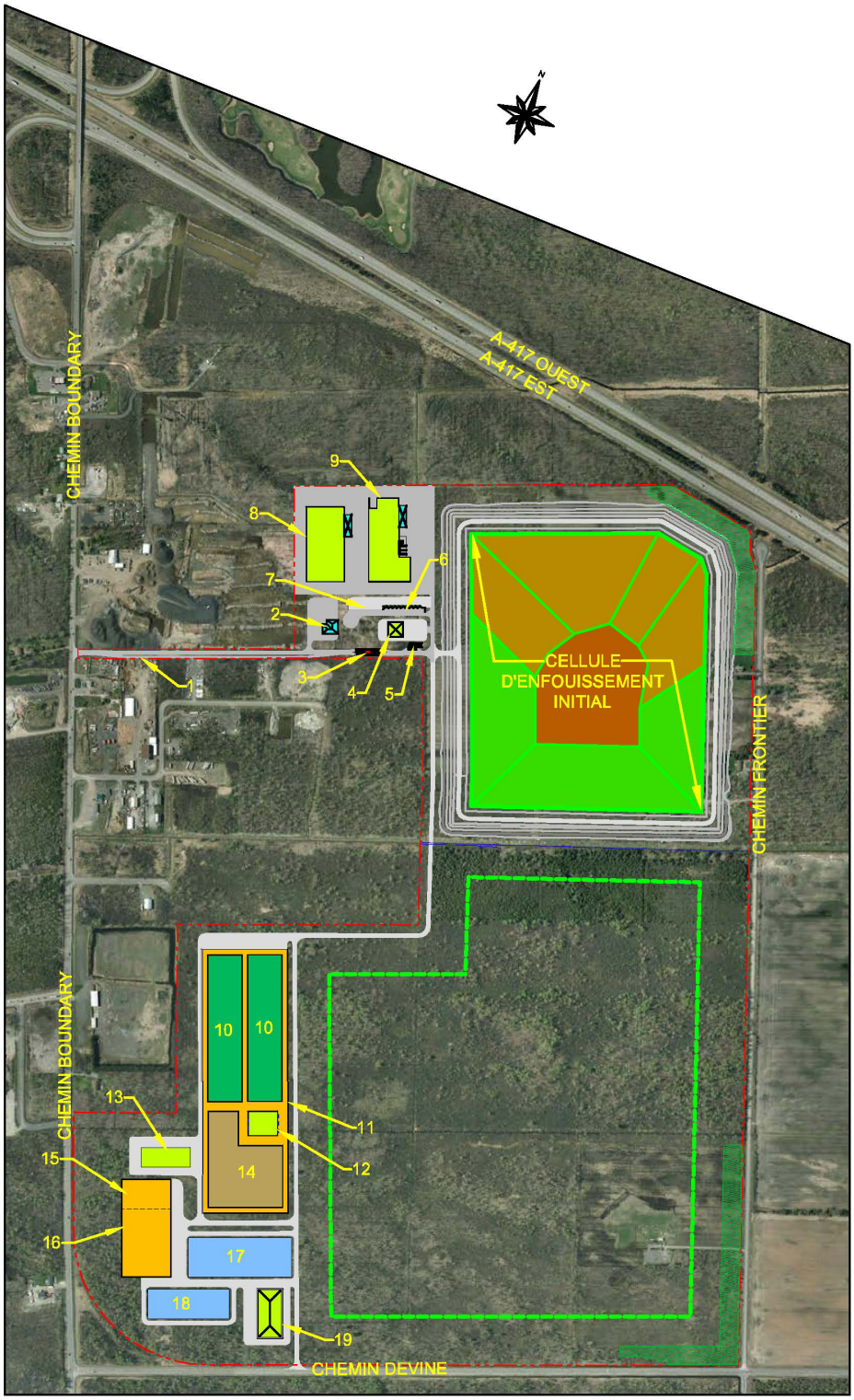
DISCRIPTION

1 ZONE DE FILE D'ATTENTE POUR CAMIONS
2 IMMEUBLE ADMINISTRATIF
3 GUÉRITE DE PESAGE
4 ZONE POUR ENTREPOSER LES CHARGEMENTS DE MATIÈRES PROPRES ISSUES DE LA COLLECTE SÉLECTIVE
5 STATION DE COLLECTE SÉLECTIVE POUR PETITS VÉHICULES
6 AIRE DE TRAITEMENT DES SOLS CONTAMINÉS AUX HYDROCARBURES
7 ZONE D'EMPILEMENT DES SOLS EXCÉDENTAIRES
8 STATION DE TRAITEMENT DES MATÉRIAUX DE C&D
9 USINE DE RÉCUPÉRATION DES MATÉRIAUX
10 GARAGE D'ENTRETIEN DES VÉHICULES
11 TRAITEMENT DES LIXIVIATS (BASSIN DES EFFLUENTS TRAITÉS)
12 USINE DE TRAITEMENT DES LIXIVIATS
13 TRAITEMENT DES LIXIVIATS (BASSIN COMPENSATEUR)
14 ZONE DE L'INSTALLATION DE DIGESTION DES RÉSIDUS ET DE CONVERSION DES GAZ EN ÉNERGIE
15 NETTOYAGE DES PNEUS DES CAMIONS
16 ZONE DE TRAITEMENT ET D'ENTREPOSAGE DU COMPOST
17 INSTALLATION DE PRÉTRAITEMENT DES MATIÈRES ORGANIQUES
18 UNITÉ DU RÉACTEUR PRIMAIRE
19 ZONE DE L'INSTALLATION DE TRAITEMENT DES MATIÈRES ORGANIQUES

120 0 120 240
ÉCHELLE MÈTRES

TAGGART GROUP OF COMPANIES

THE MILLER GROUP



LÉGENDE

- PROJET DE BÂTIMENT POUR LES INSTALLATIONS
- PROJET D'IMMEUBLE ADMINISTRATIF
- AIRE DE LOISIRS DE PLEIN AIR
- ROUTE REVÊTUE (BITUME)
- ROUTE DE GRAVIER
- BIENS-FONDS DONT ON EST ACTUELLEMENT PROPRIÉTAIRE OU SUR LESQUELS ON DÉTIENT UNE OPTION
- AMÉNAGEMENT POUR LE TRI DES MATIÈRES
- DÉLIMITATIONS DE LA BERME PÉRIPHÉRIQUE (INTERVALLES DE 1,0 m)
- CELLULE D'ENFOUISSEMENT INITIAL
- ZONE PRÉVUE POUR LE SITE D'ENFOUISSEMENT

DISCRIPTION

1 ZONE DE FILE D'ATTENTE POUR CAMIONS
2 IMMEUBLE ADMINISTRATIF
3 GUÉRITE DE PESAGE
4 GARAGE D'ENTRETIEN DES VÉHICULES
5 NETTOYAGE DES PNEUS DES CAMIONS
6 STATION DE COLLECTE SÉLECTIVE POUR PETITS VÉHICULES
7 ZONE POUR ENTREPOSER LES CHARGEMENTS DE MATIÈRES PROPRES ISSUES DE LA COLLECTE SÉLECTIVE
8 STATION DE TRAITEMENT DES MATÉRIAUX DE C&D
9 USINE DE RÉCUPÉRATION DES MATÉRIAUX
10 UNITÉ DU RÉACTEUR PRIMAIRE
11 ZONE DE L'INSTALLATION DE TRAITEMENT DES MATIÈRES ORGANIQUES
12 INSTALLATION DE PRÉTRAITEMENT DES MATIÈRES ORGANIQUES
13 ZONE DE L'INSTALLATION DE DIGESTION DES RÉSIDUS ET DE CONVERSION DES GAZ EN ÉNERGIE
14 ZONE DE TRAITEMENT ET D'ENTREPOSAGE DU COMPOST
15 AIRE DE TRAITEMENT DES SOLS CONTAMINÉS AUX HYDROCARBURES
16 ZONE D'EMPILEMENT DES SOLS EXCÉDENTAIRES
17 TRAITEMENT DES LIXIVIATS (BASSIN COMPENSATEUR)
18 TRAITEMENT DES LIXIVIATS (BASSIN DES EFFLUENTS TRAITÉS)
19 USINE DE TRAITEMENT DES LIXIVIATS

120 0 120 240
ÉCHELLE MÈTRES

Appendix B-10

Bilingual Groundwater Workshop Invitation

Groundwater Workshop Registration Form

Name _____ **Address** _____
Email _____ **Phone** _____

Taggart Miller encourages the community to become involved in the environmental assessment process. As a result of comments received from the community at past open houses, Taggart Miller has organized a groundwater workshop that will take place on Saturday June 22 in Carlsbad Springs at the community centre. The workshop will discuss groundwater in general, groundwater in the area of the Boundary Road Site proposed for the CRRRC project, and groundwater protection.

1. Would you be interested in participating in a half day groundwater workshop on Saturday June 22, 2013?

☐Yes ☐No

2. What time would you prefer?

☐AM ☐PM

Advance registration is required to attend the workshop. Further information on the workshop will be provided in advance to registrants.

Your participation in this environmental assessment is appreciated.

For additional information about the project see the project website: www.CRRRC.ca

Formulaire d'inscription à l'atelier sur les eaux souterraines

Nom _____ **Adresse** _____
Courriel _____ **Téléphone** _____

Taggart Miller encourage les membres de la communauté à participer au processus d'évaluation environnementale. À la suite des commentaires reçus de la part de membres de la communauté lors des séances portes ouvertes précédentes, Taggart Miller a organisé un atelier sur les eaux souterraines qui aura lieu le samedi 22 juin au Centre communautaire de Carlsbad Springs. L'atelier portera sur les eaux souterraines en général, sur les eaux souterraines en particulier dans la zone du site du chemin Boundary tel qu'il est proposé dans le cadre du projet Centre de récupération des ressources de la région de la capitale (CRRRC) et sur la protection des eaux souterraines.

1. Souhaiteriez-vous participer à un atelier d'une demi-journée sur les eaux souterraines le samedi 22 juin 2013?

   ☐ Oui ☐ Non

2. Quel est le moment que vous préféreriez?

   ☐ en avant-midi ☐ en après-midi

Pour participer à l'atelier, il faut d'abord s'y inscrire. De plus amples renseignements sur l'atelier seront communiqués aux inscrits avant la tenue de l'atelier.

Nous vous sommes très reconnaissants de votre participation à cette évaluation environnementale.

Aux termes de la *Loi sur l'accès à l'information et la protection de la vie privée* et de la *Loi sur les évaluations environnementales*, et sauf indication contraire dans la présentation, tous les renseignements personnels tels que le nom, l'adresse, le numéro de téléphone et l'emplacement de la propriété qui sont mentionnés dans la présentation feront partie des dossiers publics relativement à cette affaire et seront communiqués à quiconque en fait la demande.

Pour obtenir de plus amples renseignements au sujet du projet, veuillez consulter le site Web www.CRRRC.ca.

Appendix B-11

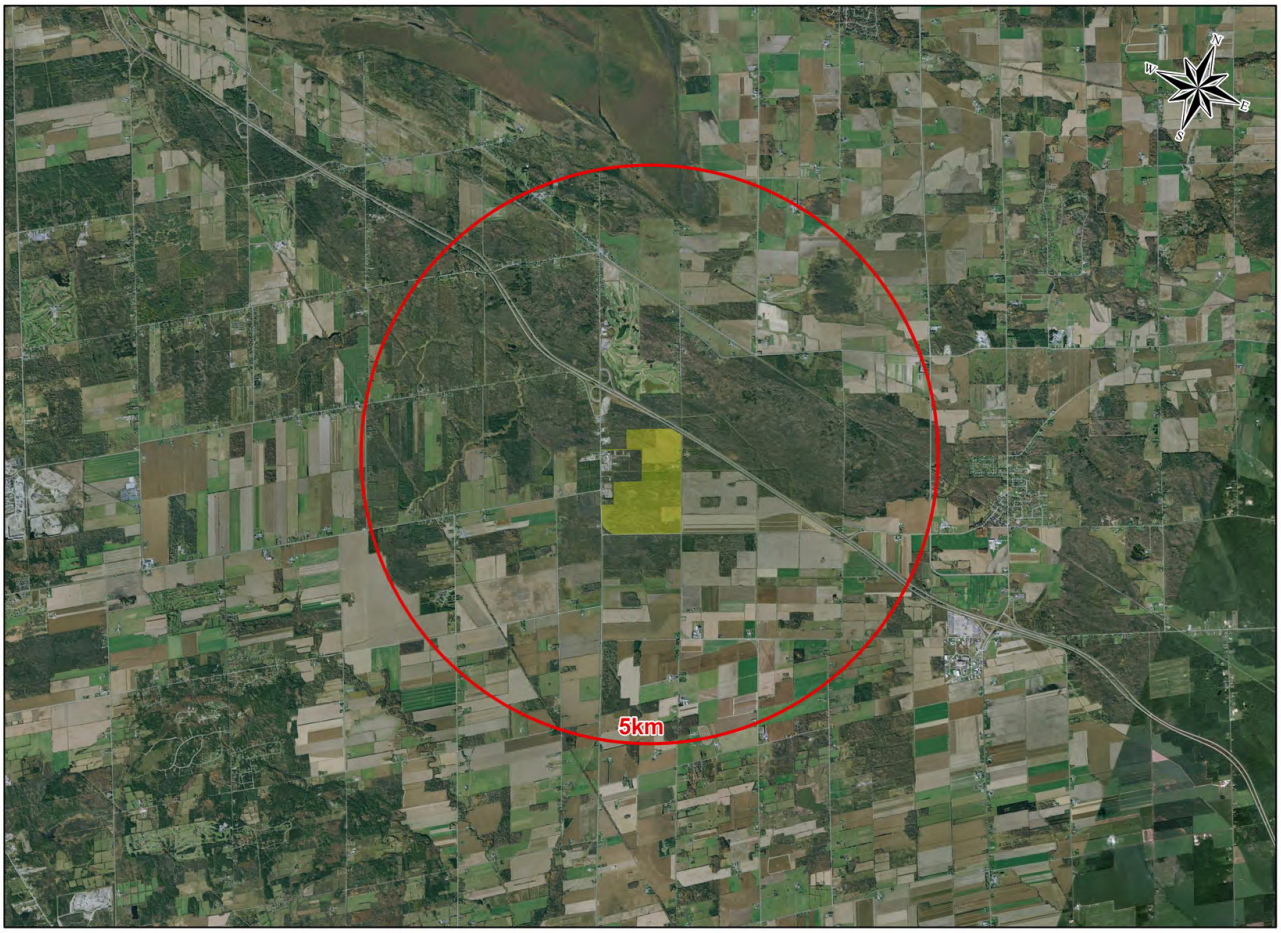
Bilingual Property Value Protection Information

Property Value Protection Plan (PVPP)

- A Property Value Protection Plan (PVPP) would protect eligible property owners if they experienced a loss on the sale of their property because of the activities of the proposed Capital Region Resource Recovery Centre (CRRRC).
- The Navan landfill has such a plan.
- The City of Ottawa has suggested that a 5 km radius is appropriate for the property value protection plan for the proposed re-opened landfill in West Carleton.
- The attached map shows a 5 km distance around the CRRRC Boundary Road Site.
- A Property Value Protection Plan would be one component of a community benefits package should the CRRRC be approved.
- Taggart Miller is interested in your comments. Please address your comments to:

Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

For additional information about the project see the project website: www.CRRRC.ca



Under the Freedom of Information and Protection of Privacy Act and the EAA, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.

For additional information about the project see the project website: www.CRRRC.ca

Plan de protection de la valeur foncière (PPVF)

- Un plan de protection de la valeur foncière (PPVF) protégerait les propriétaires fonciers admissibles dans l'éventualité où ils subissent des pertes au moment de la vente de leur propriété en raison des activités du proposé Centre de récupération des ressources de la région de la capitale (CRRRC).

- Le site d'enfouissement de Navan a un plan semblable.

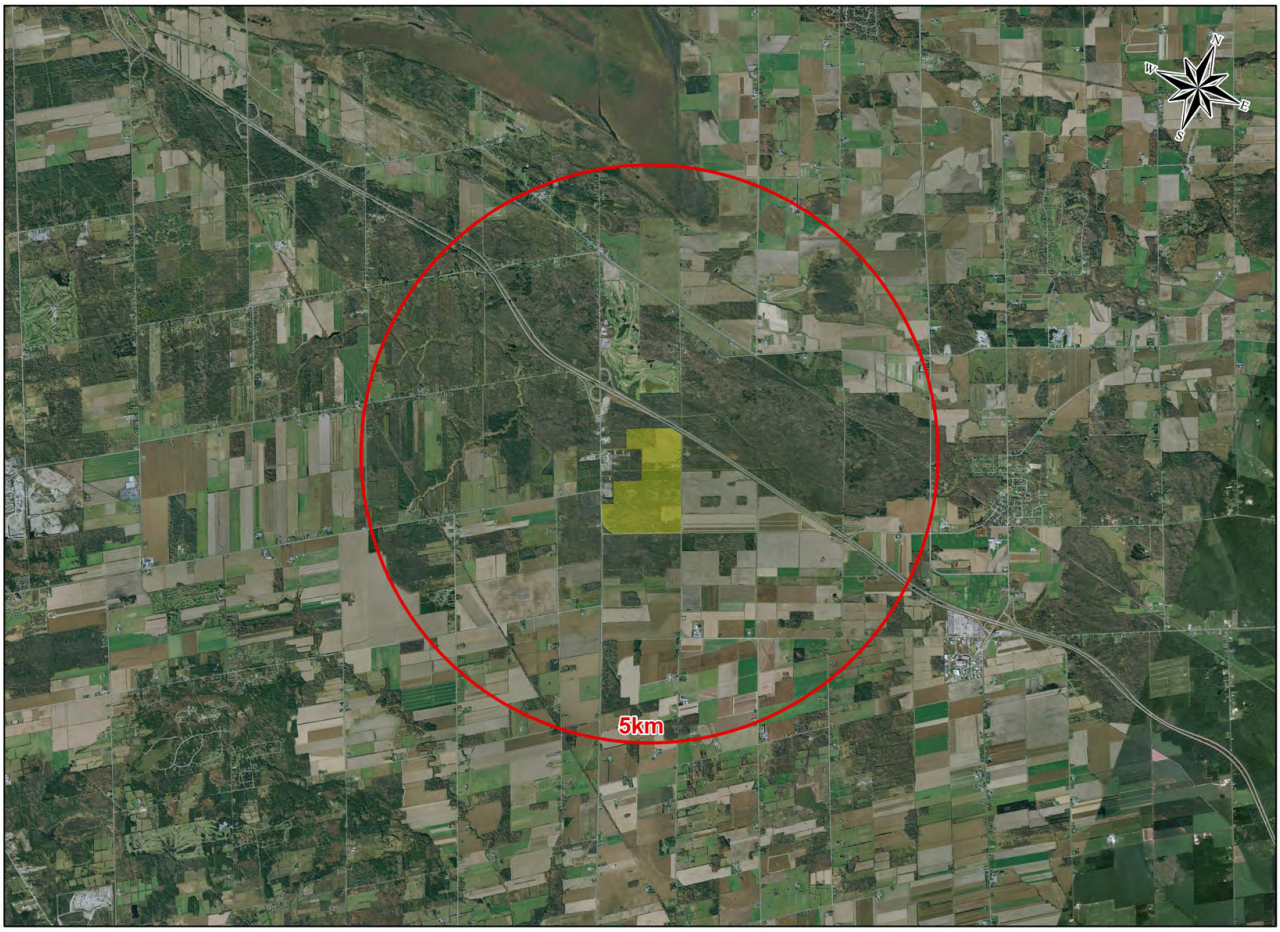
- La Ville d'Ottawa a suggéré que, dans le cadre du projet de réouverture du site d'enfouissement de West Carleton, un rayon de 5 km serait convenable pour le plan de protection de la valeur foncière.

- La carte ci-jointe indique un périmètre d'un rayon de 5 km autour du site CRRRC du chemin Boundary.

- Un plan de protection de la valeur foncière serait une des composantes de l'ensemble des avantages proposés à la communauté advenant que le CRRRC soit approuvé.

- Taggart Miller souhaite que vous lui fassiez part de vos commentaires. Veuillez transmettre vos commentaires à :

M. Hubert Bourque, directeur de projet
a/s de Taggart Miller Environmental Services
225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
Téléphone : 613-454-5580
Télécopieur : 613-454-5581
Courriel : hjbourque@crrrc.ca



Aux termes de la *Loi sur l'accès à l'information et la protection de la vie privée* et de la *Loi sur les évaluations environnementales*, et sauf indication contraire dans la présentation, tous les renseignements personnels tels que le nom, l'adresse, le numéro de téléphone et l'emplacement de la propriété qui sont mentionnés dans la présentation feront partie des dossiers publics relativement à cette affaire et seront communiqués à quiconque en fait la demande.

Pour obtenir de plus amples renseignements au sujet du projet, veuillez consulter le site Web www.CRRRC.ca.

Appendix B-12

Comments Received from Comment Sheets

TAGGART
GROUP OF COMPANIES

THE MILLER GROUP

Name _____ **Address** _____

Email _____ **Phone** _____

Two Alternative Site Design Concepts have been prepared for the Boundary Road Site.

Do you have any comments on the alternative site design concepts?

None have the proper information & accurate information to make proper evaluation. False evaluation, seem to be better than Dgsd

Have all answers with accurate proper studies & ~~[illegible]~~ testing

Which alternative site design concept do you prefer and why?

Incomplete and false.

Under the Freedom of Information and Protection of Privacy Act and the EAA, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.

If you do not have time to submit your comment sheet this evening, please email or mail your comments to:
Williamson Consulting Inc. P.O. Box 14556, 2954 St. Joseph Blvd., Ottawa, ON K1C 1J0
Email: howard@williamsonconsulting.ca

For additional information about the project see the project website: www.CRRRC.ca

APPENDIX C

Workshop #2 – June 22, 2013

Appendix C-1

Bilingual E-mail Invitation to Mailing List

From: "Hubert Bourque" <hjbourque@crrrc.ca>
Subject: **Taggart Miller Groundwater Workshop—June 22/Atelier sur l'eau souterraine de Taggart Mille**

SVP faites défiler vers le bas pour la version française.

Taggart Miller encourages the community to become involved in the environmental assessment process. As a result of comments received from the community at past open houses, Taggart Miller has organized a groundwater workshop that will take place on Saturday June 22 in Carlsbad Springs at the community centre. The workshop will discuss groundwater in general, groundwater in the area of the Boundary Road Site proposed for the CRRRC project, and groundwater protection.

If you would like to participate in this half day groundwater workshop on Saturday June 22, please respond via email to Hubert Bourque indicating whether you would prefer a morning or afternoon session.

Please note that advance registration is required to attend the workshop. Further information on the workshop will be provided in advance to registrants.

Sincerely,

Hubert Bourque, Project Manager

Taggart Miller Environmental Services

c/o 225 Metcalfe Street, Suite 708

Ottawa, Ontario K2P 1P9

Tel: 613-454-5580

Fax: 613-454-5581

Email: hjbourque@crrrc.ca

Taggart Miller invite les membres de la communauté à participer au processus d'évaluation environnementale. À la suite des commentaires reçus de la part des membres de la communauté lors des séances portes ouvertes précédentes, Taggart Miller a organisé un atelier sur l'eau souterraine qui aura lieu le samedi 22 juin au Centre communautaire de Carlsbad Springs. L'atelier portera sur l'eau souterraine en général, l'eau souterraine dans la zone du site du chemin Boundary tel que proposé dans le cadre du projet du Centre de récupération des ressources de la région de la capitale (CRRRC) et sur la protection de l'eau souterraine.

Si vous souhaitez participer à cet atelier d'une demi-journée sur l'eau souterraine qui aura lieu le samedi 22 juin, veuillez répondre par courriel à Hubert Bourque.

Veuillez noter que pour participer à l'atelier, il faut d'abord s'y inscrire. De plus amples renseignements sur l'atelier seront communiqués aux inscrits avant la tenue de l'atelier.

Je vous prie d'accepter mes salutations distinguées,

Hubert Bourque, directeur de projet

Taggart Miller Environmental Services

a/s 225, rue Metcalfe, bureau 708

Ottawa (Ontario) K2P 1P9

Téléphone : 613-454-5580

Télécopieur : 613-454-5581

Courriel : hjbourque@crrrc.ca

Appendix C-2

Bilingual Presentation Material

Welcome to the Groundwater Workshop

Taggart Miller Environmental Services

Environmental Assessment
of the Proposed
Capital Region Resource Recovery Centre

June 22, 2013

Purpose of the Workshop and Overview

The purpose of the groundwater workshop is to give attendees an opportunity to obtain information about, and discuss the general topic of:

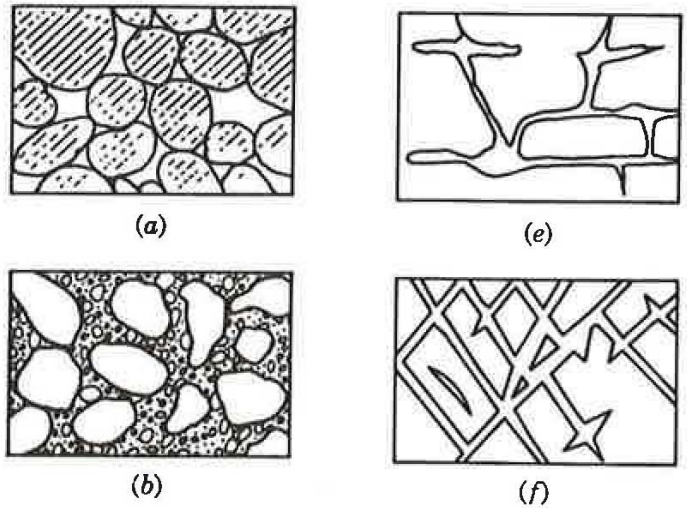
- groundwater;
- potential impacts to groundwater from the proposed CRRRC project;
- how such impacts will be considered in the EA/EPA approvals process; and
- how waste management facilities are designed and regulated in Ontario from a groundwater protection perspective.

Topics

- General information on groundwater
- Setting of proposed CRRRC Boundary Road site
- Design and approval of waste management facilities related to groundwater protection
- Seismic considerations
- Next steps

General Information
Definitions

Groundwater = Water occurring in a zone of saturation in a soil or rock; water which flows into or out of the ground.



Modified from Domenico and Schwartz, 1990

(a) Deposit with large pores
(b) Deposit with small pores
(e) Rock made porous by solution
(f) Rock made porous by fracturing

Porosity is the volume of voids (or pores) divided by the total volume

General Information
Definitions, continued

Aquifer = Saturated soil or rock that can transmit and yield enough water for a required use

Aquitard = Soil or rock that yields small to very small quantities of water, i.e., clay, and through which water does not flow easily

Hydraulic Conductivity = Measure of the ability of soil or rock to transmit water

General Information
Hydraulic Conductivity

Material	Hydraulic Conductivity*, k	
Bedrock	low to high	$<1x10^{-9}$ to 10^{-3} m/s
Sand & Gravel	high	10^{-3} m/s
Sand	↓	↓
Glacial Till		
Clay	low	$<1x10^{-9}$ m/s

* There are a variety of field and laboratory methods to determine k in soil & rock

Note: 10^{-3} = 1/1,000 metres/second

General Information
Flow Direction Determination and Gradients

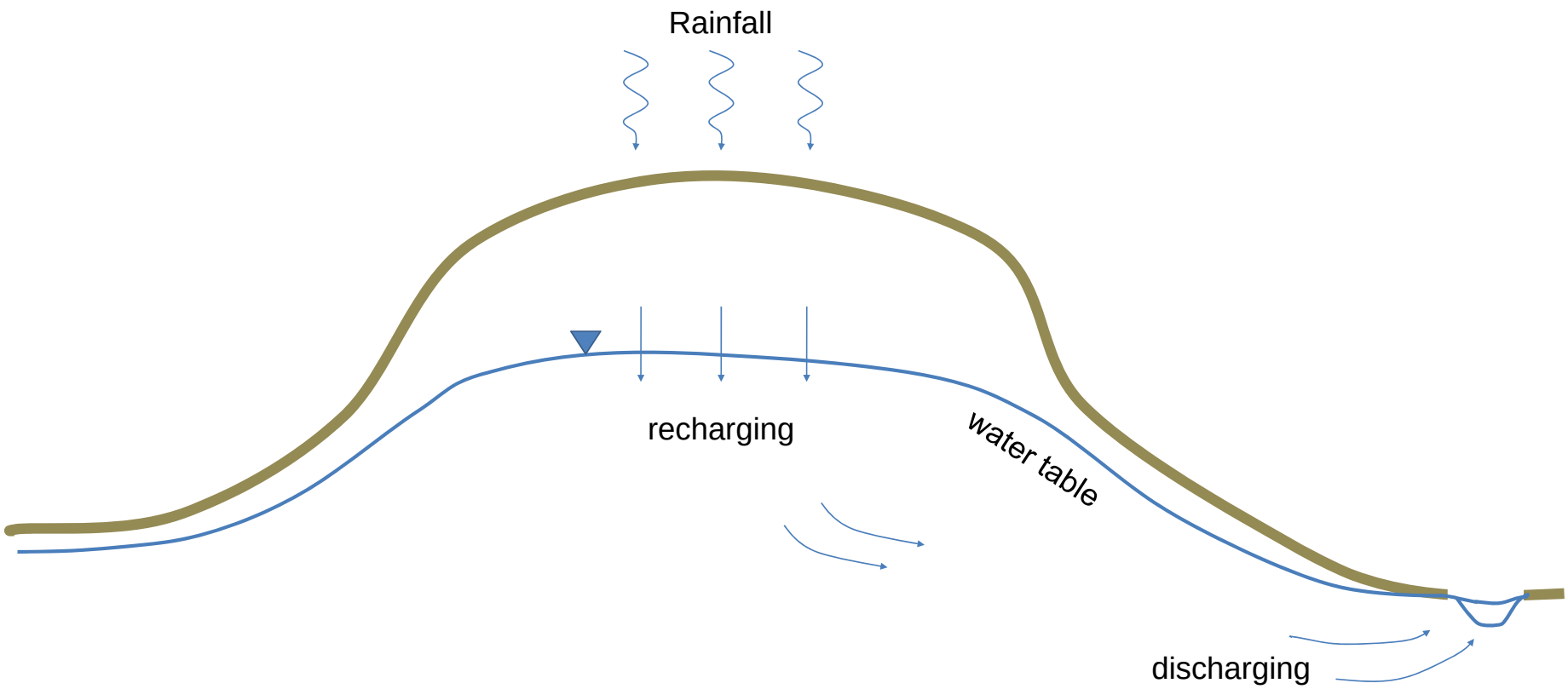
Groundwater moves from higher groundwater elevation to lower groundwater elevation.

Horizontally, this information is used to determine the groundwater flow direction.

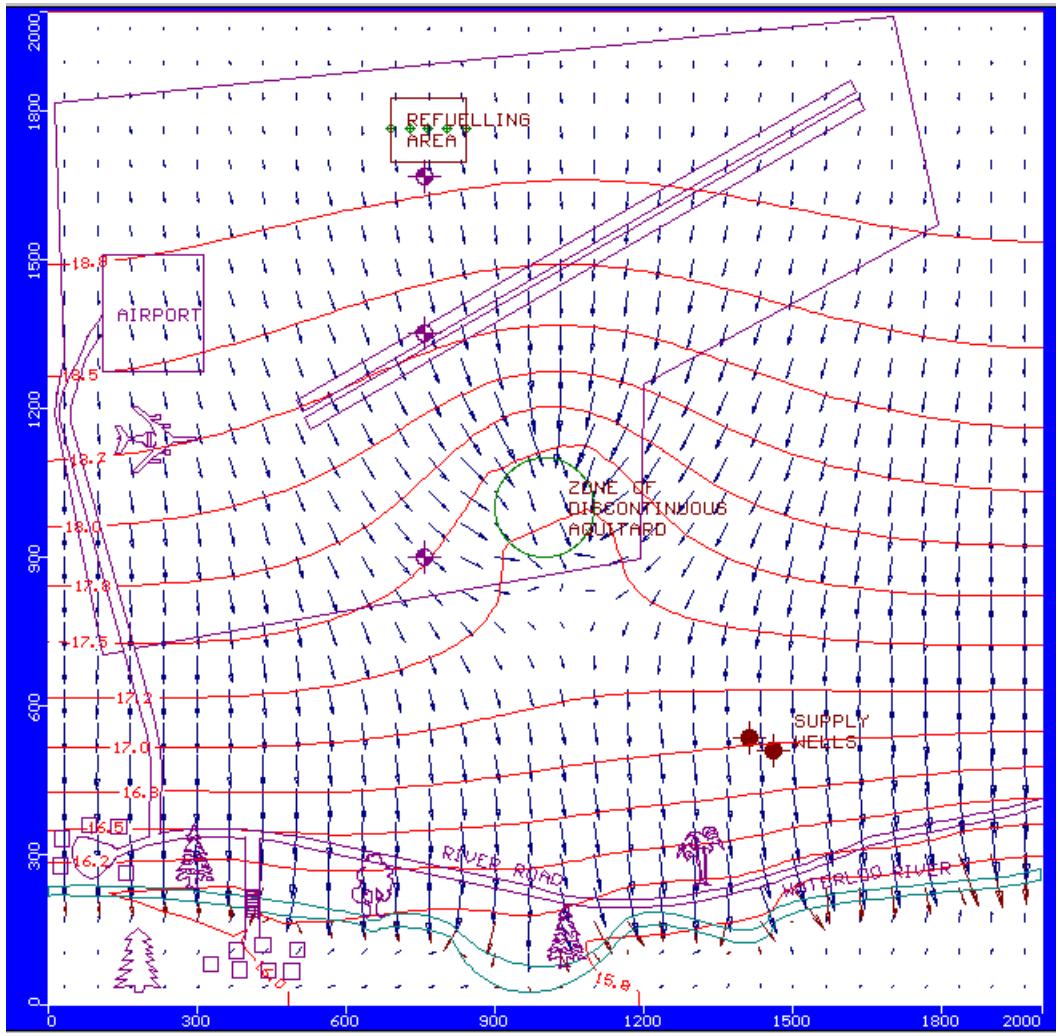
Vertically, this information is used to assess if the groundwater is recharging or discharging.

$$\text{Driving Force (gradient)} = i = \frac{\text{change in groundwater elevation in the direction of flow}}{\text{distance between measurements of groundwater elevation}}$$

General Information
Gradients



General Information
Gradients, continued



General Information
Groundwater Flow Velocity Estimates

Flow Velocity (metres/year) depends on:

- hydraulic conductivity
- driving force (gradient)
- porosity of soil / fractures in rock

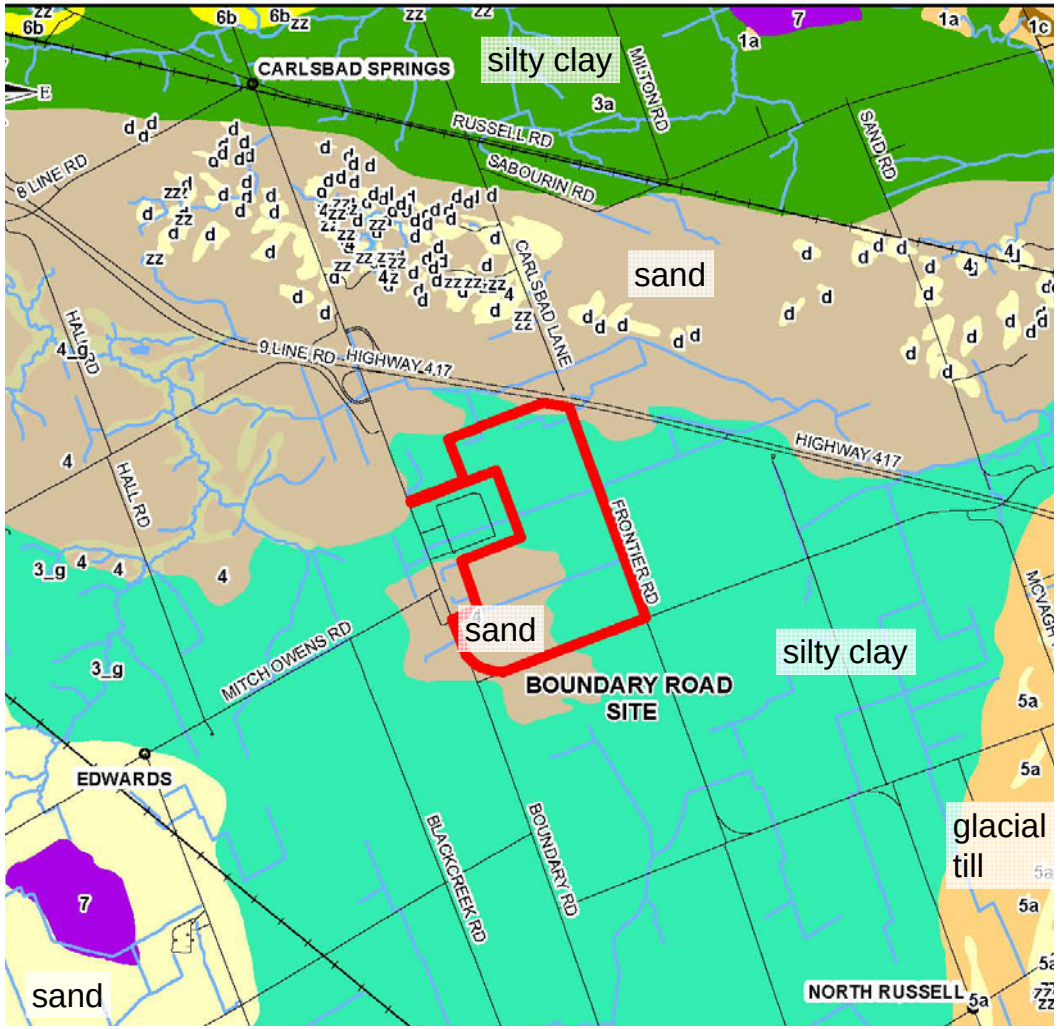
Physical Setting of the Site

The land is flat with little topographic relief features.

Located in the Bear Brook Subwatershed in the Lower Ottawa – South Nation Watershed.

Surface drainage of water is generally by sheet flow, ditches and road side ditches to drains that eventually discharge into Bear Brook. The Simpson drain runs through the middle of the site from west to east.

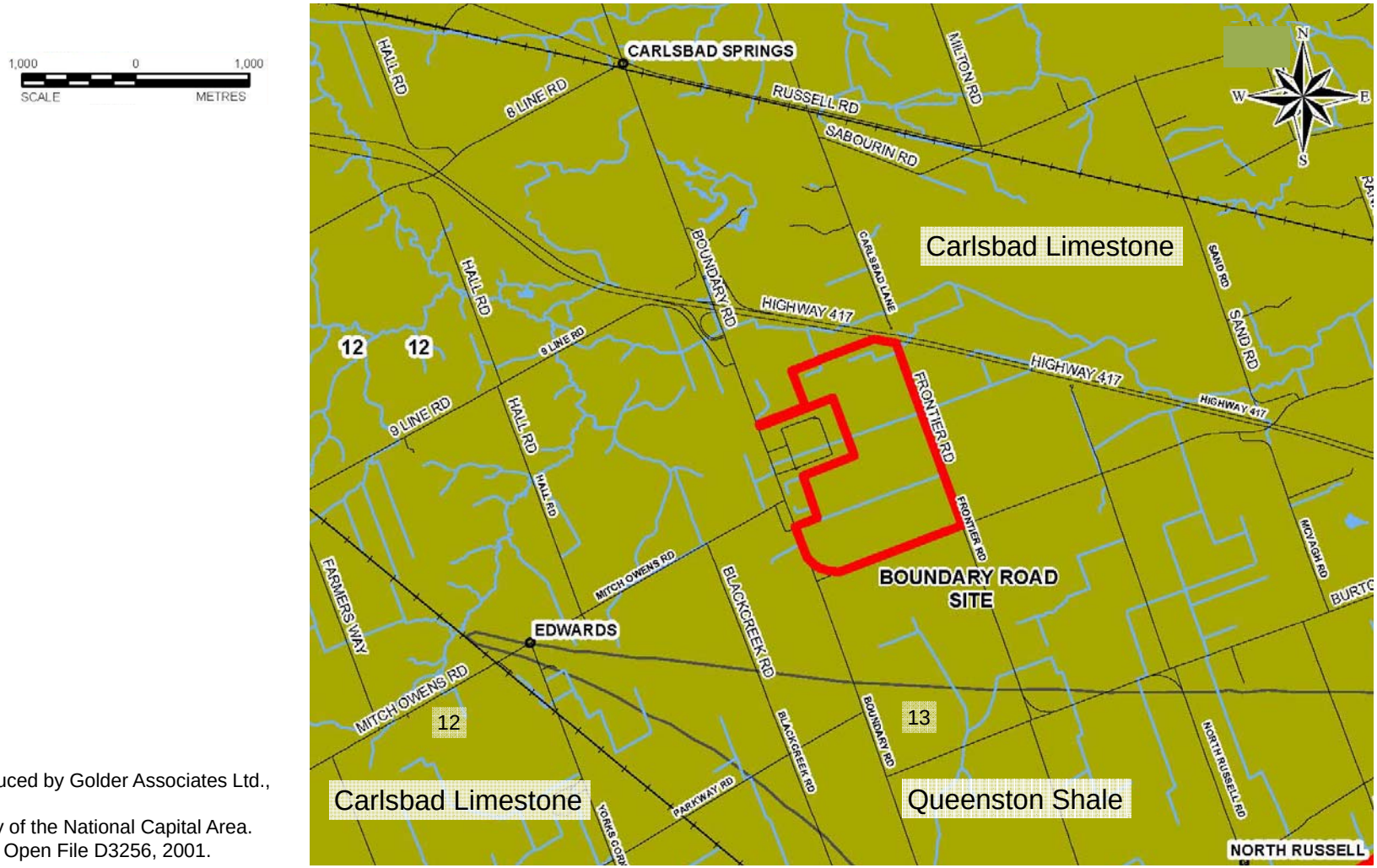
Geological Setting of the Site
Published Information - Soils



Digital NRVIS MNR data produced by Golder Associates Ltd., used under license.
Belanger, J.R., Urban Geology of the National Capital Area. Geological Survey of Canada, Open File D3256, 2001.

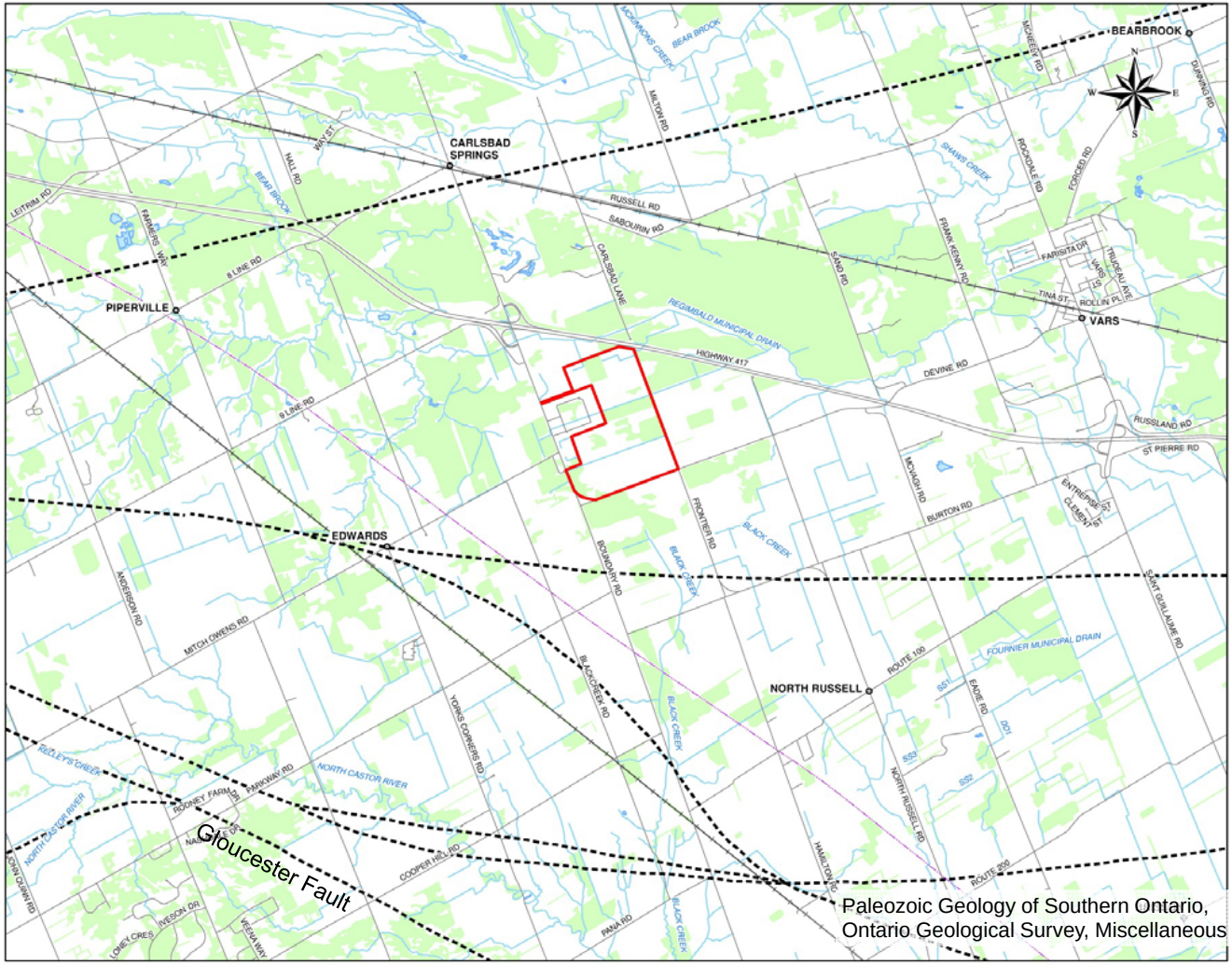
1,000 0 1,000
METRES

Geological Setting of the Site
Published Information - Bedrock



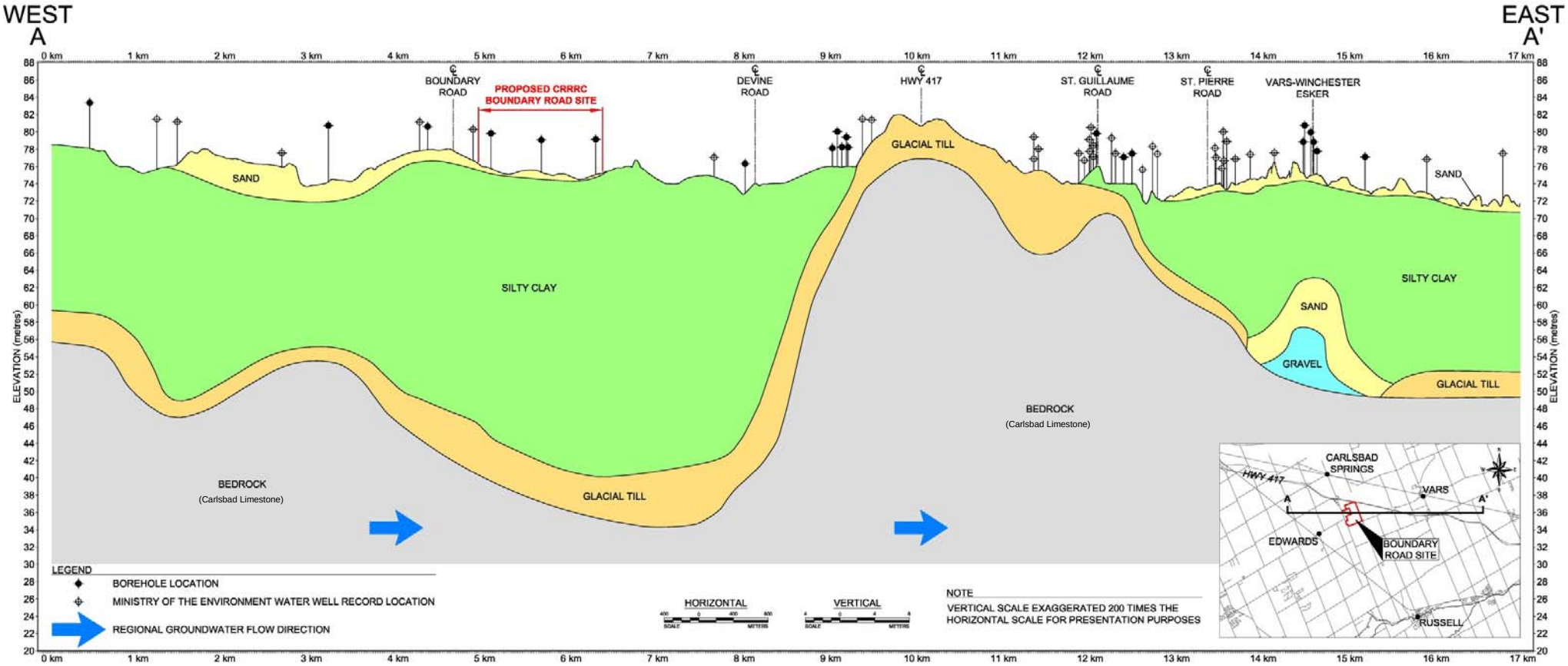
Digital NRVIS MNR data produced by Golder Associates Ltd., used under license.
Belanger, J.R., Urban Geology of the National Capital Area. Geological Survey of Canada, Open File D3256, 2001.

Geological Setting of the Site
Published Information - Bedrock



Paleozoic Geology of Southern Ontario,
Ontario Geological Survey, Miscellaneous Release – Data 219.

Geological Setting of the Site
Cross-Section Illustration



REGIONAL GEOLOGIC CROSS-SECTION

Geology, Hydrogeology & Geotechnical Site Specific Work Completed to Date

- Work completed to date has followed the workplan in Appendix C of the approved TOR.
- Desk top studies using existing information completed, including previous investigations done for the RMOC in 1986 and 1987 on the site.
- Drilling activities following Appendix C commenced in November 2012 and were just recently completed.
- Most laboratory testing on soil samples has been completed, including classification, consolidation and/or permeability.
- In-situ rising or falling head tests have been completed at monitoring well installations and groundwater levels have been measured on a monthly basis.
- Groundwater samples have been collected for chemical analysis.
- The results of the site investigations are outlined on the following slides…

Geological Setting of the Site

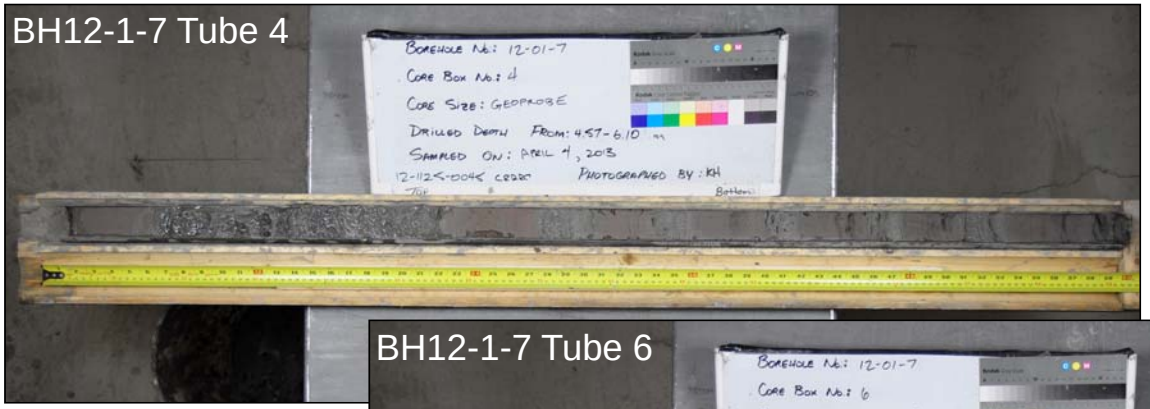
- Drilled boreholes at 25 locations using hollow stem auger and split-barrel sampling and direct push methods to define soil types and thickness
- At 7 locations the bedrock has been cored

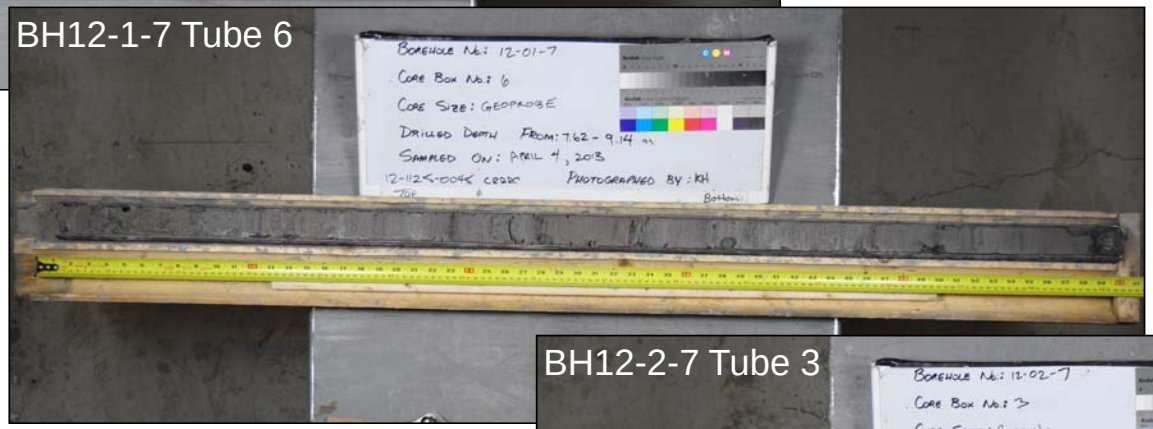
Geological Setting of the Site

Based on the site work :

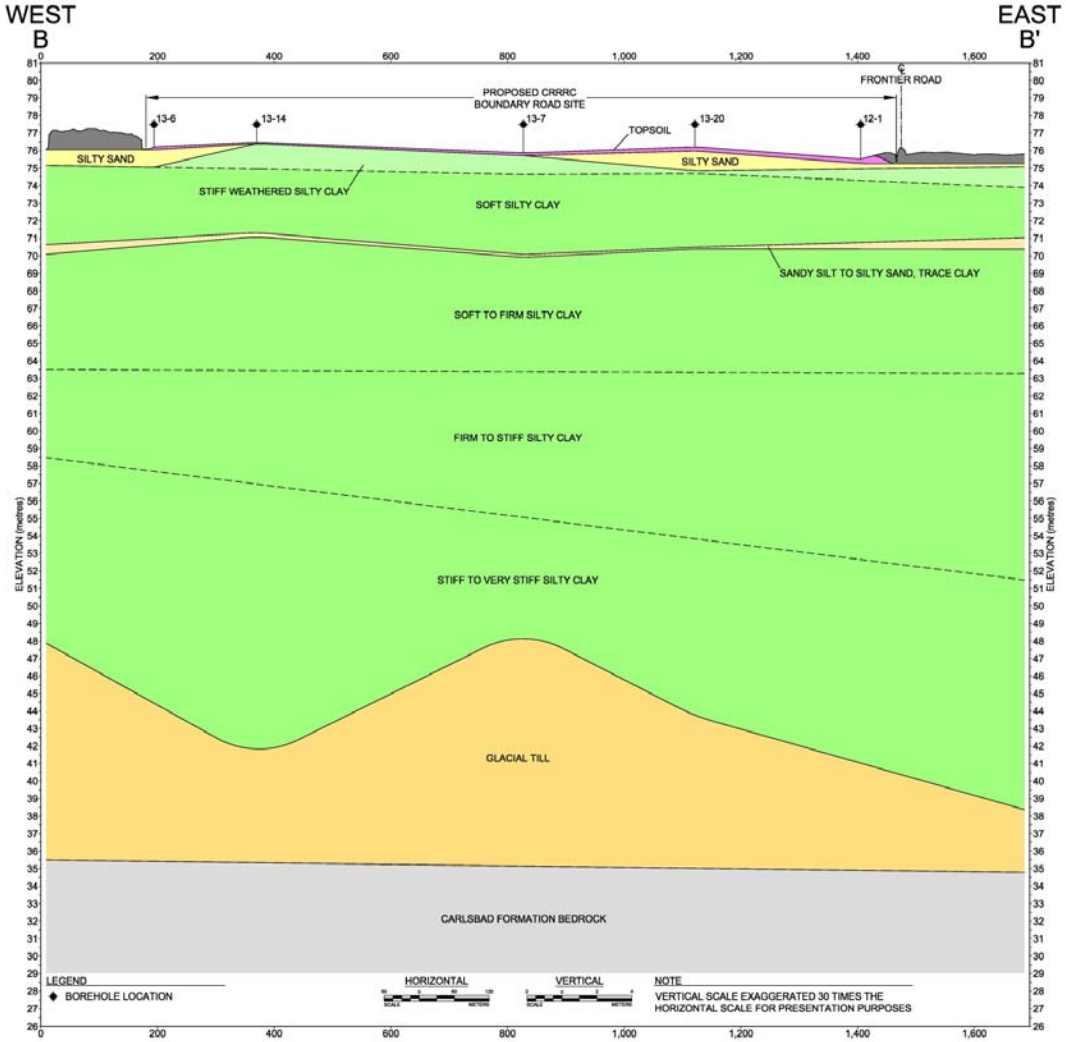
- Variable thickness of surficial silty sand, or stiff weathered clay, typically up to about 1.5 m thick, overlying a thick deposit of about 30 m of clay to silty clay, followed by glacial till and Carlsbad Formation bedrock.
- Occasional discontinuous lenses of sand, silt, silty sand or sandy silt within the silty clay deposit.
- One continuous layer was identified within the silty clay deposit beneath the Site consisting of sandy silt to silty sand with a trace of clay. The top of the continuous layer was found at a depth of about 4.5 to 5 m below ground, and the layer had a thickness ranging from 130 to 600 mm (average about 350 mm).
- The bedrock type (Carlsbad Formation) agrees with that shown on the published map.

Examination of Clay Deposit

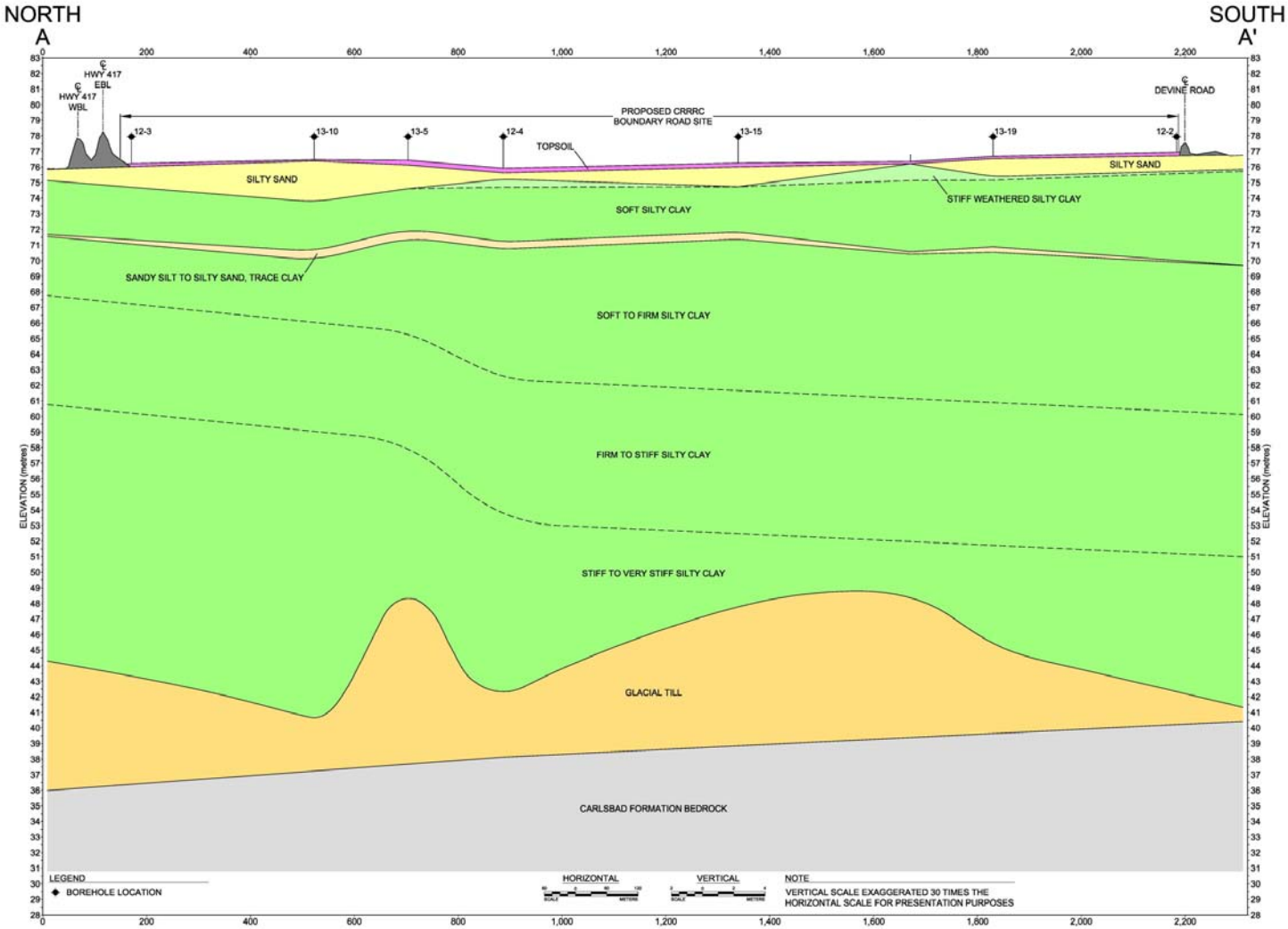




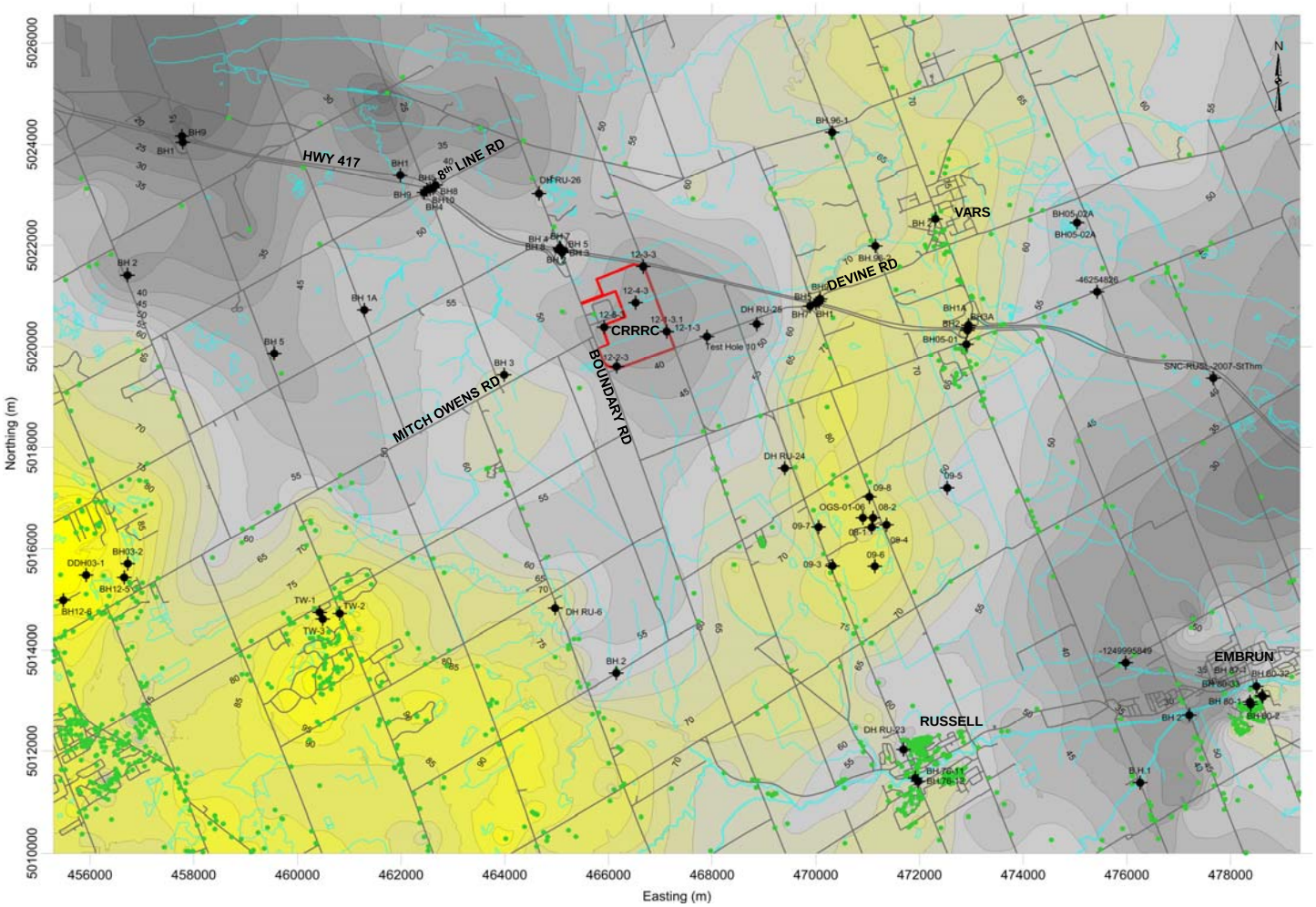
Geological Setting of the Site
Cross-Section Illustration



Geological Setting of the Site
Cross-Section Illustration



Geological Setting of the Site
Interpreted Regional Bedrock Geology



LEGEND

- Cored Borehole Location
- Water Well Location
- Waterbodies
- Roads
- CRRRC Site Boundary

Bedrock Surface Colour Scale (mASL)

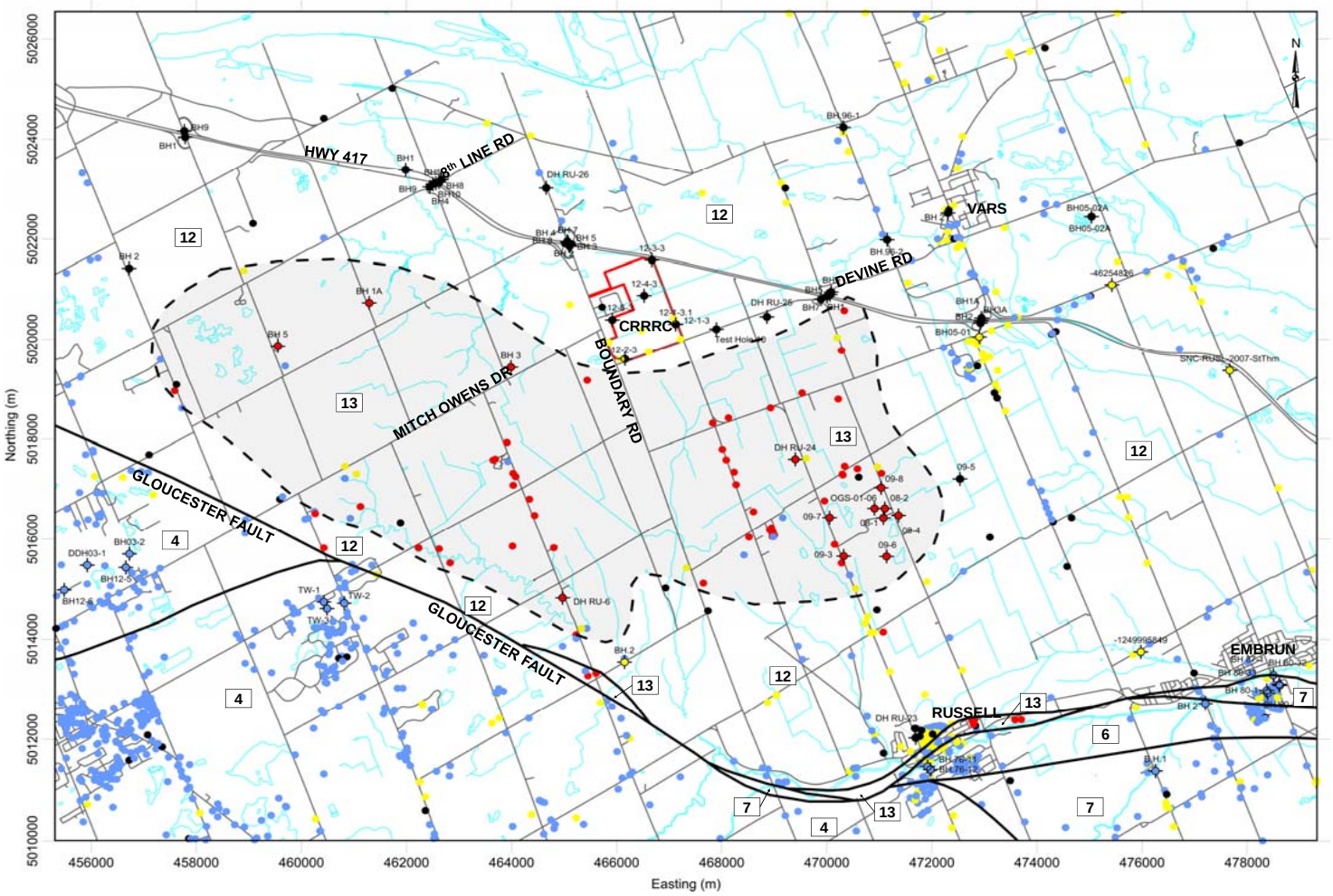
105, 100, 95, 90, 85, 80, 75, 70, 65, 60, 55, 50, 45, 40, 35, 30, 25, 20, 15, 10, 5

NOTES

1. Elevation contour interval = 5m
2. Contour datum is mASL
3. Base mapping from Ontario Ministry of Natural Resources (2010)

FINAL DRAFT

Geological Setting of the Site
Interpreted Regional Bedrock Geology, continued



FINAL DRAFT

LEGEND

Bedrock Formation Description:
- Red Bedrock (All Formations)
- Grey Shale
- Limestone (All Colours)
- Other

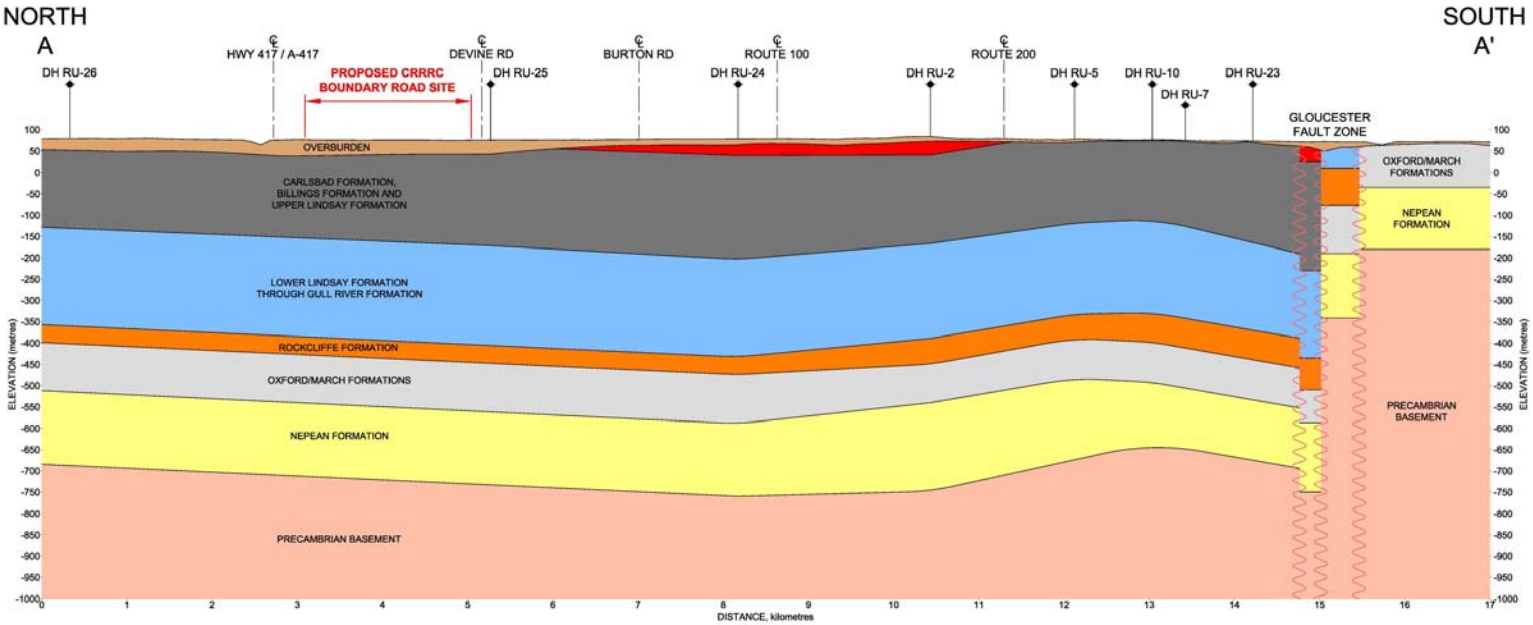
- Waterbodies
- Roads
- Interpreted Structural Boundary
- Interpreted Extent of Queenston Formation
- CRRRC Site Boundary
- Cored Hole

Bedrock Units
- 4 Oxford Formation
- 6 Gull River Formation
- 7 Bobcaygeon Formation
- 12 Carlsbad Formation
- 13 Queenston Formation

NOTES

1. Base mapping from Ontario Ministry of Natural Resources (2010)

Geological Setting of the Site
Interpreted Regional Bedrock Geology, continued



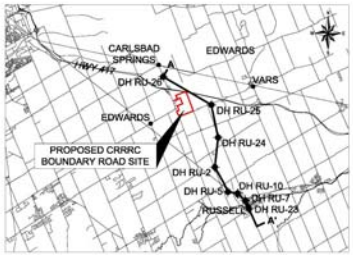
BEDROCK GEOLOGY
- QUEENSTON FORMATION
- CARLSBAD/BILLINGS/UPPER LINDSAY FORMATIONS
- LOWER LINDSAY FORMATION THROUGH GULL RIVER FORMATION
- ROCKCLIFFE FORMATION
- OXFORD/MARCH FORMATIONS
- NEPEAN FORMATION
- PRECAMBRIAN BASEMENT

LEGEND
- BOREHOLE LOCATION

NOTE
VERTICAL SCALE EXAGGERATED 5 TIMES THE HORIZONTAL SCALE FOR PRESENTATION PURPOSES

REGIONAL GEOLOGIC CROSS-SECTION

HORIZONTAL VERTICAL



Hydrogeology of the Site

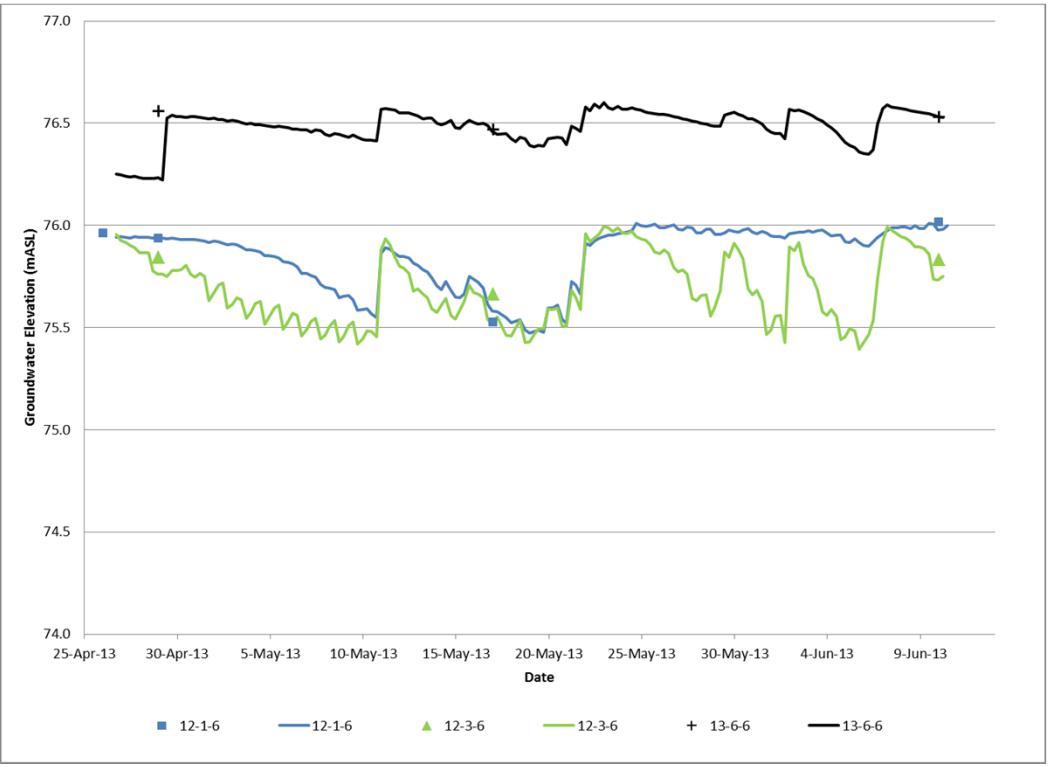
Groundwater

- Single or multi-level groundwater monitoring wells were constructed.
- Rising/falling head slug tests were carried out in monitoring wells to provide information on the hydraulic conductivity of the **Surficial Sand**, **Shallow clay with Silty Layer**; **Glacial Till** and **Upper Bedrock** stratigraphic units and constant head laboratory permeability tests were conducted on select silty clay samples
- A groundwater level monitoring program is ongoing to provide information on hydraulic gradients, the range in water levels observed at the site over time and the groundwater flow direction(s).

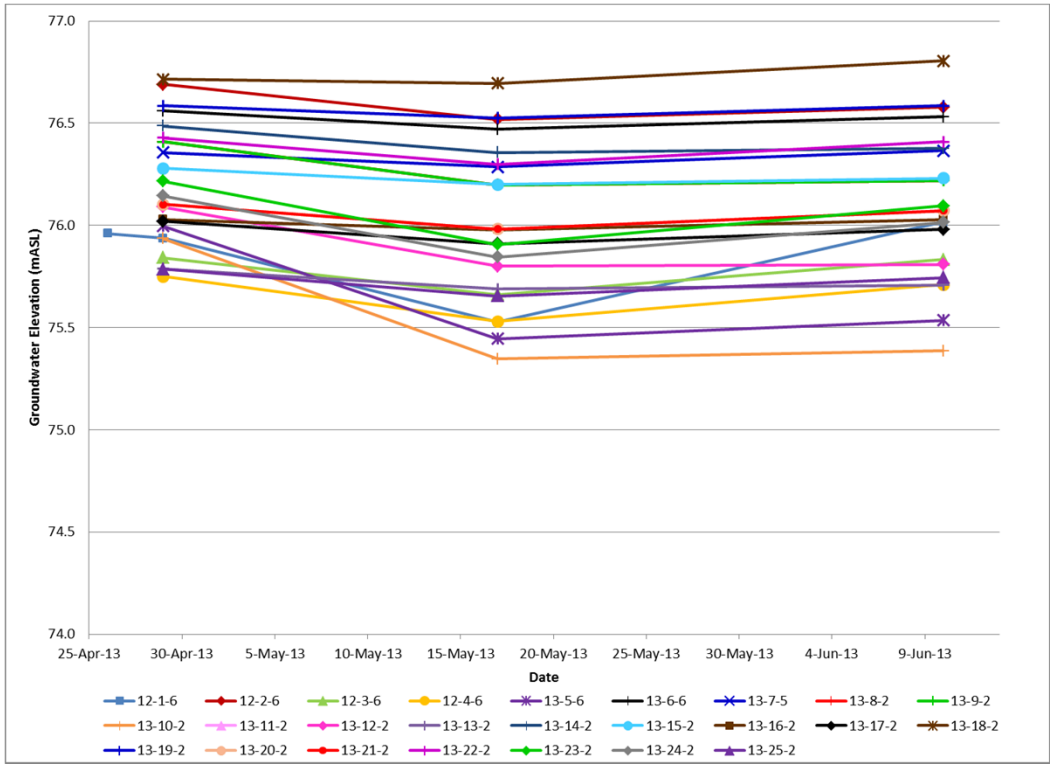
Hydrogeology of the Site, continued

Groundwater Level Monitoring Data – **Surficial Sand**

Datalogger (6 hour interval)



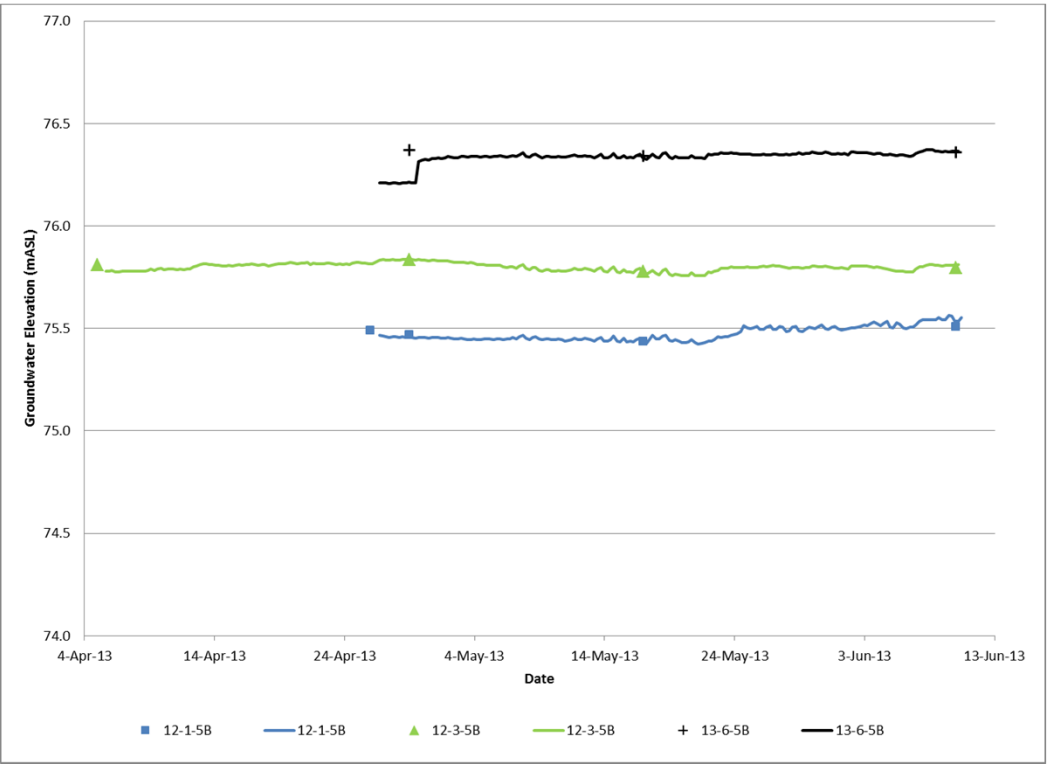
Monthly Monitoring



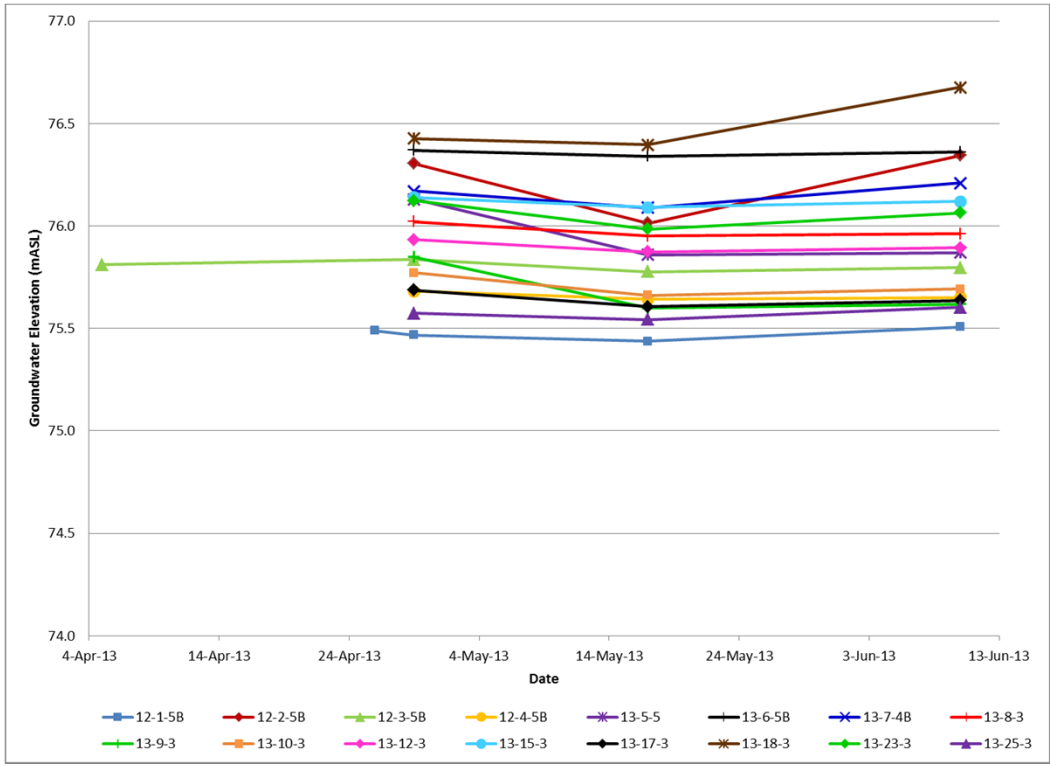
Hydrogeology of the Site, continued

Groundwater Level Monitoring Data – **Shallow Clay with Silty Layer**

Datalogger (6 hour interval)



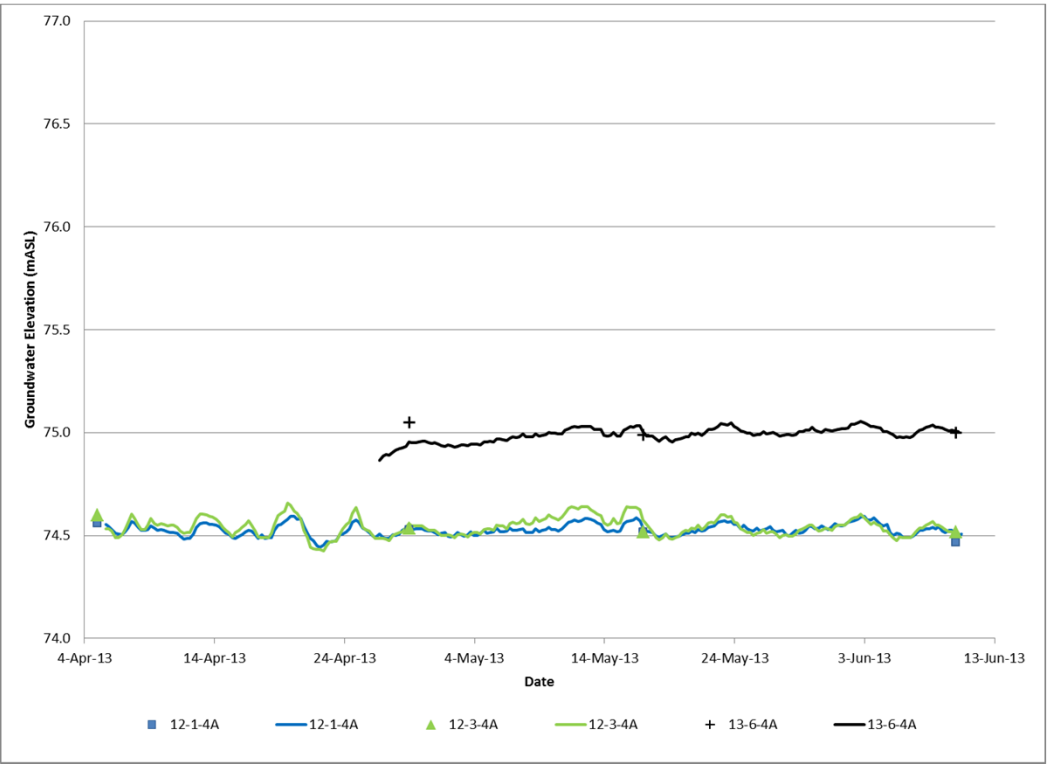
Monthly Monitoring



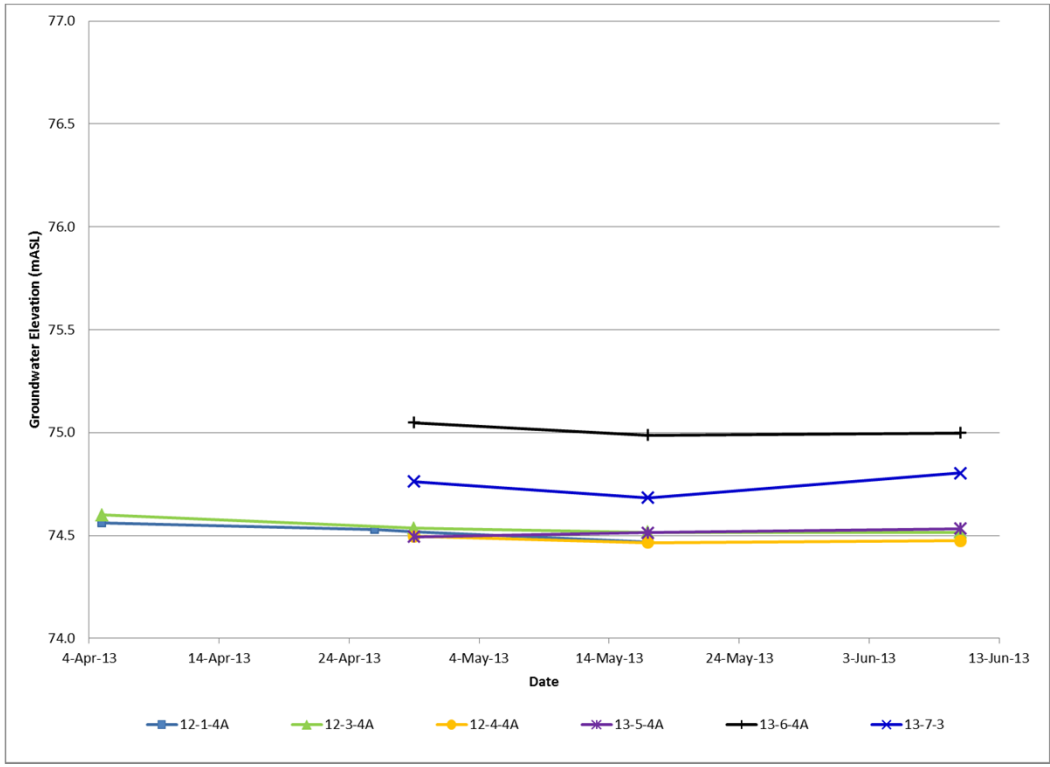
Hydrogeology of the Site, continued

Groundwater Level Monitoring Data – **Glacial Till**

Datalogger (6 hour interval)



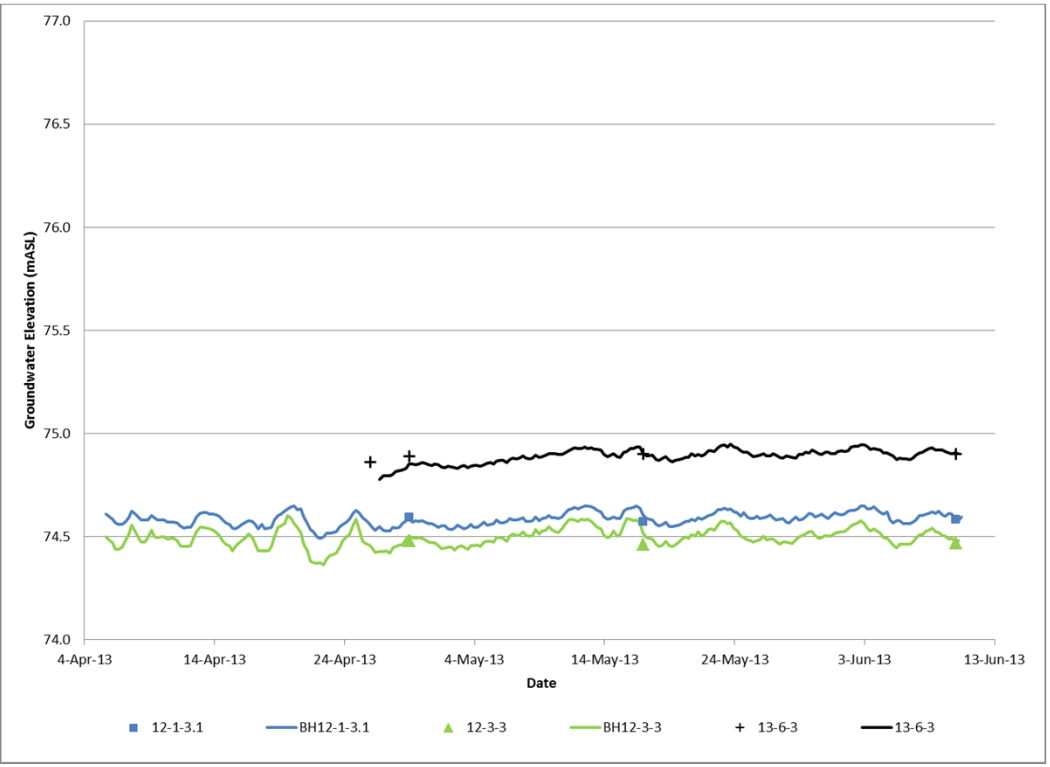
Monthly Monitoring



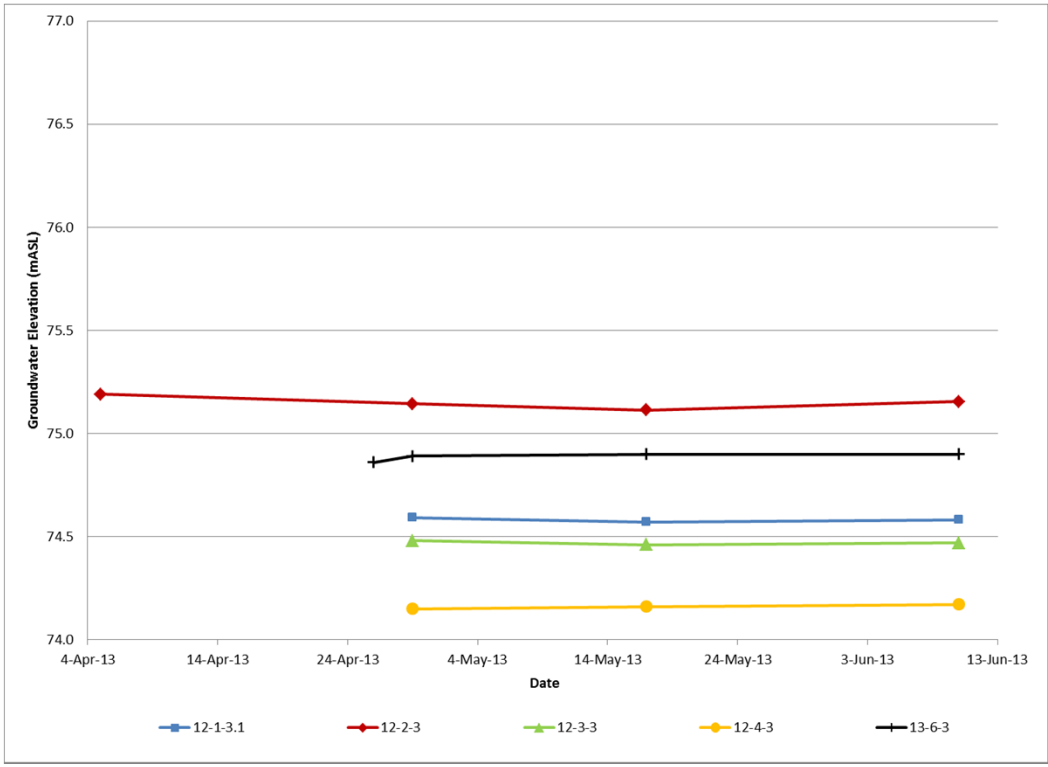
Hydrogeology of the Site, continued

Groundwater Level Monitoring Data – **Upper Bedrock**

Datalogger (6 hour interval)

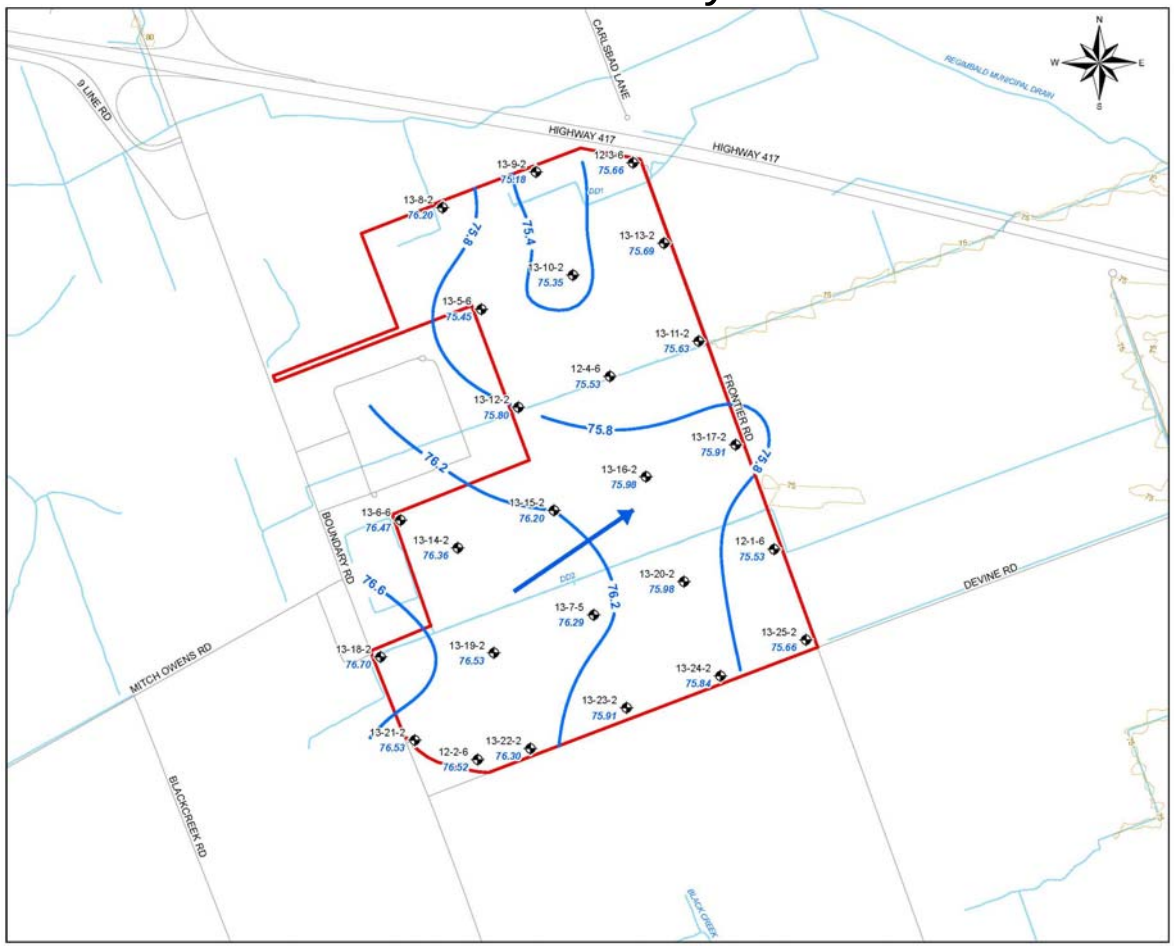


Monthly Monitoring



Hydrogeology of the Site, continued

Horizontal Groundwater Flow – **Surficial Sand** May 2013



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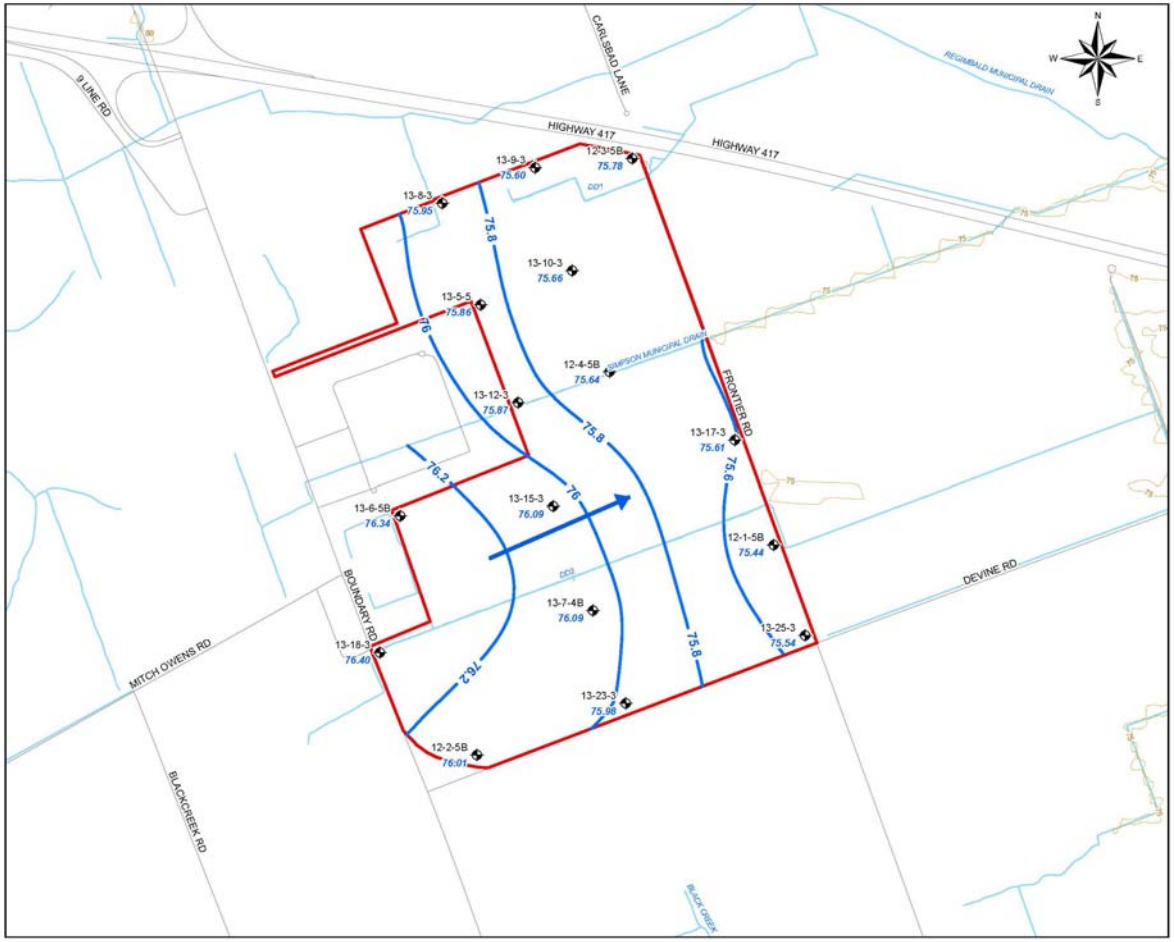
Hydrogeology of the Site, continued

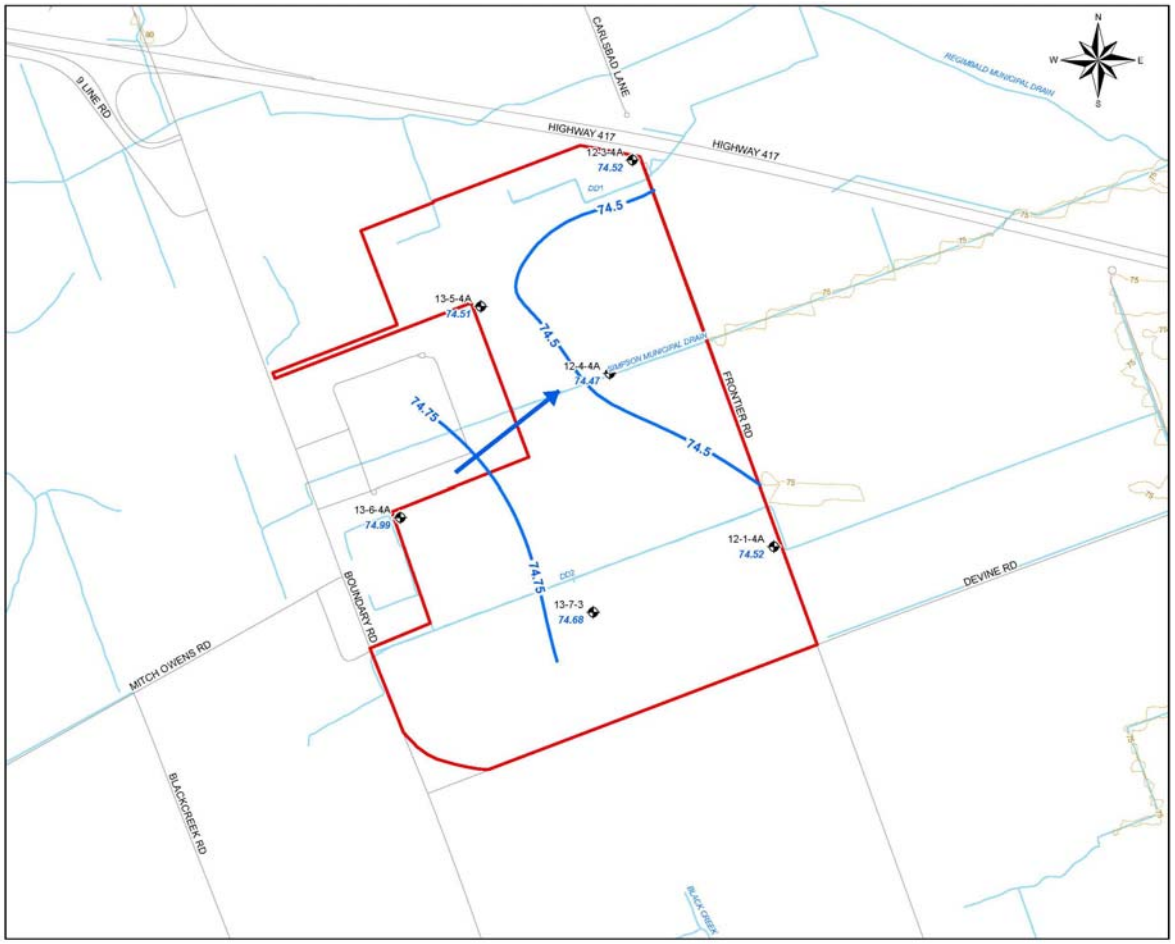
Horizontal Groundwater Flow – **Shallow Clay with Silty Layer** May 2013



Digital NRVIS MNR data produced by Golder Associates Ltd., used under license.

Hydrogeology of the Site, continued

Horizontal Groundwater Flow – **Glacial Till** May 2013



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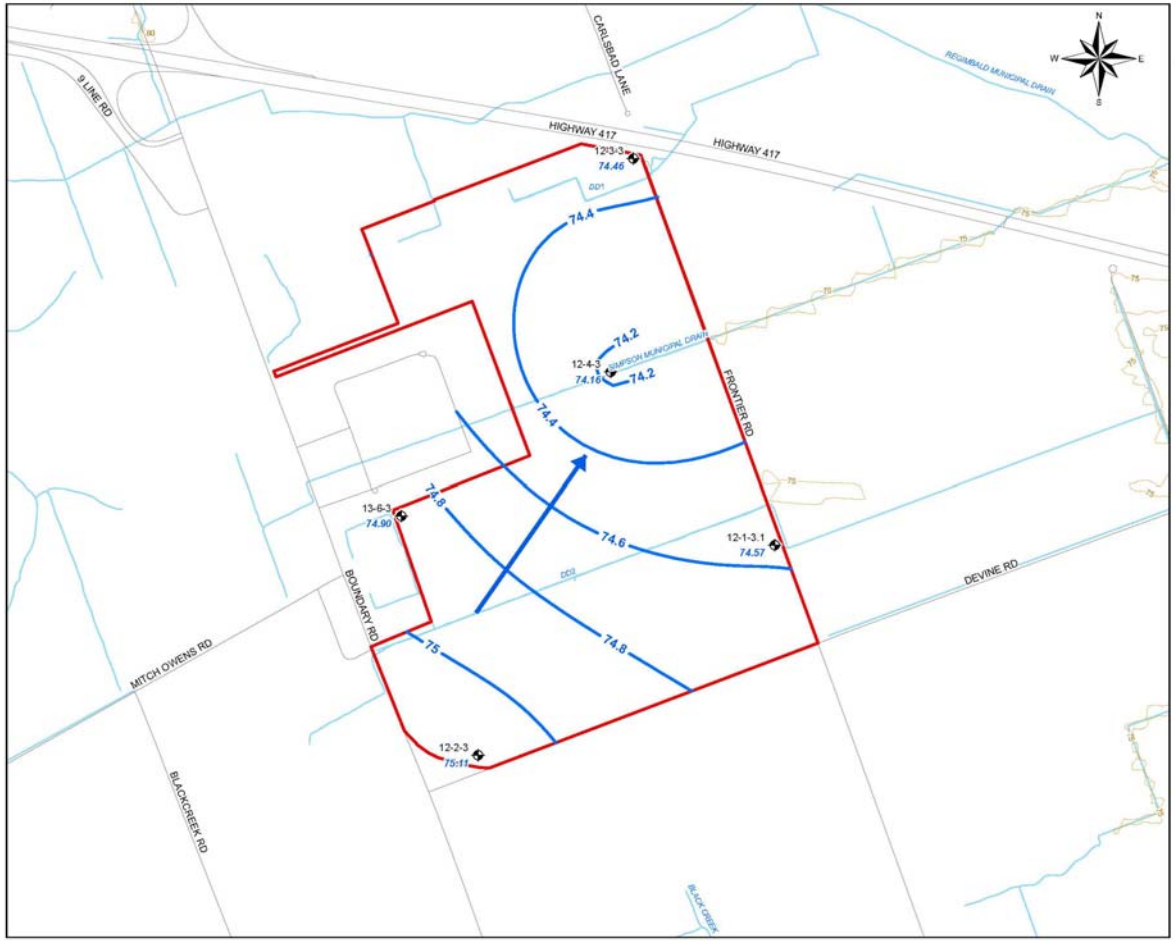
Hydrogeology of the Site, continued

Horizontal Groundwater Flow – **Upper Bedrock** May 2013



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Hydrogeology of the Site, continued

Hydraulic Conductivity (K) Testing

- A total of 37 rising and/or falling head tests were conducted in the four stratigraphic units and constant head laboratory permeability tests were completed on 3 silty clay samples.

- **Surficial Sand** (15 tests): 9 x 10^{-8} to 2 x 10^{-5} m/sec – moderate K
  - [geometric mean 3 x 10^{-6} m/sec]

- **Silty Layer within Shallow Clay** (11 tests): 3 x 10^{-8} to 3 x 10^{-6} m/sec – moderate K
  - [geometric mean 8 x 10^{-7} m/sec]

- **Silty Clay** (3 permeability tests): 7 x 10^{-10} to 2 x 10^{-9} m/sec – low K
  - [geometric mean 1 x 10^{-9} m/sec]

- **Glacial Till** (6 tests): 8 x 10^{-9} to 2 x 10^{-4} m/sec – variably low to high K
  - [geometric mean 2 x 10^{-6} m/sec]

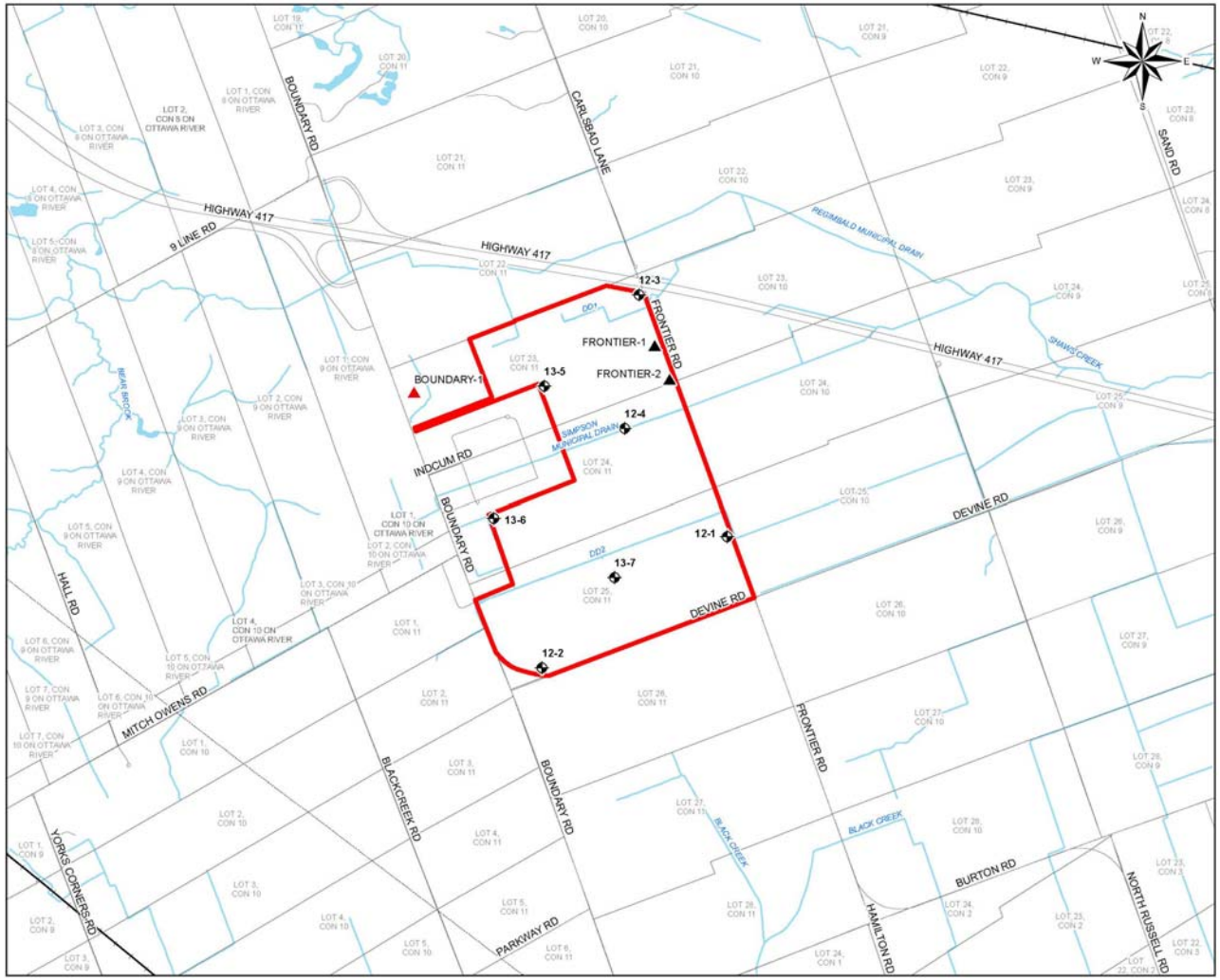
- **Upper Bedrock** (5 tests): 2 x 10^{-8} to 2 x 10^{-5} m/sec – low to moderate K
  - [geometric mean 5 x 10^{-7} m/sec]

Hydrogeology of the Site, continued

Groundwater Velocities

- Linear Groundwater Velocity = $\frac{\text{Hydraulic Conductivity} * \text{Horizontal Gradient}}{\text{Porosity}}$
- Low horizontal gradient generally consistent across each of the four units (0.0005 to 0.0009)
- **Surficial Sand**: < 0.01 to 1 metre per year (m/yr); average velocity of 0.1 m/yr (10 cm/yr)
- **Silty Layer within Shallow Clay**: < 0.01 to 0.15 m/yr; average velocity of 0.04 m/yr (4 cm/yr)
- **Glacial Till**: < 0.01 to 10 m/yr; average velocity of 0.1 m/yr (10 cm/yr)
- **Upper Bedrock**: < 0.01 to 6 m/yr; average velocity of 0.15 m/yr (15 cm/yr)

Water Quality at the Site



Water Quality at the Site, continued

Groundwater

- The groundwater quality sampling program involved collecting 25 samples from the on-site monitoring wells, two samples from on-site private water supply dug wells and one sample from a nearby off-site dug well.

- The groundwater samples were analyzed for the parameters specified in *Ontario Regulation 232/98*

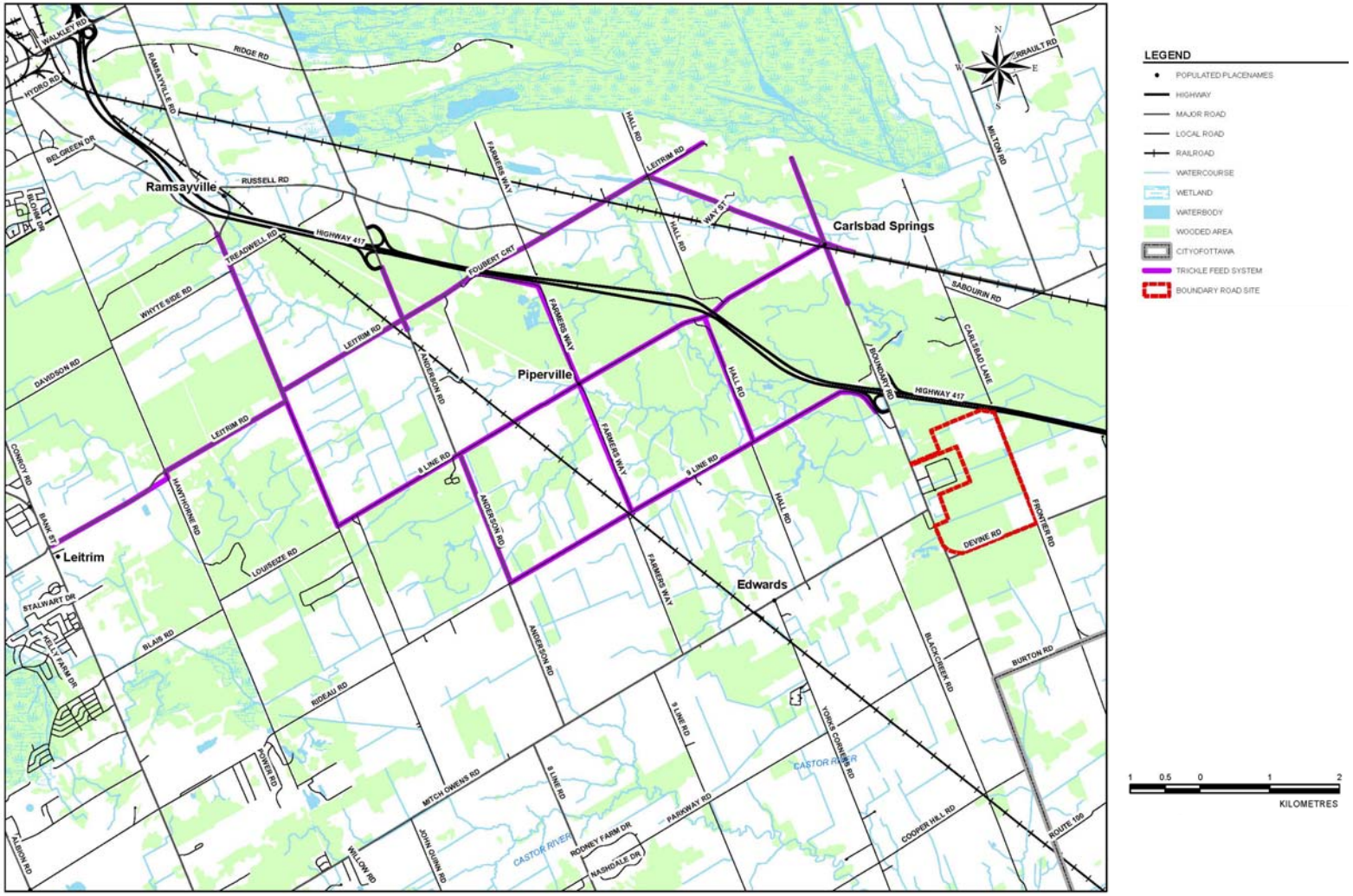
- In general, natural groundwater quality varies from fresh to brackish and deteriorates with depth.

Hydrogeology of the Site
Published Information - Groundwater Users

- Residents and businesses in the immediate vicinity of the site primarily obtain their groundwater from individual dug wells and do not have municipal water supply.

- A review of MOE well records and existing studies of the surrounding area suggests that:
    - Drilled wells primarily obtain their water from the soil/bedrock contact zone or the upper bedrock zone;
    - Wells in the area do not produce large quantities of water;
    - Water quality gets poorer with depth (due to low hydraulic conductivity and age of water); and
    - In general, the quality of water from the soil/bedrock contact and the upper bedrock is not potable.

Trickle Feed System



What is Proposed at the CRRRC
Types of Waste

CRRRC will accept solid non-hazardous materials for recycling and for disposal of the remainder; this is the same type of materials accepted at other disposal sites in the area.

CRRRC will not accept hazardous waste or medical waste.

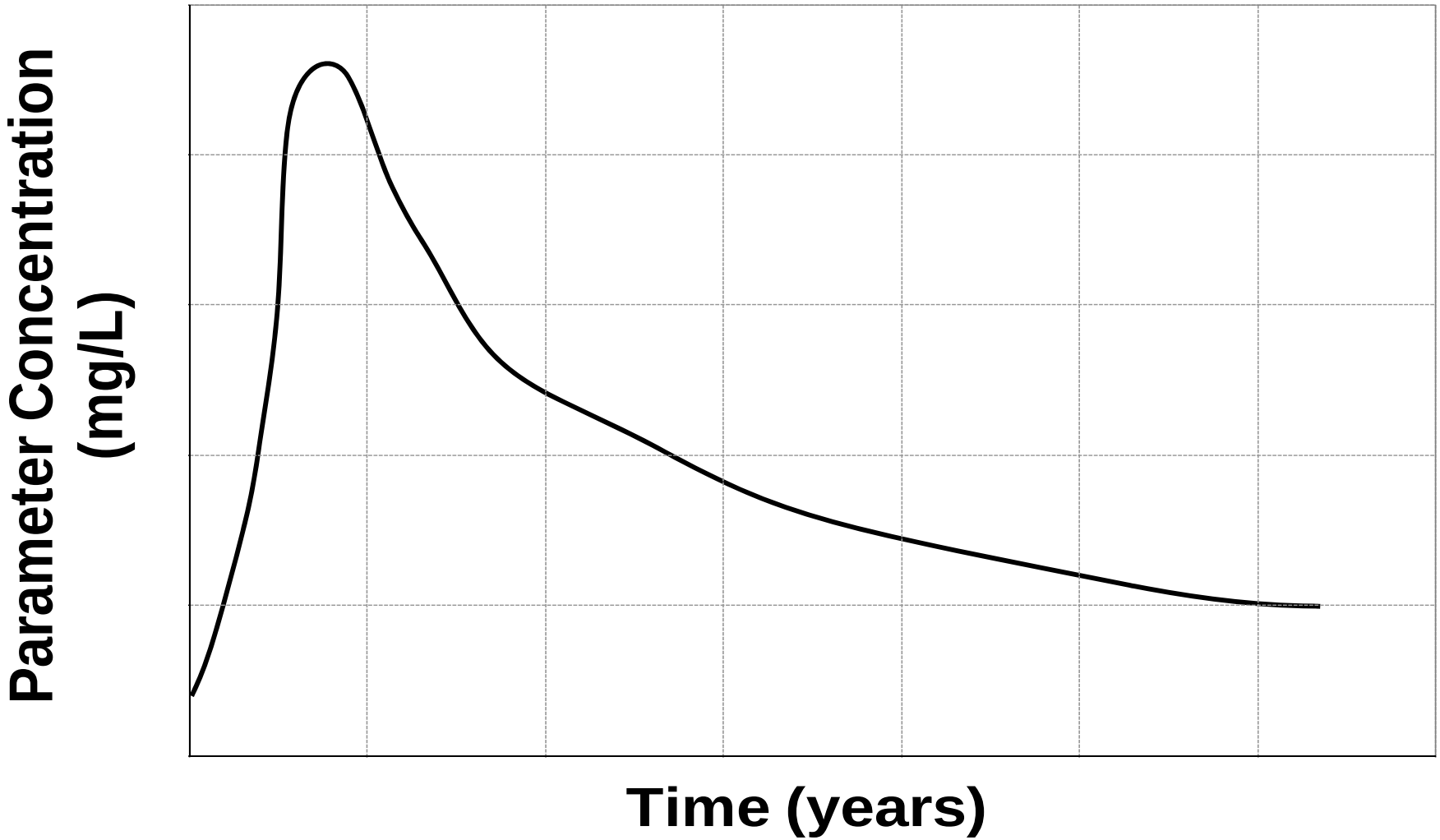
CRRRC will divert and process the organics (treatment prior to disposal); this will reduce the leachate strength in the disposal cells.

Leachate = A liquid produced from a landfill or process such as composting that contains dissolved, suspended and/or microbial contaminants.

Some Landfill Design Considerations

R. Kerry Rowe

Leachate Source Quality



Changes in Leachate with Changes in Landfilling Regulations

Contaminant	Before	Now
• BTEX	• Moderate	• Low
• Chlorinated solvents	• High	• Very Low
• Metals (Zn, Pb, Hg)	• Moderate	• Very Low
• Fatty Acids (AA)	• Very High	• Medium-Low*
• Salts (NaCl)	• High	• Medium

* Low when extensive diversion of organic waste

Design and Approval of Waste Management Facilities in Ontario

Diversion Facilities:
Must demonstrate appropriate management of liquids and odours and control of noise meeting provincial requirements, and obtain Certificate(s) of Approval from the MOE.

Disposal Sites:
Regulation 232/98 & the Ontario Landfill Standards dictate how and what standards must be achieved for surface water, groundwater and air (dust, odour, noise), and obtain Certificate(s) of Approval from the MOE.

Regulation 232/98 & the Ontario Landfill Standards also outline how disposal facilities can be built and how they are to be operated.

How Does Leachate Move if Released from a Site to Groundwater?

- Moves in the direction of groundwater flow.
- Conservative leachate parameters, i.e., chloride, travel at approximately the same velocity as groundwater.
- The movement of most parameters is retarded (slowed down) in the subsurface relative to groundwater flow velocity (decay, adsorption, reactions, etc.).

How Do we Prevent Leachate being Released from a Site?

- For off-site groundwater protection, landfills rely on engineered controls to supplement the available natural attenuation of leachate provided by the geologic setting.

- Regulation 232/98 & the Ontario Landfill Standards allow for site-specific designs and provide two generic designs of engineered controls for groundwater protection.

  Demonstration of appropriate groundwater protection is required if not utilizing the generic designs.

Example Engineered Leachate Control System Components for Disposal Cells

Engineered controls include:

- permeable final cover;
- low permeability final covers (clay or geomembrane);
- low permeability liners or liner systems (clay, geosynthetic clay liner and/or geomembrane);
- natural low permeability soil deposits; and
- leachate collection systems.

Ontario landfill standards

- Reasonable Use Guideline
- Contaminating lifespan
- Design options
- Service life

Reasonable Use Guideline

- Limits for the allowable concentrations of contaminants based on background groundwater quality such that there would not be any significant effect on the use of the groundwater on the adjacent property.

Guidelines and Criteria Related to Groundwater Protection

Ontario Drinking Water Quality Standards (ODWQS)

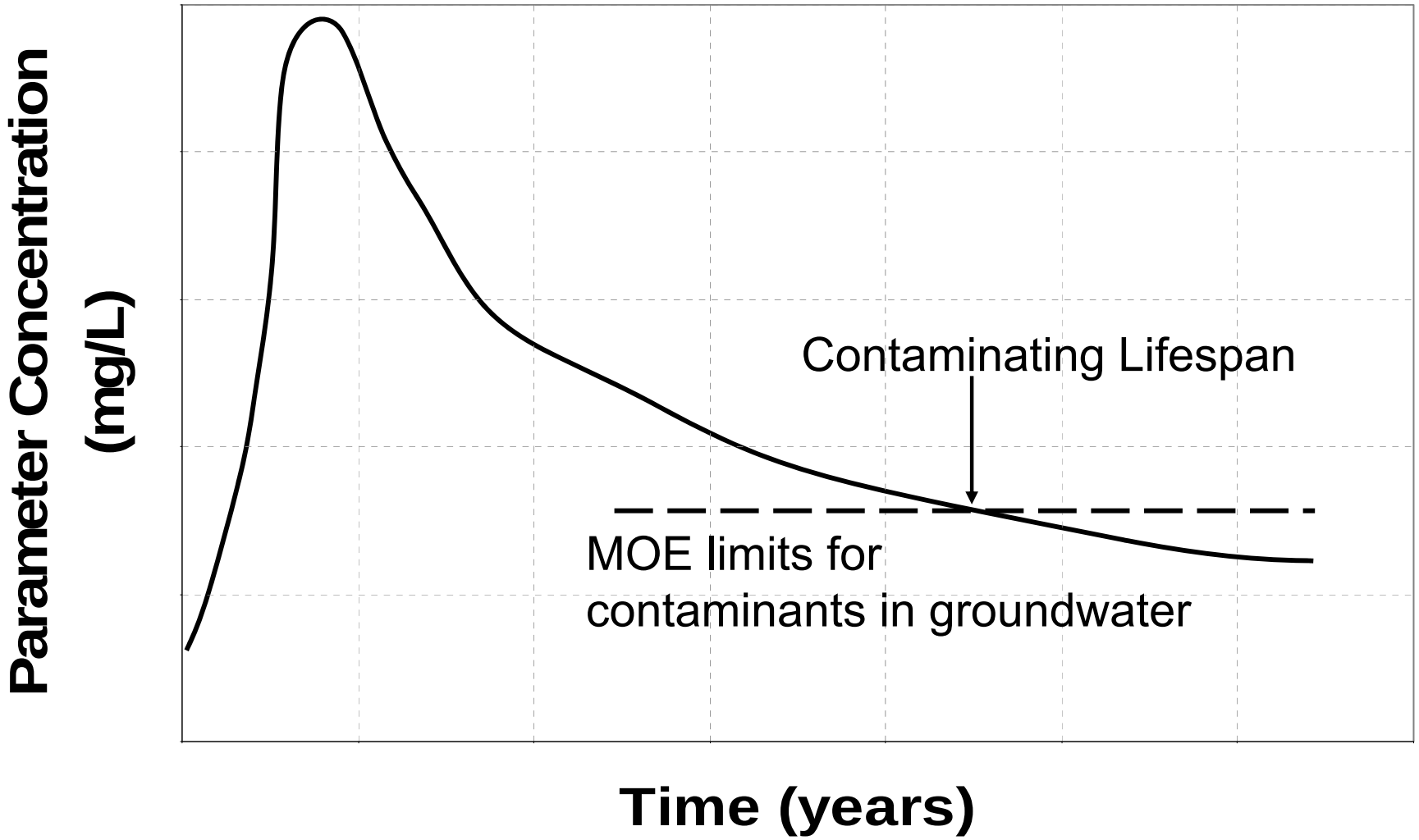
- Framework against which waste management facilities are evaluated in terms of groundwater protection design and monitoring of operations

- ODWQS provide values for 113 parameters, including those typically found in landfill leachate

Contaminating Lifespan

- Period of time during which the landfill will produce contaminants at levels that will have unacceptable impact if discharged to the environment

Guidelines and Groundwater Protection - Contaminating Lifespan



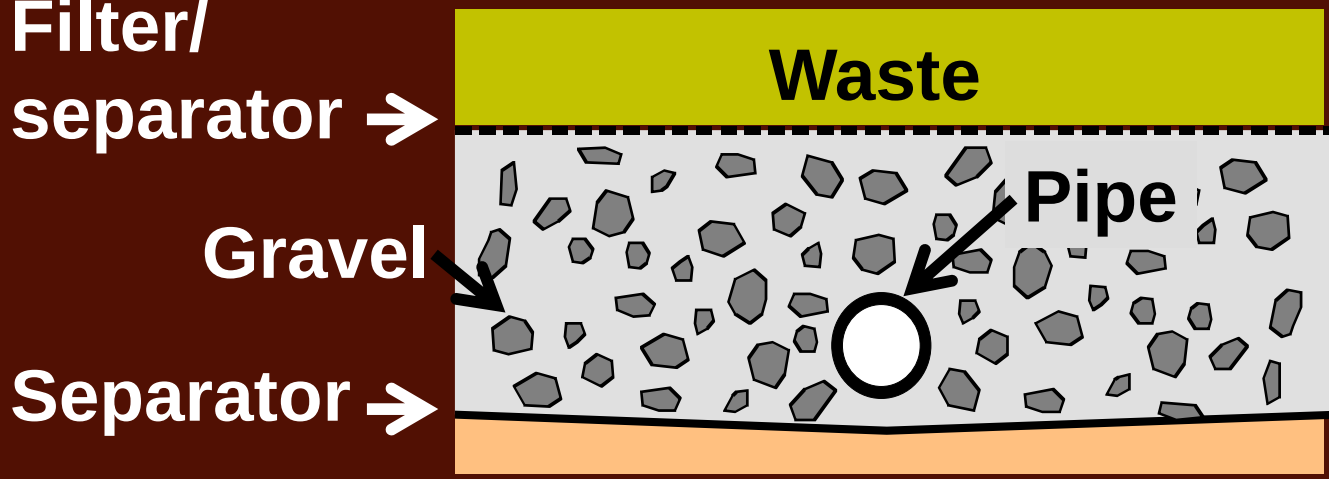
Ontario landfill standards

- Reasonable Use Guideline
- Contaminating lifespan
- Design options
- Service life

Leachate Collection Systems

- control leachate head on liner
- collect leachate for treatment

Blanket drain



Liners may be:

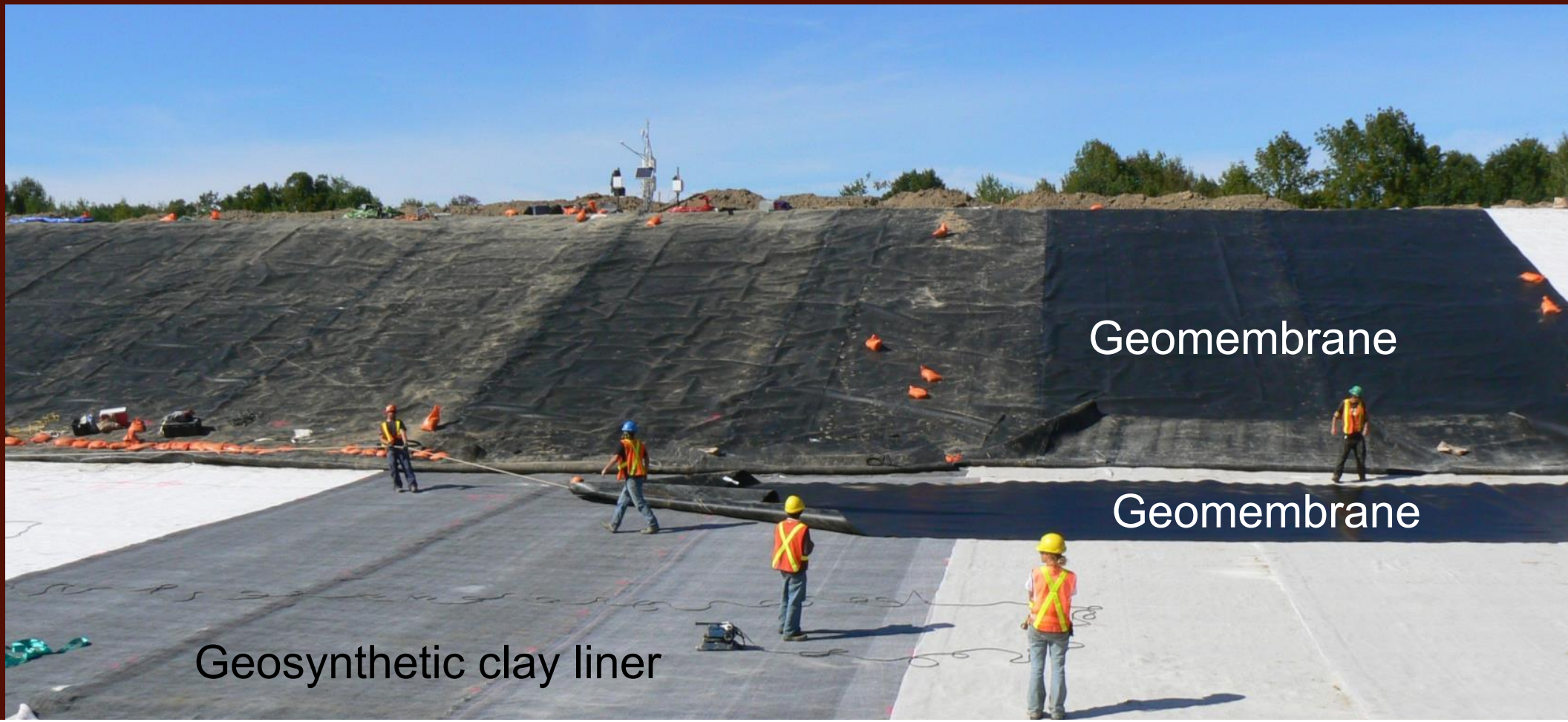
- thick natural clay layer or deposit
- compacted clay (constructed clay liner)


Geotextile
Compacted Clay Liner
9 1'92

Liners may be:

- thick natural clay layer or deposit
- compacted clay (constructed clay liner)
- composite: plastic (HDPE) geomembrane (GMB) over a clay liner or geosynthetic clay liner (GCL)

Composite Liner being installed:



Site Specific Design

- Must meet the Reasonable Use limits for groundwater protection
- Must consider both advective and diffusive contaminant transport and
- Must include examination of the effect of the failure of any engineered facilities when their service lives are reached.

Ontario landfill standards

- Reasonable Use Guideline
- Contaminating lifespan
- Design options
- Service life

O.Reg. 232
Service Life of Clay liners and Geomembranes

- Clay liner (≥ 750mm thick) and GCL
  - Unlimited
- Primary geomembrane (1.5mm)
  - 150 year service
- Secondary geomembrane (2 mm)
  - 350 year service

Liner Research and Knowledge

- Natural liners have documented excellent performance in controlling migration of naturally occurring contaminants for more than 10,000 years.
- About thirty years of documented excellent performance of compacted clay liners.

O.Reg. 232
Service Life of Leachate Collection System

≥ 100 years IF

– minimum thickness of 0.3 metres on side slopes;

– minimum thickness of 0.5 metres on base;

– uniform coarse (≥ 37mm nominal) gravel;

– maximum drainage path to a pipe is ≤ 50m;

– a suitable geotextile or graded granular separator is installed between the waste and gravel layer.

Leachate Collection Research and Knowledge

- Natural gravel layers have been transmitting water for tens of thousands of years.
- Twenty years of research into factors that can affect the long-term performance has confirmed that leachate collection layers designed according to MoE requirements can be expected to last even longer than projected by the OReg 232/98.
- Over twenty years of monitoring modern leachate collection systems meeting MoE requirements shows they are working extremely well without any problems.

Bottom Line

- Landfills designed according to MoE OReg 232/98 are performing extremely well.

Some Landfill Design Considerations

R. Kerry Rowe

Approach to Landfill Design and Groundwater Protection at the Boundary Road Site

Considerations:

- Geology – surficial sand layer followed by ~ 30 m thick low permeability silty clay deposit containing a continuous sandy silt to silty sand layer.
- Water supply in area – shallow dug wells.
- Network of ditches and drains.

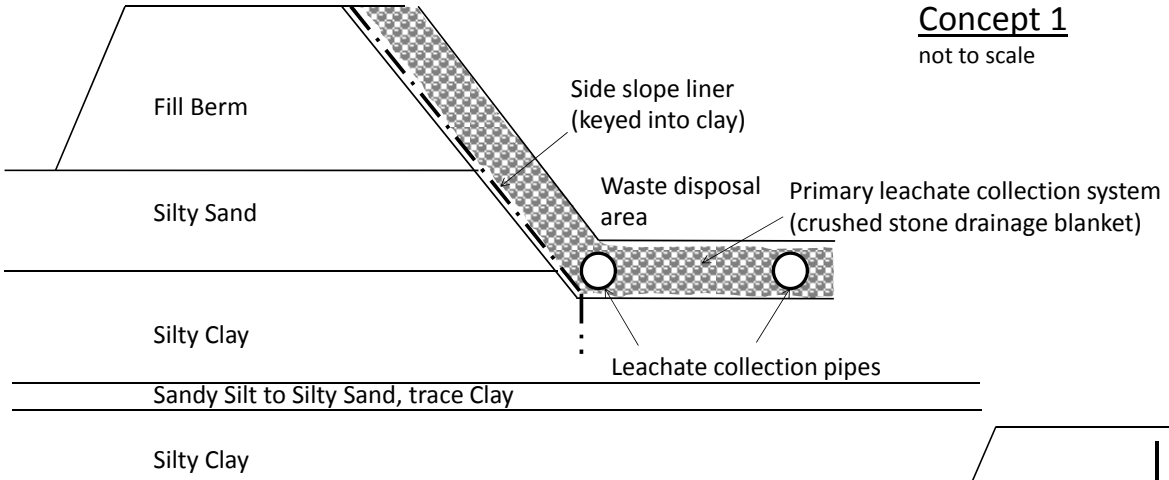
Design:

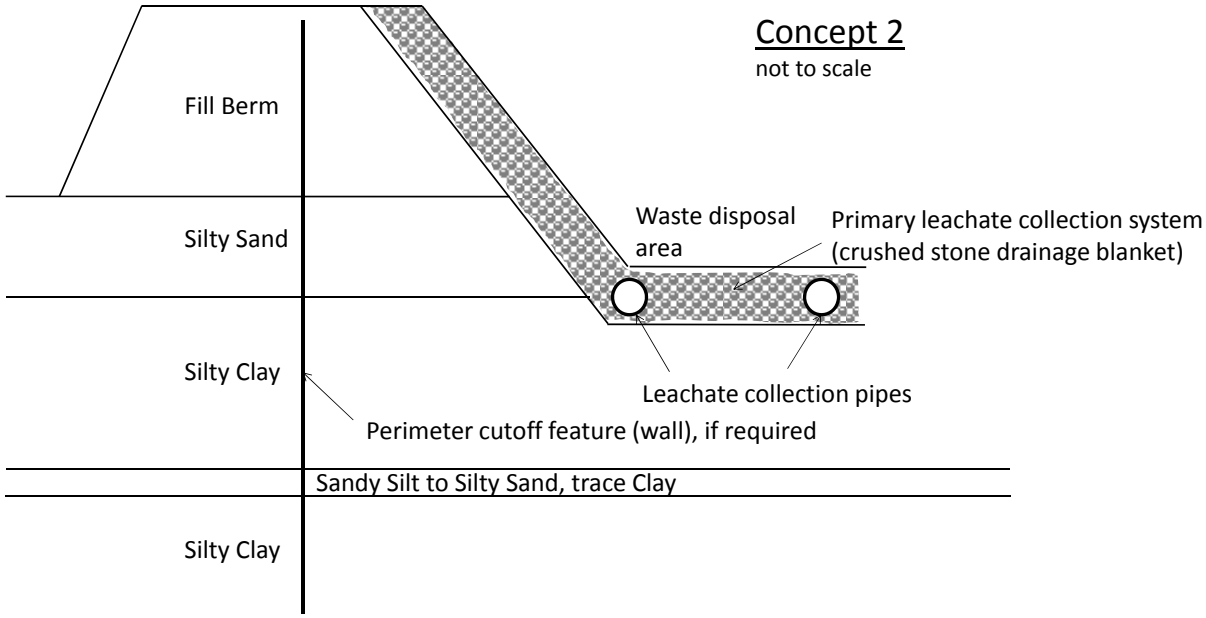
- Thick clay deposit provides a natural liner for containment of leachate (RMOC Study by WESA, 1987: “Contamination of the bedrock aquifer from landfilling [at this site] is impossible”).
- Must prevent leachate from potential movement in the surficial sand layer and assess the potential in the continuous sandy silt to silty sand layer.

Constraints:

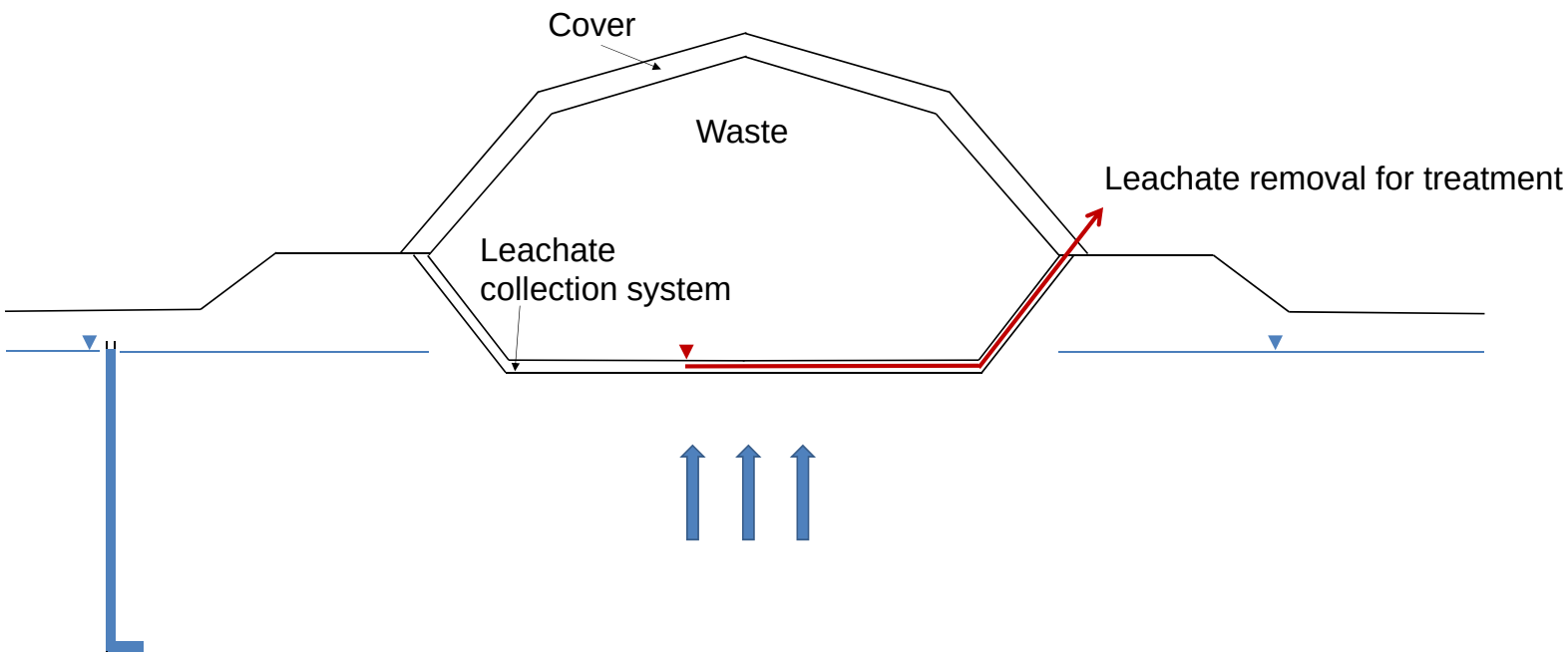
- High water table.
- Soft clay deposit dictates allowable shape of the landfill.

What is Proposed at the CRRRC - Leachate Control System Components for Disposal Cells





What is Proposed at the CRRRC - Leachate Control System Components for Disposal Cells



- Hydraulic trap design approach (inward gradients and flow).

Analyzing Groundwater Protection for EAA / EPA Approvals

Models to predict:

- amount of precipitation coming through disposal cell cover; and
- contaminant transport out of the disposal cell.

Model input:

- Site-specific information obtained from detailed environmental assessment hydrogeology study data.
- Some required values from Regulation 232/98 from numerous medium to large Ontario landfill sites.
- Some published values.
- Service lives of engineered components presented, discussed and contemplated.

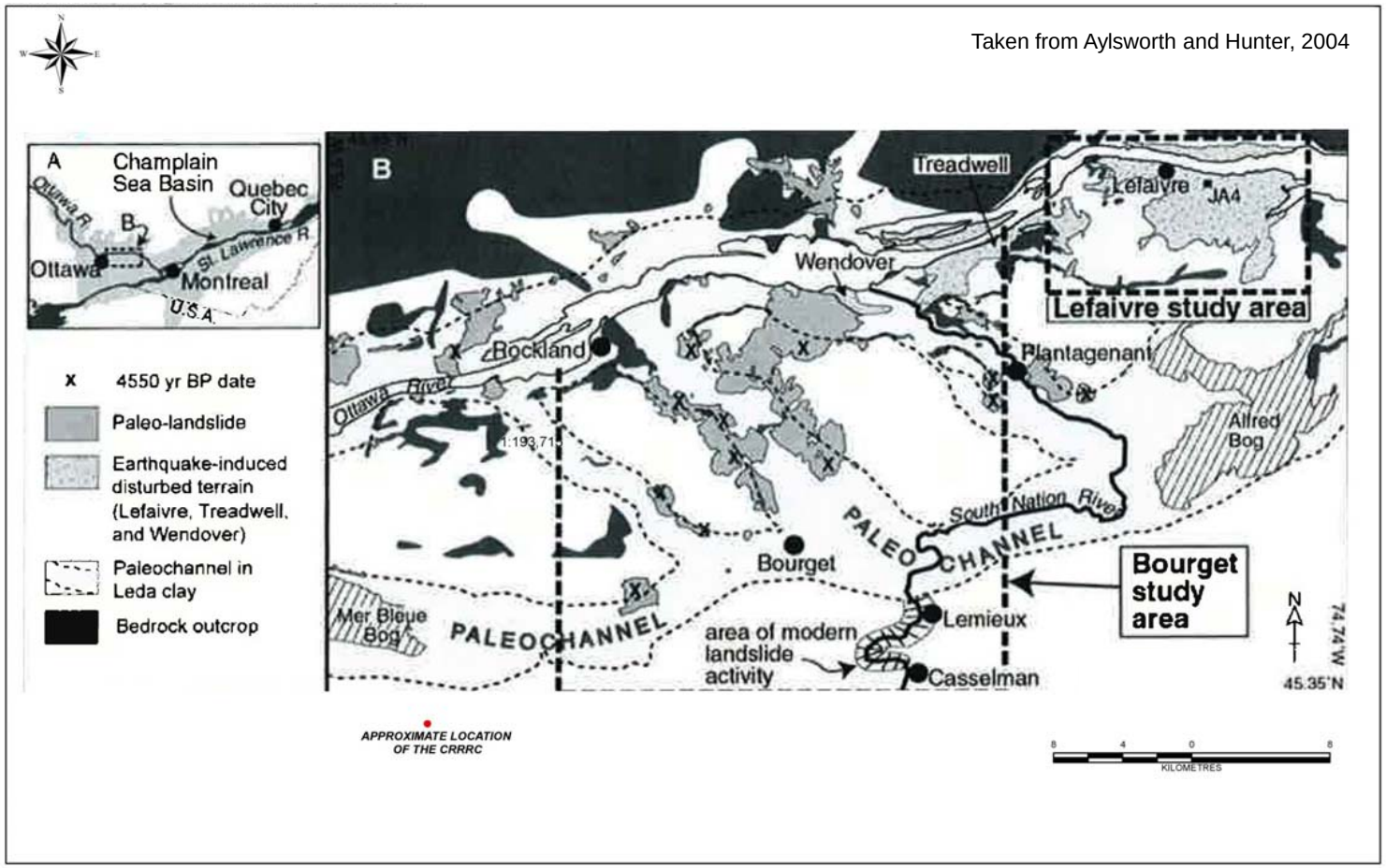
Modelling Predictions

- Contaminating lifespan to be determined.
- Determines requirements for engineered leachate control systems.
- Predicted impacts at the property boundary compared to MOE standards.
- Provides basis for design of groundwater monitoring network, trigger mechanism and contingency planning.

Some Other Groundwater Protection Requirements of Regulation 232/98

- Operational requirements.
- Monitoring requirements (including domestic wells in vicinity, if appropriate).
- Annual monitoring report includes compliance assessment.
- MOE review of annual monitoring report.
- MOE site visits and on-going discussion between the owner and the MOE.
- Financial assurance and contingency plans.

Seismic Considerations - Regional



A – Location of the Champlain Sea Basin in eastern Canada
B – Map of study areas showing paleochannels, paleo-landslides and areas of earthquake-induced disturbance

Seismic Design Considerations

- Earthquake Effects (seismic loads and potential for fault rupture) conditions are an important part of any landfill stability analysis and design.

- Must consider earthquake shaking in the structural design of buildings (the BR Site is a “deep soil”--Site Class E in the National Building Code of Canada).

- Good practice to consider potential earthquake impacts to landfills (i.e., overall stability, deformations, effect on leachate management features).

- Seismic analysis is required for the CRRRC project as set out in the approved TOR

Bienvenue à l'atelier sur l'eau souterraine

Taggart Miller Environmental Services

Évaluation environnementale du proposé Centre de récupération des ressources proposé de la région de la capitale

Le 22 juin 2013

Objectif de l'atelier et aperçu

L'objectif de l'atelier sur l'eau souterraine est de fournir aux participants une possibilité d'obtenir des renseignements sur les thèmes généraux suivants, et d'en discuter.

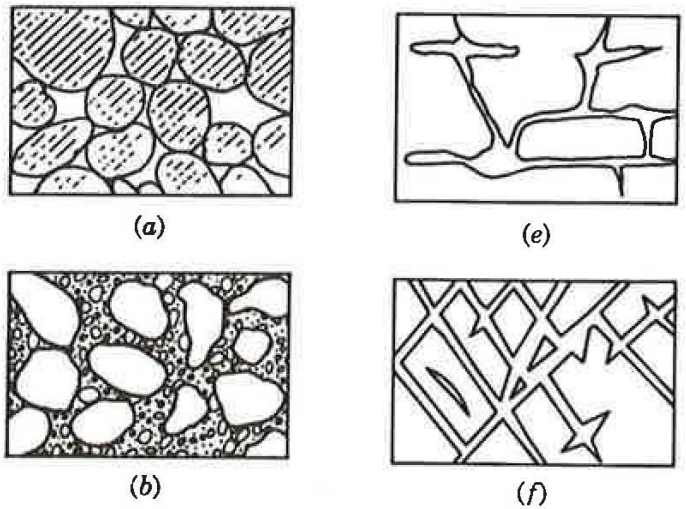
- l'eau souterraine;
- les impacts potentiels sur l'eau souterraine découlant du projet proposé du CRRRC;
- la façon dont de tels impacts seront pris en compte dans le processus d'approbation de l'EE et en vertu de la LPE;
- la façon dont les installations de gestion des déchets sont conçues et réglementées en Ontario du point de vue de protection des eaux souterraines.

Sujets

- Renseignements généraux sur l'eau souterraine
- Entourage du site proposé du chemin Boundary du CRRRC
- Conception et approbation des installations de gestion des déchets liées à la protection de l'eau souterraine
- Considérations sismiques
- Prochaines étapes

Renseignements généraux
Définitions

Eau souterraine = L'eau qui se trouve dans une zone de saturation dans le sol ou dans le roc; l'eau qui coule dans ou du sol.



Modifié de Domenico and Schwartz, 1990

(a) Dépôts avec de grands pores
(b) Dépôts avec de petits pores
(e) Une roche rendue poreuse par solution
(f) Une roche rendue poreuse par fracturation

La porosité est le volume de vides (ou des pores) divisé par le volume total

Renseignements généraux
Définitions (suite)

Aquifère = Sol ou roc saturé, qui peut transmettre et transmettre assez d'eau pour une utilisation requise

Aquitard = Un sol ou un roc qui rend de petites à très petites quantités d'eau, par exemple, l'argile à travers laquelle l'eau ne coule pas facilement

Conductivité hydraulique = La mesure de la capacité du sol ou d'un roc à transmettre de l'eau

Renseignements généraux
Conductivité hydraulique

Matériel	Conductivité hydraulique*, k	
Substrat rocheux	faible à élevé	$<1x10^{-9}$ à 10^{-3} m/s
Sable et gravier	élevé	10^{-3} m/s
Sable	↓	↓
Till		
Argile	faible	$<1x10^{-9}$ m/s

*Il y a une variété de méthodes sur le terrain et en laboratoire pour déterminer la valeur k dans le sol et la roche

Remarque : 10^{-3} = 1/1 000 mètres par seconde

Renseignements généraux
Détermination du sens d'écoulement et gradients

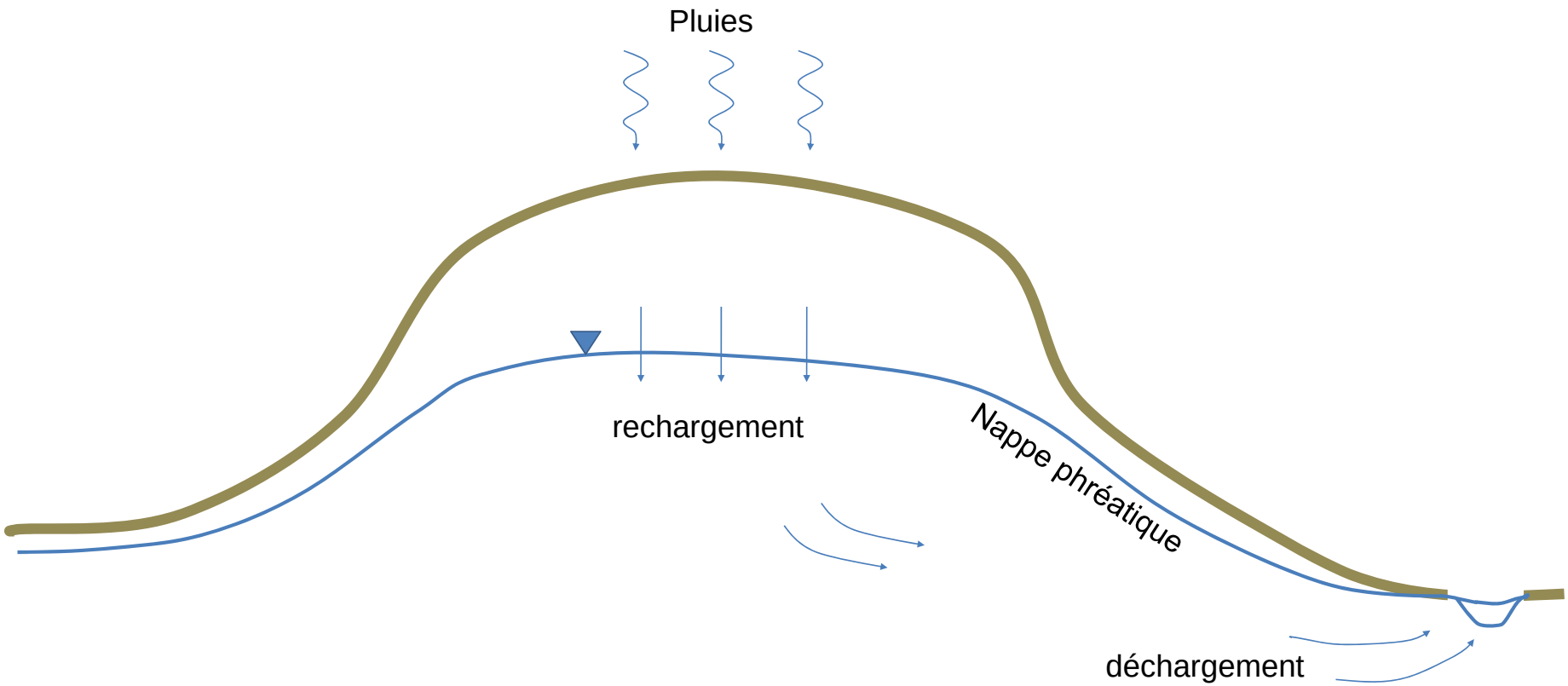
L'eau souterraine coule d'une élévation d'eau souterraine plus élevée vers une élévation d'eau souterraine moins élevée.

Horizontalement, ces renseignements sont utilisés pour déterminer le sens d'écoulement de l'eau souterraine.

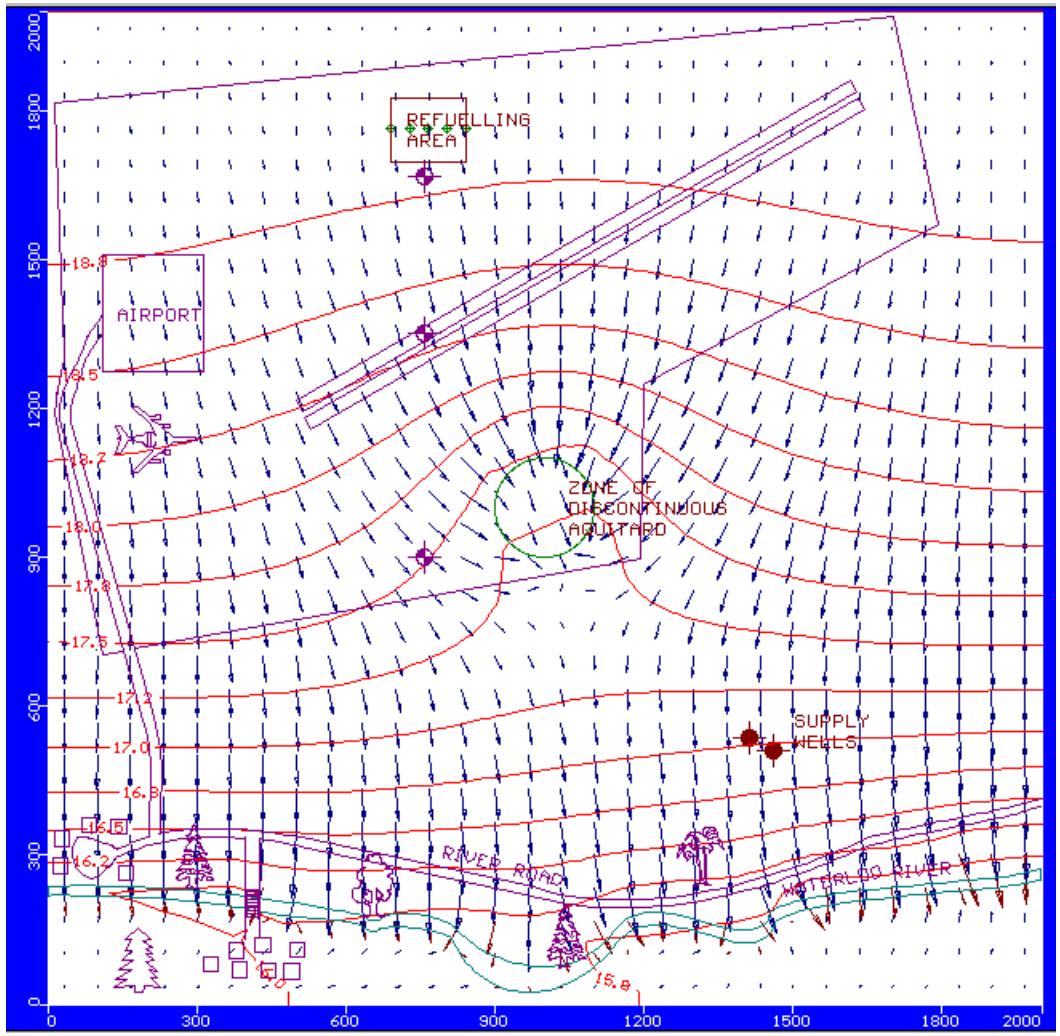
Verticalement, ces renseignements sont utilisés pour évaluer si l'eau souterraine est en voie de rechargement ou de déchargement.

$$\text{Force d'entraînement (gradient)} = i = \frac{\text{changement de l'élévation de l'eau souterraine dans le sens d'écoulement}}{\text{distance entre les mesures de l'élévation de l'eau souterraine}}$$

Renseignements généraux
Gradients



Renseignements généraux
Gradients, suite



Vitesse d'écoulement (mètres par année) dépend de ce qui suit :

- Conductivité hydraulique
- Force motrice (gradient)
- porosité du sol, fractures dans le roc

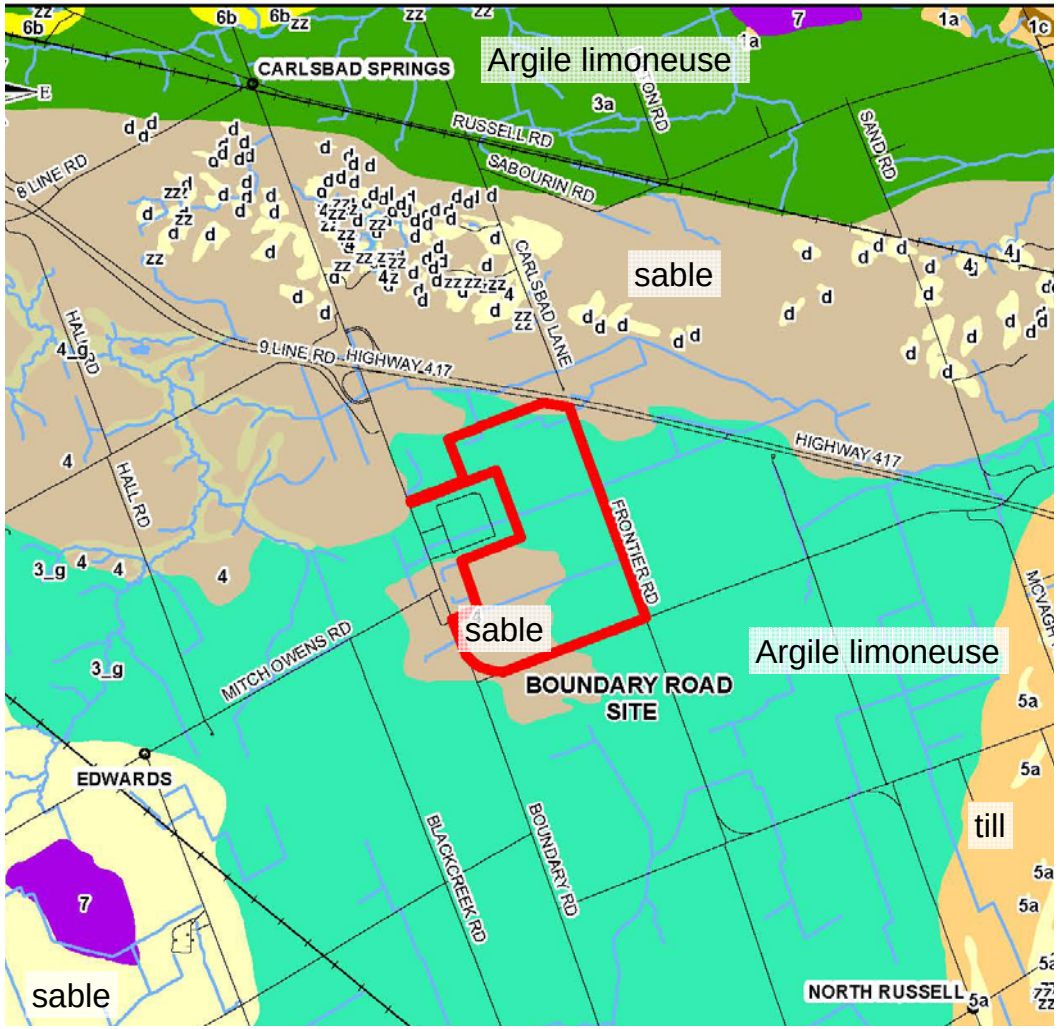
Entourage physique du site

La terre est plate avec peu de caractéristiques de relief topographiques.

Il est situé dans le sous-bassin-versant de Bear Brook, dans le bassinversant de la rivière des Outaouais - South Nation.

Le drainage de surface de l'eau se fait généralement par écoulement en nappe, fossés et fossés en bordure de route vers des drains qui se déchargent éventuellement dans Bear Brook. Le drain Simpson s'écoule par le milieu du site d'ouest en est.

Entourage géologique du site
Renseignements publiés - sols



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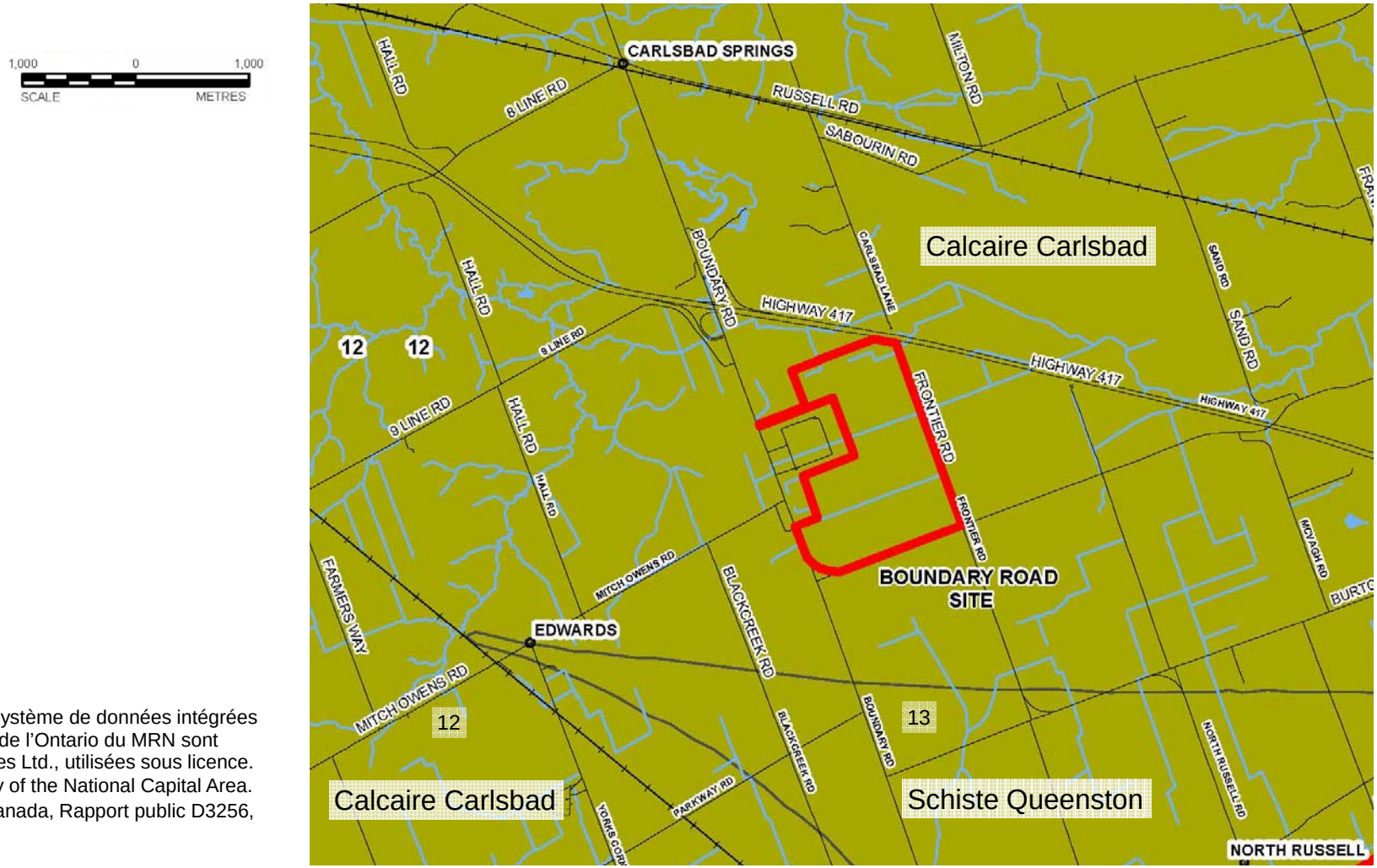
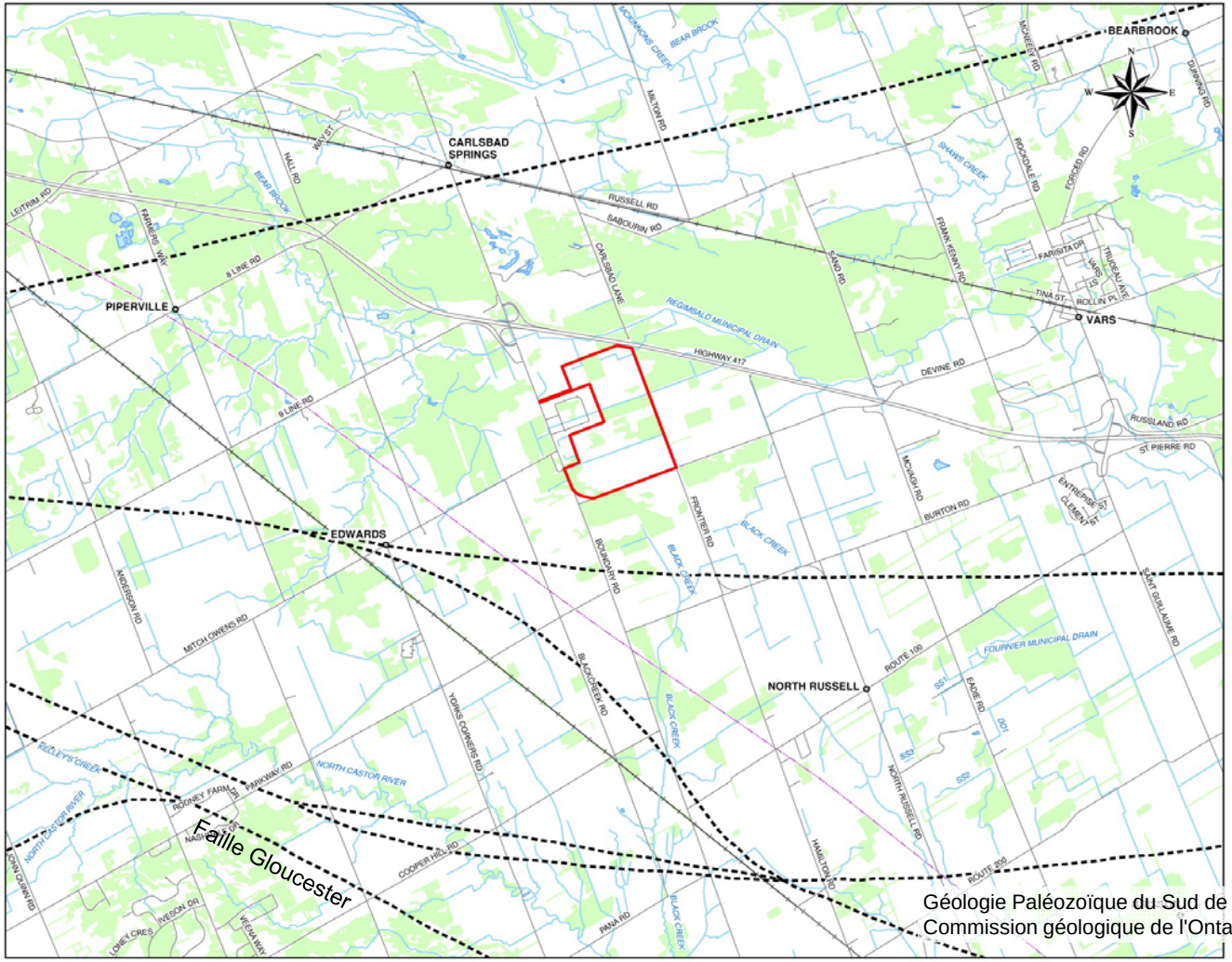
Belanger, J.R., Urban Geology of the National Capital Area. Commission géologique du Canada, Rapport public D3256, 2001.

Entourage géologique du site
Renseignements publiés - substrat rocheux



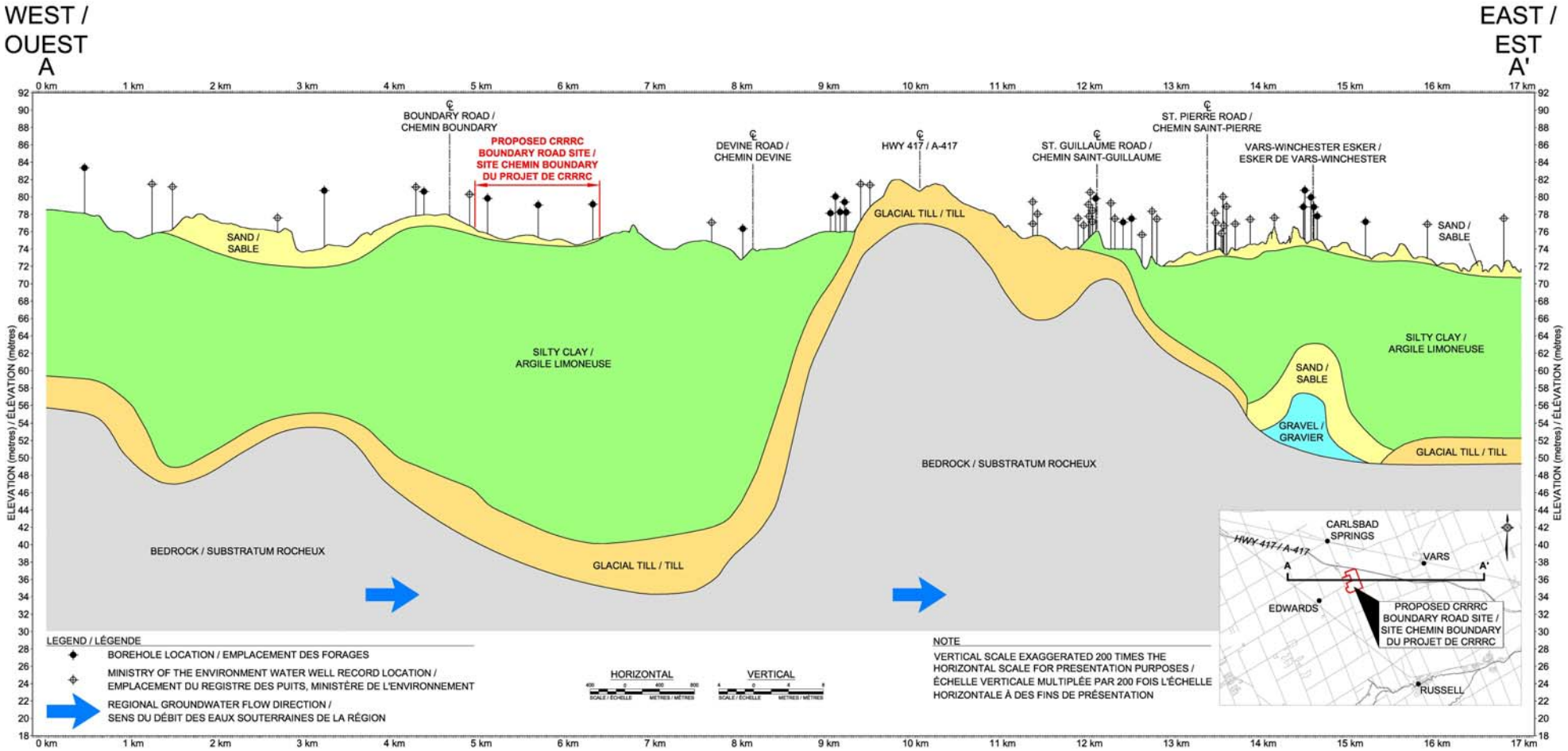
Les données numériques du système de données intégrées sur la nature et la géographie de l'Ontario du MRN sont produites par Golder Associates Ltd., utilisées sous licence.
Belanger, J.R., Urban Geology of the National Capital Area. Commission géologique du Canada, Rapport public D3256, 2001.

Entourage géologique du site
Renseignements publiés - substrat rocheux



Géologie Paléozoïque du Sud de l'Ontario du Sud,
Commission géologique de l'Ontario, publication – Données 219.

Entourage géologique du site
Illustration de coupe transversale



REGIONAL GEOLOGIC CROSS-SECTION / COUPE TRANSVERSALE DES CARACTÉRISTIQUES GÉOLOGIQUES DE LA RÉGION

Travaux géologiques, hydrogéologiques et géotechniques propres au site, réalisés jusqu'à présent

- Les travaux réalisés jusqu'à présent sont conformes au plan de travail à l'annexe C du Cadre de référence approuvé.
- Des études documentaires effectuées à l'aide de renseignements existants, y compris les études antérieures effectuées sur le site pour la MROC (Municipalité Régionale Ottawa-Carleton) en 1986 et en 1987.
- Des activités de forage, selon l'annexe C, ont commencé en novembre 2012 et se sont terminées récemment.
- La plupart des essais en laboratoire sur les échantillons de sol sont terminés, y compris la classification, la consolidation et/ou la perméabilité.
- Des essais sur place de la montée ou de la baisse du niveau d'eau ont été effectués aux installations de contrôle des puits, et les niveaux d'eau souterraine ont été mesurés mensuellement.
- Des échantillons d'eau souterraine ont été collectés aux fins d'analyse chimique.
- Les résultats des études du site sont décrits dans les diapositives qui suivent…

Entourage géologique du site

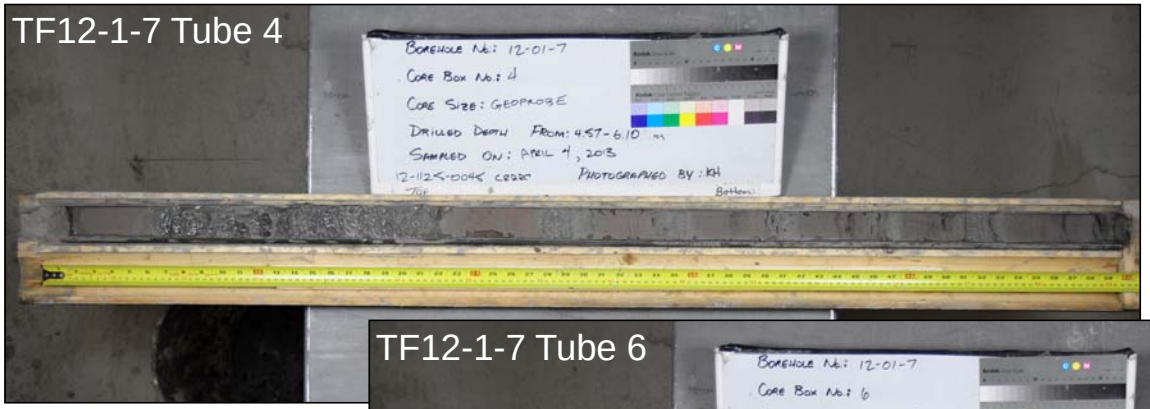
- Des forages en 25 endroits à l'aide de méthodes d'échantillonnage de tarière à tige creuse, de carottier en deux demi-coquilles, et de foncement de puits pour définir les types de sol et leur épaisseur
- En 7 endroits, le substrat rocheux a été noyauté

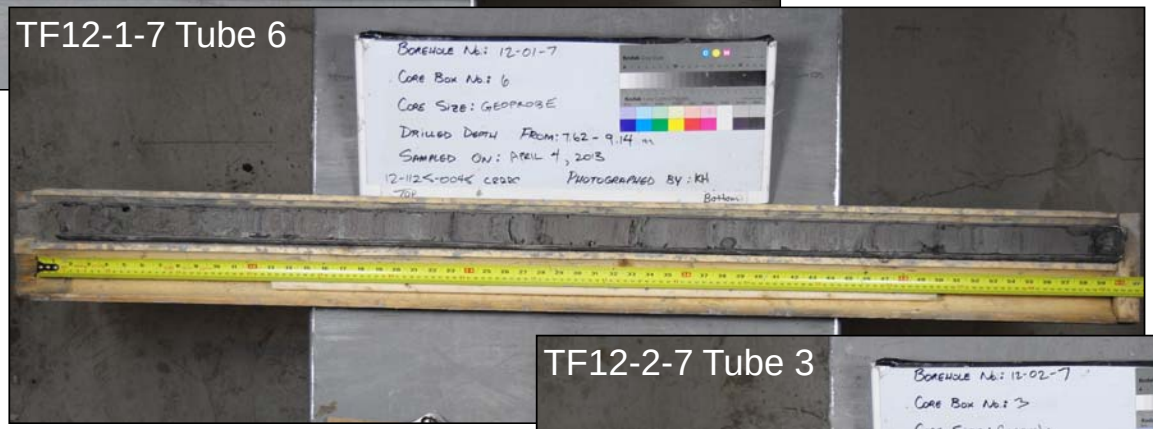
Entourage géologique du site

En fonction des travaux sur le site :

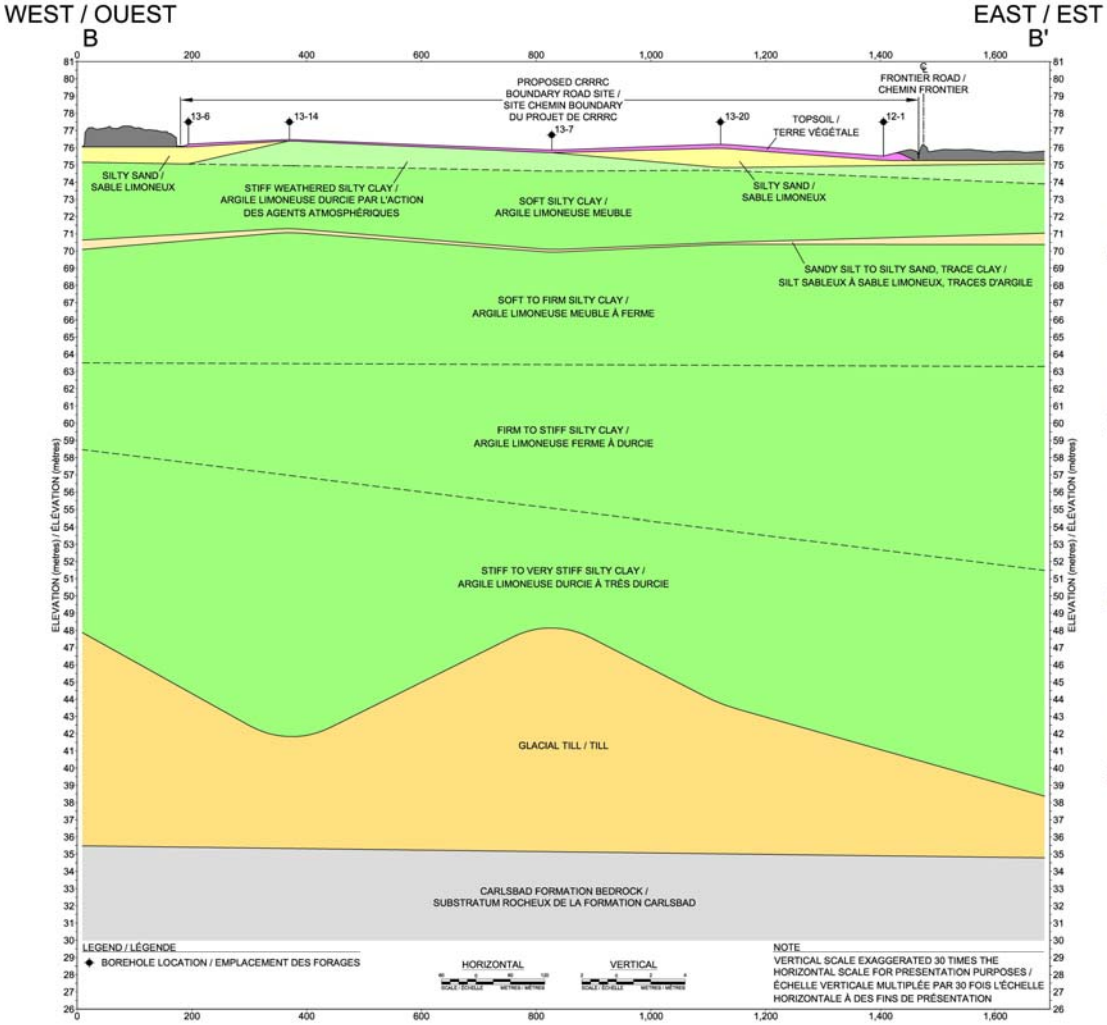
- L'épaisseur du sable limoneux ou d'argile tenace météorisée en superficie varie pour atteindre jusqu'à 1,5 m. Ce sable recouvre un dépôt d'argile et d'argile limoneuse d'une profondeur d'environ 30 m, qui, à son tour, est suivi par le till et le substrat rocheux de la formation Carlsbad.
- Des lentilles de sable éparpillées non continues de sable, de limon, de sable limoneux ou de limon sableux dans le dépôt d'argile limoneux.
- Une couche continue a été détectée dans le dépôt d'argile limoneux sous le site, qui se constitue de limon sableux au sable limoneux avec une trace d'argile. La couche supérieure continue a été retrouvée à une profondeur de 4,5 à 5 m sous le sol, et la couche avait une épaisseur qui variait de 130 mm à 600 mm (une moyenne d'environ 350 mm).
- Le type de substrat rocheux (formation de Carlsbad) correspond à ce qui est indiqué sur la carte publiée.

Étude du dépôt d'argile

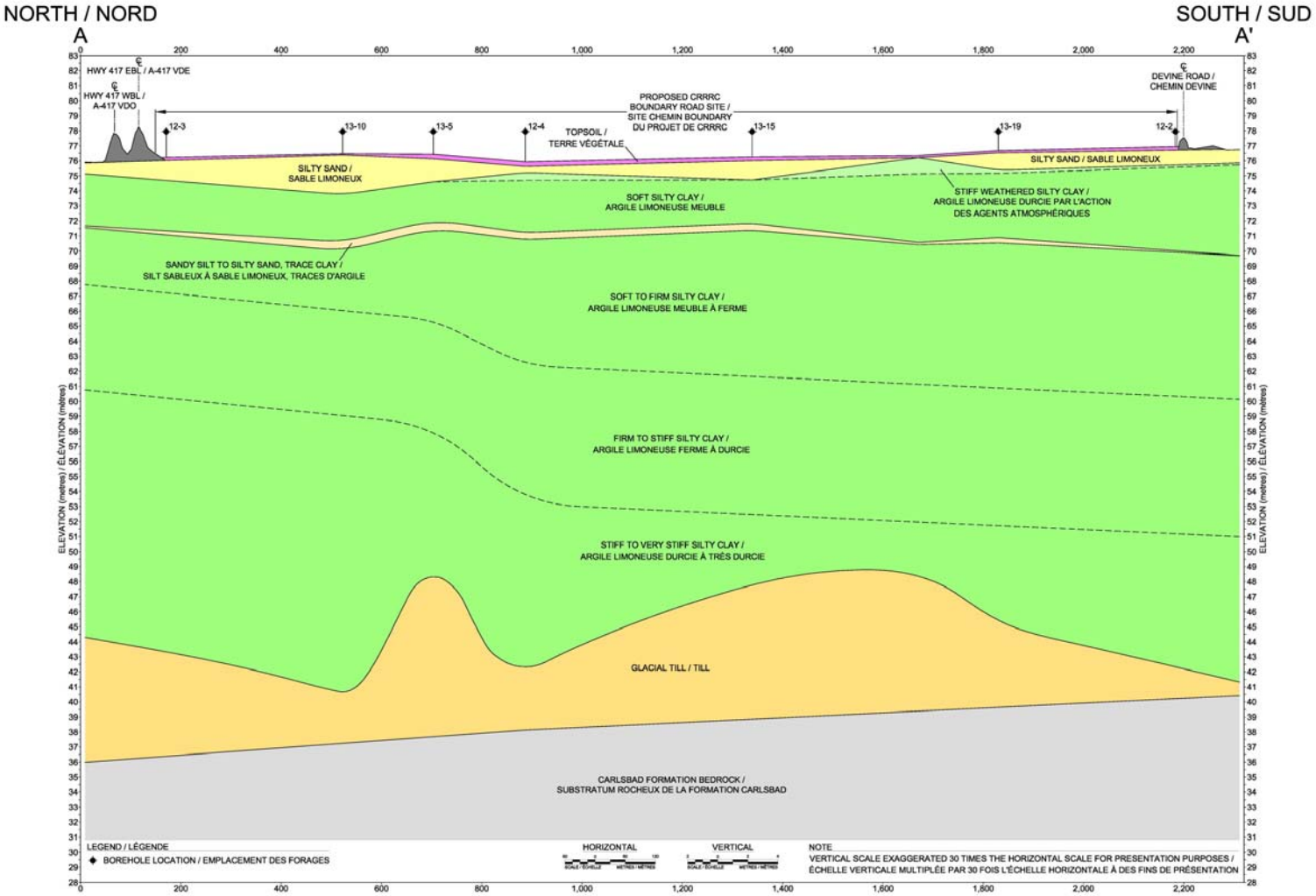




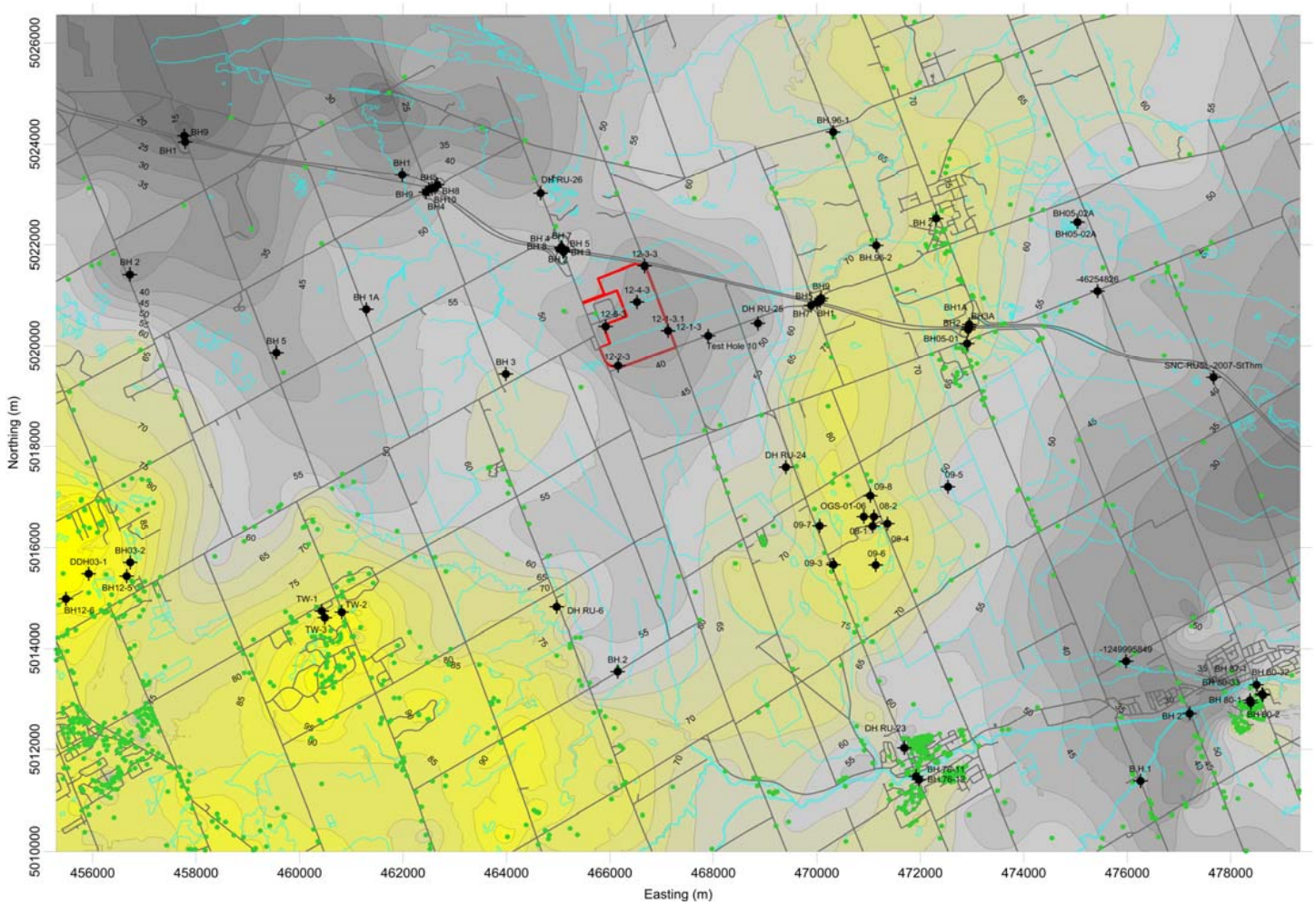
Entourage géologique du site
Illustration de coupe transversale



Entourage géologique du site
Illustration de coupe transversale



Entourage géologique du site
Géologie interprétée du substrat rocheux régional



LÉGENDE

- Localisation de forages noyauté
- Localisation de puits d'eau
- Étendues d'eau
- Chemins
- Limite du site du CRRRC

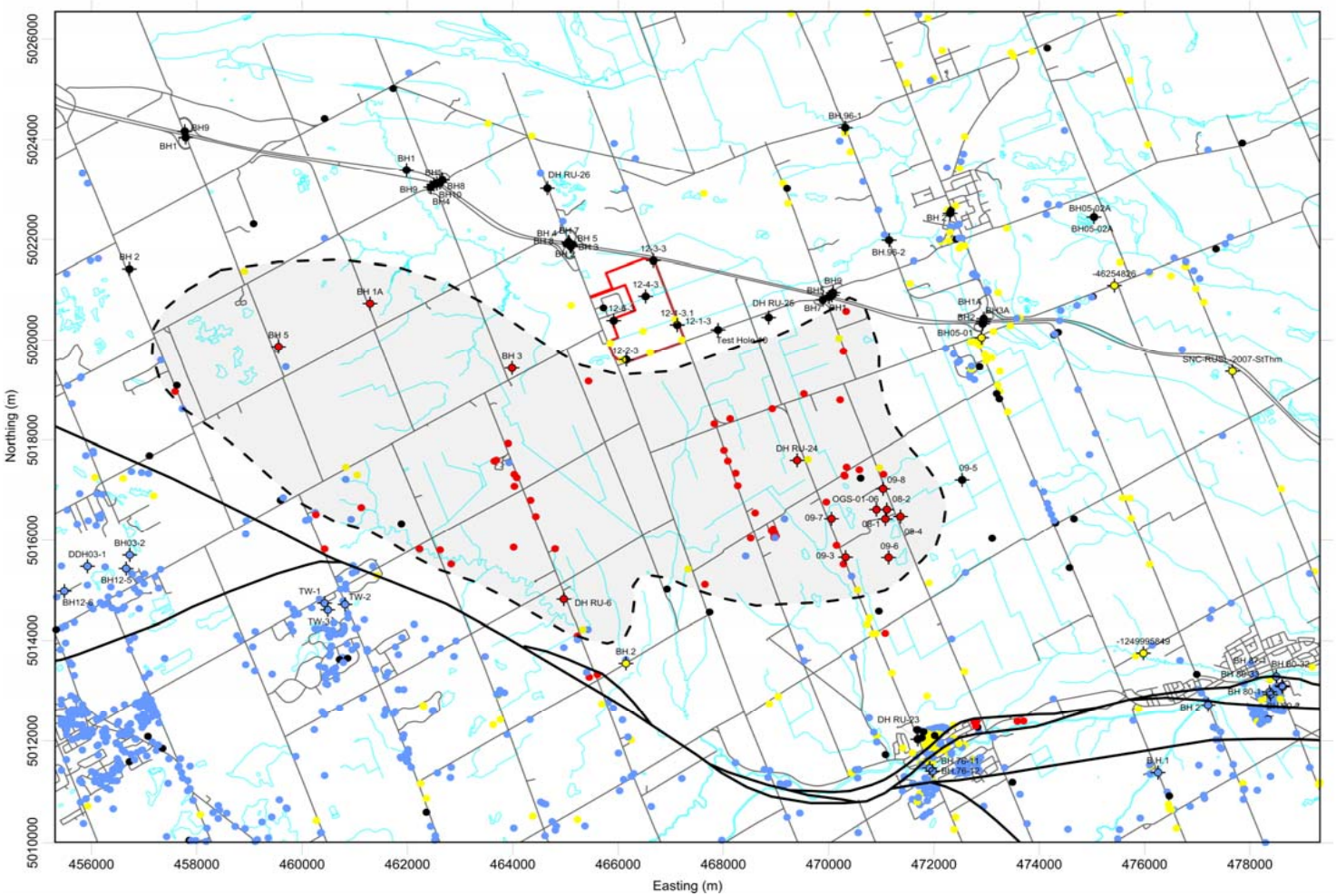
Échelle couleur de la surface du substrat rocheux (mASL)

105, 100, 95, 90, 85, 80, 75, 70, 65, 60, 55, 50, 45, 40, 35, 30, 25, 20, 15, 10, 5

REMARQUES

1. Intervalle du contour d'élévation = 5 m
2. Le plan de référence du contour est mASL
3. Mappage de base du Ministère des Ressources naturelles de l'Ontario (2010)

Entourage géologique du site
Géologie interprétée du substrat rocheux régional, suite



LÉGENDE

Description de la formation du substrat rocheux :

- Substrat rocheux rouge (toutes les formations)
- Schiste gris
- Calcaire (de toutes les couleurs)
- Autre

- Étendues d'eau
- Chemins
- Limitation structurelle interprétée
- Limite interprétée de la formation de Queenston
- Limite du site du CRRRC
- Forage noyauté

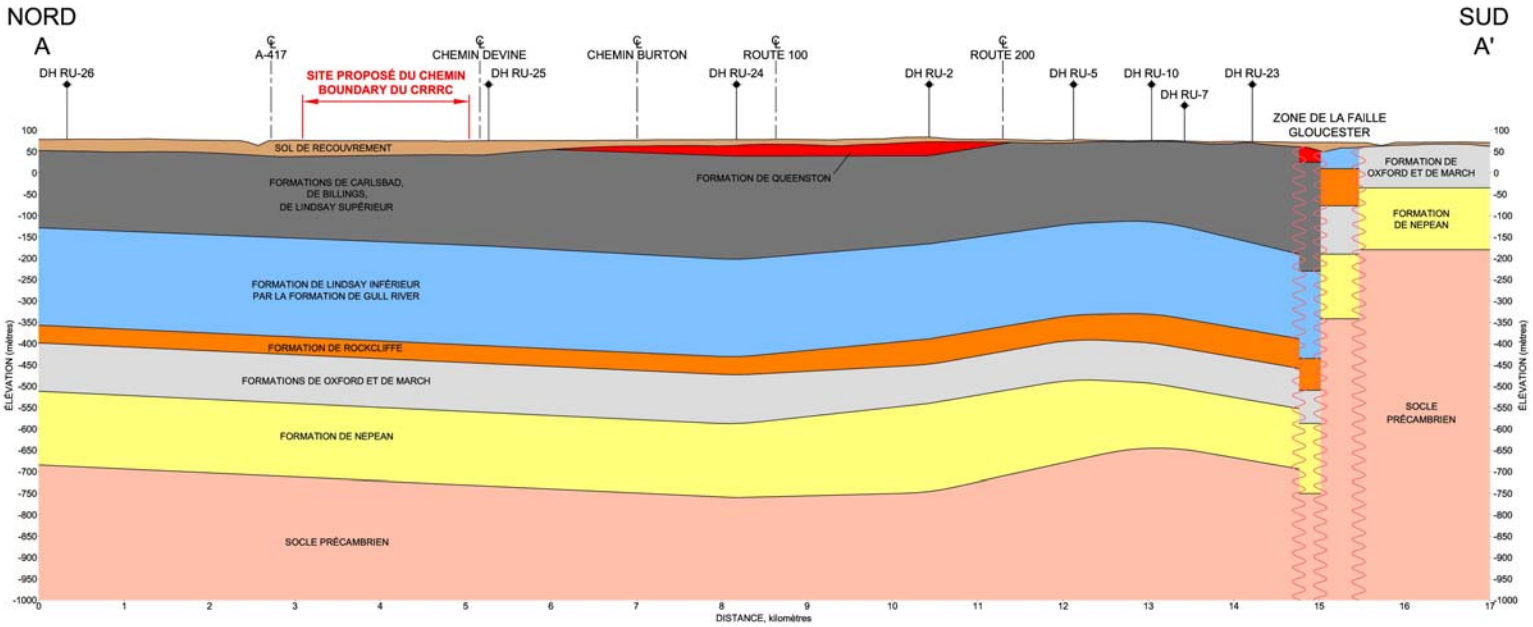
Unités du substrat rocheux

4	Formation de Oxford
6	Formation de Gull River
7	Formation de Bobcaygeon
12	Formation de Carlsbad
13	Formation de Queenston

REMARQUES

1. Mappage de base du Ministère des Ressources naturelles de l'Ontario (2010)

Entourage géologique du site
Géologie interprétée du substrat rocheux régional, suite



COUPE TRANSVERSALE DE LA GÉOLOGIE RÉGIONALE

HORIZONTALE VERTICALE

GÉOLOGIE DU SUBSTRAT ROCHEUX

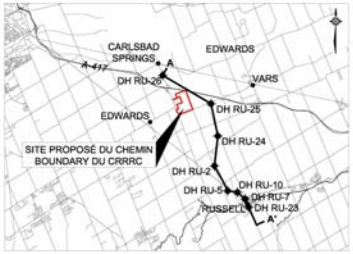
- FORMATION DE QUEENSTON
- FORMATIONS DE CARLSBAD, DE BILLINGS, DE LINDSAY SUPÉRIEUR
- FORMATION DE LINDSAY INFÉRIEUR PAR LA FORMATION DE GULL RIVER
- FORMATION DE ROCKCLIFFE
- FORMATIONS DE OXFORD ET DE MARCH
- FORMATION DE NEPEAN
- SOCLE PRÉCAMBRIEN

LÉGENDE

◆ LOCALISATION DE FORAGE

REMARQUE

L'ÉCHELLE VERTICALE EST AGRANDIE 5 FOIS PAR RAPPORT À L'ÉCHELLE HORIZONTALE À DES FINS DE PRÉSENTATION



Hydrogéologie du site

Eau souterraine

- On a construit des puits de surveillance de l'eau souterraine à un seul niveau ou à plusieurs niveaux

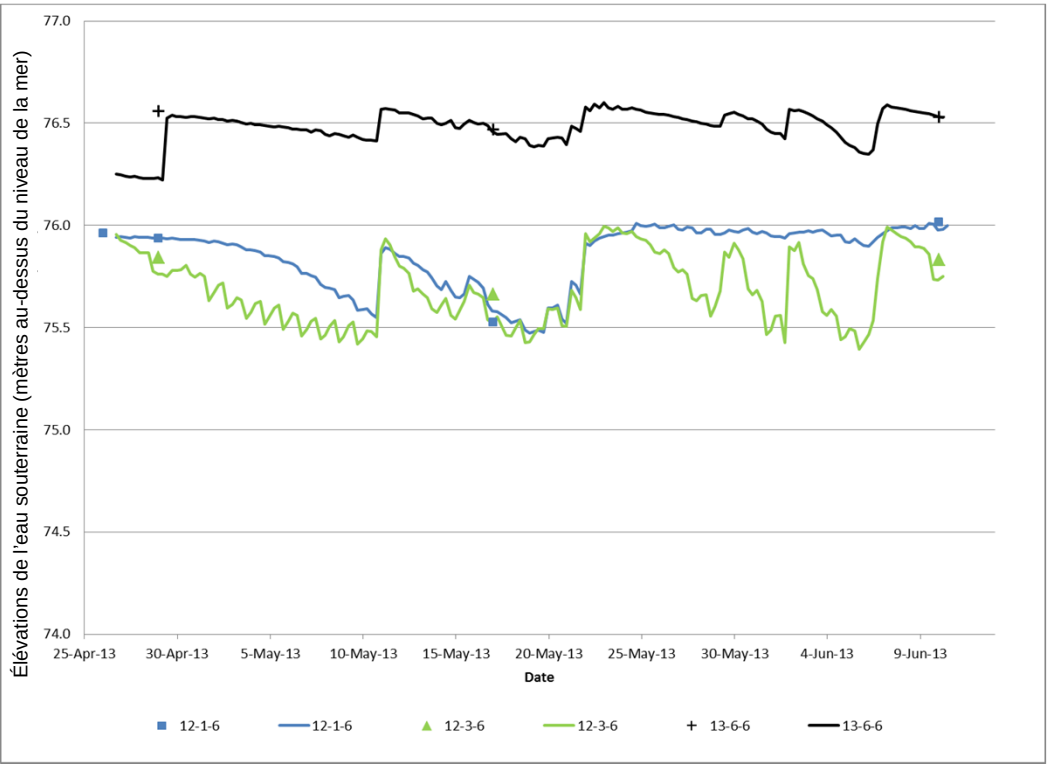
- Des essais de puits de la montée ou de la baisse du niveau d'eau ont été effectués dans les puits de surveillance afin de fournir des renseignements sur la conductivité hydraulique des unités stratigraphiques du **sable de surface, de l'argile peu profonde avec limon; du till** et **du substrat rocheux supérieur**, et des essais de perméabilité en laboratoire du niveau d'eau ont été effectués sur certains échantillons d'argile limoneux

- Un programme de surveillance du niveau de l'eau souterraine est en cours afin de fournir des renseignements sur les gradients hydrauliques, la variation des niveaux d'eau observée au site avec le temps, et les sens d'écoulement de l'eau souterraine.

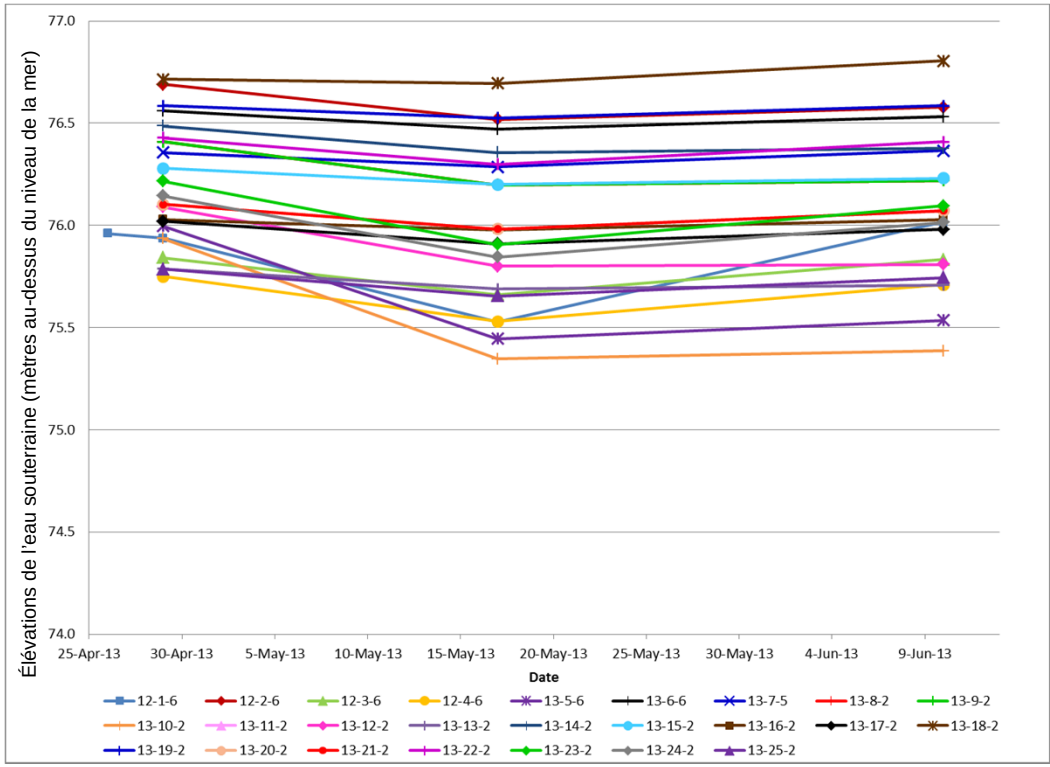
Hydrogéologie du site, suite

Données liées à la surveillance du niveau de l'eau souterraine – **Sable de surface**

Enregistreur de données (intervalle de 6 heures)



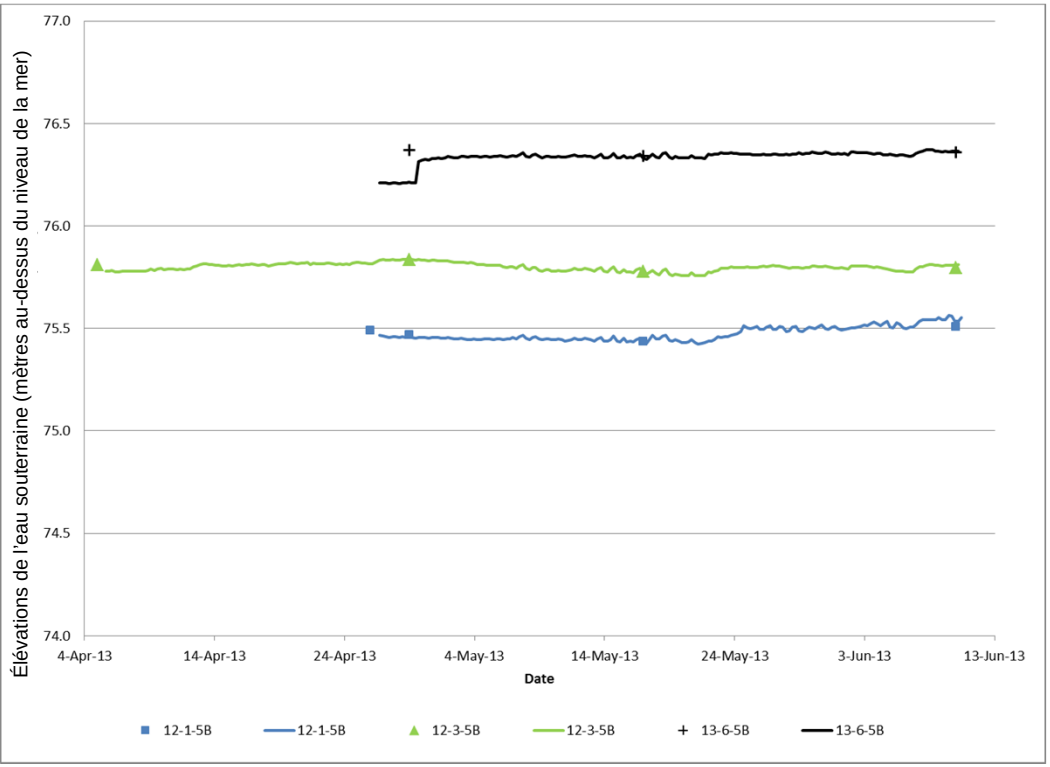
Surveillance mensuelle



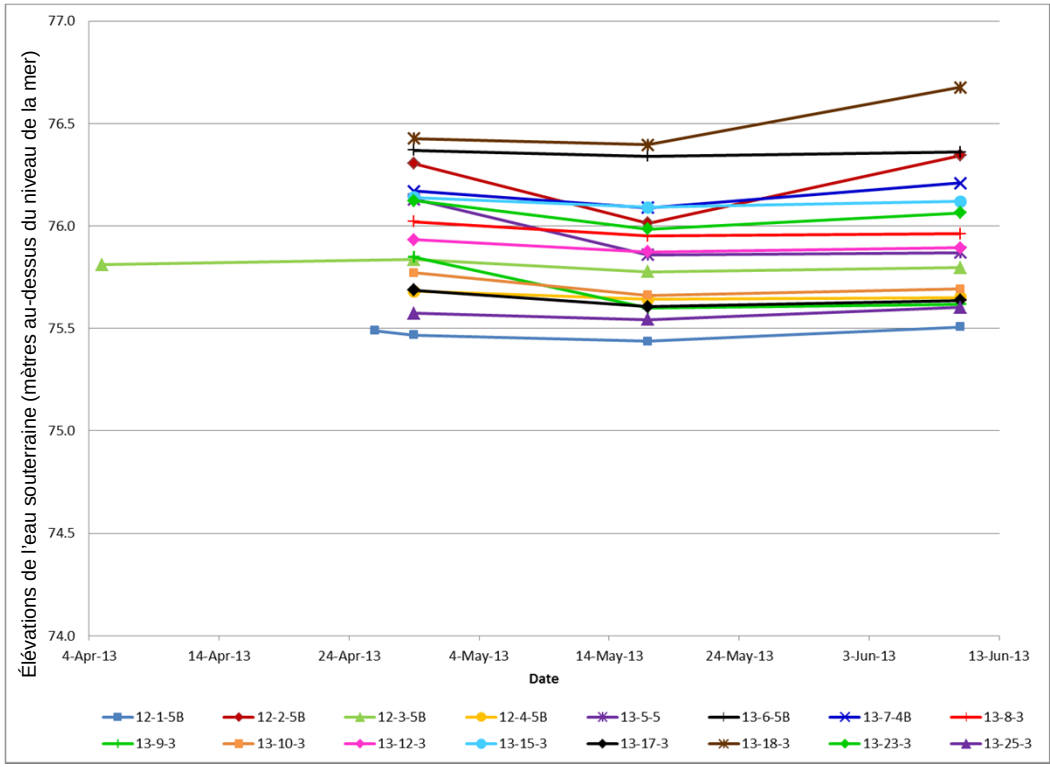
Hydrogéologie du site, suite

Données liées à la surveillance du niveau de l'eau souterraine – **Couche d'argile peu profonde avec limon**

Enregistreur de données (intervalle de 6 heures)



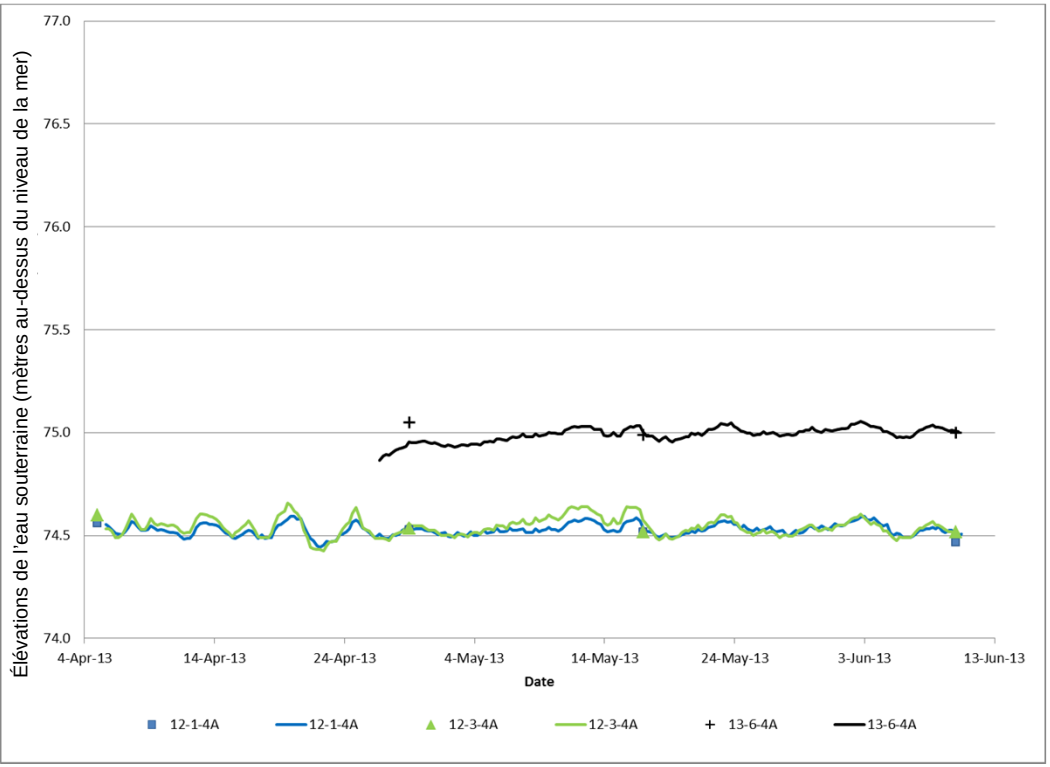
Surveillance mensuelle



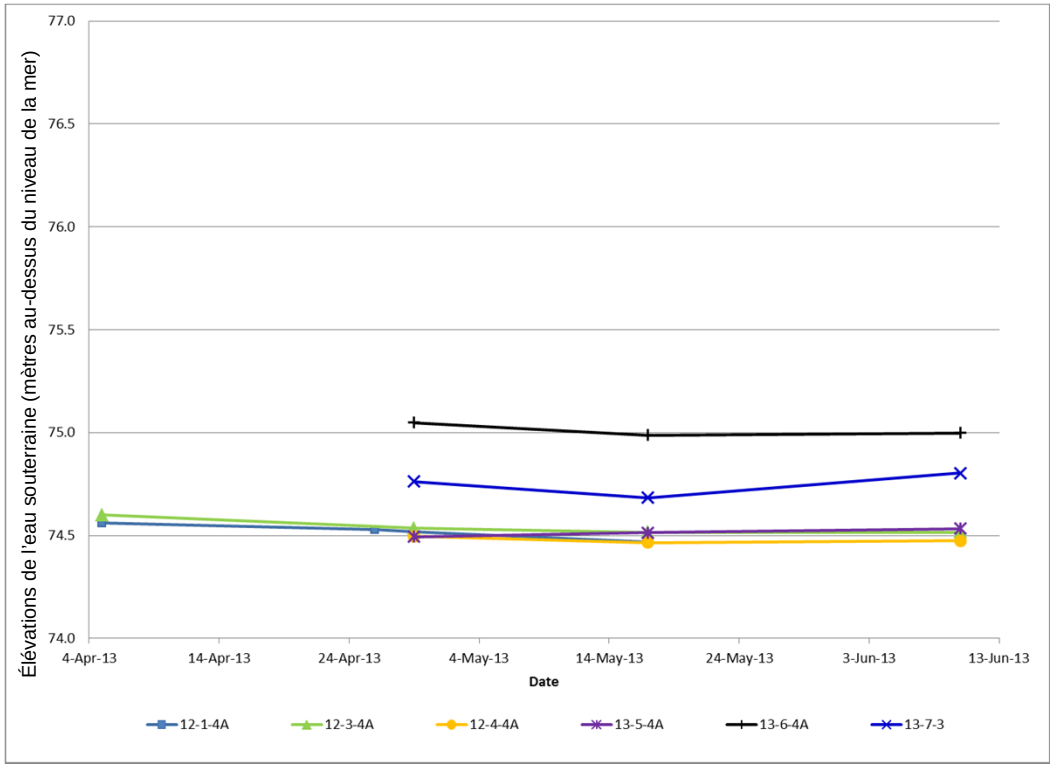
Hydrogéologie du site, suite

Données liées à la surveillance du niveau de l'eau souterraine – **Till**

Enregistreur de données (intervalle de 6 heures)



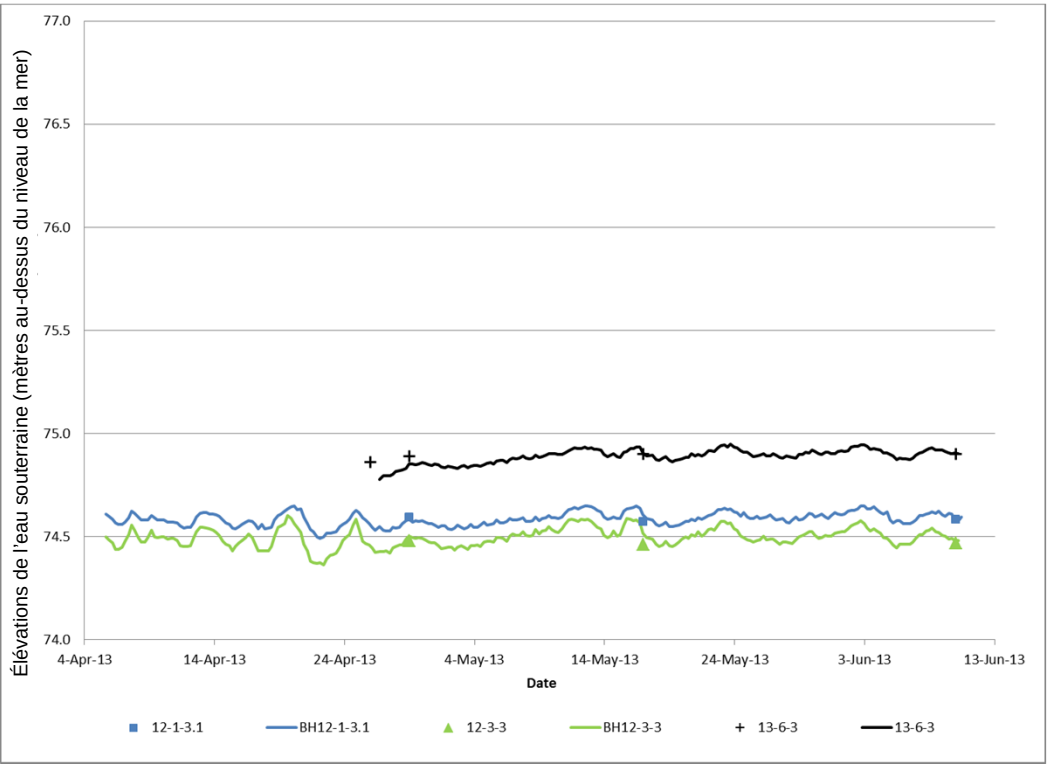
Surveillance mensuelle



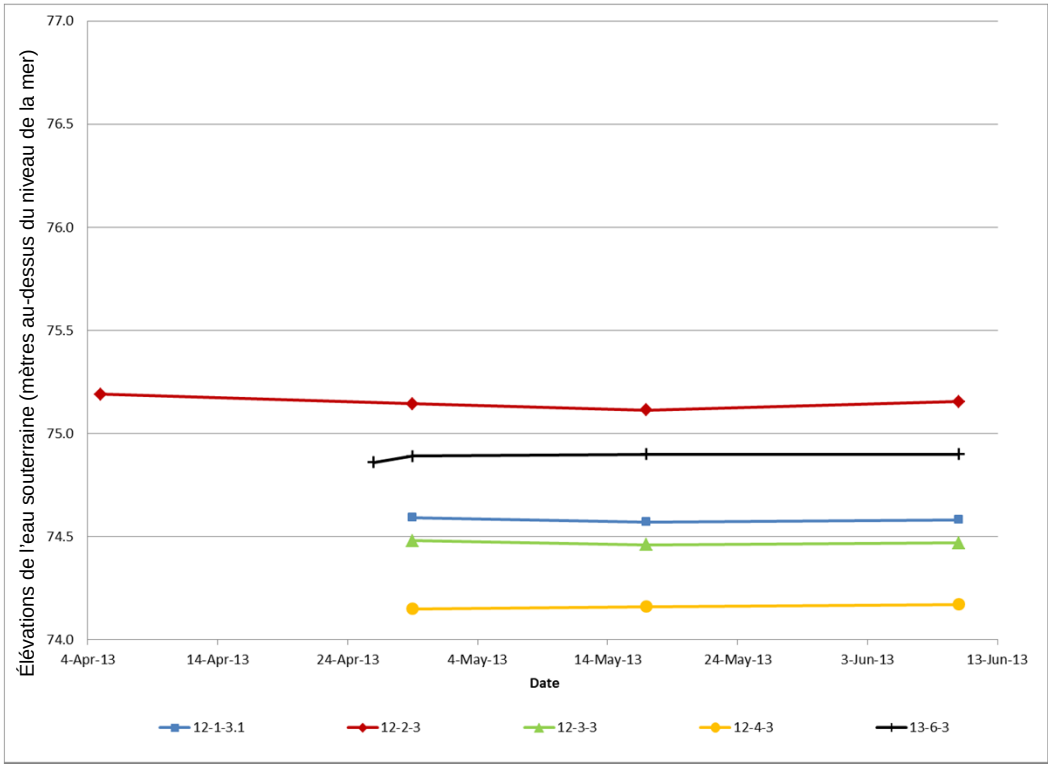
Hydrogéologie du site, suite

Données liées à la surveillance du niveau de l'eau souterraine – **Substrat rocheux supérieur**

Enregistreur de données (intervalle de 6 heures)

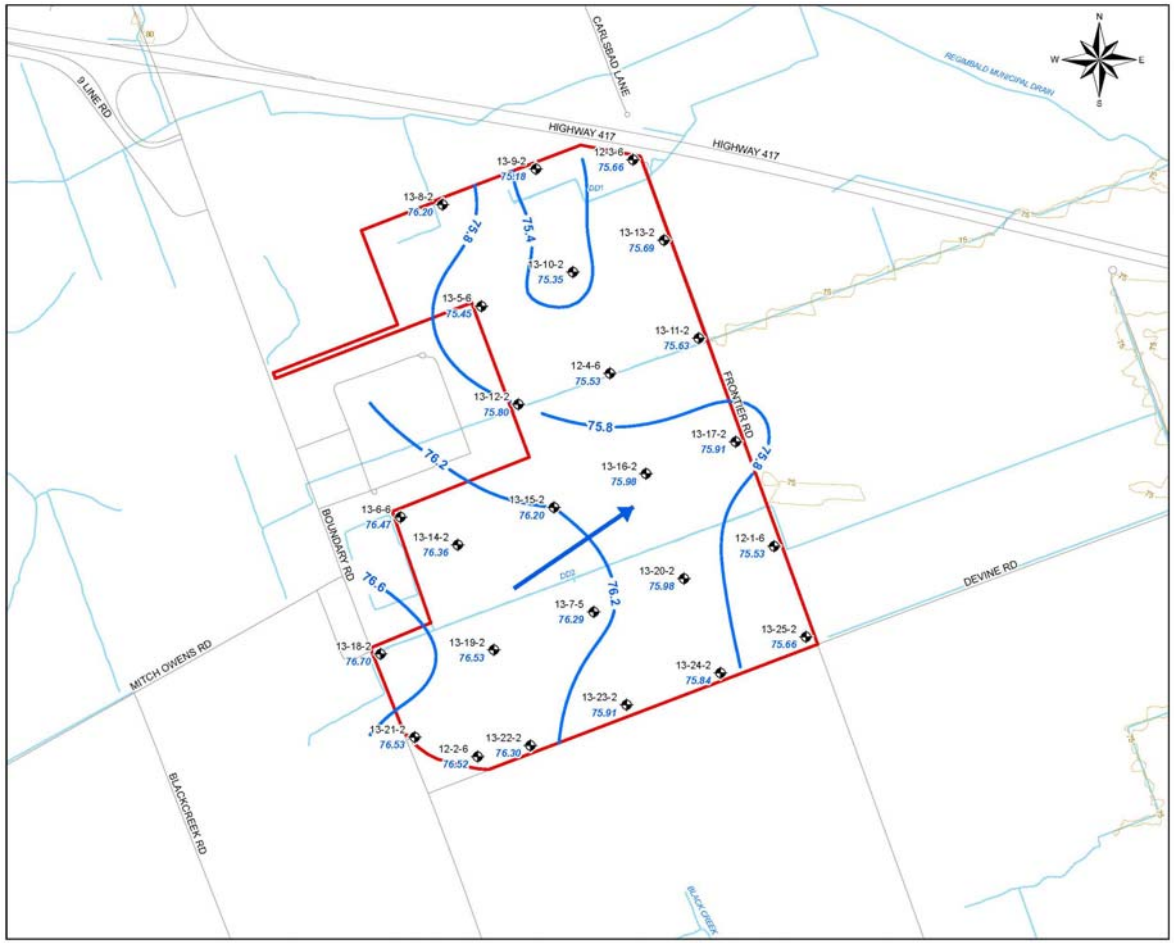


Surveillance mensuelle



Hydrogéologie du site, suite

Débit horizontal de l'eau souterraine – **Sable de surface**, mai 2013



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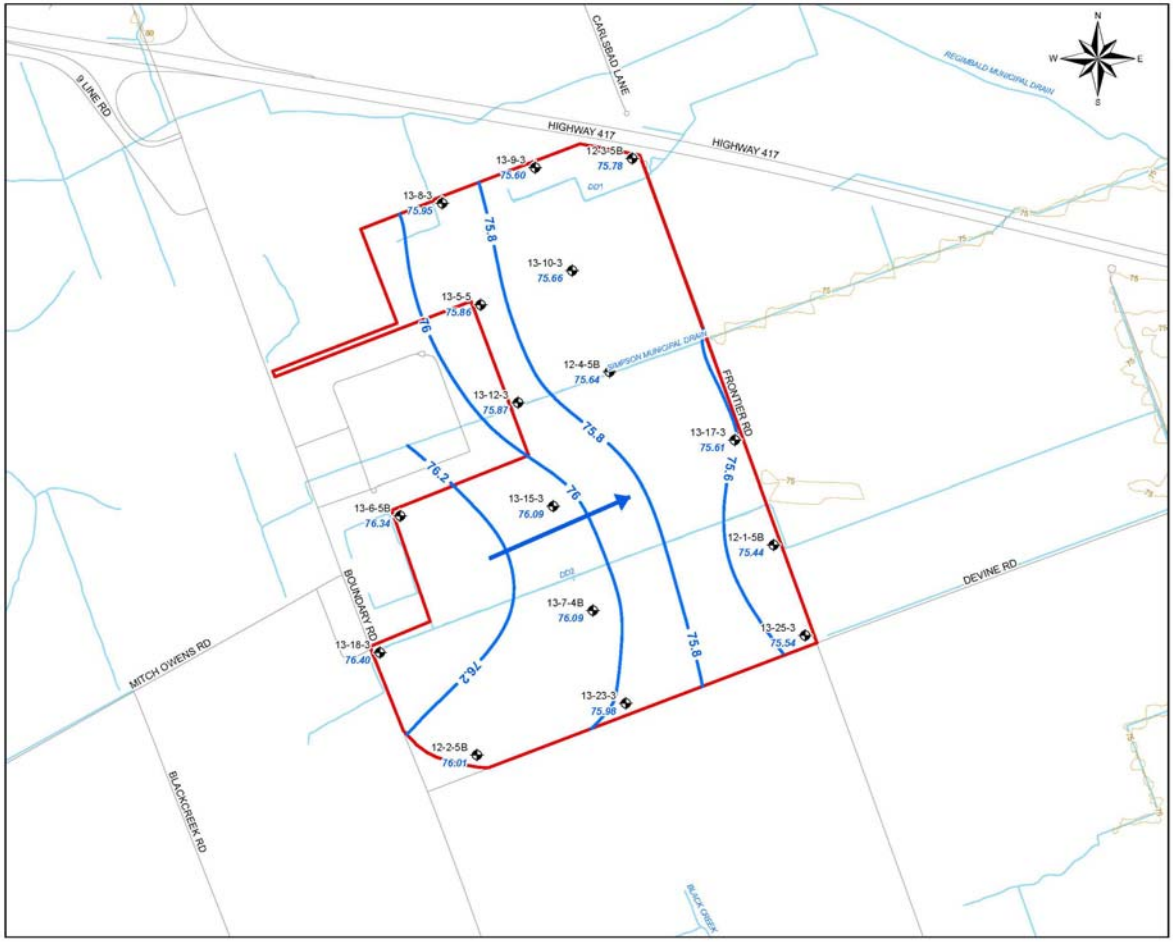
Hydrogéologie du site, suite

Débit horizontal de l'eau souterraine – **Couche d'argile peu profonde avec limon**, mai 2013



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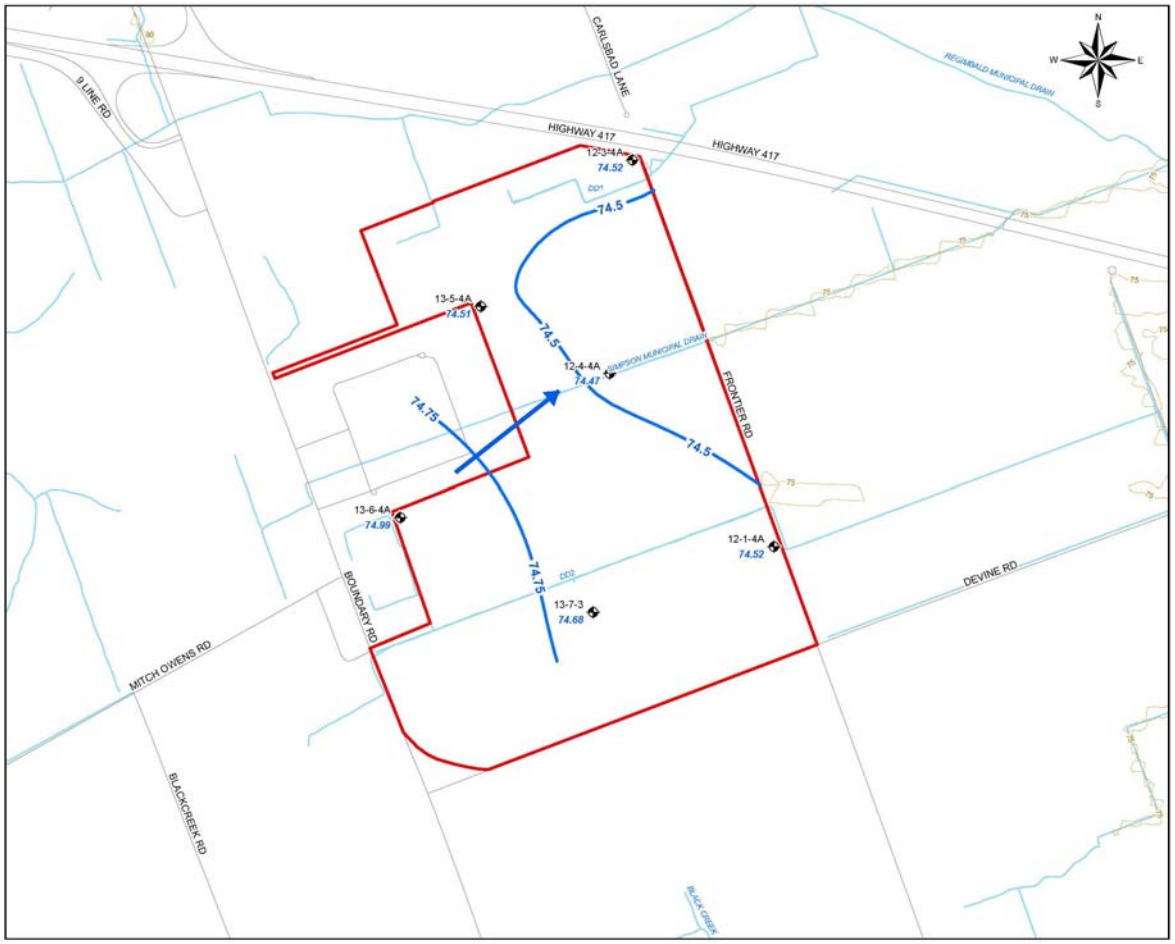
Hydrogéologie du site, suite

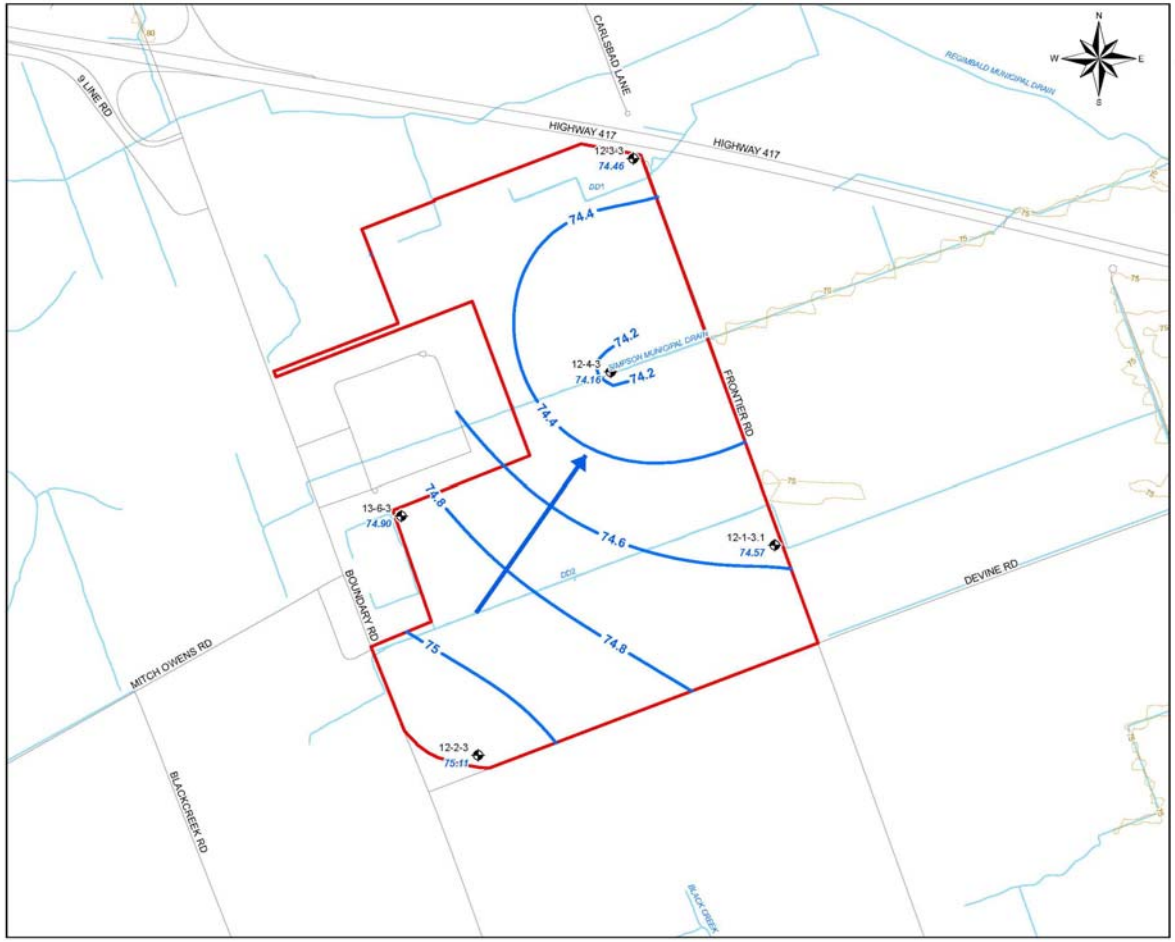
Débit horizontal de l'eau souterraine – **Till,** mai 2013



Les données numériques du système de données intégrées sur la nature et la géographie de l'Ontario du MRN sont produites par Golder Associates Ltd., utilisées sous licence.

Hydrogéologie du site, suite

Débit horizontal de l'eau souterraine – **Substrat rocheux supérieur**, mai 2013



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Hydrogéologie du site, suite

Essai de la conductivité hydraulique (K)

- Un total de 37 essais de montée et/ou de baisse du niveau d'eau ont été effectués dans les quatre unités stratigraphiques, et des essais en laboratoire de la perméabilité du niveau d'eau constant ont été effectués sur 3 échantillons d'argile limoneuse.

- **Sable de surface** (15 essais) : 9×10^{-8} à 2×10^{-5} m/sec – valeur K modérée
  - [moyenne géométrique de 3×10^{-6} m/sec]

- **Couche limoneuse avec argile peu profonde** (11 essais) : 3×10^{-8} à 3×10^{-6} m/sec – valeur K modérée
  - [moyenne géométrique de 8×10^{-7} m/sec]

- **Argile limoneuse** (3 essais de perméabilité) : 7×10^{-10} à 2×10^{-9} m/sec – valeur K faible
  - [moyenne géométrique de 1×10^{-9} m/sec]

- **Till** (6 essais) : 8×10^{-9} à 2×10^{-4} m/sec – valeur K variable basse à élevée
  - [moyenne géométrique de 2×10^{-6} m/sec]

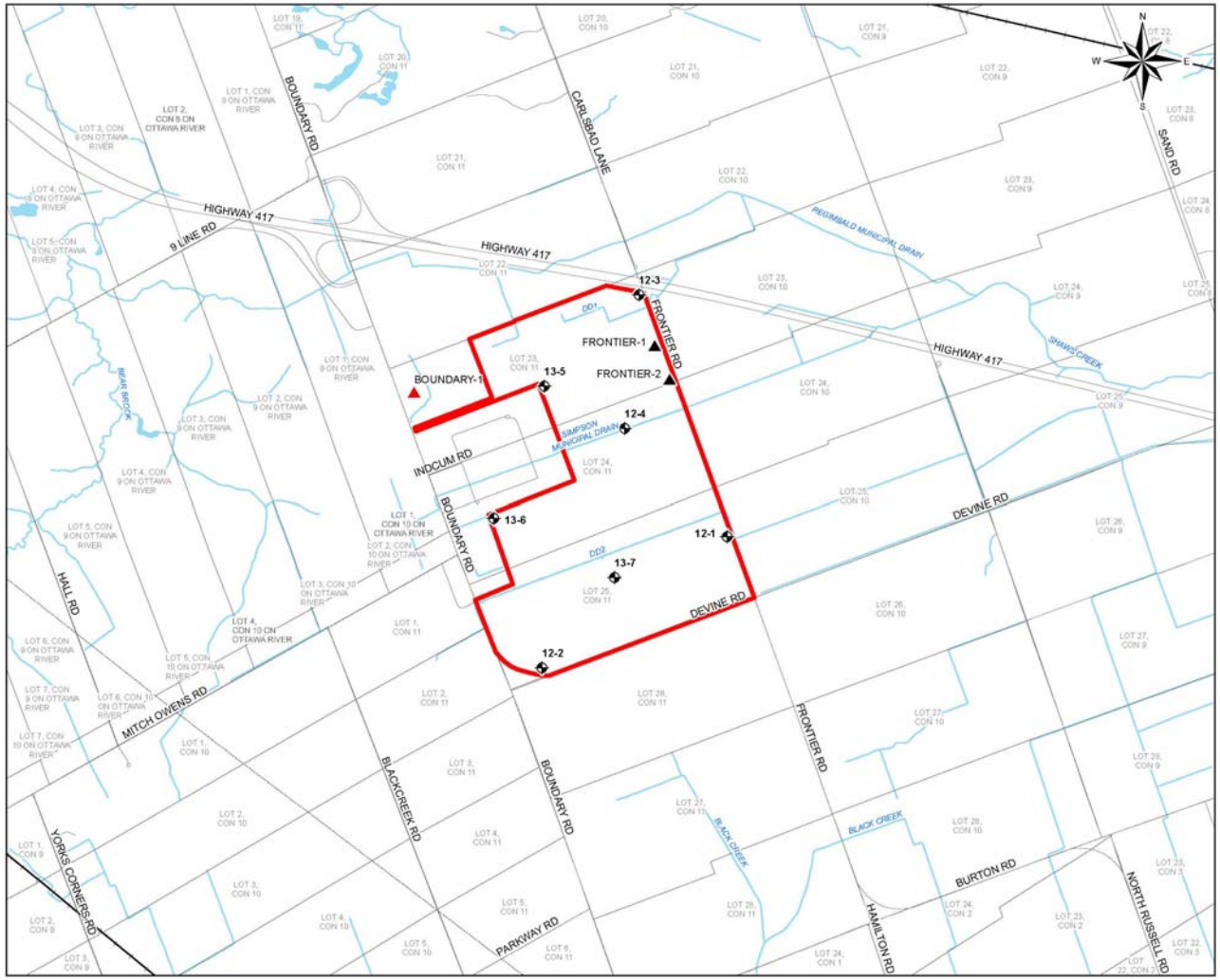
- **Substrat rocheux supérieur** (5 essais) : 2×10^{-8} à 2×10^{-5} m/sec – valeur K faible à modérée
  - [moyenne géométrique de 5×10^{-7} m/sec]

Hydrogéologie du site, suite

Vitesse d'écoulement des eaux souterraines

- Vitesse d'écoulement linéaire = $\frac{\text{Conductivité hydraulique * Gradient Horizontal}}{\text{Porosité}}$
- Un faible gradient horizontal se trouve à travers les quatre unités (0.0005 à 0.0009)
- **Sable de surface:** <0.01 à 1 mètre par an (m/an); vitesse moyenne de 0.1 m/an (10 cm/an)
- **Couche limoneuse avec argile peu profonde:** <0.01 à 0.15 m/an; vitesse moyenne de 0.04 m/an (4 cm/an)
- **Till:** <0.01 à 10 m/an; vitesse moyenne de 0.1 m/an (10 cm/an)
- **Substrat rocheux supérieur :** <0.01 à 6 m/an: vitesse moyenne de 0.15 m/an (15 cm/an)

La qualité de l'eau au site



La qualité de l'eau au site, suite

Eau souterraine

- Le programme d'échantillonnage de la qualité de l'eau souterraine comprenait la collecte de 25 échantillons des puits de surveillance sur place, deux échantillons des puits creusés pour approvisionnement privé d'eau, et un échantillon d'un puits hors site tout près.

- Les échantillons d'eau souterraine ont été analysés pour les paramètres précisés dans *Ontario Regulation 232/98*

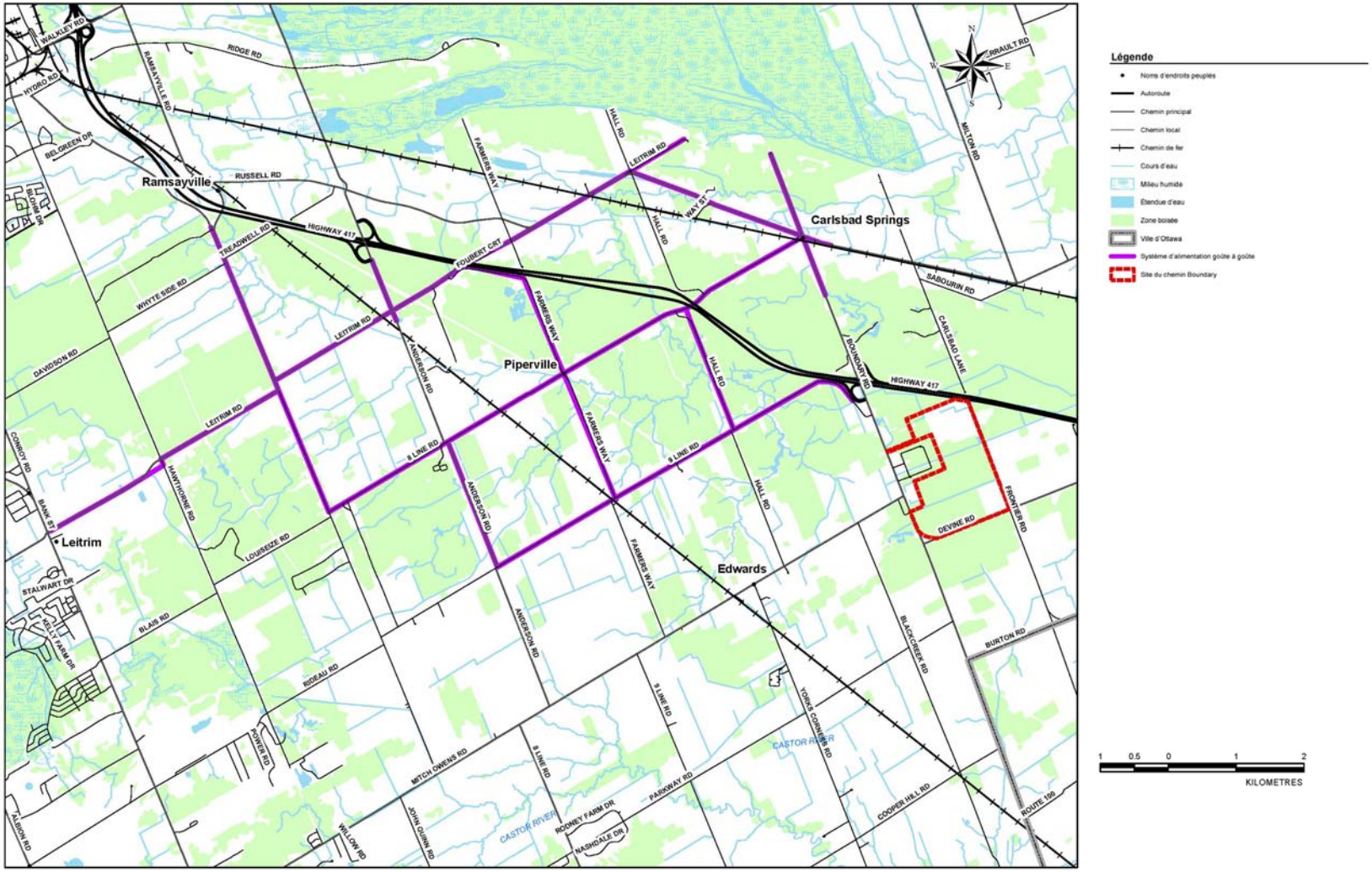
- En générale, la qualité de l'eau souterraine naturelle varie de douce à saumâtre et se détériore en profondeur.

Hydrogéologie du site
Renseignements publiés – Utilisateurs de l'eau souterraine

- Les résidents et les entreprises se trouvant près du site obtiennent leur eau souterraine principalement des puits individuels creusés et n'ont aucun approvisionnement d'eau municipal.

- Selon les résultats d'une révision des dossiers sur les puits, et des études existantes des alentours par le MEO, on suggère ce qui suit :
    - Les puits forés obtiennent principalement leur eau de la zone de contact entre le sol et le substrat rocheux ou la zone supérieure du substrat rocheux;
    - Les puits dans les environs ne produisent pas de quantités importantes d'eau;
    - La qualité de l'eau se détériore avec la profondeur (en raison d'une faible conductivité hydraulique et de l'âge de l'eau);
    - En général, la qualité de l'eau du contact du sol ou du substrat rocheux et du substrat rocheux supérieur n'est pas potable.

Système d'alimentation goûte à goûte



Ce qui est proposé au CRRRC
Types de déchets

Le CRRRC acceptera des matières solides non dangereuses aux fins de recyclage et d'élimination pour le reste; ce sont les mêmes types de matières acceptées à d'autres sites d'enfouissement dans la région.

Le CRRRC n'acceptera pas des déchets dangereux ou des déchets médicaux.

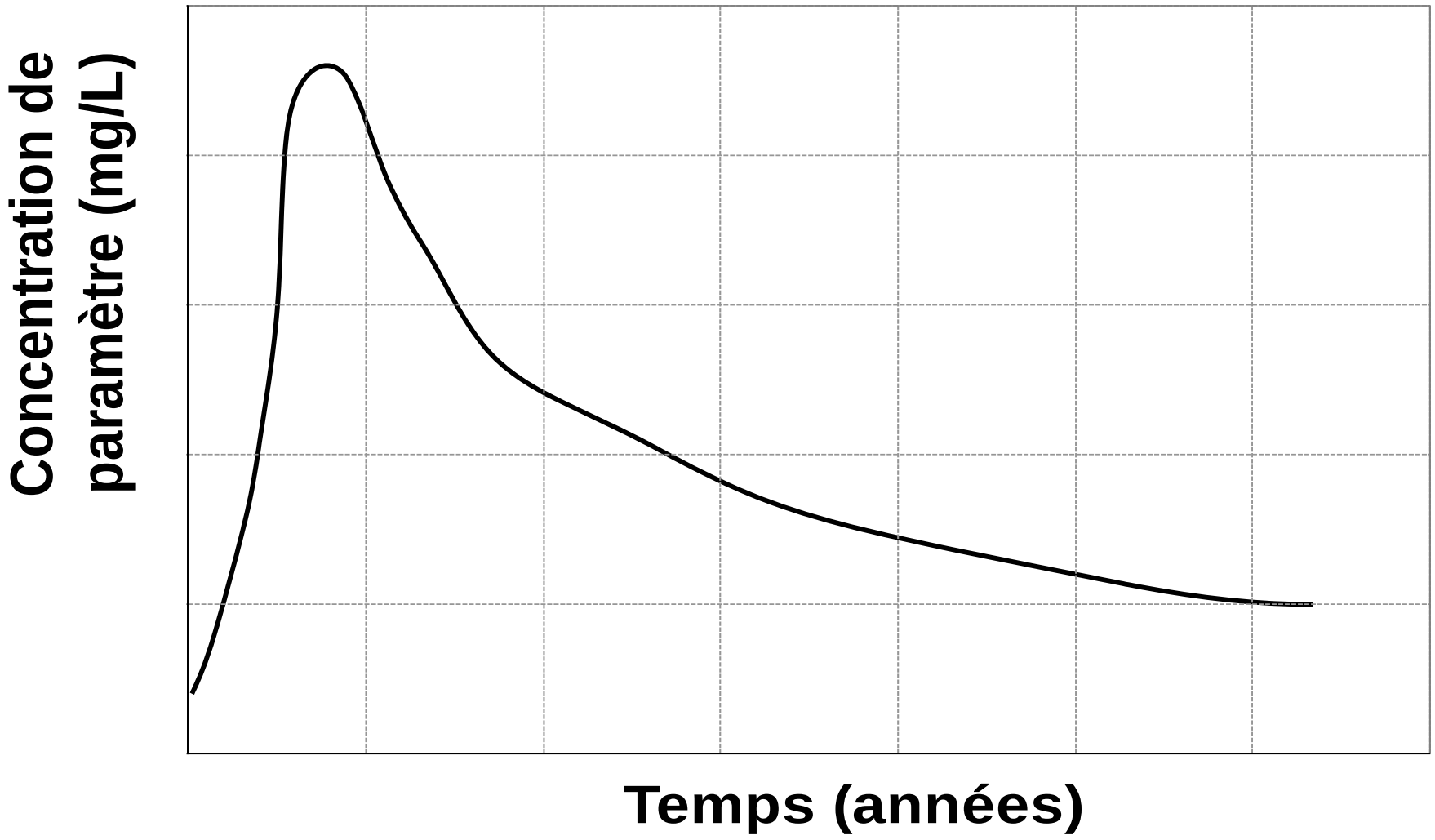
Le CRRRC réacheminera et traitera les matières organiques (traitement avant l'enfouissement); cette démarche aidera à réduire la concentration de lixiviat dans les cellules d'enfouissement.

Lixiviat = Un liquide produit d'un site d'enfouissement ou d'un processus tel que le compostage, qui contient des contaminants dissous, en suspension et/ou microbiens.

Quelques points dont il faut tenir compte dans la conception des sites d'enfouissement

R. Kerry Rowe

Qualité de la source du lixiviat



2

Changements dans le lixiviat avec les changements à la réglementation sur l'enfouissement

Contaminant	Avant	Maintenant
• BTEX	• Modérée	• Faible
• Solvants chlorés	• Élevé	• Très faible
• Métaux (Zn, Pb, Hg)	• Modéré	• Très faible
• Acides gras (AA)	• Très élevé	• Moyen-faible*
• Sels (NaCl)	• Élevé	• Moyen

* Faible lorsqu'il s'agit d'un réacheminement considérable des déchets biologiques

Conception et approbation des installations de gestion des déchets en Ontario

Installations de réacheminement :

Il faut faire preuve d'une gestion appropriée des liquides et des odeurs, ainsi que du contrôle du bruit, conformément aux exigences provinciales, et obtenir des certificats d'autorisation du MEO.

Sites d'enfouissement :

Le Règlement 232/98 et les Ontario Landfill Standards (Normes relatives aux sites d'enfouissement de l'Ontario) prescrivent de quelle façon et quelles normes doivent être respectées pour l'eau de surface, l'eau souterraine et l'air (poussière, odeur, bruit), et d'obtenir des certificats d'autorisation du MEO.

Le Règlement 232/98 et les Ontario Landfill Standards décrivent également la façon dont les installations d'enfouissement peuvent être construites, et la façon dont elles doivent être exploitées.

De quelle façon le lixiviat se déplace-t-il d'un site à l'eau souterraine?

- Il se déplace dans le sens de l'écoulement de l'eau souterraine.

- Des paramètres conservateurs de lixiviat, c.-à-d. le chlorure, se déplacement à peu près à la même vitesse que l'eau souterraine.

- Le mouvement de la plupart des paramètres est retardé (ralenti) dans la sous-surface relativement à la vitesse de l'écoulement de l'eau souterraine (déclin, absorption, réactions, etc.).

De quelle façon empêchons-nous la libération du lixiviat d'un site?

•Pour la protection de l'eau souterraine hors site, les sites d'enfouissement dépendent des contrôles mis au point pour compléter l'atténuation naturelle du lixiviat fournie par l'entourage géologique.

•Le Règlement 232/98 et les Ontario Landfill Standards prévoient des conceptions propres au site et fournissent deux conceptions génériques pour la protection de l'eau souterraine.

La démonstration d'une protection appropriée de l'eau souterraine est requise si les conceptions génériques ne sont pas utilisées.

Exemples du système de contrôle du lixiviat pour les cellules d'enfouissement

Les contrôles conçus comprennent ce qui suit :

- la couverture finale perméable;
- les couvertures finales à faible perméabilité (argile ou géomembrane);
- des doublures à faible perméabilité ou des systèmes de doublure (argile, doublure en argile géosynthétique et/ou géomembrane);
- dépôts naturels de sol à faible perméabilité;
- systèmes de récupération du lixiviat.

Ontario landfill standards (Normes relatives aux sites d'enfouissement de l'Ontario)

- Ligne directrice en matière d'utilisation raisonnable
- Durée de vie de la contamination
- Options de conception
- Durée de l'exploitation

Ligne directrice en matière d’utilisation raisonnable

- Des limites pour des concentrations permises de contaminants en fonction de la qualité de l’eau souterraine de fond, de sorte qu’il n’y ait aucun effet considérable sur l’utilisation de l’eau souterraine dans la propriété adjacente.

Lignes directrices et critères liés à la protection de l'eau souterraine

Normes de qualité de l'eau potable de l'Ontario (NQEPO)

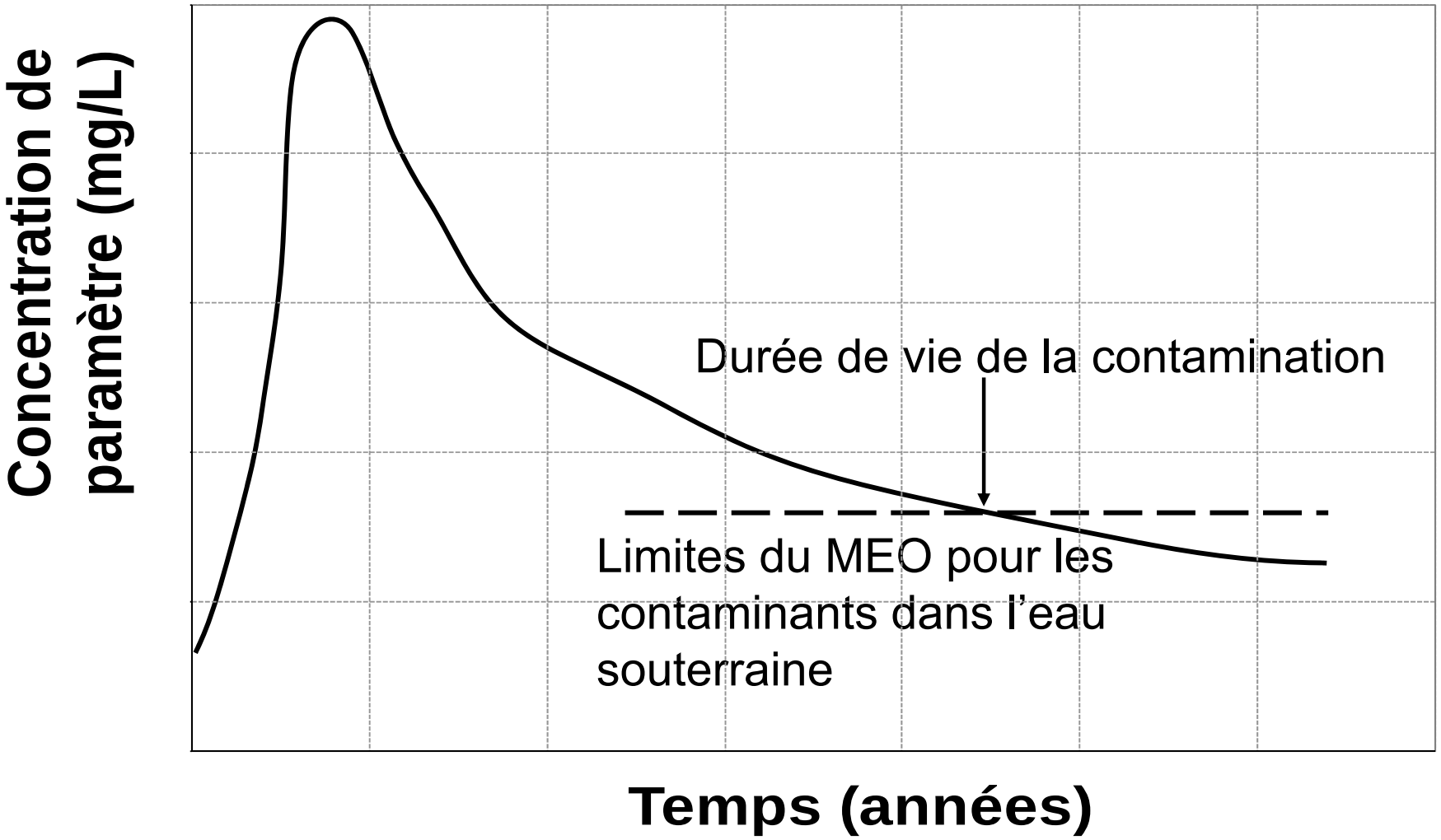
- Un cadre selon lequel les installations de gestion des déchets sont évaluées relativement à la conception de la protection de l'eau souterraine et à la surveillance des opérations

- Les NQEPO fournissent des valeurs pour 113 paramètres, y compris ceux que l'on retrouve habituellement dans le lixiviat des sites d'enfouissement

Cycle de vie de la contamination

- La période pendant laquelle le site d'enfouissement produira des contaminants à des niveaux qui auront une incidence inacceptable s'ils sont libérés dans l'environnement

Lignes directrices et protection de l'eau souterraine – Durée de vie de la contamination



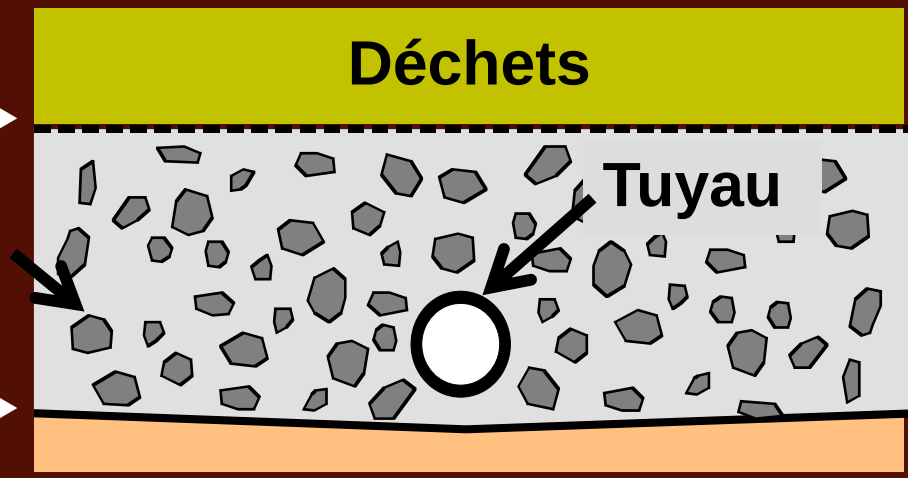
Ontario landfill standards (Normes relatives aux sites d'enfouissement de l'Ontario)

- Lignes directrices en matière d'utilisation raisonnable
- Durée de vie de la contamination
- Options de conception
- Durée de l'exploitation

Les systèmes de récupération du lixiviat

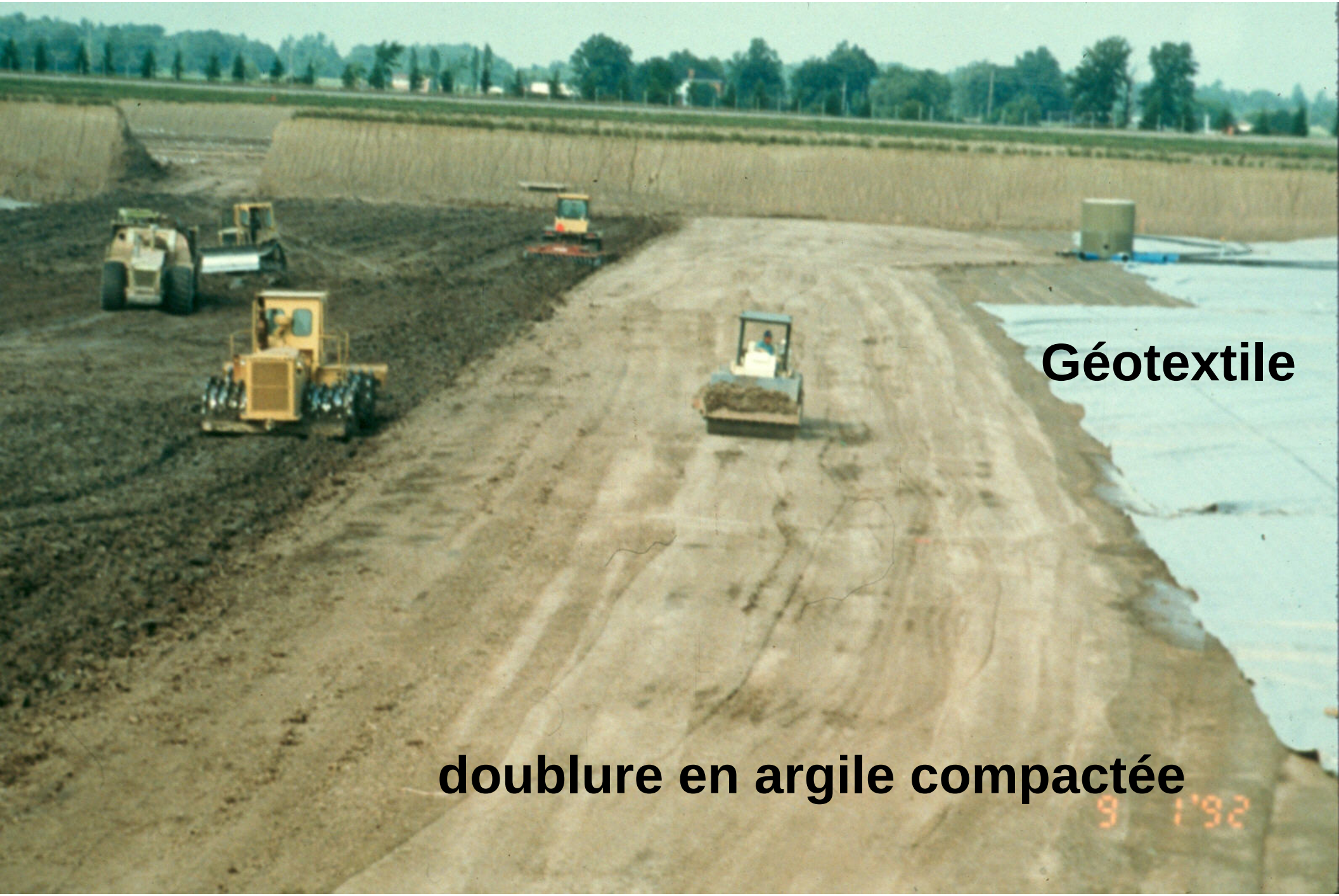
- contrôlent le niveau de lixiviat sur la doublure
- récupèrent le lixiviat aux fins de traitement

Tapis drainant



Les doublures peuvent être :

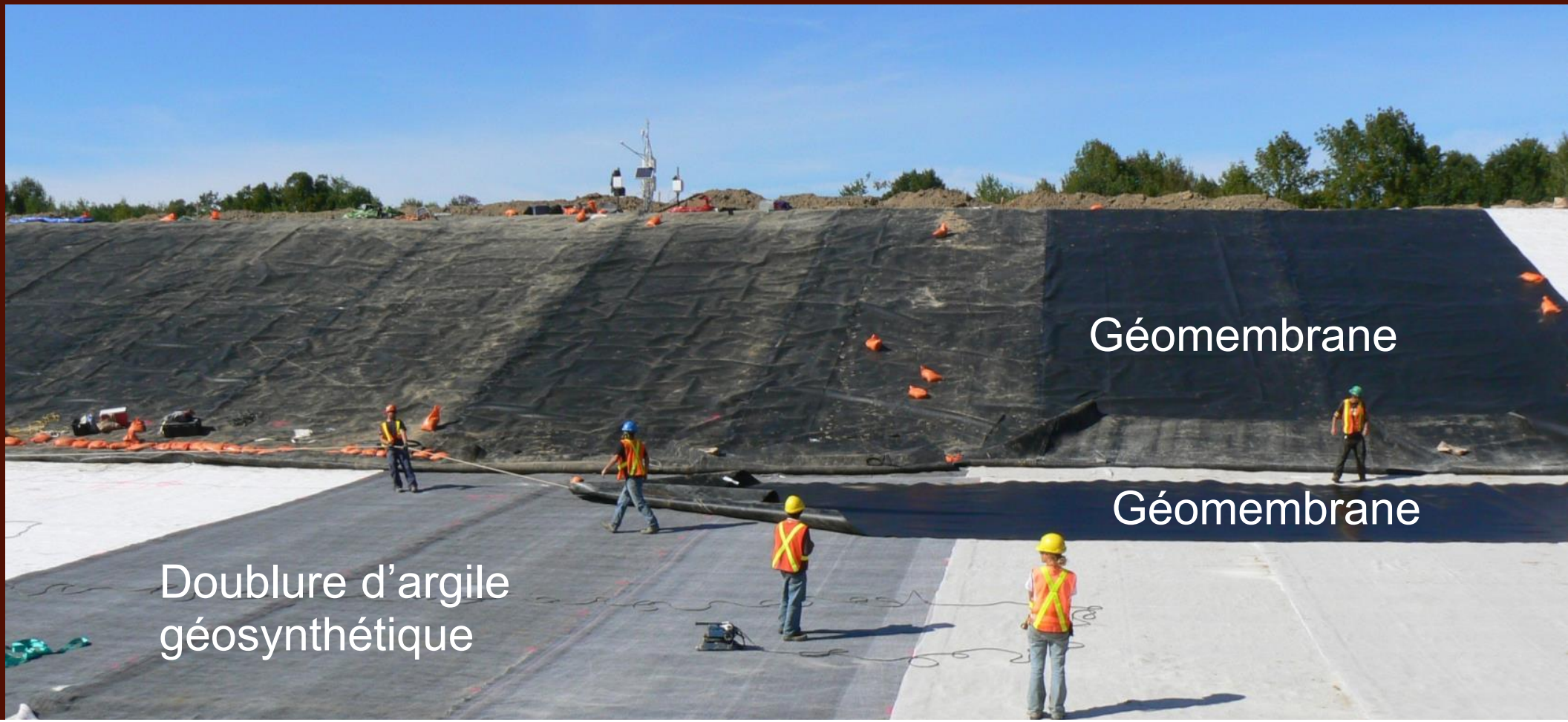
- une couche ou un dépôt naturel d'argile épaisse
- argile compactée (doublure en argile construite)


Géotextile
doublure en argile compactée
9 1'92

Les doublures peuvent être faites de ce qui suit :

- une couche ou un dépôt naturel d'argile épaisse
- argile compactée (doublure en argile construite)
- matériau composite : géomembrane (GMB) plastique (PEHD) sur une doublure en argile géosynthétique (DAG)

Doublure composée en cours d'installation:



Conception propre au site

- Il faut respecter les limites d'utilisation raisonnable pour la protection de l'eau souterraine
- Il faut prendre en considération le transport de contaminants advectifs et diffusifs
- Il faut inclure une étude de l'effet de la défaillance de toute installation mise au point lorsque leur durée de vie en service nominale est atteinte.

Ontario landfill standards (Normes relatives aux sites d'enfouissement de l'Ontario)

- Ligne directrice en matière d'utilisation raisonnable
- Durée de vie de la contamination
- Options de conception
- Durée de l'exploitation

Règlement de l'Ontario 232
Durée de vie en service nominal des doublures en argile et des géomembranes

- Doublure en argile (≥ 750 mm d'épaisseur) et DAG
  - Illimité
- Géomembrane principale (1,5 mm)
  - 150 ans de service
- Géomembrane secondaire (2 mm)
  - 350 ans de service

Recherche et connaissances sur les doublures

- Il y a une documentation qui indique que les doublures naturelles offrent un excellent rendement relativement au contrôle des contaminants naturels pour plus de 10 000 ans.

- Il y a une documentation qui indique que les doublures en argile compactée offrent un rendement d’environ trente ans.

Règlement de l'Ontario 232
Durée de vie en service nominal du système de récupération du lixiviat

≥ 100 ans SI les conditions suivantes sont respectées.

–une épaisseur minimum de 0,3 mètre sur les pentes du côté;

–une épaisseur minimum de 0,5 mètre sur la base;

–gravier uniforme à gros grains (≥ 37 mm nominal);

–le canal de drainage maximum vers un tuyau est ≤ 50m;

–un géotextile convenable ou un séparateur granulaire profilé est installé entre les déchets et la couche de gravier.

Recherche et connaissances sur la récupération du lixiviat

- Des couches de gravier naturel transmettent de l'eau depuis des dizaines de milliers d'années
- Vingt années de recherche sur des facteurs qui peuvent toucher le rendement à long terme ont permis de confirmer qu'on peut s'attendre à ce que les couches de récupération du lixiviat, qui sont conçues conformément aux exigences du MEO, durent même plus longtemps que prévu par le Règlement de l'Ontario 232/98.
- Plus de vingt années de surveillance des systèmes modernes de récupération du lixiviat, qui respectent les exigences du MEO, montrent qu'ils fonctionnent très bien sans problèmes

Dans le fond

- Les sites d’enfouissement, qui sont conçus conformément au Règlement de l’Ontario 232/98 du MEO, offrent un très bon rendement.

Quelques points dont il faut tenir compte dans la conception des sites d'enfouissement

R. Kerry Rowe

Approche pour la conception du site d'enfouissement et la protection de l'eau souterraine au site du chemin Boundary

Points à examiner :

- Géologie – la couche de sable de surface, suivie par ~ 30 m d'un dépôt d'argile limoneux à faible perméabilité, qui contient une couche continue de limon sableux à sable limoneux.
- Approvisionnement d'eau dans la région – puits creusés peu profonds.
- Réseau de fossés et de drains.

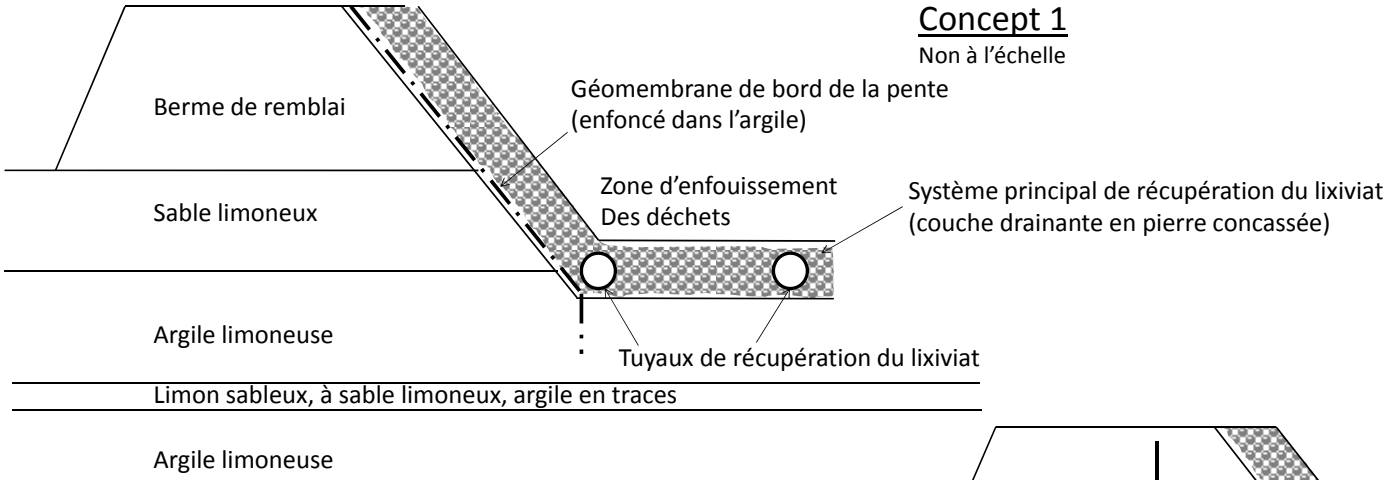
Conception :

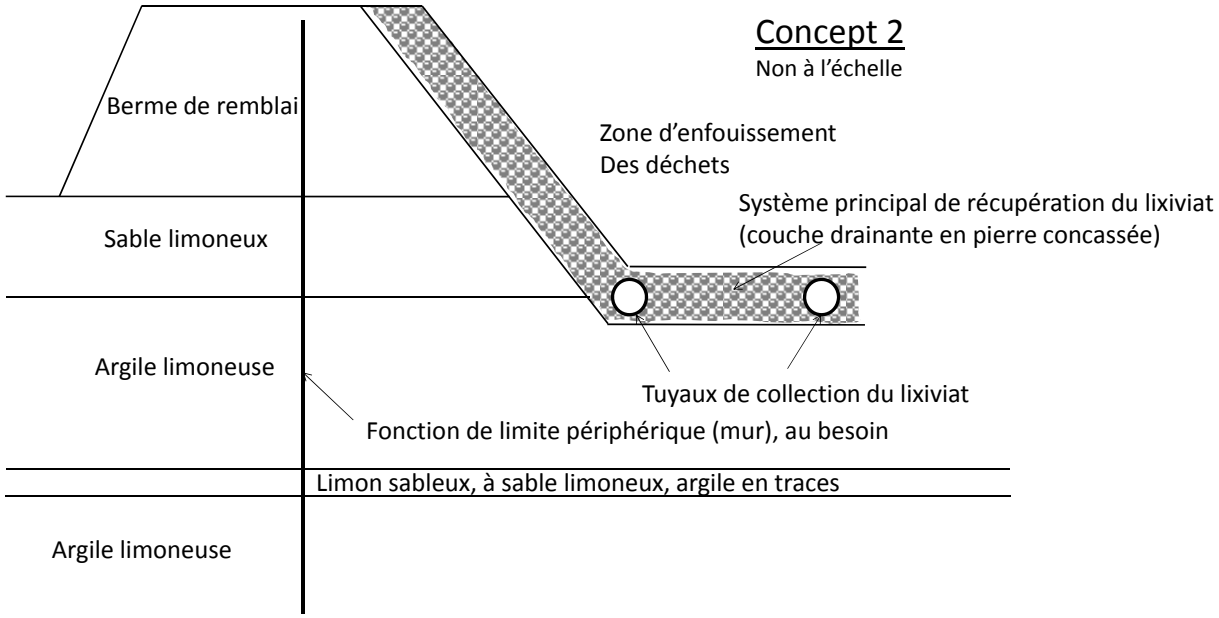
- Le dépôt épais d'argile fournit un revêtement naturel pour la retenue de lixiviat (Étude de la MROC par WESA, 1987 : « La contamination de l'aquifère du substrat rocheux à cause de l'enfouissement [à ce site] est impossible »).
- Il faut empêcher le lixiviat de mouvements potentiels dans la couche du sable de surface et évaluer le potentiel dans la couche de limon sableux au sable limoneux.

Contraintes :

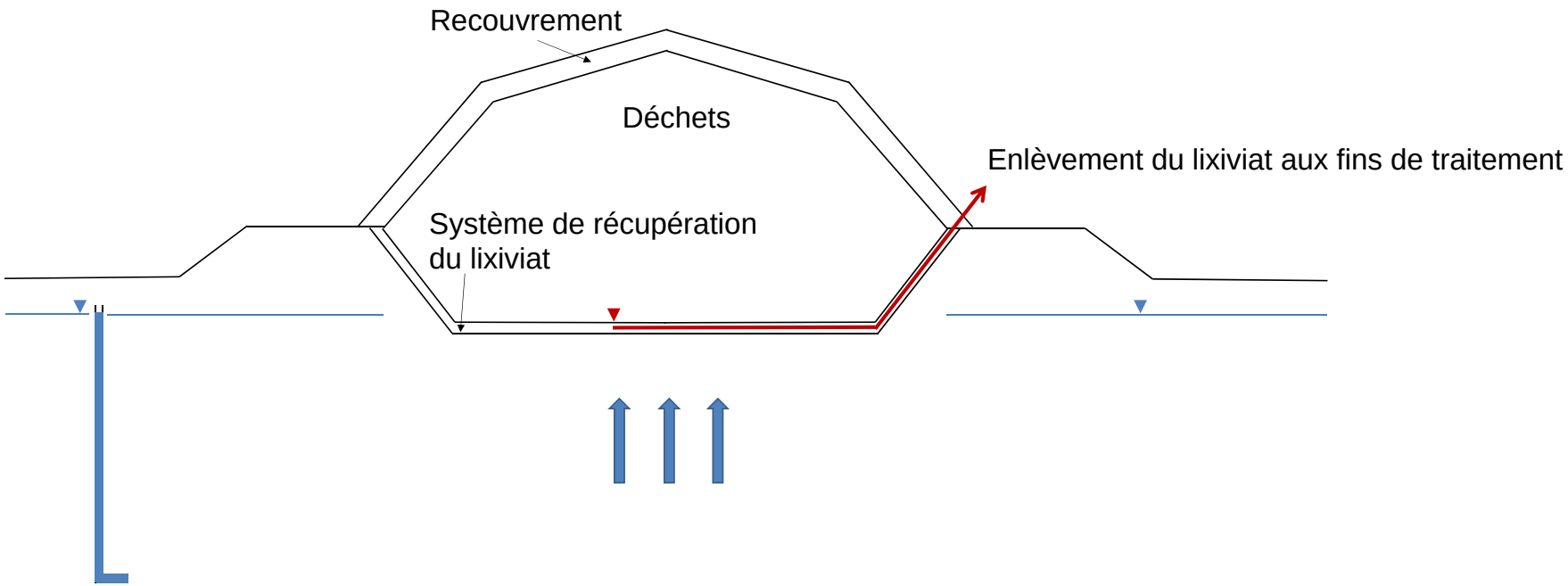
- Nappe élevée.
- Un dépôt d'argile molle indique la forme permise du site d'enfouissement.

Ce qui est proposé au CRRRC – Composants du système de contrôle du lixiviat pour les cellules d'enfouissement





Ce qui est proposé au CRRRC - Composants du système de contrôle du lixiviat pour les cellules d'enfouissement



- Approche de la conception de la trappe hydraulique (gradients et écoulement vers l'intérieur).

Modèles à prévoir :

- le volume de précipitation qui passe par le recouvrement de la cellule d'enfouissement;
- le transport des contaminants à l'extérieur de la cellule d'enfouissement.

Intrants du modèle :

- Des renseignements propres au site, obtenus des données détaillées de l'étude hydrogéologique de l'évaluation environnementale.
- Quelques valeurs requises du Règlement 232/98 d'un grand nombre de sites d'enfouissement moyens à large en Ontario.
- Quelques valeurs publiées.
- Présentation, discussion et prévision sur des durées de vie en service nominale des composants mis au point.

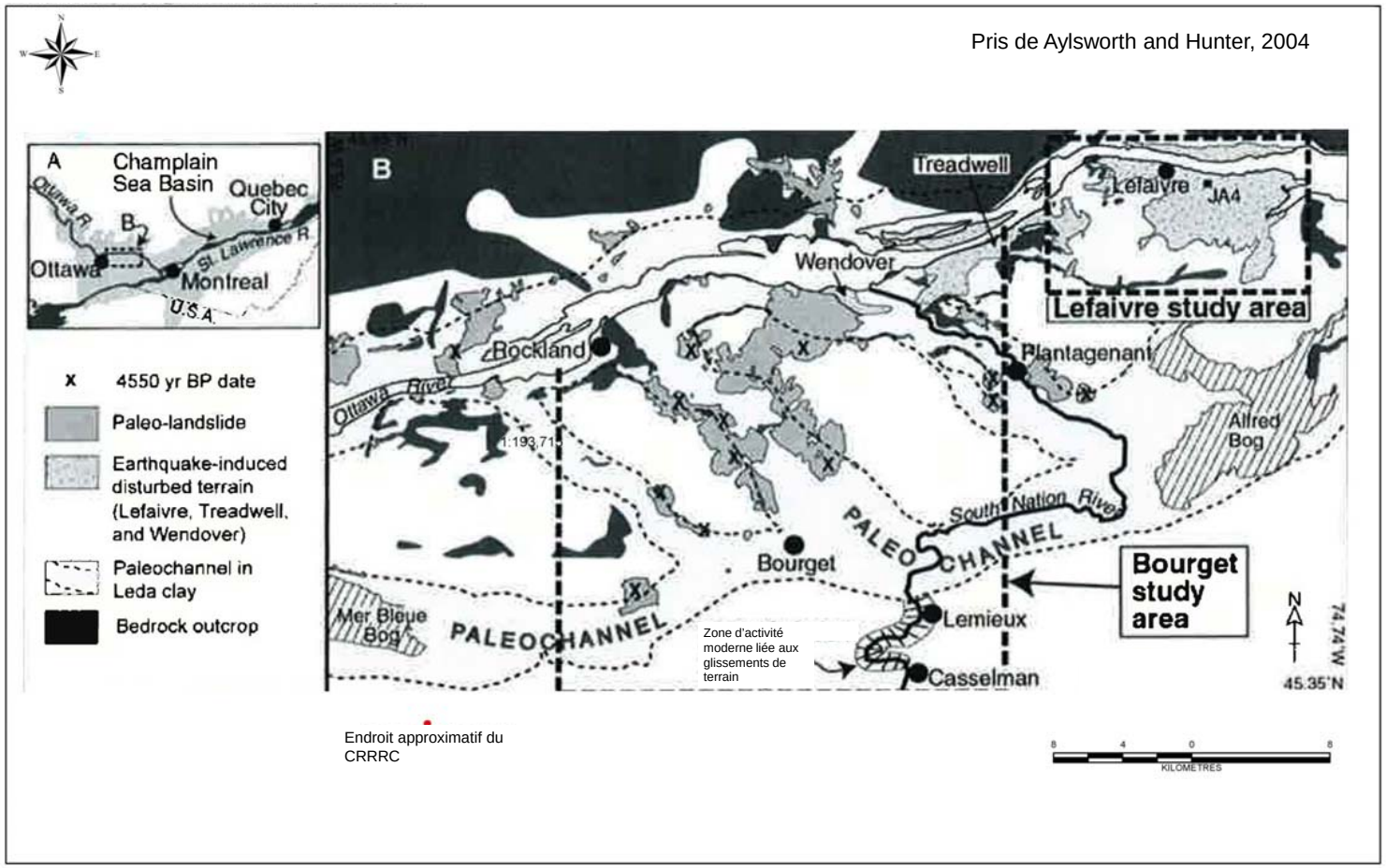
Prévisions de la modélisation

- Le cycle de vie de la contamination est à déterminer.
- Détermine les exigences pour les systèmes de contrôle du lixiviat.
- Prévision des incidences à la limite de la propriété par rapport aux normes du MEO.
- Fournit un point de repère pour la conception du réseau de surveillance de l'eau souterraine, un mécanisme de déclenchement et des mesures d'urgence.

Quelques autres exigences en matière de protection de l'eau souterraine, du Règlement 232/98

- Exigences opérationnelles.
- Exigences en matière de surveillance (y compris les puits domestiques dans les alentours, le cas échéant).
- Le rapport de surveillance annuel comprend une évaluation de la conformité.
- Révision du rapport de surveillance annuel par le MEO.
- Les visites sur le terrain du MEO, et une discussion continue entre le propriétaire et le MEO.
- Assurance financière et mesures de contingence.

Points à prendre en compte dans le domaine sismique – Régional



A – Localisation du bassin de la mer de Champlain dans l'Est canadien

B – Carte des zones d'étude qui montre les paléochenaux, les glissements de terrain anciens et les perturbations occasionnées par les séismes

Points à examiner dans le domaine sismique

- Effets des séismes (charges sismiques et le potentiel de rupture de faille) sont une partie importante de toute analyse et conception de la stabilité des sites d'enfouissement.

- Il faut tenir compte des secousses des séismes dans la conception structurale des bâtiments (le site du CB est un site de « sol profond » de Classe E dans le Code national du bâtiment du Canada).

- La bonne pratique de tenir compte des incidences éventuelles qui découlent des séismes sur les sites d'enfouissement (c.-à-d., la stabilité générale, les déformations, l'effet sur les fonctions de la gestion du lixiviat).

- Une analyse sismique est requise pour le projet du CRRRC, tel qu'il a été indiqué dans le mandat approuvé

Appendix C-3

E-mail to Aboriginal Communities

Edmond, Trish

From: Janet Stavinga (Algonquins of Ontario) <jstavinga@nrtco.net>
Sent: July 8, 2013 2:54 PM
To: Edmond, Trish
Subject: RE: Proposed CRRRC - Groundwater Workshop June 22

Hello Trish,

Thank you for this additional information on your recent workshop. We will review further.

Best regards,

Janet

Janet Stavinga
Executive Director

Algonquins of Ontario Consultation Office
31 Riverside Drive, Suite 101
Pembroke, ON K8A 8R6
Tel: 613-735-3759 ext 202
Fax: 613-735-6307
Email: jstavinga@nrtco.net
Website: www.tanakiwin.com

-----Original Message-----
From: Edmond, Trish [mailto:Trish_Edmond@golder.com]
Sent: July-08-13 2:39 PM
To: jstavinga@nrtco.net
Subject: Proposed CRRRC - Groundwater Workshop June 22

Dear Janet,

On Saturday June 22, Taggart Miller hosted a workshop on groundwater protection and waste management facility design at the Carlsbad Springs Community Centre.

The workshop was led by Professor Kerry Rowe from Queen's University, with assistance from Golder Associates. Professor Rowe is a world-recognized expert in groundwater protection in relation to waste management facilities. We believe that the workshop was very useful in advancing public understanding of the topic.

Enclosed are the workshop materials for your information. If you have any questions on this material, would like further information, or would like to meet to go over the material please let me know.

Regards,

Trish

Trish Edmond (M.E.Sc., P.Eng.) | Associate, Geoenvironmental Engineer | Golder Associates Ltd.
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 x 3246 | F: +1 (613) 592 9601 | C: +1 (613) 799 1960 |
E: Trish_Edmond@golder.com<mailto:Trish_Edmond@golder.com> | www.golder.com<http://www.golder.com/>

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: July 9, 2013 9:13 AM
To: markbowler@metisnation.org
Cc: hankr@metisnation.org; consultations@metisnation.org; Haug, Blair
Subject: Proposed CRRRC - Groundwater Workshop June 22
Attachments: Groundwater Workshop June 22, 2013 English.pdf

Dear Mr. Bowler,

On Saturday June 22, Taggart Miller hosted a workshop on groundwater protection and waste management facility design at the Carlsbad Springs Community Centre.

The workshop was led by Professor Kerry Rowe from Queen's University, with assistance from Golder Associates. Professor Rowe is a world-recognized expert in groundwater protection in relation to waste management facilities. We believe that the workshop was very useful in advancing public understanding of the topic.

Enclosed are the workshop materials for your information. If you have any questions on this material, would like further information, or would like to meet to go over the material please let me know.

Regards,

Blair

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: July 9, 2013 9:12 AM
To: gilbeaud@gmail.com
Cc: Haug, Blair
Subject: Proposed CRRRC - Groundwater Workshop June 22
Attachments: Groundwater Workshop June 22, 2013 English.pdf

Dear President Gilbeau,

On Saturday June 22, Taggart Miller hosted a workshop on groundwater protection and waste management facility design at the Carlsbad Springs Community Centre.

The workshop was led by Professor Kerry Rowe from Queen's University, with assistance from Golder Associates. Professor Rowe is a world-recognized expert in groundwater protection in relation to waste management facilities. We believe that the workshop was very useful in advancing public understanding of the topic.

Enclosed are the workshop materials for your information. If you have any questions on this material, would like further information, or would like to meet to go over the material please let me know.

Regards,

Blair

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Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: July 9, 2013 9:12 AM
To: karla.ransom@akwesasne.ca
Cc: Haug, Blair
Subject: Proposed CRRRC - Groundwater Workshop June 22
Attachments: Groundwater Workshop June 22, 2013 English.pdf

Dear Mr. Ransom,

On Saturday June 22, Taggart Miller hosted a workshop on groundwater protection and waste management facility design at the Carlsbad Springs Community Centre.

The workshop was led by Professor Kerry Rowe from Queen's University, with assistance from Golder Associates. Professor Rowe is a world-recognized expert in groundwater protection in relation to waste management facilities. We believe that the workshop was very useful in advancing public understanding of the topic.

Enclosed are the workshop materials for your information. If you have any questions on this material, would like further information, or would like to meet to go over the material please let me know.

Please note that this e-mail has also been sent to Curtis Lazore of the Mohawk Council of Akwesasne's Aboriginal Rights and Research Office.

Regards,

Blair

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: July 9, 2013 9:12 AM
To: curtis.lazore@akwesasne.ca
Cc: Haug, Blair
Subject: Proposed CRRRC - Groundwater Workshop June 22
Attachments: Groundwater Workshop June 22, 2013 English.pdf

Dear Mr. Lazore,

On Saturday June 22, Taggart Miller hosted a workshop on groundwater protection and waste management facility design at the Carlsbad Springs Community Centre.

The workshop was led by Professor Kerry Rowe from Queen's University, with assistance from Golder Associates. Professor Rowe is a world-recognized expert in groundwater protection in relation to waste management facilities. We believe that the workshop was very useful in advancing public understanding of the topic.

Enclosed are the workshop materials for your information. If you have any questions on this material, would like further information, or would like to meet to go over the material please let me know.

Please note that this e-mail has also been sent to Mr. James Ransom of the Mohawk Council of Akwesasne.

Regards,

Blair

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: July 9, 2013 9:10 AM
To: chiefcouncil@pikwakanagan.ca
Cc: Haug, Blair
Subject: Proposed CRRRC - Groundwater Workshop June 22
Attachments: Groundwater Workshop June 22, 2013 English.pdf

Dear Chief Whiteduck,

On Saturday June 22, Taggart Miller hosted a workshop on groundwater protection and waste management facility design at the Carlsbad Springs Community Centre.

The workshop was led by Professor Kerry Rowe from Queen's University, with assistance from Golder Associates. Professor Rowe is a world-recognized expert in groundwater protection in relation to waste management facilities. We believe that the workshop was very useful in advancing public understanding of the topic.

Enclosed are the workshop materials for your information. If you have any questions on this material, would like further information, or would like to meet to go over the material please let me know.

Please note that this e-mail has also been sent to the Algonquins of Ontario.

Regards,

Blair

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

APPENDIX D

Newsletter – October 31, 2013

Fall 2013

Capital Region Resource Recovery Centre (CRRRC)

Taggart Miller Environmental Services

Remember to recycle!

Special points of interest:

- A Community Fund for neighbourhood improvements.
- Property Value Protection Plan proposed by Taggart Miller to provide protection for homeowners.
- CRRRC to inject an estimated $400 million into the local economy over the life of the project.

Inside this issue:

For more information, please contact us at:

Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9

A Message from Hubert Bourque

Welcome to this community newsletter from Taggart Miller. I am pleased to provide you with this newsletter about our proposed commercial waste recycling and disposal facility (the CRRRC) which is proposed for our site east of Boundary Road and south of Hwy 417.

While our environmental assessment (EA) is still underway, some of the studies are nearing completion. Our work to date continues to demonstrate that this is an excellent site for the project and that it can be operated in compliance with all Ministry of the Environment requirements.

The site is immediately off the highway, is on 30 metres of clay (which will protect groundwater) and is beside an existing industrial park and a former auto wrecking yard.

Truck traffic would be largely restricted to Hwy 417 with access to and from the site at the Boundary Road exchange.

While we understand that some members of the community believe this project is somehow negative for the Carlsbad Springs and Edwards community, we do not share that view. This modern waste management facility is in an excellent location and will provide much-needed jobs and an estimated $400 million investment for the east end of Ottawa. We will be a good neighbour and, we believe, a positive for the area.

We also in this newsletter point out some of the protections we are proposing to put in place for the local community and some of the other benefits that would accrue to this area should our facility proceed.

As always, should you wish to discuss this project or its many benefits in more detail, please contact me at any time at (613) 454-5580 or by email at hjbourque@crrrc.ca.

Sincerely,

Hubert Bourque

Project Manager
Taggart Miller Environmental Services

A Community Fund for Local Residents

Some waste management facilities today negotiate with host communities to establish a community fund or some other form of community benefits for the benefit of the local community. This fund is often managed by a public advisory committee (PAC) made up of local residents and representatives from the facility. Such a community fund would help fund local improvements to the Carlsbad Springs/Edwards area. These funds would continue for the life of the CRRRC.

As one local example, in Navan, the community fund from the Navan landfill has so far been used to rebuild the local cenotaph, build a shelter in a local park, fund community activities, and improve local recreational facilities.

Property Value Protection Plan for Local Residents

"Watch the short information video on the CRRRC.ca site for more information on the proposed facility."

Today's modern waste management facilities are highly engineered and provide various control systems and features to minimize the potential for adverse impacts on neighbouring areas.

In Navan, just 15 km to the north, new homes are being built and sold in a highly desirable neighbourhood directly beside an operating landfill, far closer than Carlsbad Springs or Edwards are to the proposed CRRRC.

Even though the experience in Navan and elsewhere suggests that home values are not likely to be influenced, Taggart Miller is proposing a property value protection plan (PVPP) that would protect eligible property owners if they experience a reduction in property value on account of the CRRRC. At our last open house, we showed a 5 km radius around the site as a possible PVPP zone. This far exceeds a typical property value protection zone around a waste management facility.

"Is your home within the 5 km radius? To check, open the map on the What's New page on the CRRRC .ca website."

An Environmentally Friendly Facility

"The proposed CRRRC site will provide well-paid jobs in Ottawa's east end."

The CRRRC will become, if approved, the premier commercial waste recycling and diversion facility in Ontario.

Unlike other facilities in Ontario, the primary focus of this facility will be recycling and diversion.

One of the innovative features of our proposal involves processing of organic materials in the commercial waste with a view to producing nutrient-rich digestate for agricultural use. This is turn will reduce organics in the landfill component of the project, which will help us ensure there are no off-site odour impacts.

A landfill component will be required for those materials that cannot be diverted.

At the present time, the provincial diversion rate for Industrial, Commercial and Institutional (or IC&I) waste is about 12 to 13 percent. Our facility's ultimate diversion rates are projected to be between 43 to 57 percent.

Plastics removed from waste stream will be recycled and reused.

The Environmental Assessment Process

Workers at a Miller Waste facility separate paper and plastic for recycling.

The Ministry of the Environment (MOE) will ultimately decide if the proposed facility meets its rigorous standards and should be approved. Once the environmental assessment (EA) is completed, the EA report will be submitted to the MOE and other government and community stakeholders for review. It is expected that the EA report will be completed and submitted in 2014.

Taggart Miller will be hosting more Open Houses before any EA approval for this project.

We welcome your continued involvement in our environmental assessment process.

Watch your local newspaper for details about the next Open House and check the CRRRC.ca website for a short video on the CRRRC project.

Please visit CRRRC.ca.

Automne 2013

Centre de récupération des ressources de la région de la capitale (CRRRC)

Taggart Miller Environmental Services

N'oubliez pas de recycler!

Points d'intérêt particuliers :

- Un fonds communautaire pour des améliorations du voisinage.
- Le plan de protection de la valeur foncière proposé par Taggart Miller afin de protéger les propriétaires d'habitations.
- Le CRRRC injectera environ 400 millions de dollars dans l'économie locale au cours de la durée de vie du projet.

Dans ce numéro :

Pour plus de renseignements, veuillez communiquer avec :

Taggart Miller Environmental Services
a/s 225, rue Metcalfe, bureau 708
Ottawa, Ontario K2P 1P9

Un message d'Hubert Bourque

Je vous souhaite la bienvenue au présent bulletin d'information de Taggart Miller à l'intention de la collectivité. Je suis heureux de vous communiquer ce bulletin d'information sur l'installation de récupération et de la disposition des déchets commerciaux (le CRRRC) que nous proposons d'aménager à notre site qui se trouve à l'est du chemin Boundary et au sud de l'autoroute 417.

Bien que notre évaluation environnementale (EE) soit toujours en cours, certaines des études sont presque terminées. Nos travaux réalisés à ce jour continuent de démontrer que ce site est excellent pour le projet et qu'il pourra être exploité conformément à toutes les exigences du ministère de l'Environnement.

Ce site sen bordure de l'autoroute, se trouve sur 30 mètres d'argile (ce qui protègera l'eau souterraine) et est à coté d'un parc industriel existant et d'une ancienne cour de démolition d'autos.

La circulation des camions serait principalement limitée à l'autoroute 417, et le point d'accès au site serait à partir de l'échangeur du chemin Boundary.

Nous comprenons que certains membres de la collectivité croient que ce projet, en quelque sorte, comporte des incidences négatives pour la collectivité de Carlsbad Springs et d'Edwards - nous ne partageons pas ce point de vue. Cette installation moderne de gestion des déchets se situe dans un excellent endroit et créera des emplois nécessaires ainsi qu'un investissement de 400 millions de dollars pour l'Est d'Ottawa. Nous serons de bons voisins et, selon nous, positif pour la région.

Dans le bulletin, nous soulignons également certaines des mesures de protection que nous proposons de mettre en place pour la collectivité locale et quelques-uns des autres avantages qu'apporterait notre installation à cette région, si

notre projet voit le jour.

Comme toujours, si vous souhaitez discuter davantage de ce projet ou de ses nombreux avantages, veuillez communiquer avec moi en tout temps au 613-454-5580, ou par courriel à hjbourque@crrrc.ca.

Veuillez agréer mes salutations distinguées.

Hubert Bourque

Gestionnaire de projet

Taggart Miller Environmental Services

Un fonds communautaire pour les résidants locaux

De nos jours, certains propriétaires d'installations de gestion des déchets négocient avec les communautés hôtesses un fonds communautaire ou d'autres formes d'avantages communautaires au profit de la collectivité locale. Ce fonds est souvent géré par un comité de consultation publique (CCP) composé de résidents locaux et de représentants de l'installation. Ce fonds communautaire permettrait de financer des améliorations locales dans les secteurs de Carlsbad Springs et d'Edwards. Ce fonds serait offert pendant toute la durée de vie du CRRRC.

Un exemple local est le fonds communautaire du site d'enfouissement de Navan, qui a servi jusqu'à maintenant à la reconstruction du cénotaphe local, à la construction d'un abri dans le parc local, au financement d'activités communautaires et à l'amélioration des installations récréatives locales.

Plan de protection de la valeur foncière pour les résidents locaux

« Visionnez la courte vidéo d'information sur le site CRRRC.ca pour obtenir de plus amples renseignements sur l'installation proposée. »

Aujourd'hui, les installations modernes de gestion des déchets sont conçus par ingénierie et offrent plusieurs systèmes de contrôle qui réduisent au minimum la possibilité d'incidences négatives sur les secteurs avoisinants.

À Navan, à seulement 15 km au nord du site, de nouvelles habitations sont construites et vendues dans un quartier très attrayant situé directement en bordure d'un site d'enfouissement fonctionnel, soit beaucoup plus près que les collectivités de Carlsbad Springs et d'Edwards se trouvent du site proposé pour le CRRRC.

Bien que l'expérience vécue à Navan et ailleurs suggère qu'il est peu probable que la valeur foncière soit touchée, Taggart Miller propose un plan de protection de la valeur foncière (PPVF) qui protégerait les propriétaires fonciers admissibles dans l'éventualité ou la valeur de leur bien serait réduite en raison des activités du CRRRC. Lors de notre dernière journée portes ouvertes, nous avons présenté un rayon de cinq kilomètres autour du site à titre de zone couverte par le PPVF possible. Ce périmètre est supérieur à la zone de protection de la valeur foncière habituelle autour d'une installation de gestion des déchets.

« Votre propriété se trouve-t-elle dans un rayon de cinq kilomètres de l'installation? Pour le savoir, ouvrez la carte à la page « Quoi de neuf » du site Web CRRRC.ca. »

Une installation écologique

« Le site du CRRRC proposé créera des emplois bien payés dans l'Est d'Ottawa. »

S'il est approuvé, le CRRRC deviendra la première installation de recyclage et de réacheminement des déchets commerciaux en Ontario.

Contrairement aux autres installations de l'Ontario, cette installation est axée sur le recyclage et le réacheminement.

L'un des aspects innovateurs de notre installation proposée concerne le traitement des matières organiques dans les déchets commerciaux dans le but de produire un engrais riche en nutriments pour un usage agricole. Ce processus permettra à son tour de réduire les matières organiques dans le site d'enfouissement du projet, ce qui nous aidera à nous assurer que notre installation ne produira pas d'odeurs à l'extérieur du site.

Un site d'enfouissement sera requis pour les matériaux qui ne peuvent être réacheminés.

Actuellement, le taux de réacheminement provincial des déchets générés par les secteurs industriel, commercial et institutionnel (ICI) est d'environ 12 à 13 %. Selon nos prévisions, les taux de réacheminement visés par notre installation se situeront entre 43 et 57 %.

Les matières plastiques retirées du flux de déchets seront recyclées et réutilisées.

Le processus d'évaluation environnementale

Des travailleurs séparent le papier et le plastique aux fins de recyclage dans une installation de gestion des déchets de Miller.

Le ministère de l'Environnement (MOE) décidera, en dernier ressort, si l'installation proposée respecte ses normes strictes et s'il devrait être approuvé. Une fois que l'évaluation environnementale (EE) sera terminée, le rapport d'EE sera présenté au MOE et aux autres intervenants du gouvernement et des collectivités aux fins d'examen. Nous prévoyons terminer et présenter le rapport d'EE en 2014.

Taggart Miller organisera d'autres journées portes ouvertes avant que toute approbation de l'EE soit effectuée pour ce projet.

Nous vous sommes reconnaissants de votre participation continue à notre processus d'évaluation environnementale.

Surveillez les journaux locaux pour obtenir des renseignements sur les prochaines journées portes ouvertes et jetez un œil au site Web CRRRC.ca pour visionner une courte vidéo sur le projet du CRRRC.

Veuillez visiter notre site Web CRRRC.ca.

APPENDIX E

Open House #5 – December 5, 2013

Appendix E-1

Le Reflet/The News French Ad

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Cinquième journée portes ouvertes dans le cadre d'une évaluation environnementale du Centre de récupération des ressources de la région de la capitale

Taggart Miller Environmental Services (Taggart Miller) effectue une évaluation environnementale (EE) en vertu de la *Loi sur les évaluations environnementales* de l'Ontario pour un projet proposé de gestion intégrée des déchets qui portera le nom de Centre de récupération des ressources de la région de la capitale (CRRRC).

Si le projet est approuvé, le CRRRC disposerait des installations et de la capacité requises pour récupérer les ressources et réacheminer les matériaux autrement destinés à l'élimination qui sont produits par les secteurs industriel, commercial et institutionnel (ICI) et par les secteurs de construction et de démolition (CD), à Ottawa et dans l'Est ontarien, ainsi que de la capacité d'enfouissement des matériaux qui ne sont pas réacheminés. Les composantes du CRRRC seront mises au point à la suite d'une consultation plus exhaustive au cours de l'évaluation environnementale. À ce stade-ci, ce qui est proposé comprend ce qui suit :

- une installation de récupération des matériaux
- le traitement des déchets de construction et de démolition
- le traitement des matières organiques
- le traitement de sols contaminés aux hydrocarbures
- la gestion des sols excédentaires
- un eco-centre de récupération pour déposer les matières triées ou pour en faire le tri
- le compostage des feuilles mortes et des matériaux de jardin (si la quantité est suffisante)
- un site d'enfouissement aménagé pour l'élimination des résidus

L'emplacement du CRRRC est indiqué sur la carte ci-dessous.

L'évaluation environnementale est exécutée conformément au cadre de référence modifié et approuvé. Une copie du cadre de référence approuvé après modification est disponible sur le site Web du projet : www.CRRRC.ca.

Les membres du public, les organismes et autres personnes intéressées sont invités à participer activement à la planification de cet engagement en se présentant aux rencontres de consultation ou en communiquant directement avec le personnel pour leur faire part de renseignements, de commentaires ou de questions.

La cinquième journée portes ouvertes présentera le concept d'aménagement du site privilégié; l'évaluation des effets environnementaux associés au projet, ensemble avec les mesures d'atténuation proposées, les mesures de contrôle et de contingence; les résultats de l'évaluation du traitement des lixiviats, la route de transport et de l'évaluation des impacts cumulatifs; un aperçu de l'ensemble de la documentation proposée sur l'EE et la LPE et un survol du calendrier proposé pour les soumissions et le processus de prise de décisions du ministère. Les participants à cette journée portes ouvertes seront avisés des intentions concernant la distribution de l'EE préliminaire aux fins d'examen;

Cinquième journée portes ouvertes

Le jeudi 5 décembre 2013
De 16 h à 21 h
Centre communautaire de Carlsbad Springs
6020, chemin Piperville (Eighth Line), Ottawa

La participation publique des résidents locaux et d'autres parties intéressées représente un volet important du processus d'évaluation environnementale. Nous vous invitons non seulement à participer à cette rencontre, mais aussi à nous faire part de vos commentaires et à vous inscrire à notre liste de diffusion en passant par le site Web du projet, www.CRRRC.ca, par la poste ou par télécopieur à l'adresse et au numéro qui figurent ci-dessous.

M. Hubert Bourque, Directeur de projet
Taggart Miller Environmental Services
225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
Téléphone : 613 454-5580
Télécopieur : 613 454-5581
Courriel : hjbourque@crrrc.ca

Votre participation est sollicitée et appréciée.

Aux termes de la *Loi sur l'accès à l'information et la protection de la vie privée* et de la *Loi sur les évaluations environnementales*, sauf indication contraire dans la soumission, tous les renseignements personnels tels que le nom, l'adresse, le numéro de téléphone et l'emplacement de la propriété qui sont inclus dans une soumission feront partie des dossiers publics relatifs à cette question et seront communiqués à quiconque sur demande.

Appendix E-2

The Villager English Ad

CASTOR Country

By Tom Van Dusen

Egg on my face

This is a column about egg salad sandwiches that I have known and loved.

Yes, the humble egg salad sandwich. One of the great comfort foods! It even became political a few years ago. When provincial health inspectors with nothing better to do cracked down on church suppers, they zeroed in on egg sandwiches as a potential source of death and destruction. Those were some uptight folks who really needed to sink their teeth into some comforting egg sandwiches.

What's new on the egg salad sandwich front, you may well ask? Isn't the bread still buttered on the same side? Is there a different way of mixing the ingredients? The fact is, there's nothing new that I'm aware of but that shouldn't get in the way of a good column.

It started this way. As much as I hate prematurely getting into the spirit of the season, I dropped by the Russell Legion on Saturday for a Christmas craft sale. As an aside, I also attended the Christmas bazaar at St. Thomas Aquinas Catholic High School but that's a whole other story; I didn't get to the lunch and bake sale at St. Mary's Anglican Church because I didn't realize it was on until it was over. I hate when that happens!

I sauntered into the Legion and looked over the various items for sale, quickly finding myself as I always do at the baked goods table. I was standing there considering a purchase when two ladies called me over and asked if I'd like a sandwich.

It wasn't just any sandwich... it was a fresh egg salad sandwich, large, made with grainy looking brown bread, wrapped and ready to go.

The Legion was a highly appropriate setting for this potential transaction. Over the years, I've downed a ton of egg sandwiches in that hall following the Remembrance Day ceremony and at other events. When I think egg salad – as I often do - I think Legion.

How did those ladies know my main weakness? Rob Ford may be partial to crack cocaine... I'm partial to mashed eggs mixed with mayo and chopped onions, topped with pepper and lettuce, and slathered between two slabs of bread. I don't get high by smoking or inhaling it... I swallow it whole.

At $2.50, that sandwich was a steal. I've paid as much as $4.50 for one at Boushey's Market on Elgin Street, a sandwich with three inches of egg between the slices. That's actually too much filling. The proportion of egg to bread has to be just right.

I looked at the Legion ladies, then at the sandwich, back at the ladies, at the sandwich. I pondered the purchase.

"Come on, you can write about it," one of them urged. I'm not sure I knew these two sandwich hustlers personally but they seemed to know me.

"How much can I say about an egg sandwich?" I asked. "I have about 700 words to fill. Wait! I take that back!... I can write a column about anything no matter how mundane."

"Yes, we know you can." They were obviously regular readers.

"What if I don't like your sandwich and I slam it in my column, what then?"

"Oh, you'll like it well enough. Maybe it'll be the best one you ever had."

It was game on! The reason I mulled over buying that sandwich and didn't snap it up in an instant had nothing to do with the product itself.

You see, I already had a fine egg salad sandwich snuggled out in the truck waiting for me. I had picked it up earlier at Your Independent in Embrun and was waiting until I got a little hungrier to devour it. It had one of those pink half-price stickers on it so I took it away for $1.50.

That's why I hesitated before buying the Legion sandwich. Then I decided what the heck!... As I tell my tormented kids, you can never have too many egg salad sandwiches in the big buffet of life.

I ate the Legion one first and it was delicious. Just the right texture, perfect mayo and bread ratios, not overwhelmed by lettuce. Best buy of the day!

So there you go... 716 words on egg salad sandwiches.

Letters To The Editor

CLF joins in rally for veteran

To Editor:

Members of Canadians for Language Fairness joined the Unity Group from Montreal and other individuals to brave the cold and snow on Nov. 9 to rally in front of the Hull Hospital in protest of the atrocious treatment war veteran John Gervais, received at the hands of a bigoted orderly working at the hospital.

An orderly who verbally attacked an elderly man dying of cancer, refusing to do his job in assisting him to the washroom, verbally lambasted the same World War II veteran dying of cancer, for not speaking French because in Quebec, according to him, everyone must speak French, is being protected by the union who will not let the family know this orderly's last name, is on 45 day suspended PAID leave (aka holidays), and has not expressed any remorse over his actions.

By not firing the orderly, the hospital is condoning this blatant discrimination.

We were joined by members of Mr. Gervais' family and his daughter gave a very moving speech. They had just come from his funeral and amidst their tears, they avowed to continue to seek the permanent dismissal of a person whose abject hatred of English-speaking people spews from his mouth unabated in his workplace where compassion is supposed to be the name of the game. Seriously, what other profession is supposed to show more compassion and caring than the medical profession?

Then, one has to wonder why Official Languages Czar, Graham Fraser, has not come out against this blatant language discrimination against one of the two "Official Languages" of Canada?

Not only is English the minority language in Quebec, which the Czar claims is his job to defend (and to ensure minorities do not suffer discrimination), but also because the whole issue revolves around language discrimination itself.

Guaranteed, if the event had happened in an Ontario hospital, by an English orderly and a Francophone patient, the Commissioner would be very vocal.

Continued on page 24

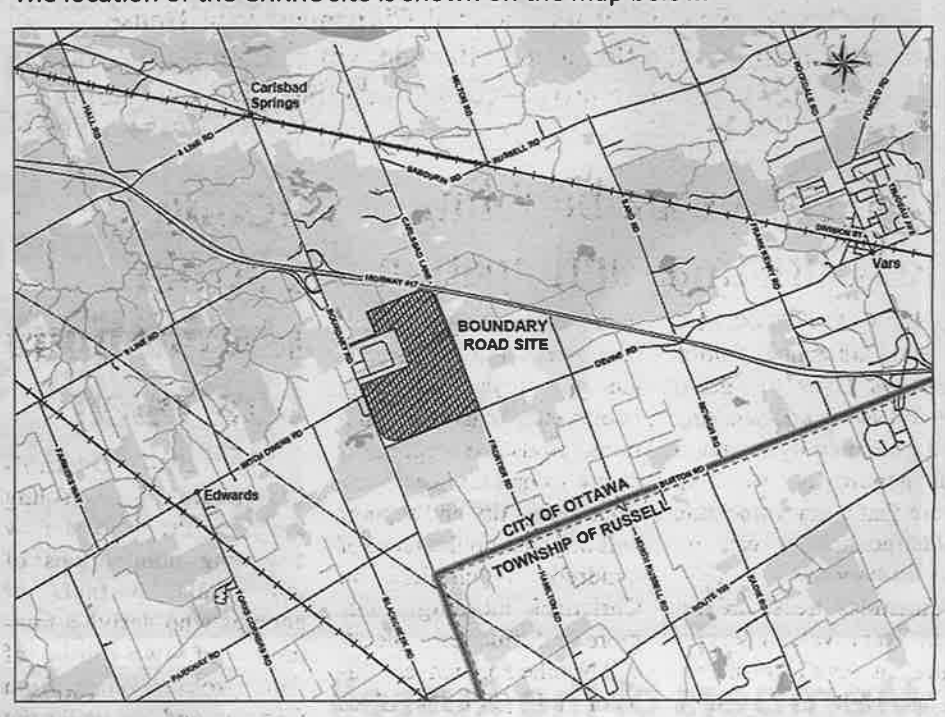
Fifth Open House for an Environmental Assessment of the Capital Region Resource Recovery Centre

Taggart Miller Environmental Services (Taggart Miller) is undertaking an environmental assessment (EA) under the *Ontario Environmental Assessment Act* for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC).

The CRRRC, if approved, would provide facilities and capacity for recovery of resources and diversion of materials from disposal that are generated by the Industrial, Commercial and Institutional (IC&I) and Construction and Demolition (C&D) sectors in Ottawa and eastern Ontario, as well as disposal capacity for material that is not diverted. The components of the CRRRC will be developed through further consultation during the environmental assessment and are currently proposed to include:

- material recovery facility;
- construction and demolition waste processing;
- organics processing;
- hydrocarbon contaminated soil treatment;
- surplus soil management;
- a drop off for separated materials or separation of materials;
- leaf and yard materials composting (if there is enough material available); and
- an engineered landfill for residuals disposal.

The location of the CRRRC site is shown on the map below.



The environmental assessment is being carried out according to the approved amended terms of reference. A copy of the approved amended terms of reference is available at the project website: www.CRRRC.ca.

Members of the public, agencies and other interested persons are encouraged to actively participate in the planning of this undertaking by attending consultation opportunities or contacting staff directly with information, comments or questions.

Open House #5 will present the preferred site development concept; the assessment of environmental effects associated with the project together with proposed mitigation measures, monitoring and contingency measures; the results of the leachate treatment, haul route and cumulative impact assessments; an outline of the proposed EA/EPA document package, and an overview of the proposed schedule for submissions and the Ministry decision making process. Participants at this Open House will be informed of the plans regarding distribution of the draft EA for review.

Open House # 5

Thursday, December 5, 2013
4:00 to 9:00 pm
Carlsbad Springs Community Centre
6020 Piperville Road (Eighth Line), Ottawa

Public participation by local residents and other interested parties is an important part of the environmental assessment process. In addition to participating in these events, you are invited to submit your comments or be added to our project mailing list via the project website www.CRRRC.ca, by mail, or fax to the address/number provided below.

Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

Your participation is requested and appreciated.

Under the *Freedom of Information and Protection of Privacy Act* and the *Environmental Assessment Act*, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.

Appendix E-3

Le Droit French Ad

Cinquième journée portes ouvertes dans le cadre d'une évaluation environnementale du Centre de récupération des ressources de la région de la capitale

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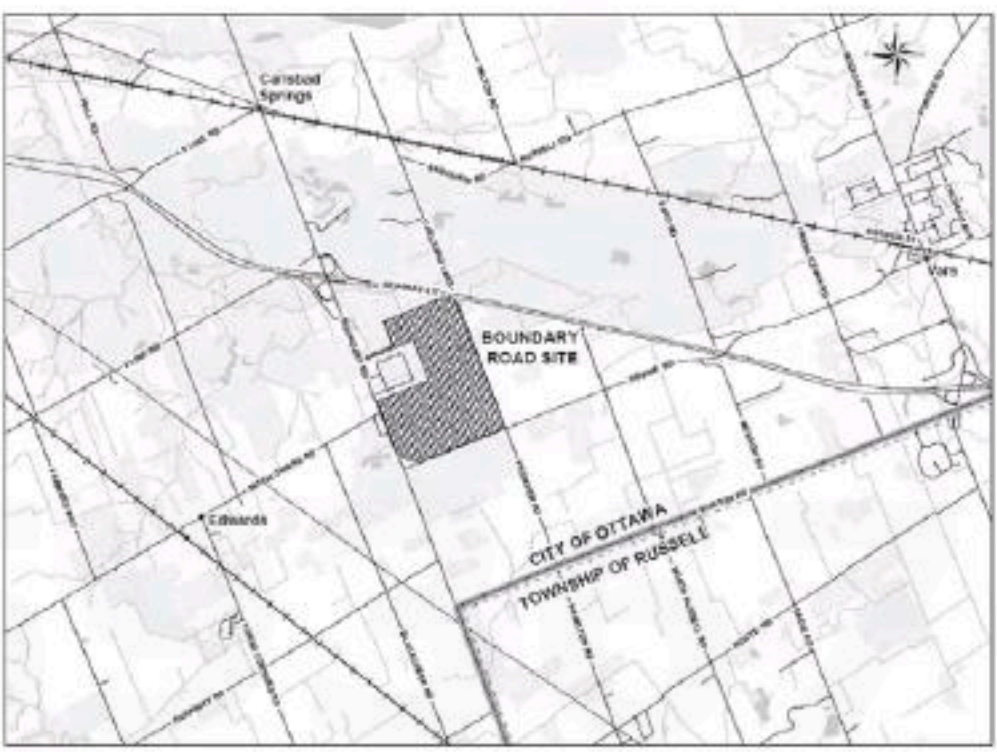
- un site d'enfouissement aménagé pour l'élimination des résidus

L'emplacement du CRRRC est indiqué sur la carte ci-dessous.



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M. Hubert Bourque, Directeur de projet
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225, rue Metcalfe, bureau 708
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Appendix E-4

Ottawa Citizen English Ad

Fifth Open House for an Environmental Assessment of the Capital Region Resource Recovery Centre

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The CRRRC, if approved, would provide facilities and capacity for recovery of resources and diversion of materials from disposal that are generated by the Industrial, Commercial and Institutional (IC&I) and Construction and Demolition (C&D) sectors in Ottawa and eastern Ontario, as well as disposal capacity for material that is not diverted. The components of the CRRRC will be developed through further consultation during the environmental assessment and are currently proposed to include:

Ottawa Citizen Nov. 21, 2013

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- construction and demolition waste processing;
- organics processing;
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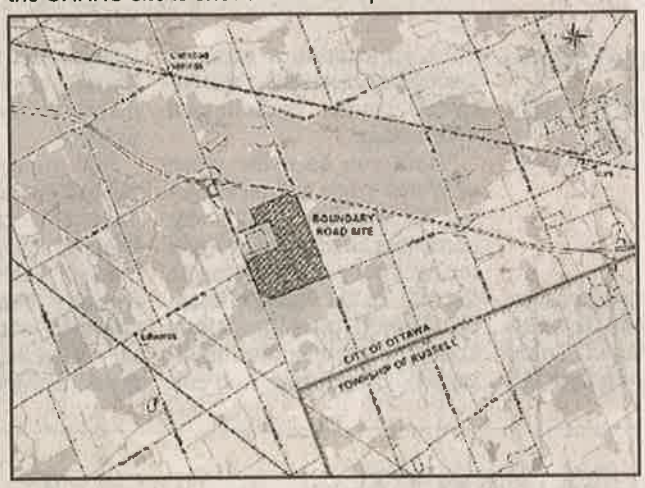

The environmental assessment is being carried out according to the approved amended terms of reference. A copy of the approved amended terms of reference is available at the project website: www.CRRRC.ca.

Members of the public, agencies and other interested persons are encouraged to actively participate in the planning of this undertaking by attending consultation opportunities or contacting staff directly with information, comments or questions.

Open House #5 will present the preferred site development concept; the assessment of environmental effects associated with the project together with proposed mitigation measures, monitoring and contingency measures; the results of the leachate treatment, haul route and cumulative impact assessments; an outline of the proposed EA/EPA document package, and an overview of the proposed schedule for submissions and the Ministry decision making process. Participants at this Open House will be informed of the plans regarding distribution of the draft EA for review.

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Thursday, December 5, 2013
4:00 to 9:00 pm
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Taggart Miller Environmental Services
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Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

Your participation is requested and appreciated.

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10617594

Under the *Freedom of Information and Protection of Privacy Act and the Environmental*

Appendix E-5

Bilingual E-mail Invitation to Mailing List

From: "Hubert Bourque" <hjbourque@crrrc.ca>
Subject: **Fifth Open House for Capital Region Resource Recovery Centre/ Cinquième journée portes ou**

SVP faites défiler vers le bas pour la version française.

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Carlsbad Springs Community Centre
6020 Piperville Road (Eighth Line), Ottawa

Public participation by local residents and other interested parties is an important part of the environmental assessment process. In addition to participating in these events, you are invited to submit your comments or be added to our project mailing list via the project website www.CRRRC.ca, by mail, or fax to the address/number provided below.

Mr. Hubert Bourque, Project Manager

Taggart Miller Environmental Services

c/o 225 Metcalfe Street, Suite 708

Ottawa, Ontario K2P 1P9

Tel: 613-454-5580

Fax: 613-454-5581

Email: hjbourque@crrrc.ca

___

Taggart Miller Environmental Services (Taggart Miller) effectue une évaluation environnementale (EE) en vertu de la *Loi sur les évaluations environnementales* de l'Ontario pour un projet proposé de gestion intégrée des déchets qui portera le nom de Centre de récupération des ressources de la région de la capitale (CRRRC).

L'évaluation environnementale est exécutée conformément au cadre de référence modifié et approuvé. Une copie du cadre de référence approuvé après modification est disponible sur le site Web du projet : www.CRRRC.ca.

Les membres du public, les organismes et autres personnes intéressées sont invités à participer activement à la planification de cet engagement en se présentant aux rencontres de consultation ou en communiquant directement avec le personnel pour leur faire part de renseignements, de commentaires ou de questions.

La cinquième journée portes ouvertes présentera le concept d'aménagement du site privilégié; l'évaluation des effets environnementaux associés au projet, ensemble avec les mesures d'atténuation proposées, les mesures de contrôle et de contingence; les résultats de l'évaluation du traitement des lixiviats, la route de transport et de l'évaluation des impacts cumulatifs; un aperçu de l'ensemble de la documentation proposée sur l'EE et la LPE et un survol du calendrier proposé pour les soumissions et le processus de prise de décisions du ministère. Les participants à cette journée portes ouvertes seront avisés des intentions concernant la distribution de l'EE préliminaire aux fins d'examen;

Cinquième journée portes ouvertes

Le jeudi 5 décembre 2013

De 16 h à 21 h

Centre communautaire de Carlsbad Springs
6020, chemin Piperville (Eighth Line), Ottawa

La participation publique des résidents locaux et d'autres parties intéressées représente un volet important du processus d'évaluation environnementale. Nous vous invitons non seulement à participer à cette rencontre, mais aussi à nous faire part de vos commentaires et à vous inscrire à notre liste de diffusion en passant par le site Web du projet, www.CRRRC.ca, par la poste ou par télécopieur à l'adresse et au numéro qui figurent ci-dessous.

M. Hubert Bourque, Directeur de projet

Taggart Miller Environmental Services

225, rue Metcalfe, bureau 708

Ottawa, Ontario K2P 1P9

Téléphone : 613-454-5580

Télécopieur : 613-454-5581

Courriel : hjbourque@crrrc.ca

Appendix E-6

E-mail and Record of Phone Conversations with Aboriginal Communities

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Chief Whiteduck

DATE: Nov. 22/13

TELEPHONE No.: 613-625-2800

PROJECT No.: 12-1125-0045

MADE/RECEIVED BY: Loren Bekeris

JOB TITLE:

RE:

Was put through to Chief Whiteduck's assistant. Informed her that I was inviting him to Open House #5 and would follow up with email. Sent email shortly afterward.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Curtis Lazore **DATE:** Nov. 22/13

TELEPHONE No.: 613-936-1548 **PROJECT No.:** 12-1125-0045

MADE/RECEIVED BY: Loren Bekeris **JOB TITLE:**

RE:

Curtis Lazore at Environment now 613-936-1548 x1038
Curtis.Lazore@akwesasne.ca

Spoke with Curtis, confirmed that he still wanted to receive invitation to Open House 5. He asked for email. Sent email shortly afterward

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: James Ransom **DATE:** Nov. 22/13

TELEPHONE No.: 613-575-2250 **PROJECT No.:** 12-1125-0045

MADE/RECEIVED BY: Loren Bekeris **JOB TITLE:**

RE:

Left voicemail for James Ransom at Mohawk Council of Akwesasne inviting him to fifth Open House. Indicated that I would send email with details. Sent email shortly afterward (to Karla Ransom).

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Chris Lavigne **DATE:** Nov. 22/13

TELEPHONE No.: 613-850-8024 **PROJECT No.:** 12-1125-0045

MADE/RECEIVED BY: Loren Bekeris **JOB TITLE:**

RE:

Left voicemail for Chris Lavigne, Ottawa Métis Council, inviting him to fifth Open House. Indicated that I would send email with details. Sent email shortly afterward.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Mark Bowler

DATE: Nov. 22/13

TELEPHONE No.: 416-977-9881 x114

PROJECT No.: 12-1125-0045

MADE/RECEIVED BY: Loren Bekeris

JOB TITLE:

RE:

Left voicemail ~~with~~ for Mark Bowler, Metis Nation of Ontario, inviting him to fifth Open House. Indicated that I would send an email with details. Sent email shortly afterward to Mark Bowler, Hank R and Consultations email addresses.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Janet Stavinga. **DATE:** Nov 22, 2013.

TELEPHONE No.: 613-735-3759 ext 202. **PROJECT No.:** 12-1125-0045 / 5200

MADE/RECEIVED BY: PLE. **JOB TITLE:** CRRRC EA

RE: Left voicemail
Invited Janet & Ado to OH #5 on Dec 5. Indicated OH #5 to showcase preferred site development plan & impact assessment. Said we would be happy to ~~get to~~ see them at the the OH or we can meet with Ado separately. Indicated I would send her OH #5 presentation material closer to December 5.

COMMENT/MEMO:

ACTION:

COPIES TO:

Edmond, Trish

From: Edmond, Trish
Sent: November 22, 2013 11:05 AM
To: jstavinga@nrtco.net
Subject: CRRRC EA Open House #5 Invitation
Attachments: OH # 5 Ad English.pdf

Hello Janet,

This email is a follow up to the voicemail I left with you this morning. Taggart Miller Environmental Services is once again holding an Open House. Please find attached to this e-mail an announcement of the fifth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. We would be pleased to speak to you at the Open House on December 5 or alternatively we can meet you separately to discuss the project. As indicated in my voicemail, I will send you an electronic copy of the Open House material on or around December 5.

We are looking forward to receiving AOO comments on the draft Stage 1 Archeological Assessment for the CRRRC Site.

Sincerely,
Trish

Trish Edmond (M.E.Sc., P.Eng.) | Associate, Geoenvironmental Engineer | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 x 3246 | **F:** +1 (613) 592 9601 | **C:** +1 (613) 799 1960 | **E:** Trish_Edmond@golder.com |
www.golder.com

Work Safe, Home Safe

Edmond, Trish

From: Bekeris, Loren
Sent: November 22, 2013 1:37 PM
To: chiefcouncil@pikwakanagan.ca
Cc: Bekeris, Loren
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH # 5 Ad English.pdf; OH # 5 Ad Francais.pdf

Dear Chief Whiteduck,

This email is a follow up to the message that I left with your assistant this afternoon. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the fifth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. We would be pleased to speak to you at the Open House on December 5 or alternatively we can meet with you separately to receive your feedback.

Please note that this information has also been provided to Janet Stavinga, Algonquins of Ontario.

Sincerely,

Loren Bekeris (M.Sc., P.Eng.) | Environmental Engineer | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **E:** Loren_Bekeris@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Bekeris, Loren
Sent: November 22, 2013 2:13 PM
To: curtis.lazore@akwesasne.ca
Cc: Bekeris, Loren
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH # 5 Ad English.pdf; OH # 5 Ad Francais.pdf

Dear Mr. Lazore,

This email is a follow up to our telephone conversation this afternoon. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the fifth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. We would be pleased to speak to you at the Open House on December 5 or alternatively we can meet with you separately to receive your feedback.

Sincerely,

Loren Bekeris (M.Sc., P.Eng.) | Environmental Engineer | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **E:** Loren_Bekeris@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Bekeris, Loren
Sent: November 22, 2013 1:17 PM
To: karla.ransom@akwesasne.ca
Cc: Bekeris, Loren
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH # 5 Ad English.pdf; OH # 5 Ad Francais.pdf

Dear Mr. Ransom,

This email is a follow up to the voice mail that I left you this afternoon. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the fifth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. We would be pleased to speak to you at the Open House on December 5 or alternatively we can meet with you separately to receive your feedback.

Sincerely,

Loren Bekeris (M.Sc., P.Eng.) | Environmental Engineer | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **E:** Loren_Bekeris@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Bekeris, Loren
Sent: November 22, 2013 1:07 PM
To: markbowler@metisnation.org
Cc: consultations@metisnation.org; hankr@metisnation.org; Bekeris, Loren
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH # 5 Ad English.pdf; OH # 5 Ad Francais.pdf

Dear Mr. Bowler,

This email is a follow up to the voice mail that I left you this afternoon. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the fifth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. We would be pleased to speak to you at the Open House on December 5 or alternatively we can meet with you separately to receive your feedback.

Sincerely,

Loren Bekeris (M.Sc., P.Eng.) | Environmental Engineer | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **E:** Loren_Bekeris@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Bekeris, Loren
Sent: November 22, 2013 1:27 PM
To: tclavigne@hotmail.com
Cc: Bekeris, Loren
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH # 5 Ad English.pdf; OH # 5 Ad Francais.pdf

Dear President Lavigne,

This email is a follow up to the voice mail that I left you this afternoon. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the fifth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. We would be pleased to speak to you at the Open House on December 5 or alternatively we can meet with you separately to receive your feedback.

Sincerely,

Loren Bekeris (M.Sc., P.Eng.) | Environmental Engineer | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **E:** Loren_Bekeris@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Thomson, Douglas R. <DTHOMSON@MCCARTHY.CA>
Sent: November 26, 2013 10:41 AM
To: Edmond, Trish
Subject: FW: CRRRC - Open House Dec 5- Paul Fyi. If you plan to drop by please let me know so I can watch for you.
Attachments: OH # 5 Ad English.pdf

From: Thomson, Douglas R.
Sent: Tuesday, November 26, 2013 10:37 AM
To: Trish Wardrop; Howard C. Williamson (howard@williamsonconsulting.ca)
Subject: FW: CRRRC - Open House Dec 5- Paul Fyi. If you plan to drop by please let me know so I can watch for you.

From: Thomson, Douglas R.
Sent: Tuesday, November 26, 2013 10:36 AM
To: 'Paul Lamothe'
Subject: FW: CRRRC - Open House Dec 5- Paul Fyi. If you plan to drop by please let me know so I can watch for you.

Appendix E-7

E-mail Invitation to GRT

Edmond, Trish

From: Bekeris, Loren
Sent: November 22, 2013 2:31 PM
To: Bekeris, Loren
Subject: 5th Open House for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: OH # 5 Ad English.pdf; OH # 5 Ad Francais.pdf

Hello,

On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the fifth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre. You are being sent this as part of the Government Review Team. Should you have any problems viewing the attachment please let me know.

Sincerely,

Loren Bekeris (M.Sc., P.Eng.) | Environmental Engineer | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **E:** Loren_Bekeris@golder.com | **www.golder.com**

Work Safe, Home Safe

Appendix E-8

Bilingual Display Boards

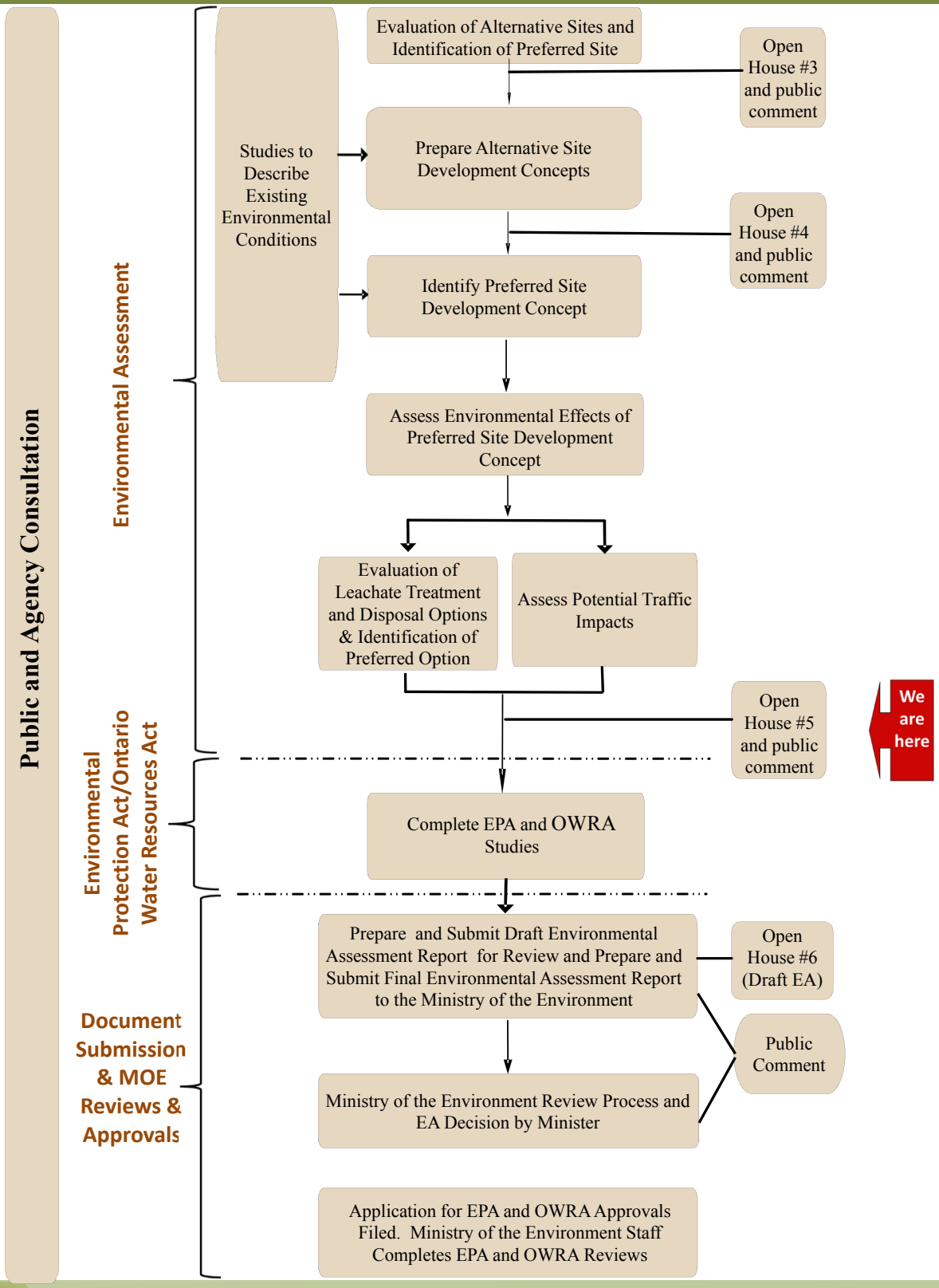
Welcome to Open House #5

Taggart Miller Environmental Services

Environmental Assessment
of the Proposed
Capital Region Resource Recovery Centre
(CRRRC)

Please review our displays and speak with
our representatives

Environmental Assessment/ Environmental Protection Act Process Flow Chart



Approved EA Methodology

PHASE 1: COMPARATIVE EVALUATION OF ALTERNATIVE SITES [Completed, February 2013]

- The comparative evaluation has been completed in accordance with the approved, amended Terms of Reference (TOR).
- The Boundary Road Site has been identified as the preferred site.

PHASE 2: EA STUDIES

- Phase 2 work is being carried out only for the Boundary Road Site and involves the following tasks.
  - Describe Existing Environment [Completed, October 2013] – studies were undertaken to further describe the existing environment that could potentially be affected by the project for each of the proposed environmental components.
  - Identify Preferred Site Development Concept [alternative concepts presented at Open House #4 – June 2013] – The following was considered in preparing the alternative concepts:
    1) preliminary facility sizing;
    2) adjacent land uses;
    3) physical and subsurface features; and
    4) the associated Site-related traffic.

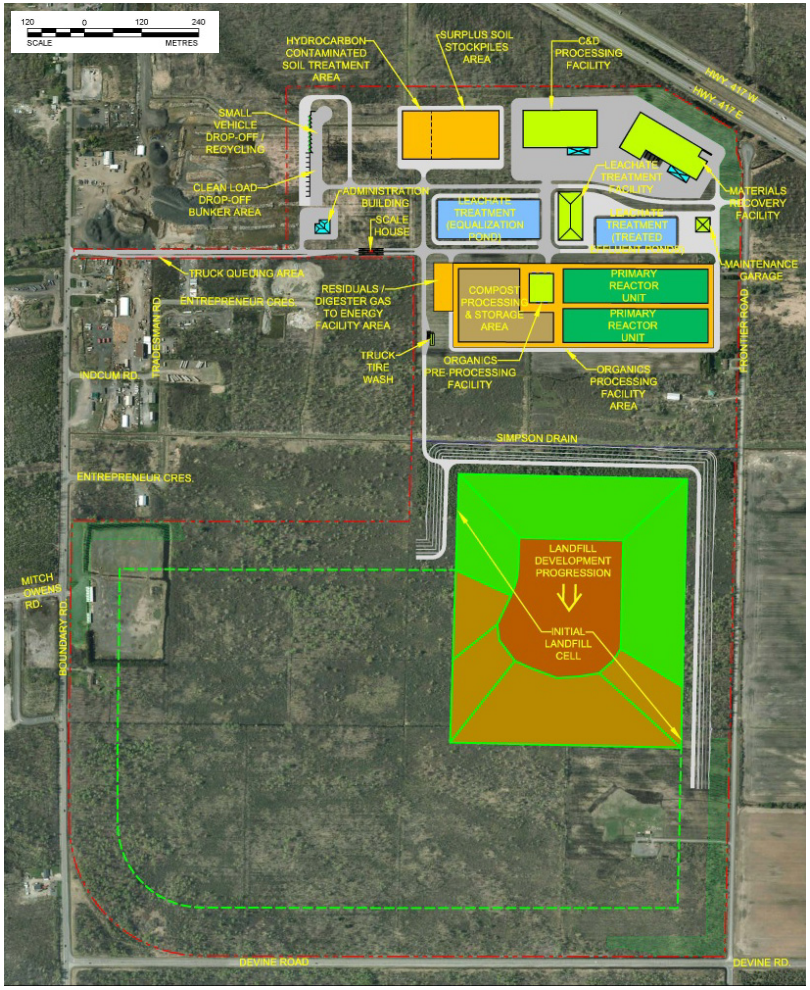
    Two Site development options were prepared for public and agency consultation prior to identifying the preferred Site development concept.
  - Assess Environmental Effects of Preferred Site Development Concept [presented at Open House #5] – predicted the environmental effects of the preferred Site development concept. The assessment considered a broad range of environmental components, including air quality, groundwater quality, etc.
  - Assessment of Traffic Impacts [presented at Open House #5]– for the Boundary Road Site, there is one primary haul route (off Highway 417). The traffic assessment focused on potential traffic impacts associated with Site-related traffic and identified any required mitigation measures.
  - Evaluate Leachate Management Options and Identify Preferred Option [presented at Open House #5] – screening of potential on-Site leachate treatment technologies and determine off-Site leachate receiver/treatment alternatives. Viable options were compared to identify the preferred leachate management system.
  - Cumulative Impact Assessment [presented at Open House #5] – the predicted net effects of the proposed CRRRC project were combined with the predicted effects of other existing and known proposed projects in the area of the Site.

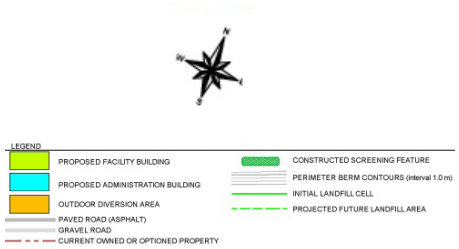
PHASE 3: COMPLETE AND SUBMIT EA APPLICATION FOR PREFERRED ALTERNATIVE

- The EA will be submitted to the Minister of the Environment for approval and will be accompanied by two technical documents:
  - Hydrogeology Study Report
  - Design and Operations Report (including Stormwater Management, Leachate Management, Acoustic Assessment, Air Quality and Odour Assessment and Site Design and Operations)

Site Development Concepts

Alternative Concept A

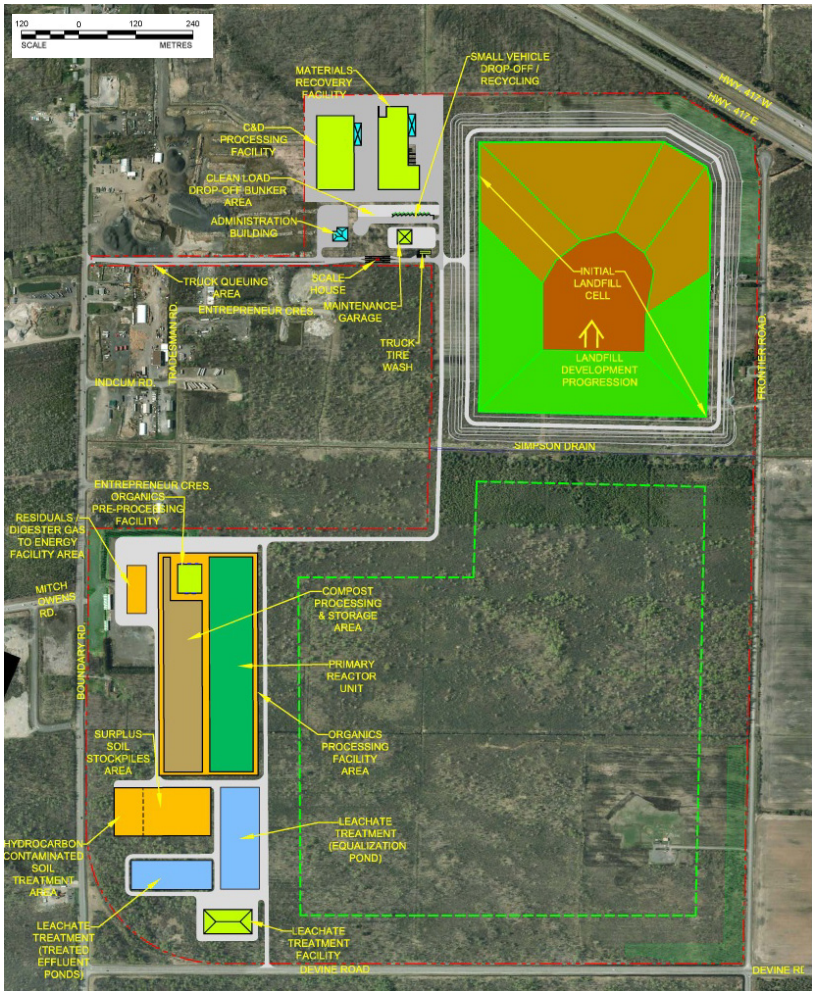




Boundary Road Site - located in the east part of the City of Ottawa and just southeast of the Highway 417/Boundary Road interchange, east of an existing industrial park. The total property now consists of about 192 hectares (475 acres) of land on Lots 22 to 25, Concession XI, Township of Cumberland.

During the summer of 2013, an additional neighbouring lot of approximately 8 hectares was optioned and added to the Boundary Road Site. This lot, located on Boundary Road south of Entrepreneur Crescent, is included within the property limits shown here.

Alternative Concept B



Preferred Site Development Concept

During discussions with members of the public at Open House #4, no attendees indicated a preference for Alternative B; feedback was only received in favour of Alternative A. No comments were received in response to the project website posting. The MOE preferred Alternative A as it does not have the landfill split into two separate cells. No comments were provided by any other stakeholders.

Taggart Miller also considered land use compatibility with neighbouring land uses and Site operational aspects in determining the preferred Site development concept.

Consideration	Alternative Concept A	Alternative Concept B
Sensitive receptors within 500 m to the north, east and south	Equally Preferred	Equally Preferred
Screening of views from off-Site viewpoints	Equally Preferred	Equally Preferred
Protection of off-Site groundwater quality	Preferred	
Quantity of leachate to be managed	Preferred	
Quantity of excavated on-Site soil to be managed	Equally Preferred	Equally Preferred
Amount of on-Site traffic movement associated with operations	Preferred	
Location of intersection of secondary Site access location relative to existing traffic usage on adjacent roads	Preferred	

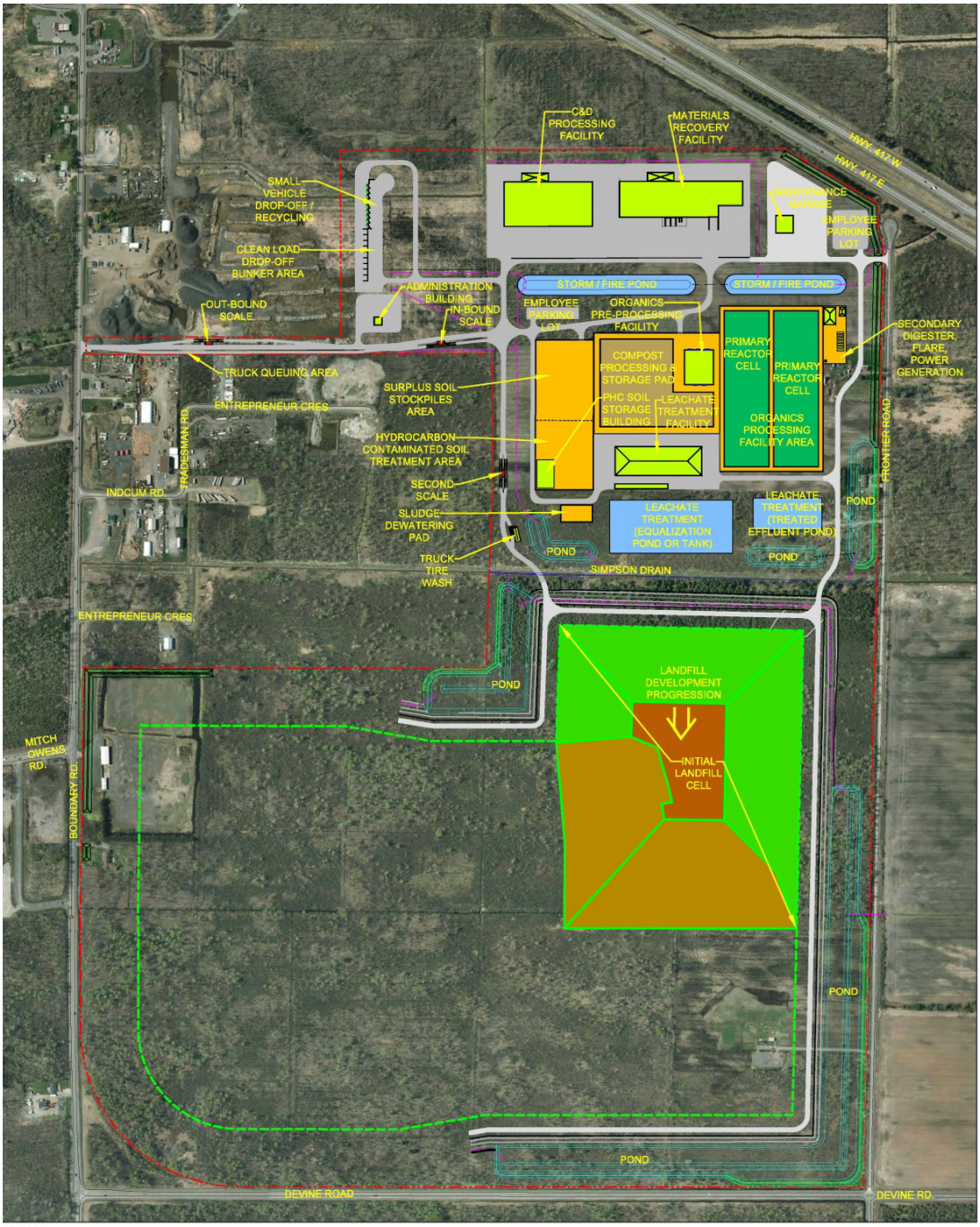
<u>Alternative Concept A was therefore identified by Taggart Miller as the preferred Site development concept for the CRRRC.</u>

This concept was refined to :

- include stormwater management requirements in the design;
- include buildings sized using more detailed information;
- optimize internal roads and facility locations to reduce traffic interactions between trucks dropping off loads and employees working on the Site; and
- adjust (increase) the buffer width around the landfill, where required.

Preferred Site Development Concept (continued)

Proposed Site Development Plan



Note: Final layout subject to additional refinement.

Study Areas

- Studies to characterize existing environmental conditions and assess environmental impacts were undertaken within three generic study areas as follows:
  - Site: the lands secured by Taggart Miller for the proposed Capital Region Resource Recovery Centre at the Boundary Road Site;
  - Site-vicinity: the lands in the vicinity of the Site (generally within 500 m of the Site boundaries, but modified as determined appropriate for specific environmental components); and,
  - Haul Routes: the main haul/access route to the Site from Highway 417.

Summary of Environmental Component Study Areas

	On-Site	Site-Vicinity	Haul Routes	Modified	Rationale
Atmosphere – Air & Odour	✓	✓		5 km	As generally accepted by Ministry of the Environment
Atmosphere - Noise	✓	✓	✓	1 km	To capture additional surrounding potential receptors
Geology, Hydrogeology & Geotechnical*	✓	✓			
Surface Water	✓	✓		Sub-watershed	To capture the regional context
Biology	✓	✓			
Land Use	✓	✓	✓		
Socio-economic	✓	✓		City of Ottawa	To capture additional characteristics and census area
Visual	✓	✓			
Cultural Heritage Resources	✓	✓		250 m	As generally accepted by Ministry of Tourism, Culture, and Sport
Archaeology	✓	✓		3 km	In accordance with *Standards and Guidelines for Consulting Archaeologists (2011)*
Agriculture	✓	✓		2 km	To capture additional characteristics
Site Design & Operations	✓				
Traffic			✓		

Notes: * A Regional geology assessment was completed over a 15 by 20 km area

Atmosphere – Air and Odour Impact Assessment

EXISTING CONDITIONS

- Existing measured background air quality levels are within Ontario limits.
- Nine (9) sensitive receptors or locations have been identified within the Site-vicinity.
- Of these, none are directly adjacent to the proposed Site property line.

ASSESSMENT METHODS

- Air quality and odour emissions from the proposed Site development were simulated with an advanced atmospheric dispersion model (AERMOD). Air emissions from sources listed below were calculated using conservative emission factors.

SOURCES OF POTENTIAL IMPACTS

- Material Recovery Facility and C&D Recycling Processing Facility
  - Heating and cooling systems and dust collectors (air quality)
- Organics Processing Facility
  - Compost processing operations including compost piles, anaerobic digesters and biofilter (air quality and odour)
- Petroleum Hydrocarbon Soil Treatment Area
  - Hydrocarbon soil treatment biofilter (odour)
- Flare and Power Generation
  - Landfill gas and biogas combustion (air quality)
- Leachate Treatment
  - Ventilation from leachate treatment operations (air quality and odour)
  - Leachate treatment pond(s) (odour)
- Landfill
  - Placement and spreading of wastes, landfill gas fugitive losses through the cover soils (air and odour)
  - Landfill daily and final cover activities (air quality and odour)
- Ancillary Processes
  - Heating and cooling systems from the administration and maintenance building (air quality)
  - Maintenance garage activities such as welding (air quality)
  - On-Site vehicle emissions (air quality)

Atmosphere – Air and Odour Impact Assessment (continued)

PARAMETERS EVALUATED

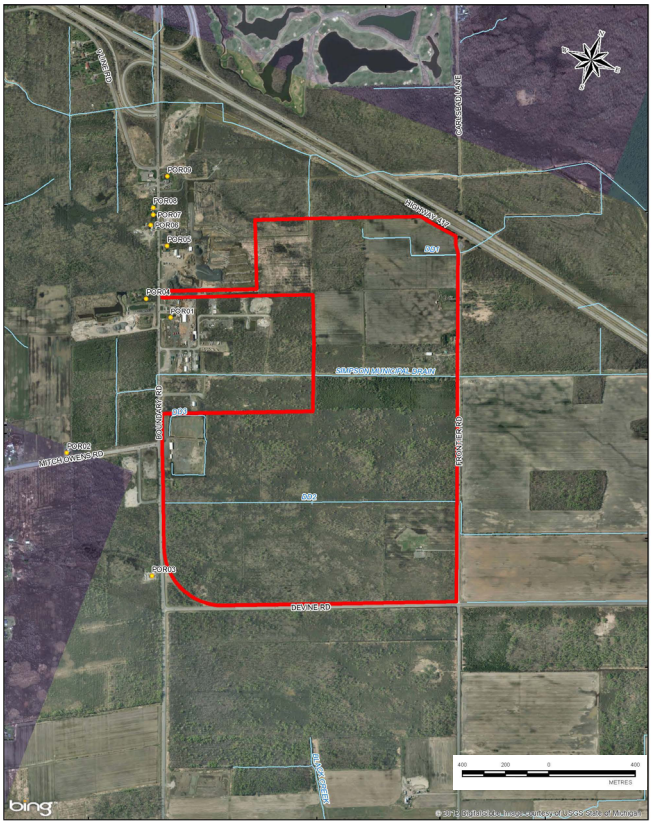
- The air quality assessment of the proposed Site development focused on the following compounds:
  - **Particulate matter (PM)**, including suspended particulate matter (SPM), particles nominally smaller than 10 micrometres (µm) in diameter (PM_{10}), and particles nominally smaller than 2.5 µm in diameter ($PM_{2.5}$);
  - **Combustion gases**, including oxides of nitrogen (NO_X) and the resulting nitrogen dioxide (NO_2), sulphur dioxide (SO_2) and carbon monoxide (CO); and
  - **Other compounds**, vinyl chloride (C_2H_3Cl), methane (CH_4), carbon dioxide (CO_2) and odour.

IMPACT ASSESSMENT RESULTS

- Predicted air quality at sensitive receptors meets stringent MOE criteria.
- Emissions meet the MOE approval requirements.
- A Site-specific dust and odour management plan will be required to mitigate against potential dust emissions and odour.

EXISTING CONDITIONS

- The existing background noise level at off-Site noise-sensitive receptors was determined by a combination of noise monitoring and predictions using the Ontario Ministry of the Environment's approved methodology.
- Nine (9) noise-sensitive receptors or locations have been identified within the 500 m Site-vicinity, displayed below:



ASSESSMENT METHODS

- Noise emissions from equipment, haul roads, excavation operations, etc. were predicted for worst case scenarios at sensitive points of reception using an ISO 9613 prediction model. Where needed, mitigation measures were proposed to ensure that the noise guideline limits are achieved.
- Landfilling operations were assessed using Noise Guidelines for Landfill Sites (Ontario Ministry of the Environment - 1998).
- Ancillary Facilities and Processing areas were assessed using Environmental Noise Guideline NPC-300 (Ontario Ministry of the Environment – 2013).

Atmosphere – Noise Impact Assessment (continued)

SOURCES OF POTENTIAL IMPACTS

- Material Recovery Facility and C&D Processing Facility
  - Heating and cooling systems and dust collectors
  - On-Site traffic
- Organics Processing
  - Compost processing operations including mobile equipment
- Petroleum Hydrocarbon Soil Treatment Area
  - Hydrocarbon soil treatment biofilter
- Flare and Power Generation
  - Landfill gas and biogas combustion
  - Electrical generators
- Landfill
  - Landfill excavation activities
  - Placement and spreading of waste and cover soils
  - On-Site traffic
- Haul Truck Movements – Both on-Site and off-Site activities
- Ancillary Processes
  - Maintenance garage activities
  - Heating and cooling systems

PARAMETERS EVALUATED

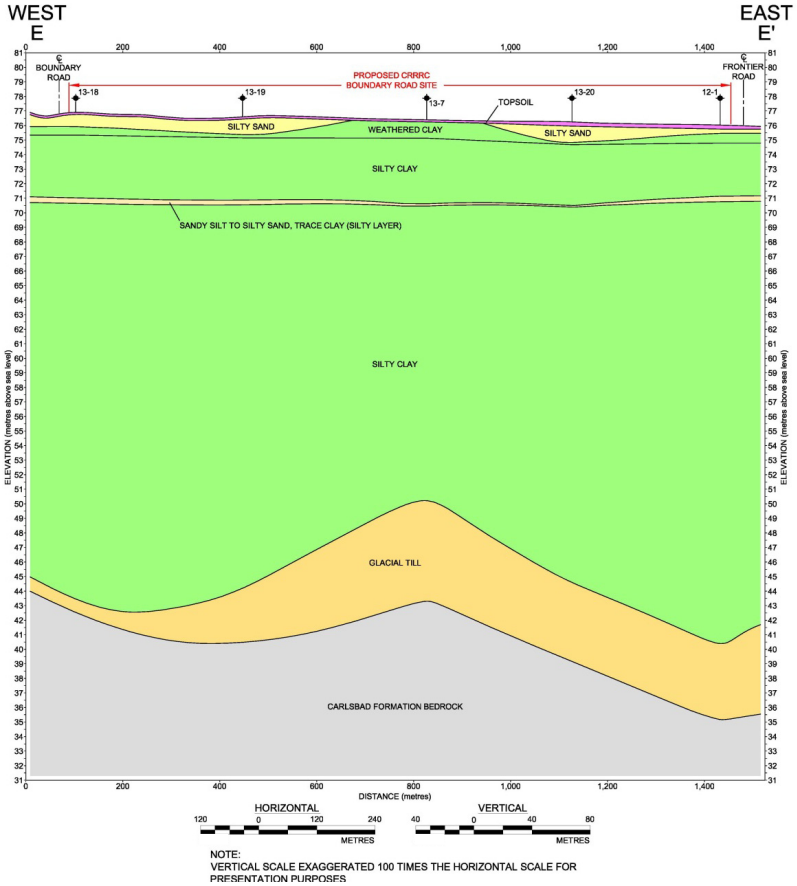
- The following parameters were evaluated to ensure compliance with the noise guideline criteria:
- Noise Guidelines for Landfill Sites
  - Existing background sound level at off-Site noise-sensitive receptors
  - Sound levels due to the landfill Site operation (including on-Site vehicles associated with the landfill)
  - Sound levels due to off-Site vehicles
- Publication NPC-300
  - Sound levels due to stationary sources
  - Sound levels due to on-Site vehicles associated with the processing facilities

IMPACT ASSESSMENT RESULTS

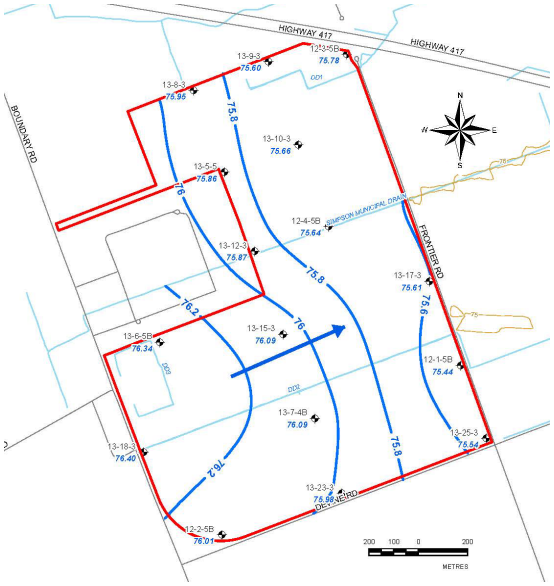
- With the inclusion of proposed on-Site mitigation measures, the CRRRC will comply with the provincial requirements.

EXISTING CONDITIONS

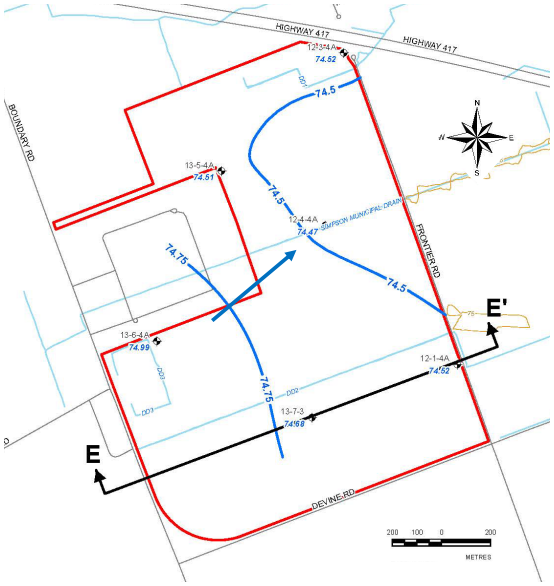
- Surficial silty sand, or stiff weathered clay, typically up to about 1.5 metres thick, overlying a thick deposit of about 30 metres of silty clay, followed by glacial till and Carlsbad Formation bedrock. One continuous layer, referred to as the silty layer, was identified within the silty clay deposit; the layer is between 4.5 and 6 metre depth with an average thickness of about 0.35 metres.
- Water supply in the area of the Site is primarily from shallow dug wells that obtain their water locally from the surficial silty sand layer.
- Based on data from December 2012 to October 2013, the groundwater flow direction in the surficial silty sand, shallow clay (with the silty layer), glacial till and upper bedrock zones is interpreted to be consistently towards the east / northeast at the Site.
- The estimated average groundwater flow velocity in the surficial silty sand and silty layer are 0.1 m/yr and 0.04 m/yr, respectively.



Horizontal Groundwater Flow – May 2013



Shallow Clay with Silty Layer



Glacial Till

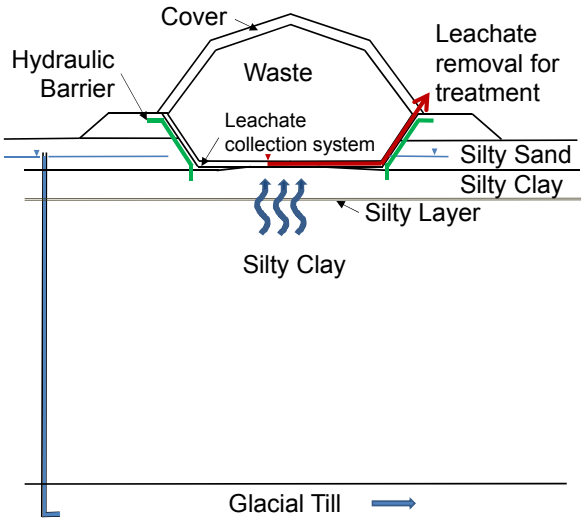
Geology and Hydrogeology (Groundwater) Impact Assessment (continued)

ASSESSMENT METHODS

- The performance of the landfill in terms of groundwater protection and its contaminating lifespan were assessed using predictive models as per Ontario Regulation (O. Reg.) 232/98. The potential for change to recharging groundwater conditions and off-Site groundwater that supplies off-Site dug wells was evaluated using a flow model. The recharge of dug wells was studied by a pumping test and monitoring program.

SOURCES OF POTENTIAL IMPACTS

- The potential source of impacts on off-Site groundwater quality is the leachate generated by precipitation falling on the waste.
- The groundwater units of interest are the surficial silty sand layer, the silty layer and the glacial till.
- The leachate will be collected within a leachate collection system at the base of the landfill during the landfill operation and after closure.
- Parameters of concern may travel to the groundwater units of interest via advection, dispersion and diffusion.

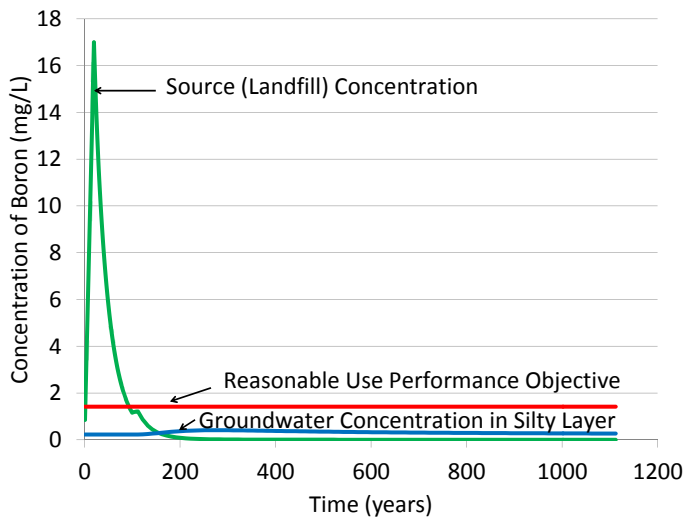


PARAMETERS EVALUATED

- In consultation with the Ministry of Environment the following parameters were evaluated for the CRRRC landfill to assess potential effects on groundwater: chloride, benzene, cadmium, lead, dichloromethane, 1,4-dichlorobenzene, toluene, boron and vinyl chloride.

Geology and Hydrogeology (Groundwater) Impact Assessment (continued)

IMPACT ASSESSMENT RESULTS



- A hydraulic barrier will be constructed around the landfill perimeter to prevent impacts to the surficial silty sand.
- The maximum predicted potential impact to groundwater quality within the groundwater units occurs under the scenario after the leachate collection system has failed.
- The natural clay deposit and the proposed engineered leachate collection and management systems will contain and control landfill leachate at the Site.
- The landfill will not adversely affect off-Site groundwater quality. Other sources such as leachate management ponds or organics primary reactor and soil treatment cells are lined and always accessible for repair. The Site will remain in compliance with groundwater protection requirements in both the short term and long term.
- Based on groundwater modelling, the maximum lowering of the groundwater level in the surficial silty sand occurs while the leachate collection system is operational and the clay below the landfill has settled its maximum amount.
- During these conditions the impacts of the landfill on groundwater flow (quantity) are negligible beyond the Site boundary (as shown below).
- Dug well pumping test programs shows that their recharge is from local precipitation and the well radius of influence is about 10 m.

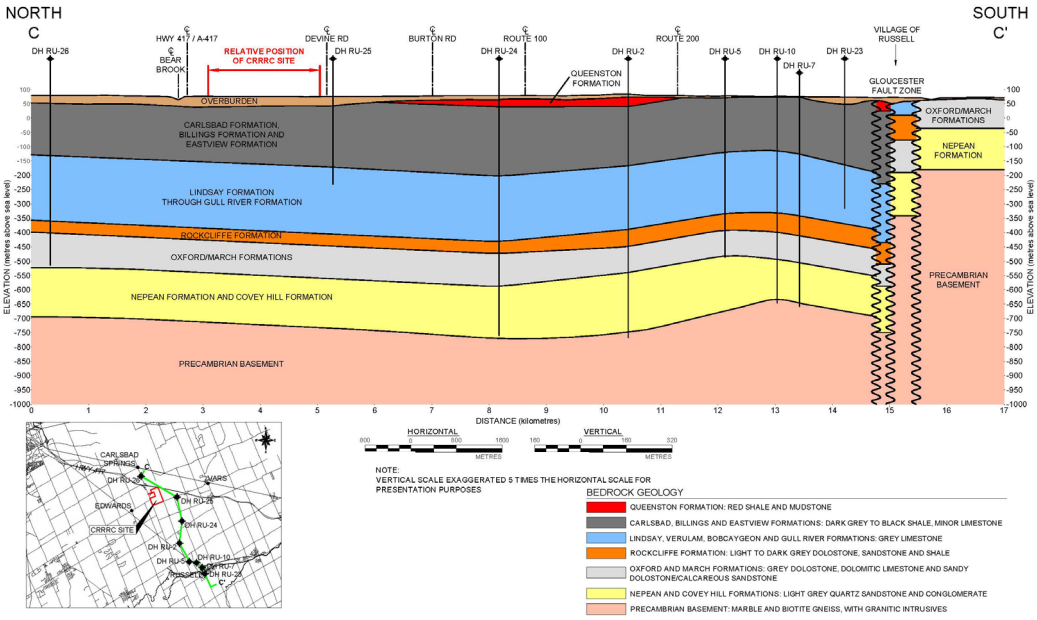
Geology and Hydrogeology – Seismic Considerations

STUDIES

- Project-specific study of the regional geology (area of about 15 by 20 kms around the CRRRC) using literature review; compilation of over 1,200 boreholes and well records; area examination; and interpretation.
- Review of published information on the: 1) seismicity in the Western Quebec Seismic Zone; 2) effects of prehistoric earthquakes on marine clay deposits in eastern Ontario; and 3) formation of bedrock faults; their state of activity; and interpretation of the potential for fault movement/rupture at ground surface.

EXISTING CONDITIONS

- Regionally there is no apparent major vertical offset of bedrock formations within several kilometres of the CRRRC Site.
- The major known fault is the Gloucester Fault in the area of the Village of Russell.



- No major faulting apparent beneath the CRRRC Site.
- Large prehistoric earthquakes that are reported to have affected clay deposits in specific areas east of Ottawa have not disturbed the clay deposit that underlies the CRRRC Boundary Road Site.
- Probability of future fault movement to occur that would have an effect at or near surface is negligible, and of no engineering significance for development of the CRRRC Site.

ASSESSMENT METHODS

- Analysis of the stability of the proposed CRRRC landfill under strong seismic shaking conditions, and estimation of the associated movements of the waste and underlying clay soils. Design earthquakes having a return period of 1:2,475 years were used, consistent with the design shaking in the Building Code of Canada.

IMPACT ASSESSMENT RESULTS

- Proposed landfill configuration is stable under the design seismic conditions;
- Permanent lateral movement of the soil foundation of less than 200 mm, which can be accommodated in the landfill design; and
- CRRRC Site buildings will be seismically designed as per the Building Code for a thick clay deposit.

Surface Water Impact Assessment

EXISTING CONDITIONS

- Drainage on the Site is mainly by means of a network of agricultural ditches that contribute to three municipal drains, outlined below (with contributing Site drainage area):
  - Tributaries to Regimbald Drain (21 ha);
  - Simpson Drain (75.6 ha); and
  - Tributaries to Wilson Johnston Drain (95.1 ha).
- The Site is in the headwaters of the 35 km^2 (3,500 ha) Shaw's Creek sub-watershed, and the greater 484 km^2 (48,400 ha) Bear Brook watershed. The CRRRC Site represents approximately 5 % of the Shaw's Creek sub-watershed.

ASSESSMENT METHODS

- Future stormwater runoff, peak flow conditions were predicted and assessed for 1 in 2, 5, 25 and 100 year design storms, as per O.Reg. 232/98 requirements.
- For stormwater quality discharge predictions, the 25 mm design storm was also evaluated to assess the extended detention drawdown times for each proposed stormwater pond.
- These predictions were compared to existing pre-development conditions to determine changes and potential adverse effects on downstream water courses. Engineered stormwater management facilities were designed in order to mitigate potential adverse effects.

SOURCES OF POTENTIAL IMPACTS

- Runoff water transporting sediment from the facility areas;
- Sediment loadings from stockpiles and unvegetated soil surfaces; and
- Landfill leachate unexpectedly entering surface water drainage systems.

PARAMETERS EVALUATED

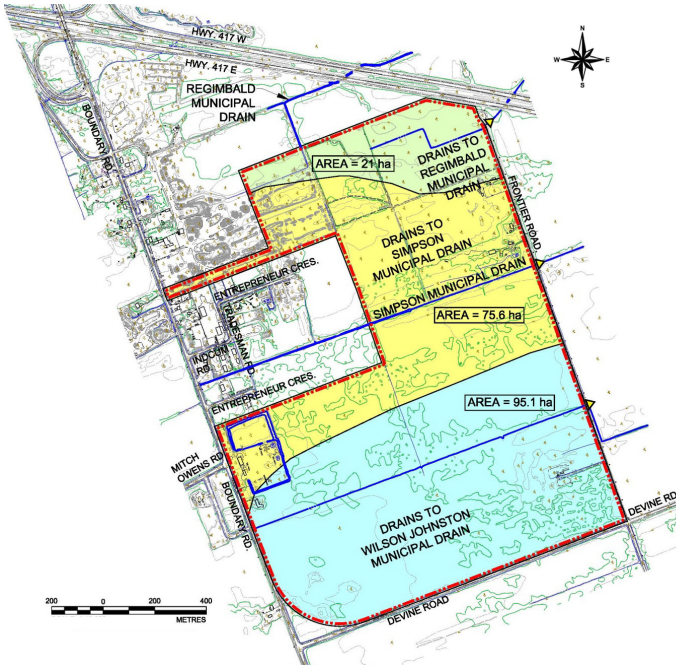
- Watershed drainage areas;
- Control of peak storm flows to current conditions;
- Removal of sediment in ponds prior to discharge; and
- Water quality upstream and downstream of the CRRRC Site.

PROPOSED CONDITIONS

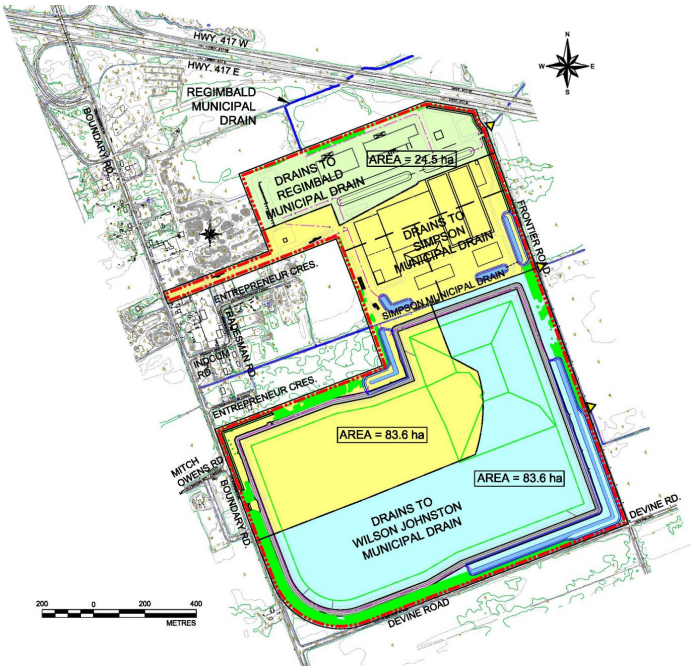
- Stormwater discharge from the Site will continue to be directed towards the three municipal drain networks. A network of proposed ditches will be directed to the stormwater facilities. The tributaries to the Regimbald Drain will be abandoned as part of the development on the northern portions of the Site, but the drainage outlet for this area will be to the existing ditch and culvert at Frontier Road. Similarly, the tributaries to the Wilson Johnston Drain will be abandoned on the southern portion of the Site but the drainage outlet for this area will be to the existing ditch and culvert at Frontier Road. The Simpson Drain crosses the Site and it will remain in its current configuration.

Surface Water Impact Assessment (continued)

Existing Site Drainage



Proposed Site Drainage



IMPACT ASSESSMENT RESULTS

- Surface drainage can be designed such that waste related activities are isolated from drainage.
- Surface drainage and stormwater management features can be designed to protect water quality and maintain peak water quantity leaving the Site.
- Site development will result in changes to the respective watersheds on the Site as follows:
  - Regimbald Drain increase of 3.5 ha (total 24.5 ha);
  - Simpson Drain increase of 8 ha (total 83.6 ha); and
  - Wilson Johnston decrease of 11.5 ha (total 83.6 ha).
- Although the post-development Site watershed areas and corresponding land uses will change, these Site alterations will not disrupt or otherwise have an adverse effect on natural drainage patterns on-Site or off-Site, through maintaining existing peak flow design targets through stormwater management pond controls.
- The Site stormwater management features have been designed in compliance with the City of Ottawa stormwater policies and Ontario Reg. 232/98, and no adverse effects on the three municipal drains are predicted.
- During phased Site development, appropriate erosion and sediment control measures (E&SC), on-going monitoring and maintenance/clean-out practices will protect water quality.

Biology Impact Assessment

EXISTING CONDITIONS

- Patchy immature forest, thicket and swamp communities, many of which are dominated by European white birch and common buckthorn (non-native invasive species), disturbed areas, and lands in agricultural use.
- The only Species at Risk (SAR) with key habitat identified on the Site is barn swallow.
- Wildlife community dominated by resilient species adapted to disturbed, fragmented landscape.
- Existing drainage ditches (DD) DD1, Simpson Drain and DD3 have a warmwater baitfish community. There is no fish habitat in DD2.

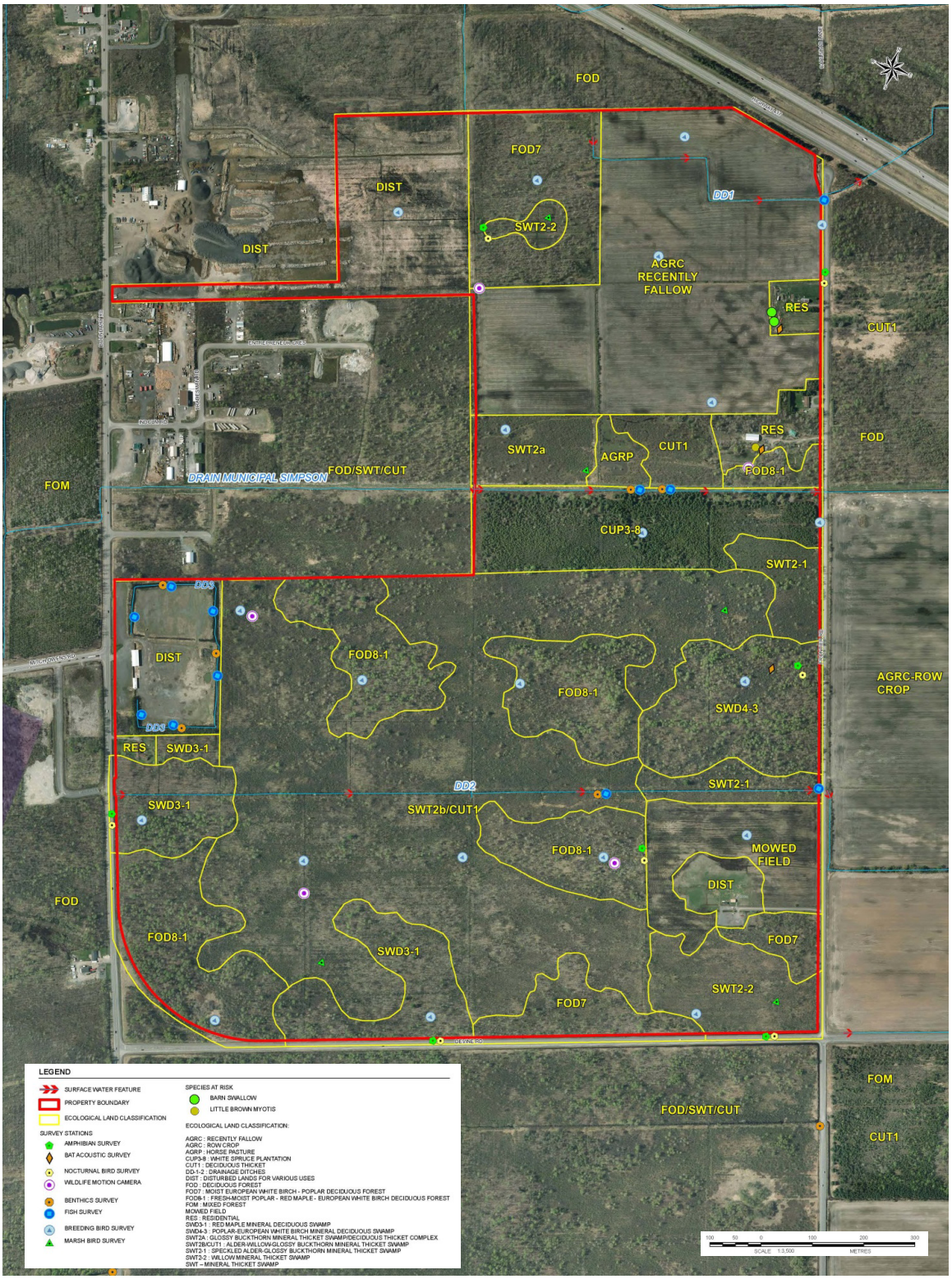
ASSESSMENT METHODS

- Potential adverse effects on the terrestrial and aquatic environment were assessed using both quantitative and qualitative methods.
- Assessment based on the Site design and potential impacts.
- Indirect effects assessed based on results from other component study teams.

IMPACT ASSESSMENT RESULTS

Potential Impact	Adverse Effect
Direct Impacts	
Loss of vegetation communities, wildlife habitat and fish habitat	No ecologically significant effects predicted
Physical hazards and wildlife vehicle collisions	No adverse effects predicted
Indirect Impacts (potential effects on aquatic and terrestrial ecosystems from changes to the following)	
Air emissions, including dust deposition	No adverse effects predicted
Sensory disturbance (noise)	No ecologically significant effects predicted
Alteration of surface water flow regime	No ecologically important adverse effects predicted
Alteration of groundwater flow regime	No adverse effects predicted
Surface water or groundwater contamination	No adverse effects predicted
Changes to wildlife movement corridors	No ecologically important adverse effects predicted

Biology Impact Assessment (continued)



Socio-economic Impact Assessment

EXISTING CONDITIONS

- Population
  - City of Ottawa (StatsCan 2011): 883,391; projected to grow 1.2% per year
  - Cumberland Ward (City of Ottawa 2012): 44,400
- Labour Force - City of Ottawa (StatsCan 2011)
  - Unemployment Rate: 7.0%; Median Income: $32,908
  - Public Administration the most common industry (23%)

ASSESSMENT METHODS

- The potential effects on existing and future socio-economic conditions in the area as a result of the proposed CRRRC development were assessed. Direct employment and spending data related to the proposed undertaking were predicted and assessed, including employment, municipal revenue, business impacts and value of goods and services to be generated.

SOURCES OF POTENTIAL IMPACTS

- Employment
- Spending
  - Municipal revenue
  - Goods and services

PARAMETERS EVALUATED

- Person hours of employment for construction and operation
- Municipal revenue
  - Annual property taxes
  - Building permit fees
- Goods and services
  - Construction costs
  - Operation costs (capital and operating expenditures)
  - Opportunities for local businesses

IMPACT ASSESSMENT RESULTS

- Direct employment estimates
  - Construction (one year): 400,000 person-hours (about 160 - 200 workers)
  - Operation (30 years): 198,000 person-hours/year (about 80 - 100 workers)
  - This represents employment opportunities for local workers
- Direct spending estimates (excluding labour)
  - Annual municipal property tax revenue increase: $1.6 - 3.7 Million (based on current MPAC valuation process)
  - Building permit fees: $250,000 to $300,000
  - Construction costs (excluding labour): $58 Million initial, $700,000/year ongoing
  - Operation costs (excluding labour): $3.2 Million capital expenditures/year, $16.2 Million operating expenditures/year (includes escalating the costs 2 % per year)
  - Much of this direct spending will be on goods and services from local businesses
  - Direct spending will also create indirect and induced “spin-off” benefits for local businesses and communities

Land Use Impact Assessment

EXISTING CONDITIONS

- The Site itself was formerly used for farming. It was discontinued and vegetation cover has re-established.
- There are no identified environmental, archaeological or agricultural constraints on the Site.
- There is limited development surrounding the Site, which has been constrained primarily due to poor quality groundwater to support development.
- There is an existing industrial park to the west and a golf course to the north across Highway 417.
- A portion of the Site is already zoned Rural Heavy Industrial.

ASSESSMENT METHODS

- The potential effects on existing and proposed future land use in the area as a result of the preferred Site development concept were assessed. Planning policy was assessed to determine potential for future development in the area.

POTENTIAL RECEIVERS OF IMPACTS

- Residential uses in close proximity

PARAMETERS EVALUATED

- Planning Policy
- Provincial Policy Statement
- Eastern Ontario Smart Growth Panel
- City of Ottawa Official Plan
- Background Studies to support the City of Ottawa Official Plan
- National Capital Commission Plans
- Current Planning Applications in the area

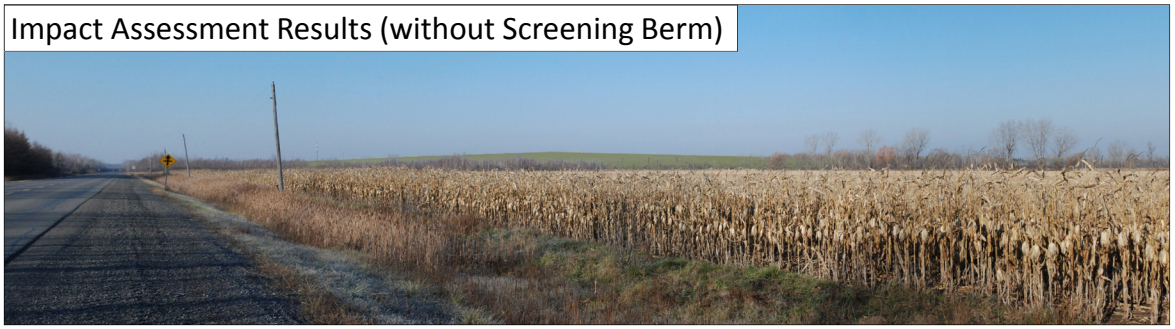
IMPACT ASSESSMENT RESULTS

- Proposal is consistent with Provincial Policy Statement:
  - To facilitate and encourage reduction, reuse and recycling
  - Need to provide waste management systems that are an appropriate size and type to accommodate present and future requirements
- Proposal is consistent with the intent of the Smart Growth Panel:
  - Diversion is to be promoted
- Proposal is permitted in the City Official Plan, provided technical studies provide support for the location
- Proposal is consistent with the City of Ottawa's Background Report on Future Employment to support areas near Highway 417 Interchanges close to the Urban Area
- Proposal is to be screened from Highway 417, which meets the objectives of the National Capital Commission's Plan for Canada's Capital and the Greenbelt Master Plan.
- The City of Ottawa has one (1) active application in the area:
  - a site plan for a logistics terminal (location to split double trailers before entering the City) at the south-east corner of Boundary Road and Highway 417
- Potential for future development of sensitive land uses (residential) nearby is very limited:
  - Only rural development permitted
  - Concern over availability of groundwater supply limits residential growth, and development in general
  - Existing Industrial zoning in the area limits opportunities for residential development due to separation requirements from this zone
  - Agricultural lands to the east do not allow for residential development
  - Golf course to the north limits residential potential
  - Limited development potential to the north-west due to Natural Environment Designation

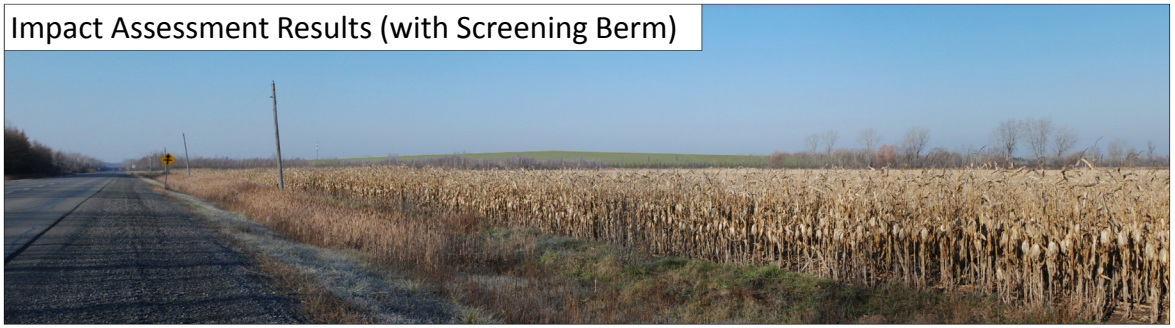
Land Use and Socio-economic – Visual Impact Assessment, Viewpoint 1

Existing Conditions

Impact Assessment Results (without Screening Berm)



Impact Assessment Results (with Screening Berm)



ASSESSMENT METHODS

- An assessment of the visual effects of the proposed Site development was carried out. A 3D model of the Site was created using Visual Nature Studio software, to allow the landfill and any other visible Site facilities to be added to the panoramic photos taken at each viewpoint. Viewpoints were selected to be representative locations where a person might view the Site.

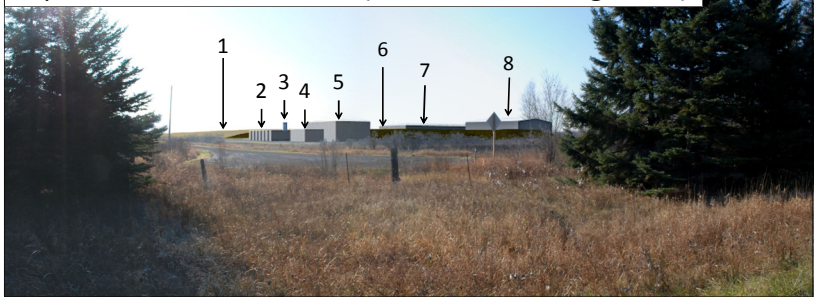
SOURCES OF POTENTIAL IMPACTS

- Visual impacts from the landfill, buildings, equipment and stockpiles.

Land Use and Socio-economic – Visual Impact Assessment, Viewpoint 2

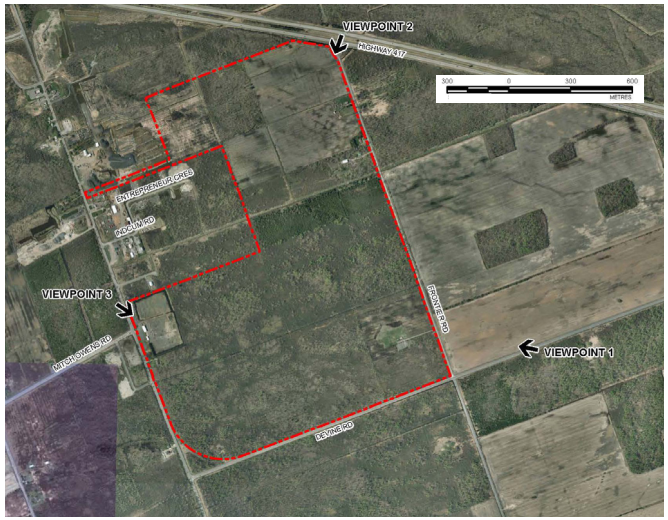
Existing Conditions

Impact Assessment Results (without Screening Berm)

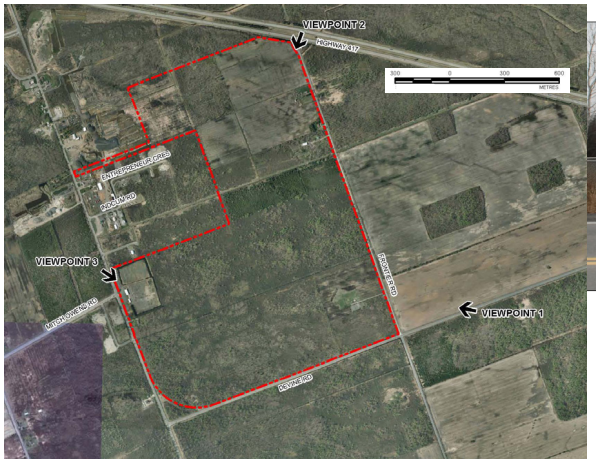


Impact Assessment Results (with Screening Berm)

1 - Landfill
2 - Generators
3 - Flare
4 - Power Generation Plant
5 - Secondary Digester
6 - Primary Reactor Cell
7 - Leachate Treatment Facility
8 - Organics Pre-Processing Facility



Land Use and Socio-economic – Visual Impact Assessment, Viewpoint 3



EXISTING CONDITIONS

- The Site is currently a mix of secondary growth, a limited area of agricultural fields, a small commercial property to the north-west and a small previous commercial property along the western boundary. A working farm and three residential buildings are also present along Frontier Road at the north-eastern edge of the Site. One residential property is located at the western edge of the Site.

ASSESSMENT METHODS

- A Stage 1 archaeological assessment and a cultural heritage evaluation were completed in relation to the proposed Site development. These assessments involved site inspections, a review of documents, and interviews pertaining to the Site and the Site-vicinity.

SOURCES OF POTENTIAL IMPACTS

- Disturbance, destruction and/or displacement of archaeological or cultural heritage resources due to Site construction or operations.

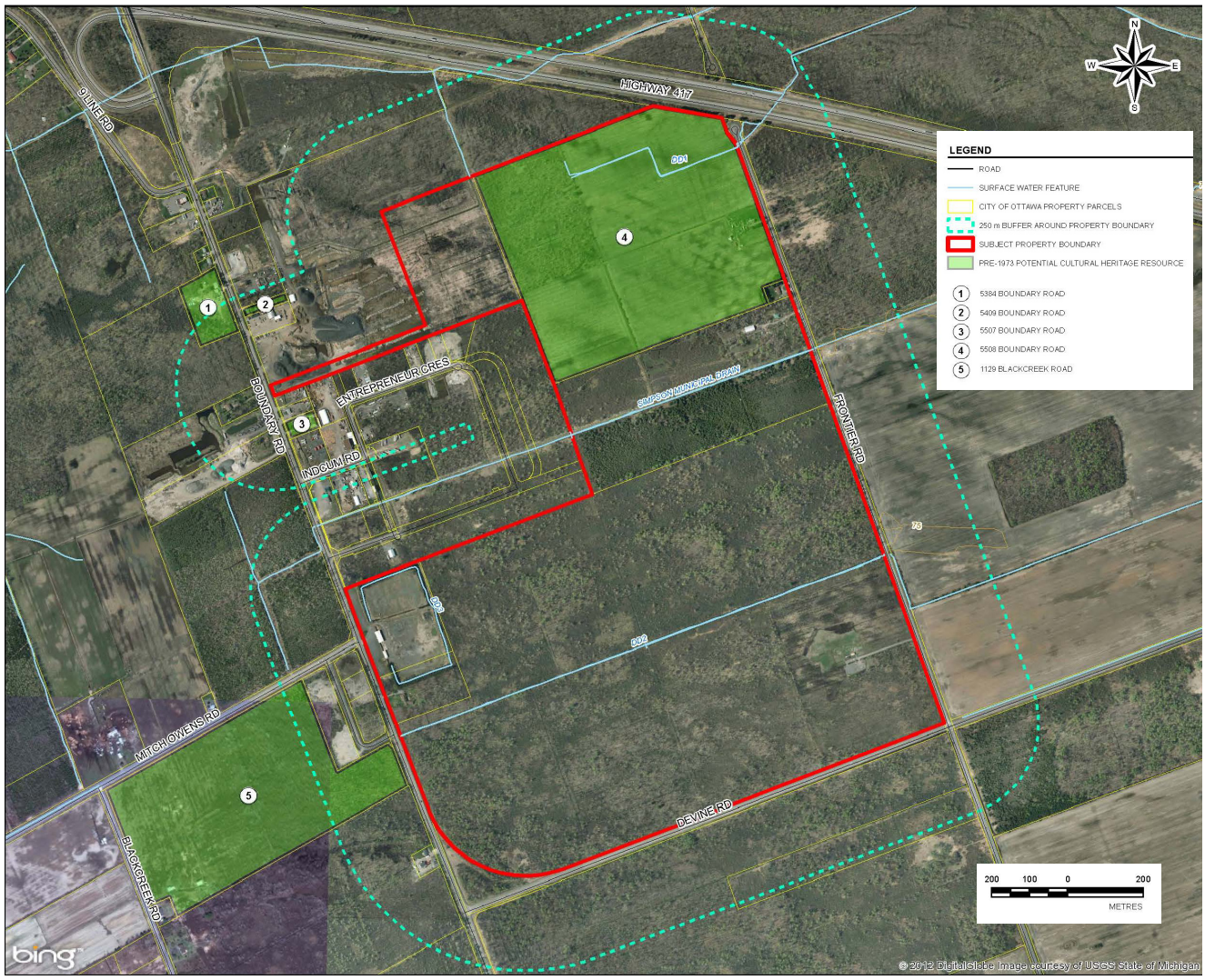
PARAMETERS EVALUATED

- Archaeological Assessment:
  - The Ministry of Tourism, Culture and Sport's *Archaeological Sites Database* was consulted to identify registered archaeological sites within 3 km of the Site;
  - The Site was assessed for aboriginal site potential, based on topographical features, types of soils, and proximity to watercourses/wetlands; and
  - The Site was assessed for post-contact or historic site potential, based on maps and census records, and proximity to historical schools, churches, settlement roads, railways, existing archaeological sites, etc.
- Cultural Heritage Evaluation – Pre-1973 properties or landscapes on or within 250 m of the Site were considered to be potential cultural resources and were assessed for:
  - Physical/design value (architecture, craftsmanship, technical merit);
  - Historical/associative value (community history); and
  - Contextual value (community character, landmarks).

Culture and Heritage Impact Assessment (continued)

IMPACT ASSESSMENT RESULTS

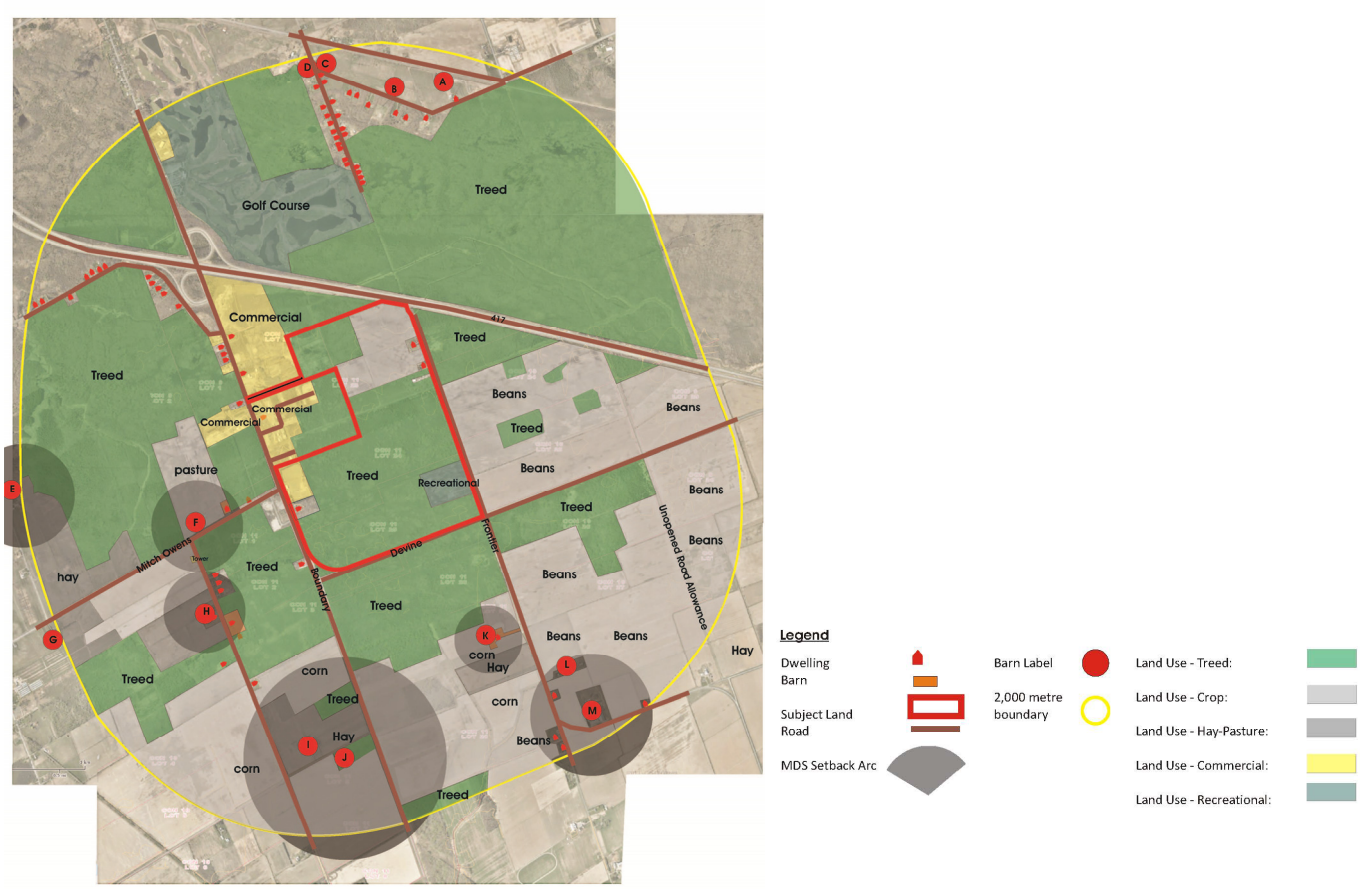
- No registered archaeological sites within the Site and Site-vicinity.
- All of the on-Site lands contain no or low archaeological potential; no Stage 2 assessment required.
- Five pre-1973 properties within 250 m of the Site were identified as potential cultural heritage resources. After assessment none of the five potential cultural heritage resources demonstrate cultural heritage value or interest and are therefore not eligible for designation under the *Ontario Heritage Act*.



EXISTING CONDITIONS

- A substantial portion of the Site is treed with evidence of relatively high water table.
- The northern portion of the Site is cultivated but shows signs of poor drainage.
- On the Site and within 500 m of the Site there is no significant investment in agricultural production except for on-going cultivation of fields to the east for crop.

Agriculture Land Use Map



ASSESSMENT METHODS

- The potential impact of the proposed Site development in relation to on-Site and off-Site agricultural land use was assessed. Based on proposed Site operational practices, the results of predictive assessments of potential nuisance effects carried out by the Atmospheric study team, and groundwater and surface water considerations, the potential effects on existing and proposed off-Site agricultural uses were assessed.

Agriculture Impact Assessment (continued)

SOURCES OF POTENTIAL IMPACTS

- Loss of farm land
- Impact on crops
- Limitation on livestock facilities
- Limitation on standard farming practices

PARAMETERS EVALUATED

- Agricultural Capability of the on-Site lands;
- Predicted impacts from the proposed Site operations; and
- Existing agricultural land use
  - On-Site
  - Within 2,000 m of Site.

IMPACT ASSESSMENT RESULTS

- Limited impact on existing and future agricultural operations in the Site-vicinity.
- A detailed on-Site assessment rated the agricultural capability of the lands as Class 4 and 5, due principally to wetness and limitations on cultivation and harvesting of crops.
- Although a small portion of the Site is currently being cropped, there is a low investment in agricultural improvements and this portion and the entire Site are not designated as part of a Prime Agricultural Area.
- Based on results of assessment of potential nuisance effects, no impacts on crops would be expected.
- Minimum Distance Separation (MDS) assessment indicated no incompatibility between the proposed project and current livestock facilities (in use or vacant).
- The introduction of the proposed use will limit the location of livestock facilities in the immediate area (i.e., within 500 m), but none are located there now, and in the areas to the north and west there are intervening uses that would already limit new livestock facilities.
- Access to the Site along Boundary Road will have little impact on agricultural access and movement of agricultural equipment.
- No mitigation is required.

EXISTING CONDITIONS

- Average annual daily traffic along Boundary Road is approximately 8,000 vehicles south of Highway 417 per day. The 8 hour truck traffic south of Highway 417 is approximately 9 to 10 % of the total daily traffic volumes.

ASSESSMENT METHODS

- The effects of Site-generated truck traffic during weekday peak AM and PM hours were assessed for the roadways and intersections within approximately 1.75 kilometres of the Site. Road improvement requirements were identified. Potential effects of Site-generated traffic on the surrounding roads were also assessed, including potential effects of Site-generated traffic on farm related equipment and traffic.

SOURCES OF POTENTIAL IMPACTS

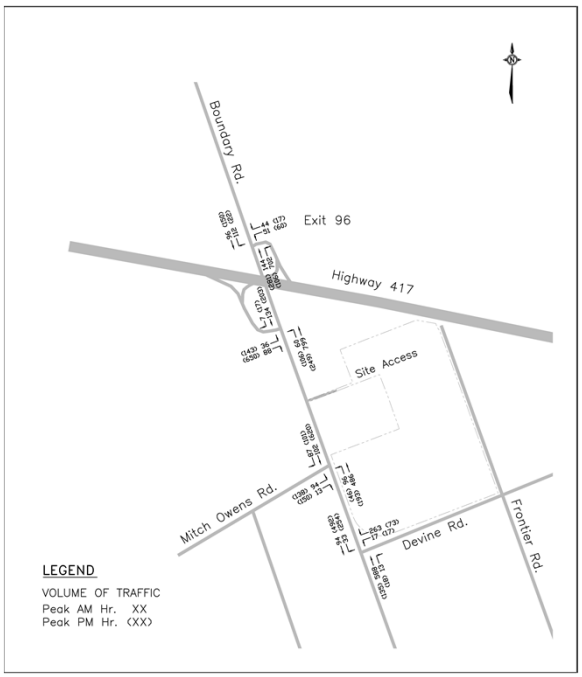
- The CRRRC will have one primary entrance directly from Boundary Road. The Site will have a secondary access onto Frontier Road.
- The Site-generated trips would consist of:
  - loaded trucks hauling source separated and mixed waste materials and surplus and impacted soils;
  - loaded trucks hauling pre-processed and composted organics and other diverted materials; and
  - loaded trucks hauling landfill leachate to the City of Ottawa Robert O. Pickard Environmental Centre (ROPEC) for treatment.
- The analysis has assumed that employees of the facility arrive and depart outside the peak hours of the adjacent roads.

PARAMETERS EVALUATED

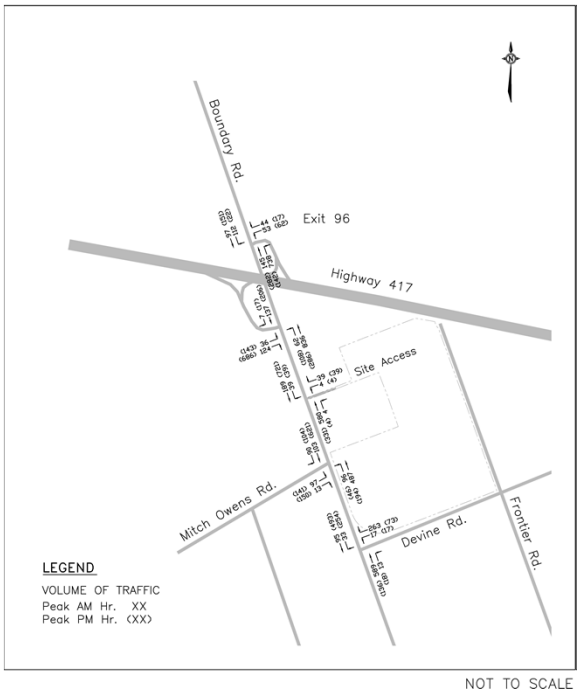
- Background traffic volumes (adjusted for future growth);
- The number of truck trips entering and exiting the Site during the Operations period;
- The Level of Service of each lane movement at each relevant intersection. Level of Service is determined as a function of the delay of vehicles at the approach; and
- The required lane configuration at the Site access point on Boundary Road.

IMPACT ASSESSMENT RESULTS

- For a maximum daily receipt of 3,000 tonnes per day, the estimated daily number of trucks over a 10-hour time period would be 287 trucks entering and existing the Site .
- The number of peak hour trips would be 43 trucks entering and exiting the Site.
- The maximum CRRRC truck traffic represents approximately 8 percent of the total volume of traffic along Boundary Road between the Site access and Highway 417. The predicted annual average traffic (1,500 tonnes per day) would be in the range of 6 percent.
- All of the following existing intersections within the study area would operate at an acceptable Level of Service during the weekday peak AM and PM hours, with no intersections requiring modifications due to the CRRRC truck trips:
  - Boundary Road and the eastbound Highway 417 on/off ramps;
  - Boundary Road and the westbound Highway 417 on/off ramps;
  - Boundary Road and Mitch Owens Road; and
  - Boundary Road and Devine Road.
- The proposed lane configuration at the Site access includes an exclusive left turn lane on southbound Boundary Road.
- There are no agricultural land uses along Boundary Road between Highway 417 and the Site access location. As such, the CRRRC Site-related traffic along this section of Boundary Road will not affect the use of agricultural site entrances or farm vehicle movements.



2022 Weekday Peak AM and PM Hour Background Traffic



2022 Weekday Peak AM and PM Hour Total Traffic (with the CRRRC)

Mitigation, Monitoring and Contingency Requirements

The design and operation of the CRRRC will require a number of standard and Site-specific mitigation measures, monitoring programs and contingency plans. These measures, programs and plans will be detailed in the Design and Operation Report (which will part of the EA submission package) for the facility. Some key highlights are briefly described below.

Discipline	Proposed Mitigation, Monitoring & Contingency Requirement
Atmosphere – Air/Odour	➢ Installation of an active landfill gas collection system and primary reactor cell gas collection system to capture potential emissions, leading to a closed flare or energy plant. ➢ Paving many on-Site roads and on-Site speed control. ➢ Progressive landfill closure and vegetation of surfaces. ➢ Dust management plan that includes methods to control excess dust generation. ➢ Odour management plan .
Atmosphere - Noise	➢ Use of berms and planting at Site perimeter in areas where there is not already a significant stand of trees. ➢ Routine maintenance of landfill equipment. ➢ Provision of truck waiting area inside the Site. ➢ Temporary working face berms on the west side of the landfill around the phases of active disposal, where necessary.
Geology, Hydrogeology & Geotechnical	➢ A landfill perimeter hydraulic barrier will be constructed to prevent potential impacts to groundwater in the surficial silty sand layer. ➢ Leachate collection system under entire landfill. ➢ Cleaning and flushing of leachate collection piping. ➢ Lined organics primary reactor and soil treatment cells, and leachate management pond(s). ➢ Monitoring of groundwater quality at up-gradient and down-gradient locations of Site facilities and at the property boundary. ➢ Geotechnical monitoring of landfill settlement. ➢ Leachate purge wells and groundwater perimeter interceptors or cut-offs as contingencies.

Mitigation, Monitoring and Contingency Requirements (continued)

Discipline	Proposed Mitigation, Monitoring & Contingency Requirement
Surface Water	➢ Physical separation of clean runoff from water that comes into contact with waste. ➢ Ditch systems designed to convey storm flows and minimize changes to pre-development drainage areas on-Site. ➢ Stormwater management ponds to control potential peak flows to pre-development conditions, remove sediment and provide surface water quality enhancement. ➢ Monitoring of water quality in stormwater managment ponds and in discharge ditches to confirm predictions that on-Site and off-Site surface water quality will not be affected by the project. ➢ Maintenance and review of on-Site ditches and ponds to ensure capacities are maintained (in particular during construction of the Site). ➢ Installation of a valve or valves on ponds where necessary, to batch discharge water from the Site if on-going monitoring of surface water quality dictates.
Biology	➢ Maintain vegetative buffers, wherever possible. ➢ Stabilize and re-vegetate (or use other materials or measures appropriate to Site conditions) all areas of disturbed/exposed soil during construction. ➢ When possible, clearing of vegetation will take place outside the migratory bird breeding season.
Land Use & Socio-economic	➢ Use of berms and planting at Site perimeter in areas where there is not already a significant stand of trees. Berms and tree planting to be conducted as a priority item during construction. ➢ On-going review of condition of perimeter planting. ➢ Installation of landscape features as required during course of Site operation. ➢ Establishment of a community liaison committee.
Traffic	➢ Provision of an exclusive left turn lane on southbound Boundary Road.

LEACHATE MANAGEMENT OPTIONS - METHODOLOGY

- Based on existing leachate management and treatment being provided at other disposal sites, and the current regulatory approvals requirements, it is expected to be possible to construct an on-Site leachate treatment plant that will achieve a high quality effluent to allow discharge into the local surface water system. On-Site leachate treatment technologies were screened and a preferred on-Site treatment option was selected based on demonstrated performance and cost-effectiveness.
- Off-Site leachate receiver/treatment alternatives were evaluated and alternatives to convey leachate to available off-Site leachate treatment alternatives considered.
- A comparison of the preferred on-Site leachate treatment technology to a viable off-Site treatment alternative was completed as per Appendix B of the TOR.

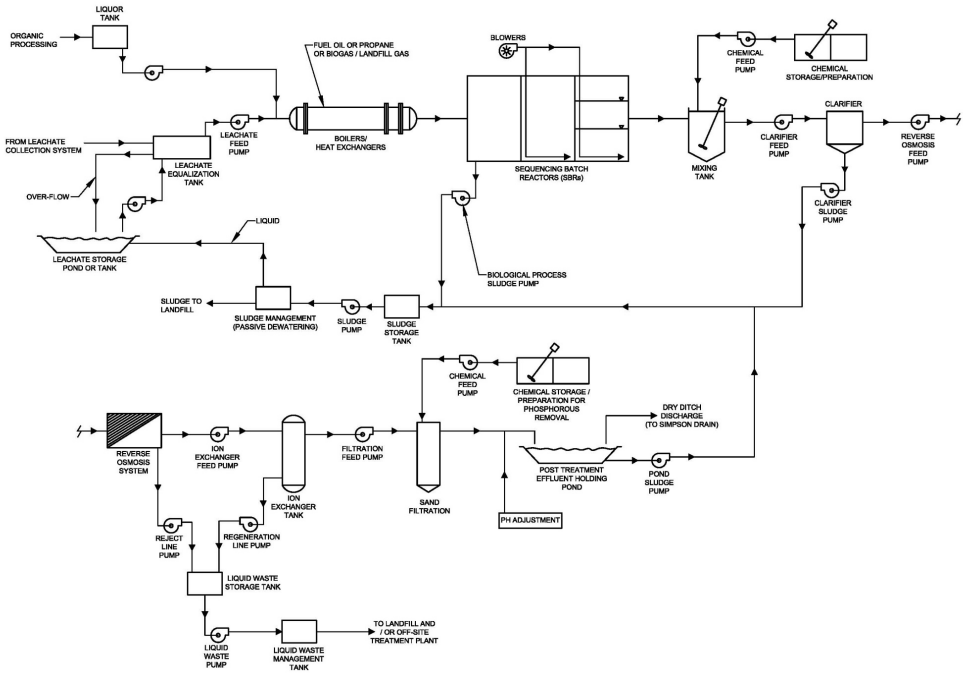
LEACHATE CONSIDERATIONS

- Leachate is the liquid that is produced as precipitation enters the waste and dissolves constituents from the waste as it passes through it. The CRRRC landfill will have a leachate collection system designed as per the Ontario Regulation 232/98 requirements.
- Both the landfill leachate quality and quantity will vary with time during the operation and post-closure time periods of the landfill.
- The organics processing facility will also generate liquor requiring collection and co-treatment with leachate.

ON-SITE LEACHATE MANAGEMENT

- A review of options showed that collected leachate would best be treated by chemical, biological, membrane and sand filtration and sorption processes such that the treated leachate meets the Provincial Water Quality Objectives, which are designed to protect all forms of aquatic life.
- Treated leachate would be discharged to a surface water course; the Simpson Drain would be the proposed receiver.

On-Site Leachate Treatment Process Schematic

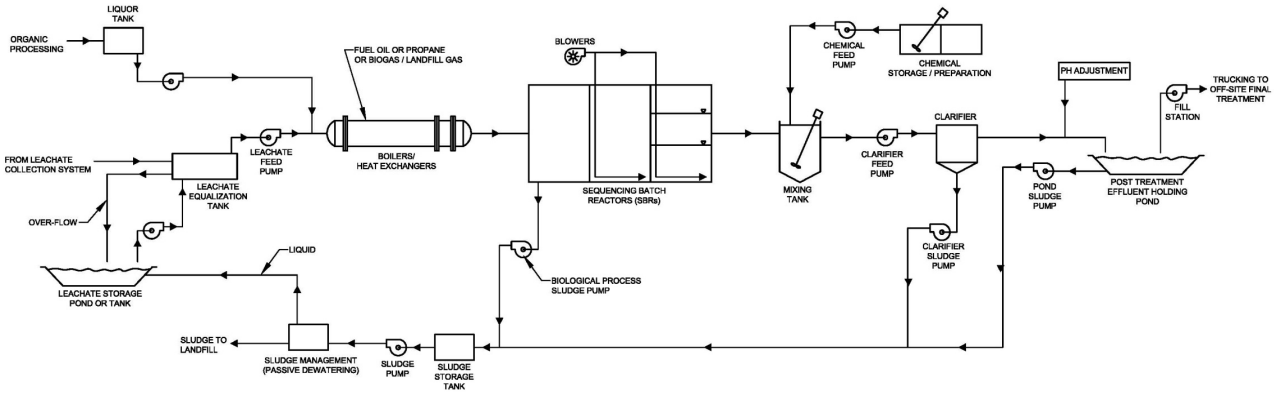


Leachate Management (continued)

OFF-SITE LEACHATE MANAGEMENT

- A review of potential options determined that off-Site final treatment via the City of Ottawa Wastewater Treatment Facility was available.
- Through available information and consultation with the City, Taggart Miller concluded that it is a reasonable alternative for Tagger Miller to use the City's facility to accept leachate from the CRRRC for treatment provided wastewater is compliant with Sewer Use By-Law limits and an agreement is in place.
- This alternative would involve pre-treatment of leachate with the off-Site final treatment via the City of Ottawa wastewater treatment plant.
- The leachate would be transferred to the City wastewater treatment plant via tanker trucks until such time as a forcemain option is available.
- The preferred method of pre-treatment of the collected leachate is by chemical and biological processes.

Off-Site Leachate Pre-treatment Process Schematic



COMPARISON OF LEACHATE MANAGEMENT OPTIONS

- Environmental components considered in the comparison included:

Atmosphere	Geology & Hydrogeology
Surface Water	Biology
Land Use	Traffic
Technical Effectiveness	Regulatory Approvability
Capital and Operating Costs	

- The criteria and indicators for comparison are those in Appendix B of the approved TOR.

Leachate Management (continued)

COMPARISON OF LEACHATE MANAGEMENT OPTIONS

Environmental Criteria	On-Site Leachate Treatment and Discharge to Simpson Drain	On-Site Leachate Pre-Treatment and Off-Site Leachate Management at City of Ottawa Wastewater Treatment Facility
Atmosphere – Odour	**Ranked 2nd because:** Treatment operations would have a greater number of more complex processes, hence potential odour generation is greater.	**Ranked 1st because:** Pre-treatment operations would have less complex processes, hence potential odour generation is less.
Atmosphere – Air Quality	**Ranked 2nd because:** Treatment operations would have a greater number of more complex processes, hence potential air quality impacts are greater.	**Ranked 1st because:** Pre-treatment operations would have less complex processes, hence potential air quality impacts are less.
Atmosphere – Noise	**Ranked 2nd because:** This option has more equipment and hence the potential to generate more noise.	**Ranked 1st because:** This option has less equipment and hence would generate less noise.
Geology and Hydrogeology – Groundwater Quality	**Ranked 1st (tied) because:** No predicted effect on off-Site groundwater quality.	**Ranked 1st (tied) because:** No predicted effect on off-Site groundwater quality.
Surface Water – Surface Water Quality	**Ranked 2nd because:** Although this option is designed to meet the Provincial Water Quality Objectives within the receiving surface water course, there will still be a discharge to manage and monitor and some parameter concentrations will increase from the baseline conditions. Limited flow in the receiving surface water course to provide a mixing zone.	**Ranked 1st because:** No predicted effect on off-Site surface water quality. The City of Ottawa plant is required to meet Provincial Water Quality Objectives within the receiving surface water body for the City of Ottawa wastewater treatment plant.
Surface Water – Surface Water Quantity	**Ranked 1st (tied) because:** This option would discharge to the Simpson Drain. The discharge quantity will be controlled and will contribute only a small amount of the total flow.	**Ranked 1st (tied) because:** This option would discharge to the Ottawa River and will have negligible effect.
Biology – Aquatic Biological Resources	**Ranked 2nd because:** Although this option is designed to meet the Provincial Water Quality Objectives within the receiving surface water course, there will still be a discharge to manage and monitor and some parameter concentrations will increase from the baseline conditions.	**Ranked 1st because:** This option does not influence aquatic biological resources on or in the area of the Site and treatment of CRRRC leachate by the City plant would not have any meaningful effect on aquatic resources at that location.

Leachate Management (continued)

COMPARISON OF LEACHATE MANAGEMENT OPTIONS (continued)

Environmental Criteria	On-Site Leachate Treatment and Discharge to Simpson Drain	On-Site Leachate Pre-Treatment and Off-Site Leachate Management at City of Ottawa Treatment Facility
Biology – Terrestrial Biological Resources	**Ranked 1st (tied) because:** No basis to distinguish the two options for this criteria as area in which facility will be located will be disturbed in any event.	**Ranked 1st (tied) because:** No basis to distinguish the two options for this criteria as area in which facility will be located will be disturbed in any event.
Land Use	**Ranked 1st (tied) because:** No predicted impact on off-Site existing or probable planned future land use.	**Ranked 1st (tied) because:** No predicted impact on off-Site existing or probable planned future land use.
Traffic	**Ranked 1st because:** This option does not have trucks hauling leachate.	**Ranked 2nd because:** This option has trucks hauling leachate, which will generate additional Site-related traffic.
Technical Effectiveness	**Ranked 2nd because:** Full treatment required to meet the Provincial Water Quality Objectives. Less flexible to variations in leachate quality.	**Ranked 1st because:** Leachate can be readily treated to meet Sewer Use By-law limits. Not expected to adversely affect operation or performance of City of Ottawa wastewater treatment plant.
Regulatory Approvability	**Ranked 2nd because:** This type of treatment system has been approved for the treatment of wastewater in the province of Ontario, and has generally performed acceptably. However it will require greater regulatory scrutiny.	**Ranked 1st because:** Leachate pre-treatment system readily approved. City treatment system already approved.
Capital and Operating Costs	**Ranked 2nd because:** Higher capital cost compared to the other option. Higher operational requirements and costs. Monitoring of discharge quality is required.	**Ranked 1st because:** Lower capital cost compared to the other option. Lower operational requirements and costs. Monitoring of discharge quality is required.
OVERALL RANKING	**2nd**	**1st**

The preferred leachate management option is on-Site pre-treatment and trucking to the City treatment facility. If the City of Ottawa option proves not to be available, the on-Site option described above will be pursued.

Cumulative Effects Assessment

- In the approved TOR, Taggart Miller proposed to undertake an assessment of the potential cumulative effects of the CRRRC project and other known or probable future planned activities near the Site.
- Cumulative effects consider when one project effect is likely to act in a cumulative fashion with the effects of other existing or reasonably foreseeable projects or activities.
- The existing zoning was considered in determining the area for this assessment:
  - Immediately north: Highway 417 corridor
  - Immediately to the west: zoned rural heavy industrial, with limited existing residential
  - Further west and to the south, southwest and northeast: zoned rural and largely undeveloped
  - Further southwest and south, and to the southeast and east: zoned agricultural
  - Northwest of the Boundary Rd./417 interchange: natural environment designation
  - North of 417: golf course
- The rural lands are largely undeveloped with limited potential for future development; agricultural lands are used for farming purposes and expected to remain so; the industrial park is partially developed with little activity.
- Only one known proposed new facility southeast of Boundary Road/Highway 417 to de-couple double tractor trailers to single trailers for travel to sites within the City.
- Assumed that the off-Site activities operate and perform in compliance with relevant standards and requirements.
- Environmental components considered for the cumulative effects assessment were:
  - Atmosphere;
  - Geology and Hydrogeology;
  - Surface Water;
  - Biology;
  - Land Use & Socio-economic;
  - Agriculture; and
  - Traffic.

Cumulative Effects Assessment (continued)

Environmental Component	Assessment Criteria	Potential Effects of CRRRC Project	Potential Cumulative Effects	Mitigation by CRRRC	Potential Residual Cumulative Effects
Atmosphere	Odour	Odour	Odour from other sources combines with CRRRC odours	Implement the CRRRC proposed odour mitigation measures	No significant residual cumulative effects likely given proposed CRRRC mitigation and requirement of other projects and activities to comply with MOE standards and requirements
	Dust	Dust emissions	Dust associated with existing soil processing and stockpiling, and agricultural practices combines with CRRRC-related dust	Implement the CRRRC proposed dust mitigation measures	No significant residual cumulative effects likely given proposed CRRRC mitigation and requirement of other projects and activities to comply with MOE standards and requirements
	Air Quality	Regulated compound emissions	Air emissions from other projects and activities combines with CRRRC air emissions	Implement the CRRRC proposed air quality mitigation measures	No significant residual cumulative effects likely given proposed CRRRC mitigation and requirement of other projects and activities to comply with MOE standards and requirements
	Noise	Noise emissions	Noise emissions from other projects and activities combines with CRRRC noise emissions	Implement the CRRRC proposed noise mitigation measures	No significant residual cumulative effects likely given proposed CRRRC mitigation and requirement of other projects and activities to comply with MOE standards and requirements
Hydrogeology	Groundwater quality	Groundwater quality impacts	Groundwater quality impacts from other projects and activities combines with CRRRC groundwater quality impacts	Design and operate CRRRC to meet relevant provincial guidelines and standards regarding groundwater quality protection within property boundary	No significant residual cumulative effects likely given proposed CRRRC mitigation and requirement of other projects and activities to comply with MOE standards and requirements
	Groundwater quantity	Groundwater quantity impacts	Groundwater quantity impacts from other projects and activities combines with CRRRC groundwater quantity impacts	None required	No cumulative effect anticipated

Cumulative Effects Assessment (continued)

Environmental Component	Assessment Criteria	Potential Effects of CRRRC Project	Potential Cumulative Effects	Mitigation by CRRRC	Potential Residual Cumulative Effects
Surface Water	Surface water quality	Surface water quality impacts	Surface water quality impacts from other projects and activities combines with CRRRC surface water quality impacts	Design and operate CRRRC to meet relevant provincial guidelines and standards regarding surface water quality	No significant residual cumulative effects likely given proposed CRRRC mitigation and requirement of other projects and activities to comply with MOE standards and requirements
	Surface water quantity	Surface water quantity impacts	Surface water quantity impacts from other projects and activities combines with CRRRC surface water quantity impacts	Controlled rate of release to surface water receivers by CRRRC stormwater management system	No cumulative effect anticipated
Biology	Aquatic biological resources	Change in habitat as a result of moving ditches	Any aquatic biological impacts from CRRRC unlikely to overlap in time, space and nature of effect with other sources	Restore and enhance habitat as appropriate	No cumulative effect anticipated
	Terrestrial biological resources	Removal of vegetation and disruption to wildlife	Any terrestrial biological impacts from CRRRC unlikely to overlap in time, space and nature of effect with other sources	Restore and enhance remaining habitat as appropriate	No cumulative effect anticipated

Cumulative Effects Assessment (continued)

Environmental Component	Assessment Criteria	Potential Effects of CRRRC Project	Potential Cumulative Effects	Mitigation by CRRRC	Potential Residual Cumulative Effects
Land Use & Socio-economic	Land Use	Nuisance effects on off-Site land uses	Cumulative nuisance related effects from other projects and activities and CRRRC	Implement the CRRRC proposed dust, air quality and noise design and operations mitigation measures to ensure compliance with MOE standards	No significant residual cumulative effects likely given proposed CRRRC mitigation and requirement of other projects and activities to comply with MOE standards and requirements
	Socio-economic	Increased local direct spending and employment	Combined economic activity may lead to additional east end Ottawa jobs and investment	None	Positive effect anticipated
	Visual	CRRRC may be visible from certain vantages	Any visual impacts from the CRRRC unlikely to interact cumulatively in same viewshed with other projects and activities	Implement screening of CRRRC where required	Significant cumulative visual impact unlikely
Agriculture		No material effects identified	None	Implement the CRRRC proposed dust, air quality and noise design and operations mitigation measures to ensure compliance with MOE standards	No cumulative effect anticipated
Traffic		Increased traffic	➢ Existing projects and activities already taken in CRRRC traffic assessment ➢ The increased traffic associated with any future project other than the CRRRC will be required to individually address traffic-related matters.	Provision of Boundary Road improvements at the site access location, including an exclusive left turn lane on southbound Boundary Road	With mitigation planned for CRRRC and required for any future projects with traffic impacts, no significant cumulative effect anticipated

Based on the cumulative effects assessment none of the potential residual cumulative effects were determined to be significant.

Next Steps and Schedule

Additional Information – Please visit the front desk for a hand-out containing the following information:

- An outline of the proposed Environmental Assessment/Environmental Protection Act document package;
- An overview of the proposed schedule for submissions;
- An overview of the Ministry of the Environment decision-making process; and
- The plans regarding distribution of the Draft Environmental Assessment Report for review.

Following this Open House #5, Taggart Miller will be:

- Completing the draft reports for the Environmental Assessment; and
- Hosting Open House #6 to present the Draft Environmental Assessment Report. Open House #6 is tentatively scheduled for winter/spring 2014.

There are many opportunities for you to get involved and provide your views.

- Complete the comments sheet provided at this Open House #5.
- Request a meeting and/or additional information.
- Visit our website **CRRRC.ca** to obtain information and provide comments.

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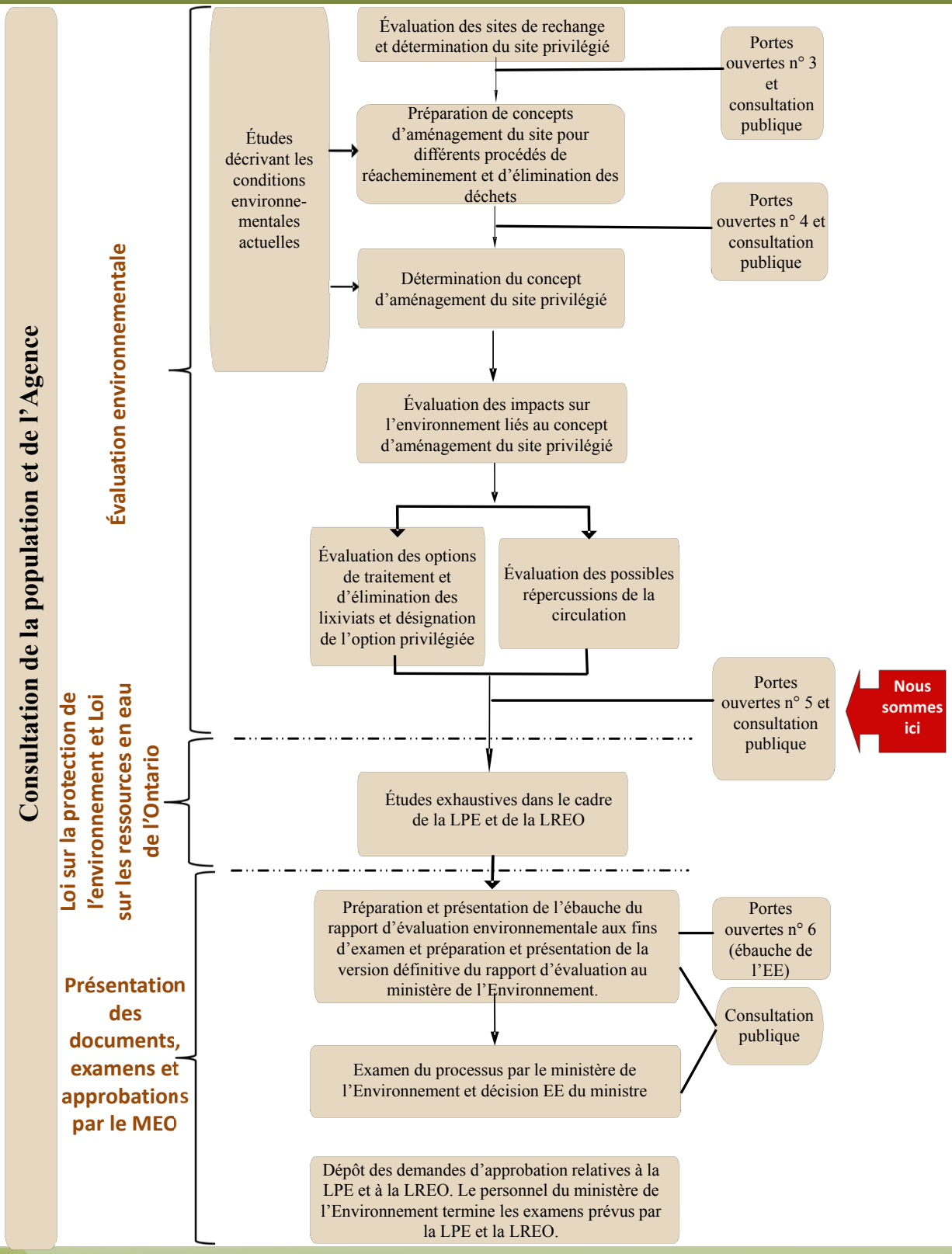
Bienvenue à la séance portes ouvertes nº 5

Taggart Miller Environmental Services

Évaluation environnementale du projet du Centre de récupération des ressources de la région de la capitale (CRRRC)

Veuillez examiner nos présentations et en discuter avec nos représentants.

Organigramme du processus de la LPE et des évaluations environnementales



Méthodes d'EE approuvées

ÉTAPE 1 : ÉVALUATION COMPARATIVE DES SITES DE RECHANGE (terminée en février 2013)

- L'évaluation comparative a été réalisée conformément au Cadre de référence (CdR) approuvé après modification.
- Le site du Chemin Boundary a été identifié comme site préféré.

ÉTAPE 2 : ÉTUDES D'EE

- Les travaux de l'étape 2 seront réalisés uniquement sur le site du chemin Boundary et comprennent les tâches suivantes :
  - Description de l'environnement actuel [terminé, octobre 2013] – Des études ont été menées pour décrire davantage l'environnement actuel et les impacts que pourrait avoir le projet sur chacun des composants environnementaux proposés.
  - Déterminer le concept d'aménagement privilégié du site [des options de concepts sont présentées aux portes ouvertes n° 4] – On a tenu compte des éléments suivants au moment de préparer les options de concepts :
    1) l'évaluation préliminaire des dimensions des installations;
    2) la vocation des terres adjacentes;
    3) les caractéristiques physiques et hémiédaphiques; et
    4) la circulation de véhicules découlant des activités du site.

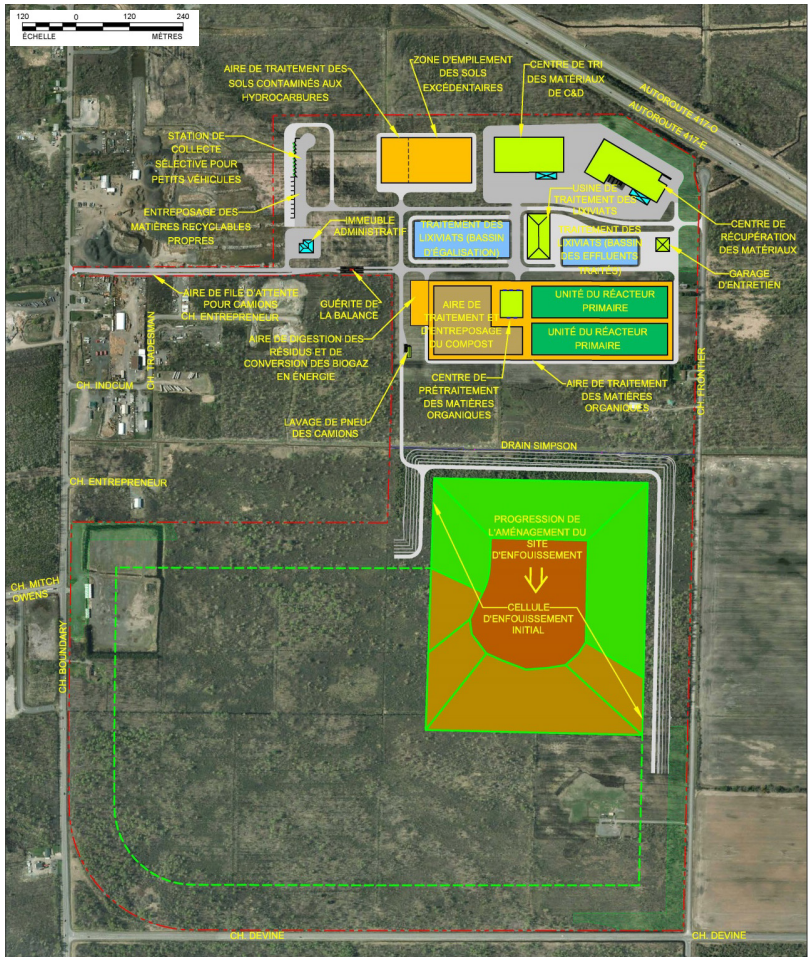
    On a proposé deux options d'aménagement du site qui ont fait l'objet d'une consultation auprès de la population et de l'agence avant de déterminer le concept d'aménagement du site privilégié.
  - Évaluation des effets environnementaux du concept d'aménagement du site privilégié [présenté aux portes ouvertes n° 5] – L'évaluation a prévu les effets du concept d'aménagement du site privilégié. L'évaluation a tenu compte d'une vaste gamme de composants environnementaux, y compris la qualité de l'air et la qualité des eaux souterraines.
  - Évaluation des incidences de circulation [présenté aux portes ouvertes n° 5] – pour le site du chemin Boundary, il y a une route de transport principale (à partir de l'autoroute 417). L'évaluation de la circulation a concentré sur les incidences que pourrait avoir la circulation liée au site et a permis de déterminer les mesures d'atténuation nécessaires.
  - Évaluation des options de gestion des lixiviats et détermination de l'option privilégiée [présenté aux portes ouvertes n° 5] – Examiner des technologies potentielles de traitement des lixiviats et déterminer les solutions de rechange pour la réception ou le traitement des lixiviats sur le site. On a comparé différentes options viables afin de déterminer le système de gestion des lixiviats à privilégier.
  - Évaluation des répercussions cumulatives [présenté aux portes ouvertes n° 5] – Les effets nets du projet du CRRRC proposé ont été combinés aux effets prévus pour d'autres projets existants et proposés en périphérie du site.

ÉTAPE 3 : COMPLÉTER ET PRÉSENTER LES DEMANDES D'EE POUR LE SITE DE RECHANGE PRIVILÉGIÉ

- L'EE sera présentée au ministère de l'Environnement pour fins d'approbation et sera accompagnée de deux documents techniques suivants :
  - Un rapport d'étude de l'hydrogéologie.
  - Un rapport sur l'aménagement et l'exploitation du site (notamment la gestion des eaux pluviales, la gestion des lixiviats, l'évaluation acoustique, l'évaluation de la qualité de l'air et des odeurs de même que l'aménagement et l'exploitation du site).

Concepts d'aménagement du site

Option de concept A



Site du chemin Boundary – Situé dans la partie est de la Ville d'Ottawa, immédiatement au sud-est de l'échangeur reliant l'autoroute 417 et le chemin Boundary, à l'est d'un parc industriel. La propriété a dorénavant une superficie totale d'environ 192 hectares (475 acres) et occupe les lots 22 à 25 de la concession XI du canton de Cumberland.

Au cours de l'été de 2013, on a exercé une option sur un autre lot avoisinant d'environ 8 hectares, qui a été ajouté au site du chemin Boundary. Situé sur le chemin Boundary au sud du chemin Entrepreneur, ce lot se trouve à l'intérieur des limites de la propriété indiquée ici.

Option de concept B

Concept d'aménagement privilégié du site

Durant les discussions avec les membres du public aux portes ouvertes n° 4, aucun participant n'a indiqué une préférence pour la solution de rechange B; de la réaction a été reçue seulement en faveur de la solution de rechange A. Aucun commentaire n'a été reçu en réponse à l'annonce sur le site Web du projet. Le MEO a préféré la solution de rechange A, puisque le site d'enfouissement n'est pas séparé en deux cellules distinctes. Aucun commentaire n'a été fourni par les autres intervenants.

Taggart Miller a également considéré la compatibilité de l'utilisation des terres avec la vocation des terres avoisinantes et les aspects opérationnels du site afin de déterminer le concept d'aménagement privilégié du site.

Considérations	Option de concept A	Option de concept B
Récepteurs sensibles dans un rayon de 500 mètres au nord, à l'est et au sud	Également privilégiée	Également privilégiée
Examen des vues à partir de belvédères à proximité du site	Également privilégiée	Également privilégiée
Protection de la qualité des eaux souterraines à proximité du site	Privilégiée	
Quantité de lixiviats à gérer	Privilégiée	
Quantité des sols de déblai sur le site à gérer	Également privilégiée	Également privilégiée
Quantité de mouvement du trafic sur le site associé aux opérations	Privilégiée	
Endroit de l'intersection d'un emplacement d'accès au site secondaire par rapport au volume de trafic existant sur les routes adjacentes	Privilégiée	

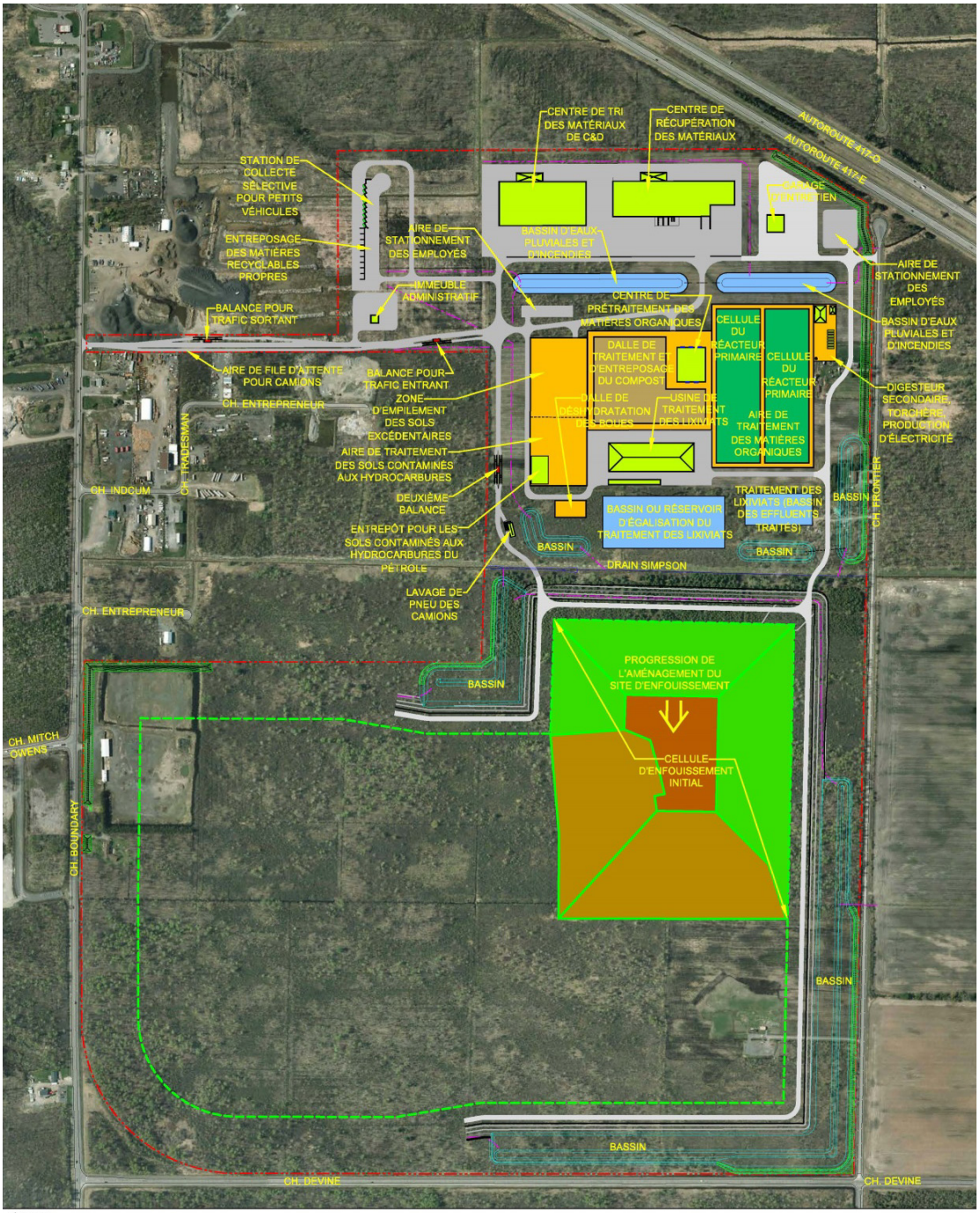
<u>L'option de concept A a été donc identifiée par Taggart Miller comme concept d'aménagement privilégié du site du CRRRC.</u>

Ce concept a été peaufiné en vue :

- d'inclure les exigences de gestion des eaux pluviales dans la conception;
- d'inclure les immeubles évalués à l'aide de renseignements plus détaillés;
- optimiser les routes internes et les emplacements des installations afin de réduire les interactions de circulation entre les camions qui déchargent des cargaisons et les employés qui travaillent sur le site; et
- régler (augmenter) la largeur de la zone tampon autour du site d'enfouissement, où requit.

Concept d'aménagement privilégié du site (suite)

Plan d'aménagement privilégié du site



Remarque : La version finale fait l'objet de précisions supplémentaires

Zones d'étude

- Des études visant à décrire les conditions environnementales existantes et à évaluer les impacts environnementaux ont été menées dans trois zones d'étude de la façon suivante :
  - Sur le site : les terres acquises par Taggart Miller pour le centre de récupération des ressources proposé de la région de la capitale au site du chemin Boundary
  - Dans les environs du site : les terres dans les environs du site (généralement à l'intérieur de 500 mètres des limites du site, mais modifiées selon ce que l'on estimait approprié dans le cas de certains composants environnementaux)
  - Routes de transport : la principale route de transport ou d'accès au site à partir de l'autoroute 417

Résumé des zones d'étude des composants environnementaux

	Sur le site	Dans les environs du site	Routes de transport	Modifiées	Justification
Atmosphère – Air et odeurs	✓	✓		5 km	Généralement reconnu par le ministère de l'Environnement
Atmosphère – Bruit	✓	✓	✓	1 km	Saisir des récepteurs potentiels additionnels
Environnement géologique, hydrogéologique et géotechnique*	✓	✓			
Eaux de surface	✓	✓		Sousbassin hydrographique	Saisir le contexte régional
Biologie	✓	✓			
Utilisation des terres	✓	✓	✓		
Impacts socioéconomiques	✓	✓		Ville d'Ottawa	Saisir des caractéristiques supplémentaires et le territoire de recensement
Visuel	✓	✓			
Ressources du patrimoine culturel	✓	✓		250 m	Généralement reconnu par le ministère du Tourisme, de la Culture et du Sport
Archéologie	✓	✓		3 km	Conformément aux *Normes et lignes directrices à l'intention des archéologues-conseils (2011)*
Agriculture	✓	✓		2 km	Saisir des caractéristiques supplémentaires
Aménagement et exploitation du site	✓				
Circulation			✓		

Remarques : * Une évaluation géologique régionale a été menée sur une superficie de 15 km par 20 km.

Atmosphère – Évaluation des impacts sur la qualité de l'air et les odeurs

CONDITIONS ACTUELLES

- Les niveaux de mesure de fond de la qualité de l'air sont dans les limites Ontariennes.
- Neuf (9) récepteurs sensibles ou emplacements ont été déterminés dans les environs du site.
- De ceux-ci, aucun n'est directement adjacent à la limite de la propriété du site.

MÉTHODES D'ÉVALUATION

- Les émissions d'odeur et de qualité de l'air du développement du site ont été simulées avec un modèle de dispersion avancé (AERMOD). Les émissions atmosphériques produites par les sources indiquées ci-dessous ont été calculées à l'aide de facteurs d'émissions conservateurs.

SOURCES DES IMPACTS POSSIBLES

- Centre de tri des matières et centre de tri des matériaux de C&D
  - Systèmes de chauffage et de refroidissement et collecteurs de poussière (qualité de l'air)
- Usine de traitement des matières organiques
  - Opérations d'entreposage du compost y compris des tas de compost, des digesteurs anaérobies et des biofiltres (qualité de l'air et des odeurs)
- Aire de traitement des sols contaminés aux hydrocarbures dérivés du pétrole
  - Biofiltres de traitement des sols contaminés aux hydrocarbures (odeurs)
- Torchères et production d'électricité
  - Combustion des biogaz d'usine de digestion anaérobie et des biogaz du site d'enfouissement (qualité de l'air)
- Traitement des lixiviats
  - Ventilation provenant des opérations de traitement des lixiviats (qualité de l'air et des odeurs)
  - Bassin(s) de traitement des lixiviats (odeurs)
- Sites d'enfouissement
  - Dépôt et épandage des déchets, pertes fugitives de biogaz d'enfouissement à travers les sols de recouvrement (qualité de l'air et des odeurs)
  - Activités quotidiennes et finales de recouvrement des déchets d'enfouissement (qualité de l'air et des odeurs)
- Procédés auxiliaires
  - Systèmes de chauffage et de refroidissement de l'immeuble administratif et d'entretien (qualité de l'air)
  - Activités du garage d'entretien des véhicules, par exemple le soudage (qualité de l'air)
  - Émissions des véhicules sur place (qualité de l'air)

Atmosphère – Évaluation des impacts sur la qualité de l'air et les odeurs (suite)

PARAMÈTRES ÉVALUÉS

- L'évaluation de la qualité de l'air de l'aménagement du site est axée sur les éléments suivants :
  - **matière particulaire (PM)**, y compris les matières particulaires en suspension (SPM), les particules dont le diamètre est nominalement plus petit que 10 micromètres (µm) (PM_{10}), et des particules dont le diamètre est nominalement plus petit que 2,5 µm ($PM_{2,5}$)
  - **gaz de combustion**, y compris les oxydes d'azote (NO_X) et le dioxyde d'azote résultant (NO_2), le dioxyde de soufre (SO_2) et le monoxyde de carbone (CO)
  - **autres** composés, le chlorure de vinyle (C_2H_3Cl), le méthane (CH_4), le dioxyde de carbone (CO_2) et les odeurs

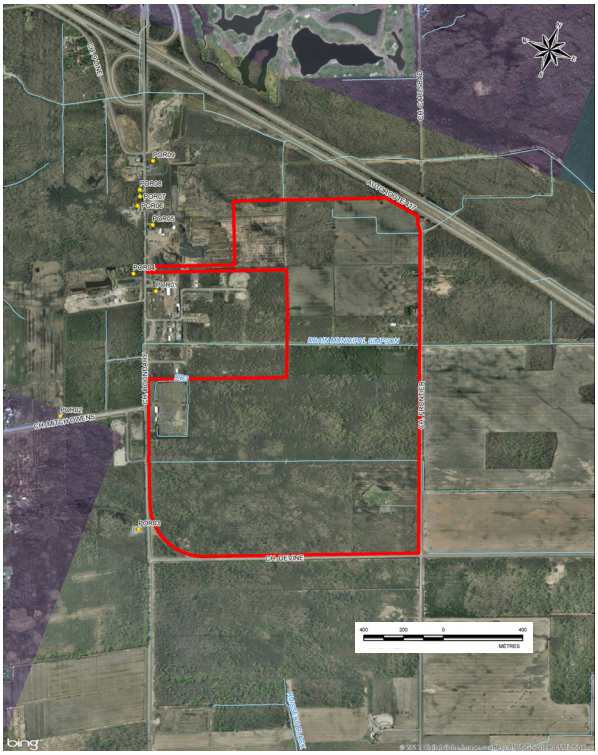
RÉSULTATS DE L'ÉVALUATION DES IMPACTS

- La qualité de l'air prévue au niveau des récepteurs sensibles répond aux critères rigoureux du MEO.
- Les émissions répondent aux exigences d'approbation du MEO.
- Un plan de gestion des poussières et des odeurs sera nécessaire pour atténuer les émissions potentielles de poussières et des odeurs.

Atmosphère – Évaluation des impacts du bruit

CONDITIONS ACTUELLES

- Le niveau existant de bruit de fond aux récepteurs hors site sensibles au bruit a été déterminé par une combinaison de surveillance et de prédictions du bruit à l'aide de la méthodologie approuvée du ministère de l'Environnement de l'Ontario.
- Neuf (9) récepteurs sensibles au bruit ou emplacements ont été déterminés dans les 500 m à proximité du site, comme illustré ci-dessous :



MÉTHODES D'ÉVALUATION

- Les estimations d'émissions de bruit provenant d'équipement, de routes de transport, d'opérations d'excavation et d'autres sources ont été déterminées à des points sensibles pour les scénarios les plus défavorables à l'aide d'un modèle prédictif d'ISO 9613. Au besoin, des mesures d'atténuation ont été proposées pour garantir que les limites imposées par la ligne directrice en matière de bruit sont respectées.
- Les opérations de mise en décharge ont été évaluées selon les lignes directrices intitulées *Noise Guidelines for Landfill Sites* (Lignes directrices relatives au bruit pour les sites d'enfouissement, en anglais seulement) (ministère de l'Environnement de l'Ontario, 1998).
- Les installations accessoires et les aires de traitement ont été évaluées selon la ligne directrice intitulée *Environmental Noise Guideline NPC-300* (ligne directrice relative au bruit ambiant, en anglais seulement) (ministère de l'Environnement de l'Ontario, 2013).

Atmosphère – Évaluation des impacts du bruit (suite)

SOURCES D'IMPACTS ÉVENTUELS

- Usine de récupération des matériaux et le centre de traitement des matériaux de C&D
  - Systèmes de chauffage et de refroidissement et collecteurs de poussière
  - Circulation sur le site
- Traitement des matières organiques
  - Opérations de traitement du compost y compris l'équipement mobile
- Aire de traitement des sols contaminés aux hydrocarbures dérivés du pétrole
  - Biofiltre pour le traitement des sols contaminés aux hydrocarbures
- Torchères et production d'électricité
  - Combustion des biogaz de digestion anaérobie et d'enfouissement
  - Génératrices électriques
- Site d'enfouissement
  - Activités d'excavation du site d'enfouissement
  - Dépôt et épandage des déchets et de la couverture des sols
  - Circulation sur le site
- Déplacements des camions de transport – sur le site et hors site
- Procédés secondaires
  - Activités du garage d'entretien
  - Systèmes de chauffage et de refroidissement

PARAMÈTRES ÉVALUÉS

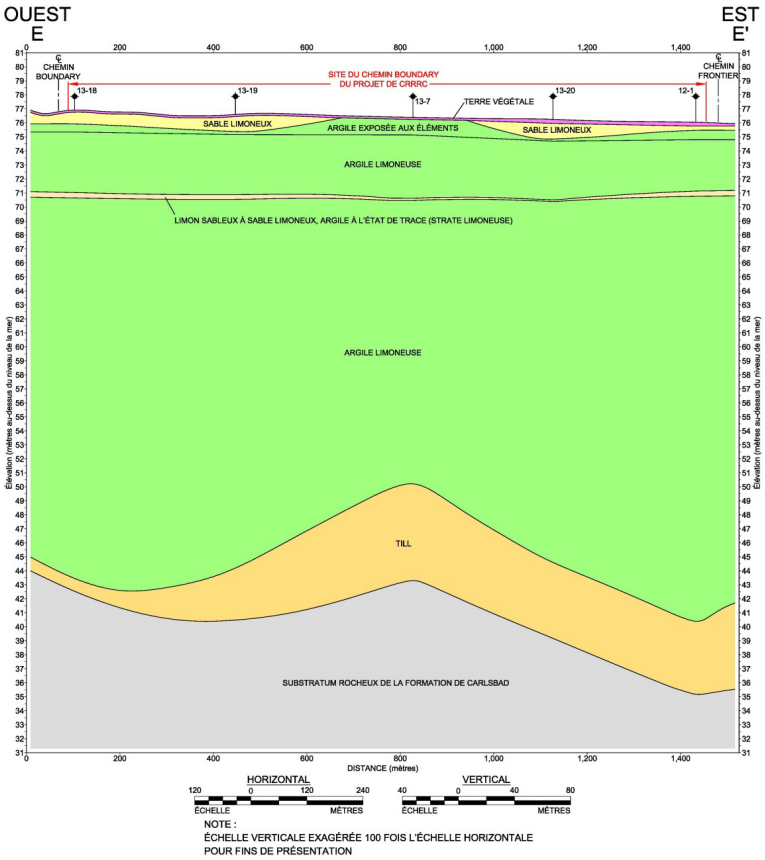
- Les paramètres suivants ont été évalués afin d'assurer la conformité avec les critères de la ligne directrice relative au bruit :
- Lignes directrices relatives au bruit pour les sites d'enfouissement
  - Niveau de fond sonore existant aux récepteurs hors site sensibles au bruit
  - Niveaux sonores provenant des opérations du site d'enfouissement (y compris la circulation sur le site de véhicules associés au site d'enfouissement)
  - Niveaux sonores provenant des véhicules hors site
- Publication NPC-300
  - Niveaux sonores provenant de sources stationnaires
  - Niveaux sonores provenant de la circulation sur le site de véhicules associés aux installations de traitement

RÉSULTATS DE L'ÉVALUATION DES IMPACTS DU BRUIT

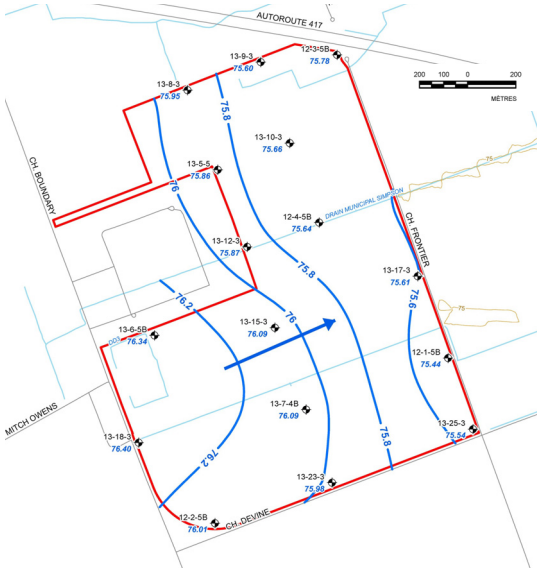
- Avec l'inclusion des mesures d'atténuation proposées sur le site, le CRRRC sera conforme aux exigences provinciales.

CONDITIONS ACTUELLES

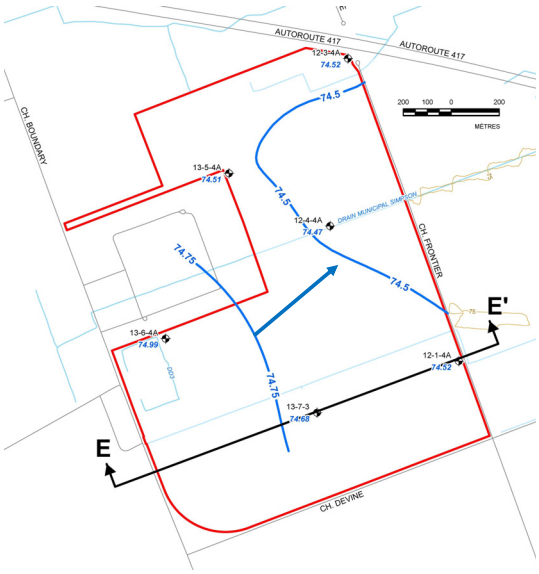
- L'épaisseur du sable limoneux ou d'argile tenace météorisée en superficie varie pour atteindre jusqu'à 1,5 m d'épaisseur. Ce sable recouvre un dépôt d'argile limoneuse d'une épaisseur de quelque 30 m, qui, à son tour, couvre le till et le substrat rocheux de la formation Carlsbad. Une couche continue, appelée la couche limoneuse, a été détectée dans le dépôt d'argile limoneuse; la couche a une profondeur de 4,5 à 6 mètres et une épaisseur moyenne d'environ 0,35 mètre.
- L'alimentation en eau dans la région autour du site provient principalement de puits creusés peu profonds qui obtiennent leur eau localement à partir de la couche de sable limoneux superficielle.
- En fonction des données de décembre 2012 à octobre 2013, le sens d'écoulement des eaux souterraines dans les dépôts superficiels de sable limoneux, dans l'argile limoneuse peu profonde (avec limon), de till et de substrat rocheux de faible profondeur se fait régulièrement en direction est ou nord-est du site.
- La moyenne estimative de la vitesse d'écoulement des eaux souterraines dans les dépôts superficiels de sable limoneux et l'argile limoneuse en surface est de 0,1 m par an et de 0,04 m par an respectivement.



Écoulement horizontal de l'eau souterraine – mai 2013



Couche d'argile peu profonde avec limon



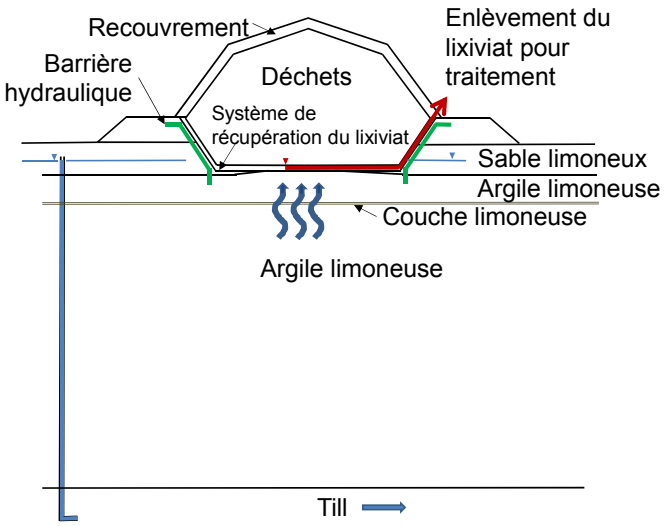
Till

MÉTHODES D'ÉVALUATION

- La performance du site d'enfouissement relativement à la protection de l'eau souterraine et sa durée de vie de contamination ont été évalués à l'aide de modèles de prévision conformément au règlement 232/98 de l'Ontario . Le potentiel de changement des conditions de rechargement des eaux souterraines et des eaux souterraines à proximité du site qui fournissent des puits creusés hors site a été évalué à l'aide d'un modèle de flux. Le rechargement de puits creusés a été étudié par un essai de pompage et un programme de surveillance.

SOURCES DES IMPACTS POSSIBLES

- La source des impacts possibles sur la qualité des eaux souterraines hors site est le lixiviat généré par les précipitations tombées sur les déchets.
- Les unités d'intérêt des eaux souterraines sont la couche de sable limoneux superficielle, la couche limoneuse et le till.
- Le lixiviat sera récupéré dans un système de récupération des lixiviats à la base du site d'enfouissement durant le fonctionnement du site d'enfouissement et après sa fermeture.
- Les paramètres préoccupants peuvent se déplacer jusqu'aux unités d'intérêt des eaux souterraines par advection, dispersion et diffusion.

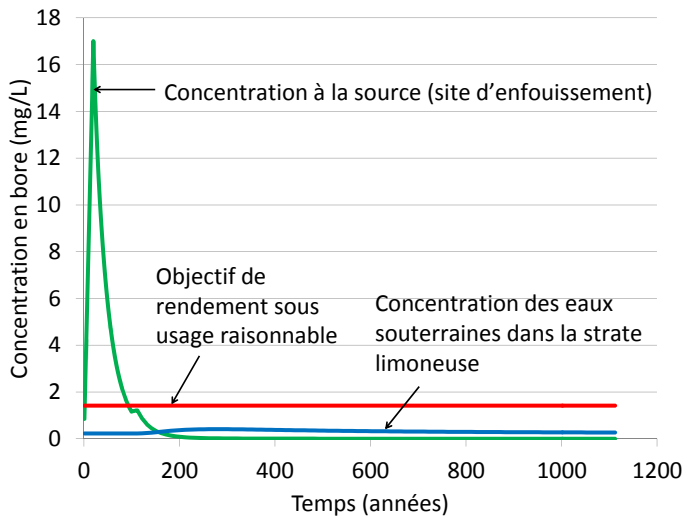


PARAMÈTRES ÉVALUÉS

- En consultation avec le ministère de l'Environnement, les paramètres suivants ont été évalués pour le site d'enfouissement du CRRRC afin d'évaluer les effets potentiels sur les eaux souterraines : chlorure, benzène, cadmium, plomb, dichlorométhane, 1,4-dichlorobenzène, toluène, bore et chlorure de vinyle.

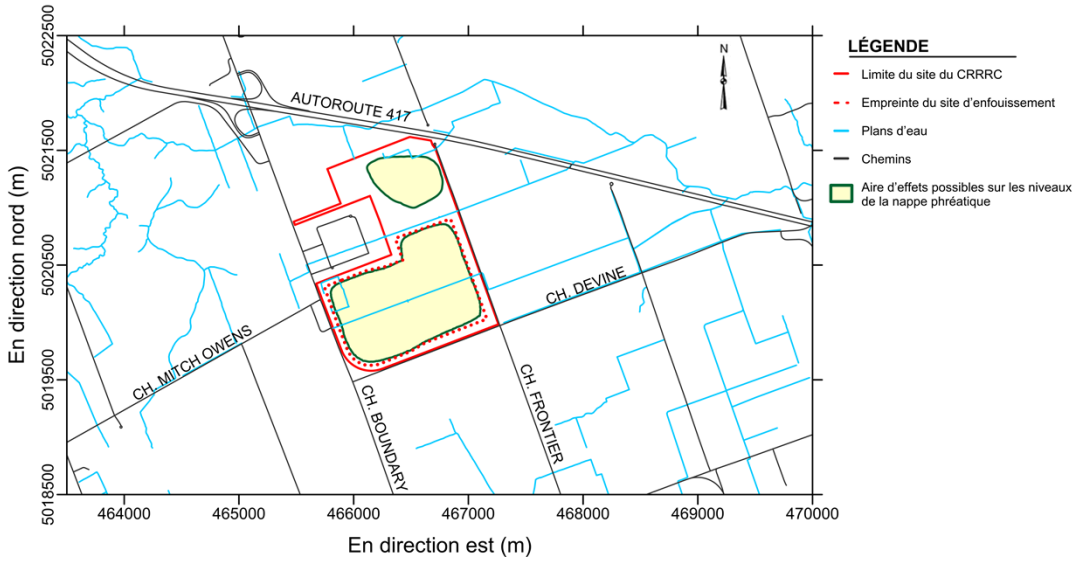
Évaluation des impacts géologiques et hydrogéologiques (eaux souterraines) (suite)

RÉSULTATS DE L'ÉVALUATION DES IMPACTS



- Une barrière hydraulique sera construite autour du périmètre du site d'enfouissement pour empêcher des incidences sur le sable limoneux en surface.
- L'incidence potentielle maximale prévue sur la qualité des eaux souterraines dans les unités des eaux souterraines se produit en vertu du scénario après l'échec du système de récupération du lixiviat.
- Le dépôt d'argile naturel et les systèmes de récupération et de rétention des lixiviats proposés et mis au point contiendront et contrôleront les lixiviats d'enfouissement au site.

- Le site d'enfouissement ne nuira pas à la qualité des eaux souterraines à proximité du site. D'autres sources, comme les bassins de rétention des lixiviats ou le réacteur primaire des matières organiques et les cellules de traitement des sols sont alignés et toujours disponibles en vue de réparation. Le site restera conforme aux exigences en matière de protection de l'eau souterraine à court et à long terme.
- En s'appuyant sur la modélisation des eaux souterraines, la diminution maximale du niveau de l'eau souterraine dans le sable limoneux en surface se produit pendant que le système de récupération du lixiviat est fonctionnel et l'argile sous le site d'enfouissement a subi son affaissement maximum.
- Dans ces conditions, les impacts du site d'enfouissement sur la quantité d'écoulement des eaux souterraines sont négligeables au-delà de la limite du site (comme montré ci-dessous).
- Les programmes d'essai de pompage de puits creusés montrent que leur recharge provient des précipitations locales et le rayon d'influence du puits est d'environ 10 mètres.



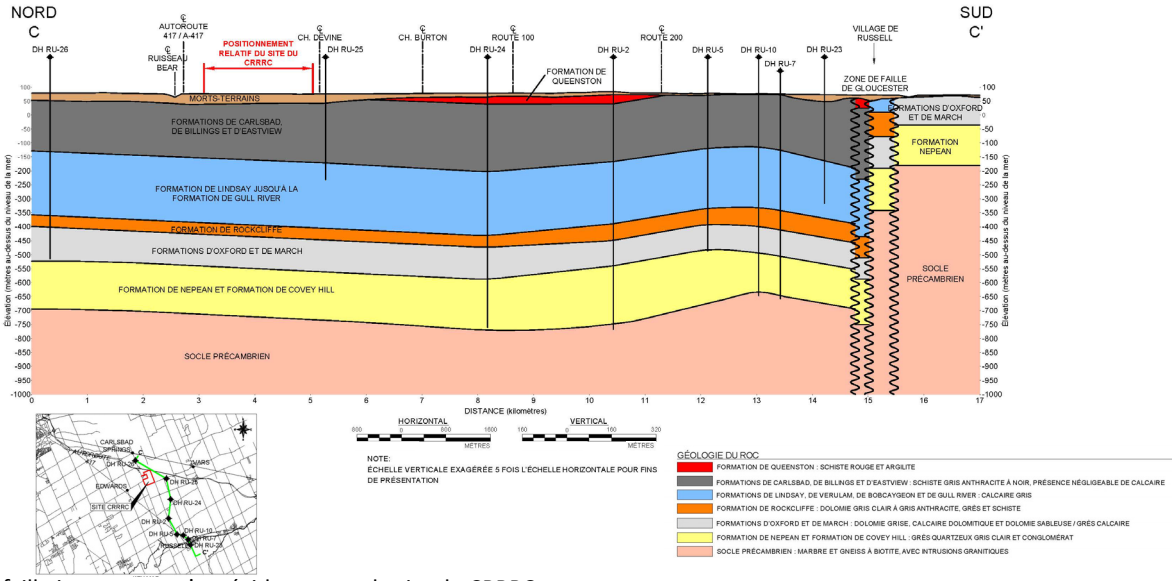
Géologie et hydrogéologie – Points à prendre en compte dans le domaine sismique

ÉTUDES

- Étude propre au projet de la géologie régionale (superficie d'environ 15 km par 20 km autour du CRRRC) à l'aide d'une revue de la littérature, compilation de plus de 1 200 de dossiers de forages et de puits de forage, examen de la région et interprétation.
- Examen des renseignements publiés sur : 1) la sismicité de la zone sismique de l'ouest du Québec; 2) les effets des séismes préhistoriques sur les dépôts d'argile marine dans l'est de l'Ontario et 3) la formation de failles de la roche-mère, leur régime d'activité et l'interprétation du potentiel des mouvements et des ruptures ou mouvement de failles du sursol.

CONDITIONS ACTUELLES

- Au niveau régional, il n'y a pas de décalage vertical important des formations de roche-mère à des dizaines de kilomètres du site du CRRRC.
- La faille importante connue est la faille de Gloucester dans la région du village de Russell.



- Aucune faille importante n'est évidente sous le site du CRRRC.
- De grands séismes préhistoriques qui ont touché des dépôts d'argile dans des secteurs particuliers à l'est d'Ottawa n'ont pas dérangé le dépôt d'argile qui sous-tend le site du chemin Boundary du CRRRC.
- La probabilité que de futurs mouvements de failles se produisent qui auraient un effet à ou près de la surface est négligeable, et il n'y a aucune importance en ingénierie pour ce qui est de l'élaboration du site CRRRC.

MÉTHODES D'ÉVALUATION

- Analyse de la stabilité du site d'enfouissement du CRRRC proposé dans des conditions de secousses séismiques et estimation des mouvements associés des déchets et des sols argileux sous-jacents. Une conception de séisme ayant une périodicité de 1:2 475 ans a été utilisée, qui est conséquent avec la conception séismique dans le Code du bâtiment.

RÉSULTATS DE L'ÉVALUATION DES IMPACTS

- La configuration proposée du dépotoir est stable en fonction des conditions séismiques de la conception.
- Le mouvement latéral permanent de la fondation du sol est inférieur à 200 mm et peut être ajouté à la conception du site d'enfouissement.
- Les immeubles du site du CRRRC seront conçus pour résister aux séismes conformément au Code du bâtiment pour un dépôt d'argile épais.

Évaluation des impacts sur les eaux de surface

CONDITIONS ACTUELLES

- Le drainage existant sur le site est effectué au moyen d'un réseau de fossés agricoles qui se déversent dans trois drains municipaux, décrits ci-dessous (avec la superficie de drainage du basin versant) :
  - tributaires du drain Régimbald (21 hectares)
  - Le drain Simpson (75,6 hectares)
  - tributaires du drain Wilson Johnston (95,1 hectares)
- Le site se trouve en amont du sous-bassin de 35 km^2 (3 500 ha) du ruisseau Shaw et de celui, plus important, du ruisseau Bear, avec 484 km^2 (48 400 ha). Le site du CRRRC occupe environ 5 % du sous-bassin du ruisseau Shaw.

MÉTHODES D'ÉVALUATION

- On a procédé à l'établissement et à l'analyse de prévisions pour le ruissellement des eaux pluviales et les conditions d'écoulement pendant les périodes de pointe en fonction de scénarios d'orage à 1 fois tous les 2, 5, 25 et 100 ans, conformément aux dispositions du règlement de l'Ontario 232/98.
- Dans le cas de prévisions de la qualité de débits d'eaux pluviales, la charge pluviale de 25 mm a également été évaluée afin d'analyser l'évacuation prolongée des eaux en rétention pour chaque bassin de rétention proposé pour les eaux pluviales.
- On a procédé à la comparaison de ces prévisions avec les conditions précédant l'aménagement du site afin de déterminer les changements et les possibles effets négatifs sur les cours d'eau en aval. Les installations techniques de gestion des eaux pluviales ont été conçues pour atténuer d'éventuels effets.

SOURCES D'IMPACTS POSSIBLES

- Eaux de ruissellement transportant des sédiments à partir des zones des installations
- Surcharges sédimentaires provenant des dépôts et des sols de surface dépourvus de végétation
- Lixiviats du site d'enfouissement qui pénètrent dans le réseau de drains des eaux de surface

PARAMÈTRES ÉVALUÉS

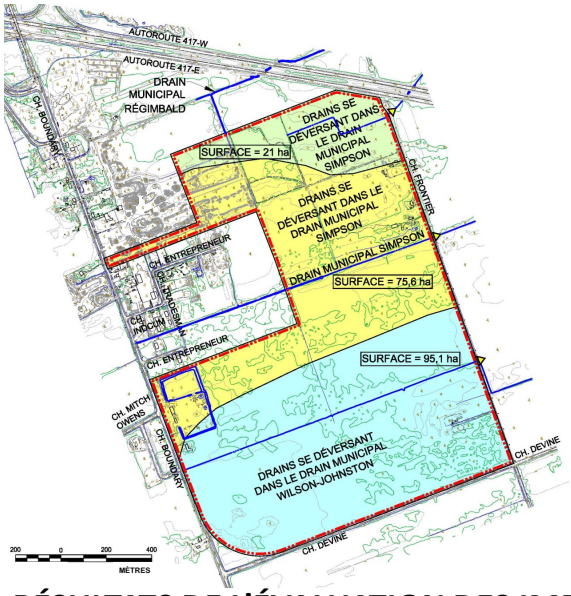
- Aires de drainage des bassins hydrographiques
- Régulation des débits de crues maximales aux conditions actuelles
- Enlèvement de sédiments dans des bassins avant l'évacuation
- Qualité des eaux en amont et en aval du site du CRRRC

CONDITIONS PROPOSÉES

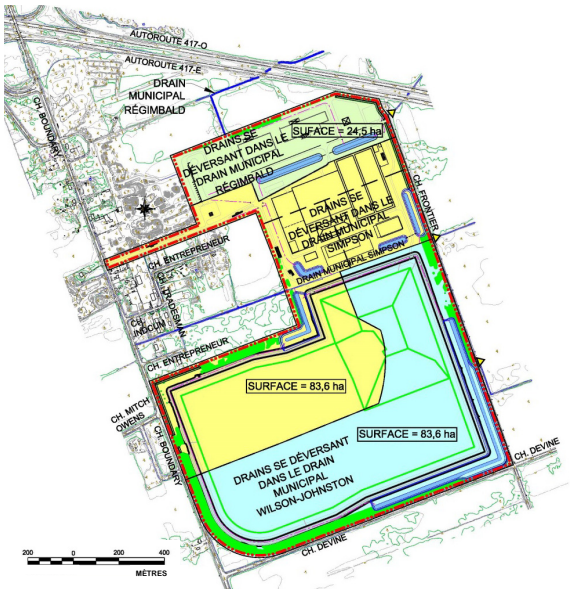
- L'évacuation des eaux pluviales du site continuera d'être dirigée vers les trois réseaux de drainage municipaux. Un réseau de fossés proposés sera dirigé vers les installations des eaux pluviales. Les effluents du drain Régimbald seront abandonnés dans le cadre de l'aménagement des parties du nord du site, mais l'exécutoire du système de drainage de cette zone sera dans le fossé et les ponceaux existants au chemin Frontier. De façon similaire, les affluents du drain Wilson Johnston seront abandonnés à la partie sud du site, mais l'exécutoire du système de drainage de cette zone sera située dans le fossé et le ponceau actuels au Chemin Frontier. Le drain Simpson traverse le site et demeurera dans sa configuration actuelle.

Évaluation des impacts sur les eaux de surface (suite)

Drainage du site actuel



Drainage du site proposé



RÉSULTATS DE L'ÉVALUATION DES IMPACTS

- Le drainage de surface peut être conçu de telle sorte que les activités liées aux déchets sont isolées du drainage.
- Les caractéristiques du drainage de surface et de la gestion des eaux pluviales peuvent être conçues pour protéger la qualité de l'eau et conserver une quantité d'eau maximale à la sortie du site.
- L'aménagement du site entraînera des changements aux bassins hydrographiques respectifs sur le site comme suit :
  - drain Régimbald augmentation de 3,5 ha (total 24,5 ha)
  - drain Simpson augmentation de 8 ha (total 83,6 ha)
  - drain Wilson Johnston diminution de 11,5 ha (total 83,6 ha)
- Bien que les zones du bassin hydrographique du site d'aménagement et l'utilisation des terres correspondantes changeront, ces modifications du site ne perturberont pas et n'auront aucun effet indésirable sur le tracé naturel du réseau hydrographique sur le site ou hors site par le maintien des objectifs de conception des débits de pointe existant au moyen du contrôle des bassins de rétention.
- Les caractéristiques de la gestion des eaux pluviales ont été conçues conformément aux politiques de gestion des eaux pluviales de la Ville d'Ottawa et au règlement de l'Ontario 232/98, et on ne prévoit aucun effet négatif sur les trois drains municipaux.
- Durant l'aménagement progressif du site, des mesures de contrôle de l'érosion et des sédiments, une surveillance continue et des pratiques d'entretien et de nettoyage protégeront la qualité de l'eau.

CONDITIONS ACTUELLES

- Des communautés de forêts hétérogènes et clairsemées et des fourrés marécageux, la plupart d'entre elles sont dominées par le bouleau blanc d'Europe et le nerprun commun (espèces envahissantes non indigènes), des zones perturbées et des terres exploitées à des fins agricoles.
- La seule espèce en péril dont l'habitat principal se trouve sur le site est l'hirondelle rustique.
- Une communauté de faune dominée par des espèces résistantes adaptées à un paysage perturbé et fragmenté
- Les fossés de drainage existants (DD) DD1, le drain Simpson et DD3 ont une collectivité de poissons-appâts d'eau chaude. Il n'y a aucun habitat du poisson dans le fossé DD2.

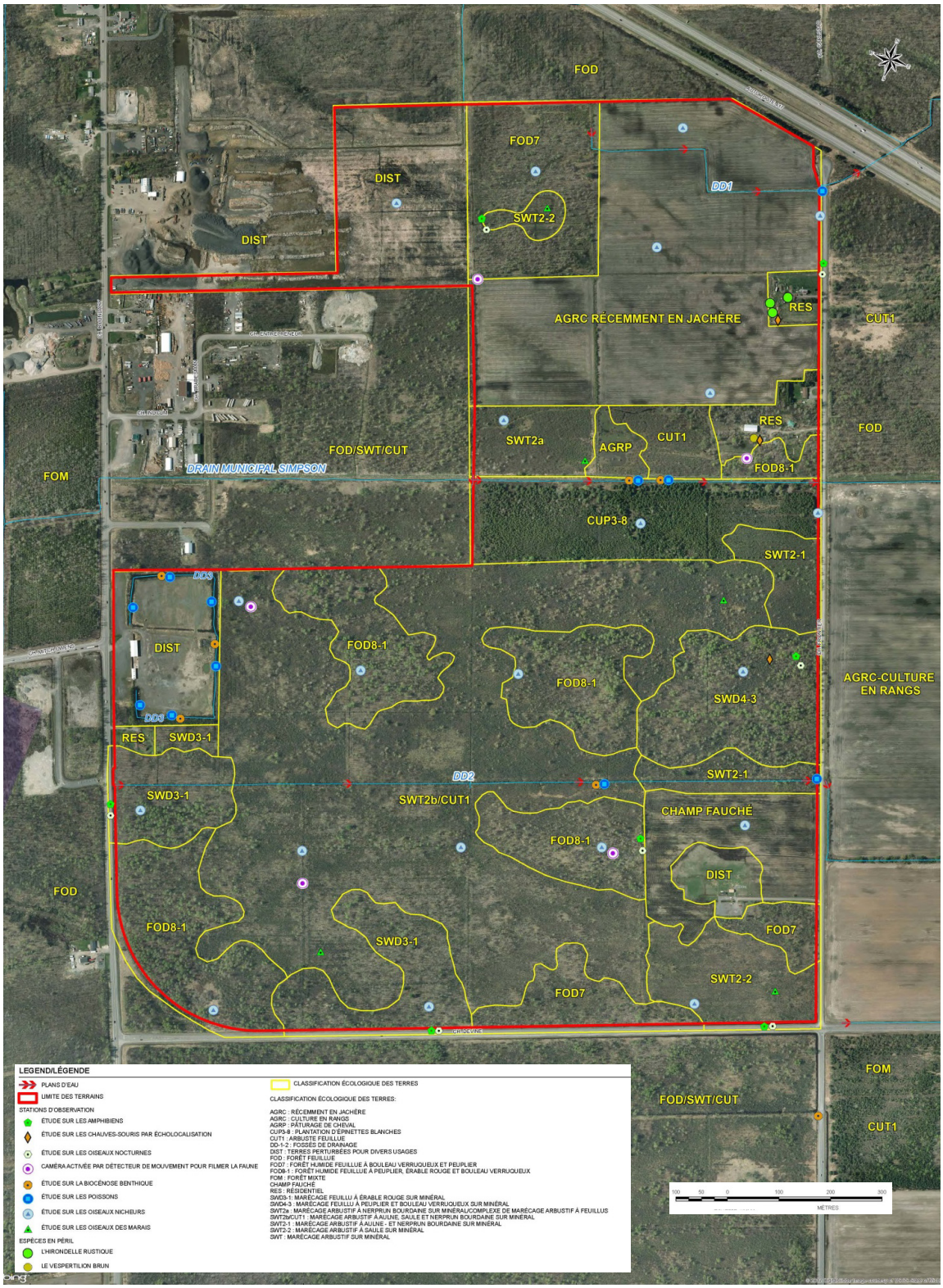
MÉTHODES D'ÉVALUATION

- Les effets indésirables possibles sur l'environnement terrestre et aquatique ont été évalués à l'aide de méthodes quantitatives et qualitatives.
- L'évaluation est fondée sur la conception du site et les impacts possibles.
- Les effets indirects sont évalués en fonction des résultats provenant d'autres équipes d'études des composants.

RÉSULTATS DE L'ÉVALUATION DES IMPACTS

Impacts possibles	Effet indésirable
Impacts directs	
Perte de communautés végétales, d'habitats fauniques et d'habitats des poissons	Pas d'effets écologiques importants prévus
Risques physiques et collisions entre des véhicules et la faune	Pas d'effets indésirables prévus
Impacts indirects (effets potentiels sur les écosystèmes aquatiques et terrestres provenant de changements à ce qui suit)	
Émissions atmosphériques, y compris des dépôts de poussière	Pas d'effets indésirables prévus
Perturbations sensorielles (bruit)	Pas d'effets écologiques importants prévus
Modification du régime d'écoulement des eaux de surface	Pas d'effets écologiques indésirables prévus
Modification du régime d'écoulement des eaux souterraines	Pas d'effets indésirables prévus
Contamination des eaux souterraines ou des eaux de surface	Pas d'effets indésirables prévus
Modifications aux corridors de déplacement de la faune	Pas d'effets écologiques indésirables prévus

Évaluation des impacts biologiques (suite)



CONDITIONS ACTUELLES

- Population
  - Ville d'Ottawa (Statistique Canada 2011) : 883 391; croissance prévue de 1,2 % par année
  - Quartier Cumberland (Ville d'Ottawa 2012) : 44 400
- Main d'œuvre – Ville d'Ottawa (Statistique Canada 2011)
  - Taux de chômage : 7,0 %; revenu moyen : 32 908 $
  - L'administration publique est l'industrie la plus courante (23 %)

MÉTHODES D'ÉVALUATION

- Les effets potentiels sur les conditions socioéconomiques existantes et futures dans la région à la suite du développement proposé du CRRRC ont été évalués. Les données sur l'emploi direct et sur les dépenses liées à l'initiative proposée ont été estimées et évaluées, y compris les données sur l'emploi, le revenu municipal, les impacts commerciaux et la valeur des biens et services à créer.

SOURCES D'IMPACTS POSSIBLES

- Emploi
- Dépenses
  - Revenu municipal
  - Biens et services

PARAMÈTRES ÉVALUÉS

- Heures de travail par personne pour la construction et le fonctionnement
- Revenu municipal
  - Impôts foncier annuel
  - Frais de permis de construction
- Biens et services
  - Coût de construction
  - Coûts d'exploitation (dépenses en capital et d'exploitation)
  - Possibilités pour les entreprises locales

RÉSULTATS DE L'ÉVALUATION DES IMPACTS

- Estimation de l'emploi direct
  - Construction (un an) : 400 000 heures-personnes (environ 160 à 200 travailleurs)
  - Exploitation (30 ans) : 198 000 heures-personnes par année (environ 80 à 100 travailleurs)
  - Ceci représente des occasions d'emploi pour les travailleurs locaux
- Estimation des dépenses directes (excluant la main d'œuvre)
  - Augmentation annuelle des recettes des impôts fonciers municipaux : 1,6 à 3,7 millions de dollars (basé sur le processus d'évaluation actuel de la SÉFM).
  - Frais de permis de construire : 250 000 $ à 300 000 $
  - Frais de construction (excluant la main d'œuvre) : frais initiaux de 58 millions de dollars, frais récurrents de 700 000 $ par année.
  - Coûts d'exploitation (excluant la main d'œuvre) : 3,2 millions de dollars de dépenses en capital par année, 16,2 millions de dollars de dépenses d'exploitation par année (comprend une hausse des coûts de 2 % par année).
  - La majorité de ces dépenses directes seront sur des biens et services provenant d'entreprises locales.
  - Les dépenses directes créeront également des retombées pour des entreprises et des communautés locales.

Évaluation des impacts sur l'utilisation des terres

CONDITIONS ACTUELLES

- Le site même était autrefois utilisé pour l'agriculture. Cet usage a été abandonné et la végétation s'est installée de nouveau.
- Il n'existe pas de contraintes sur le plan environnemental, archéologique ou agricole sur le site.
- Le développement résidentiel est limité autour du site, en raison principalement de la mauvaise qualité des eaux souterraines pour appuyer le développement.
- Il y a actuellement un parc industriel à l'ouest et un terrain de golf au nord de l'autre côté de l'autoroute 417.
- Une partie du site est déjà désignée zone d'industrie lourde rurale.

MÉTHODES D'ÉVALUATION

- Les effets potentiels de l'utilisation existante et proposée des terres dans cette région découlant du concept de développement du site préféré ont été évalués. La politique de planification a été évaluée pour déterminer le potentiel de développement futur dans cette région.

RÉCEPTEURS POSSIBLES DES IMPACTS

- Utilisations résidentielles à proximité immédiate

PARAMÈTRES ÉVALUÉS

- Politique de planification
- Déclaration de principes provinciale
- Comité des initiatives de croissance intelligente de l'Est de l'Ontario
- Plan officiel de la Ville d'Ottawa
- Études préliminaires à l'appui du Plan officiel de la Ville d'Ottawa
- Plans de la Commission de la capitale nationale
- Propositions de planification actuelles dans la région

RÉSULTATS DE L'ÉVALUATION DES IMPACTS

- La proposition est conforme à la Déclaration de principes provinciale
  - Faciliter et encourager la réduction, la réutilisation et le recyclage
  - Besoin de fournir des systèmes de gestion des déchets qui sont de taille et de type appropriés pour répondre aux exigences d'aujourd'hui et de demain
- La proposition respecte l'orientation du Comité des initiatives de croissance intelligente :
  - Il faut encourager le réacheminement des déchets
- La proposition est permise dans le Plan officiel de la Ville, pourvu que les études techniques soutiennent le choix de l'emplacement
- La proposition est conforme au Rapport général sur les occasions futures d'emploi, qui appuie les zones à proximité des échangeurs de l'autoroute 417 près de la région urbaine
- La proposition sera évaluée en fonction de l'autoroute 417, ce qui respecte les objectifs du Plan de la capitale du Canada de la Commission de la capitale nationale et du Plan directeur de la Ceinture de verdure
- La Ville d'Ottawa a une (1) proposition active dans la région :
  - un plan pour une gare logistique (un endroit pour séparer les remorques doubles avant d'entrer dans la ville) au coin sud-est du chemin Boundary et de l'autoroute 417
- Le potentiel de développement futur de l'utilisation (résidentielle) des terres écosensibles à proximité est très restreint :
  - Seul le développement rural est permis
  - Des préoccupations au sujet de la disponibilité des réserves en eau souterraine limitent la croissance résidentielle et le développement en général
  - Le zonage industriel actuel dans la région restreint les occasions de développement résidentiel en raison des exigences en matière de distance de séparation de cette zone
  - Les terrains agricoles à l'est ne permettent pas le développement résidentiel
  - Le terrain de golf au nord limite le potentiel résidentiel
  - Le potentiel de développement est limité au nord-ouest en raison de la désignation de milieu naturel

Utilisation des terres et environnement socioéconomique – Évaluation des impacts visuels, perspective 1

Conditions actuelles

Résultats de l'évaluation des impacts (sans berme écran)

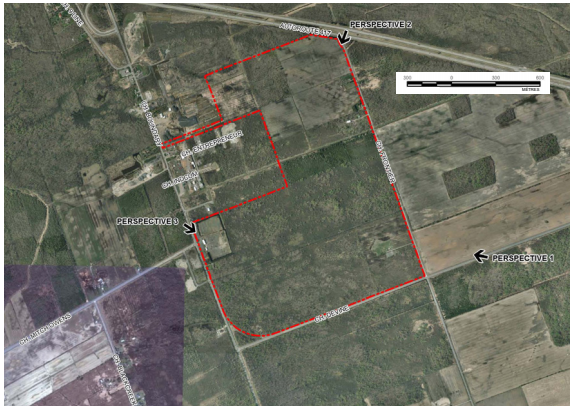
Résultats de l'évaluation des impacts (avec berme écran)

MÉTHODES D'ÉVALUATION

- Une évaluation des effets visuels du projet d'aménagement du site a été réalisée. Un modèle 3D du site a été créé à l'aide du logiciel Visual Nature Studio, afin de permettre d'insérer le site d'enfouissement et les autres installations visibles du site aux photos panoramiques prises sous chaque perspective. Les perspectives ont été sélectionnées de telle sorte qu'elles représentent fidèlement les endroits où une personne pourrait voir le site.

SOURCES DES IMPACTS POSSIBLES

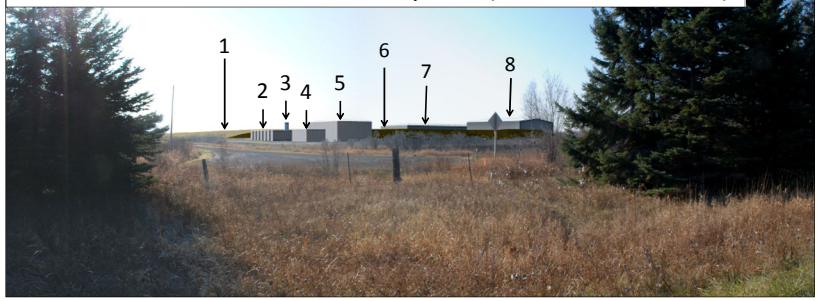
- Les impacts visuels du site d'enfouissement, des bâtiments, de des équipements et des dépôts.



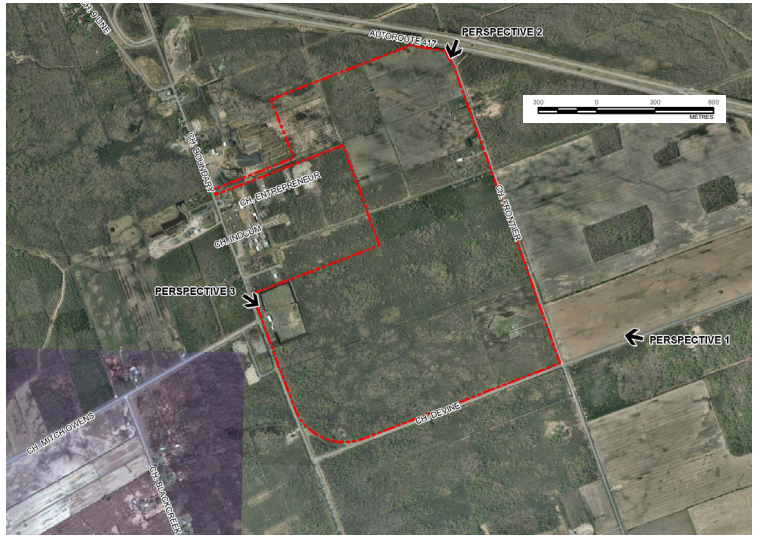
Utilisation des terres et environnement socioéconomique – Évaluation des impacts visuels, perspective 2

Conditions actuelles

Résultats de l'évaluation des impacts (sans berme écran)

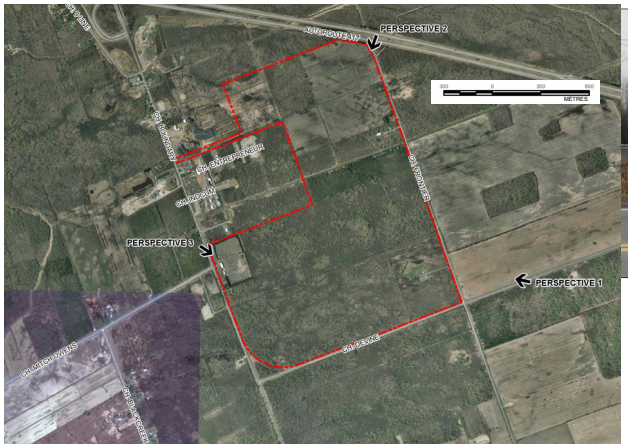


Résultats de l'évaluation des impacts (avec berme écran)



1 - Site d'enfouissement
2 - Génératrices
3 - Torchère
4 - Centrale électrique
5 - Digesteur secondaire
6 - Cellule du réacteur primaire
7 - Usine de traitement des lixiviats
8 - Centre de prétraitement des matières organiques

Utilisation des terres et environnement socioéconomique – Évaluation des impacts visuels, perspective 3



CONDITIONS ACTUELLES

- Le site est actuellement une combinaison de croissance secondaire, une zone circonscrite de champs à vocation agricole, un petit terrain commercial au nord-ouest et un petit terrain autrefois commercial le long de la limite ouest. Il y a aussi une ferme en exploitation et trois bâtiments résidentiels le long du chemin Frontier, à l'angle nord-est du site. Une propriété résidentielle se trouve à l'ouest du site.

MÉTHODES D'ÉVALUATION

- Une évaluation archéologique de phase 1 et une évaluation du patrimoine culturel ont été effectuées pour le projet d'aménagement du site. Ces évaluations reposent sur des inspections du site, une analyse documentaire et des entrevues au sujet du site et de ses environs.

SOURCES D'IMPACTS POSSIBLES

- Perturbation, destruction et/ou déplacement de ressources du patrimoine archéologique ou culturel en raison de la construction et de l'exploitation du site.

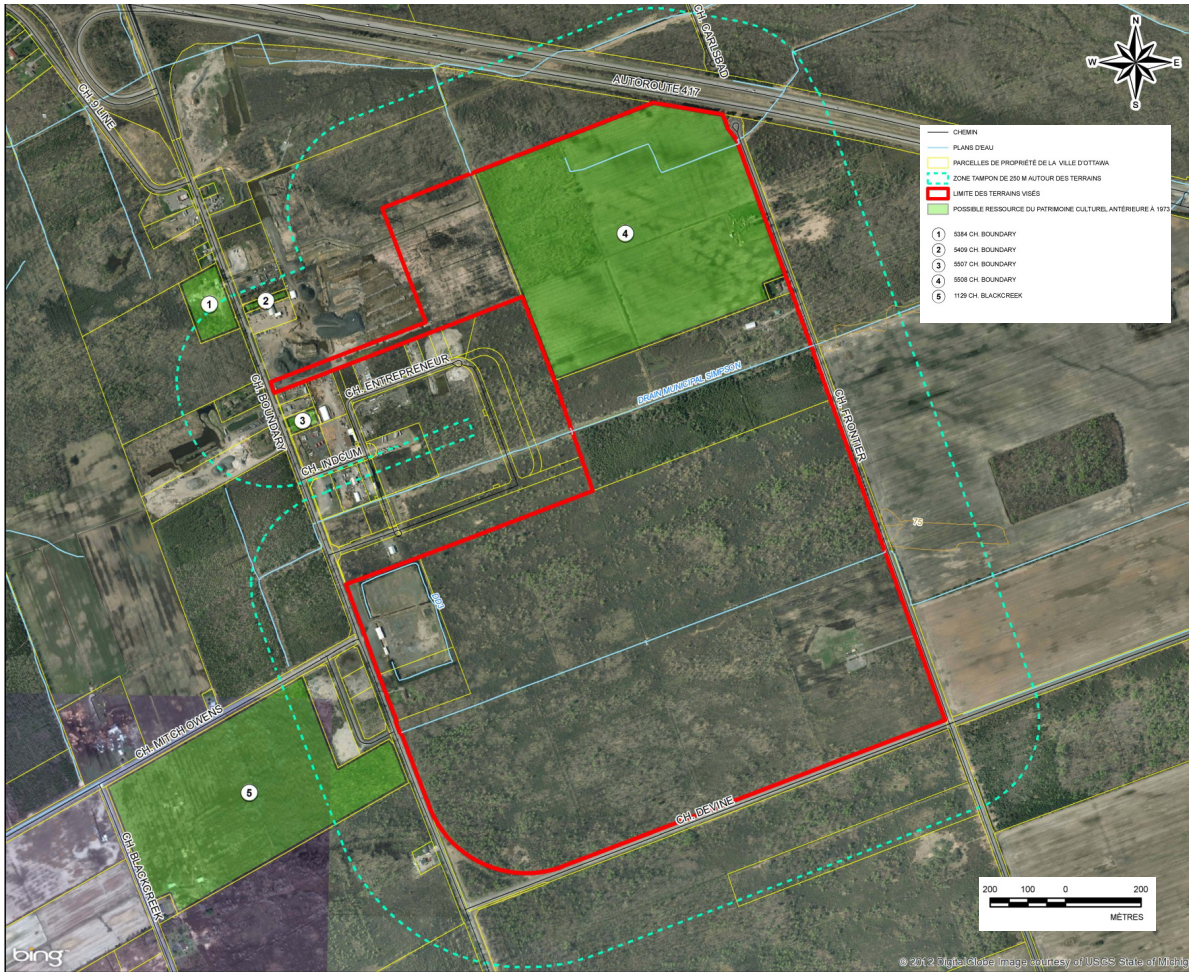
PARAMÈTRES ÉVALUÉS

- Évaluation archéologique
  - On a consulté la Base de données des sites archéologiques du ministère du Tourisme, de la Culture et du Sport afin de répertorier les sites archéologiques inscrits dans un rayon de 3 km autour du site.
  - On a procédé à l'évaluation du site pour le potentiel de sites amérindiens en fonction des caractéristiques topographiques, de la nature des sols et de la proximité de cours d'eau et de terres marécageuses.
  - On a procédé à l'évaluation du potentiel du site après l'arrivée des Européens ou historique, à partir de cartes et de recensements, ainsi que la proximité d'établissements d'enseignement et de lieux de culte d'une valeur historique, de voies de colonisation, de voies ferrées, de sites archéologiques existants, etc.
- Évaluation du patrimoine culturel – On estimait que les propriétés et les paysages d'avant 1973 qui se trouvaient dans un rayon de 250 m du site pouvaient être des ressources d'ordre culturel; celles-ci ont été évaluées en fonction des critères suivants :
  - Valeur matérielle et de la conception (architecture, ouvrage d'artisan, mérite technique)
  - Valeur historique ou associative (histoire de la communauté)
  - Valeur contextuelle (caractère communautaire, repères)

Évaluation des impacts sur le patrimoine culturel (suite)

RÉSULTATS DE L'ÉVALUATION DES IMPACTS

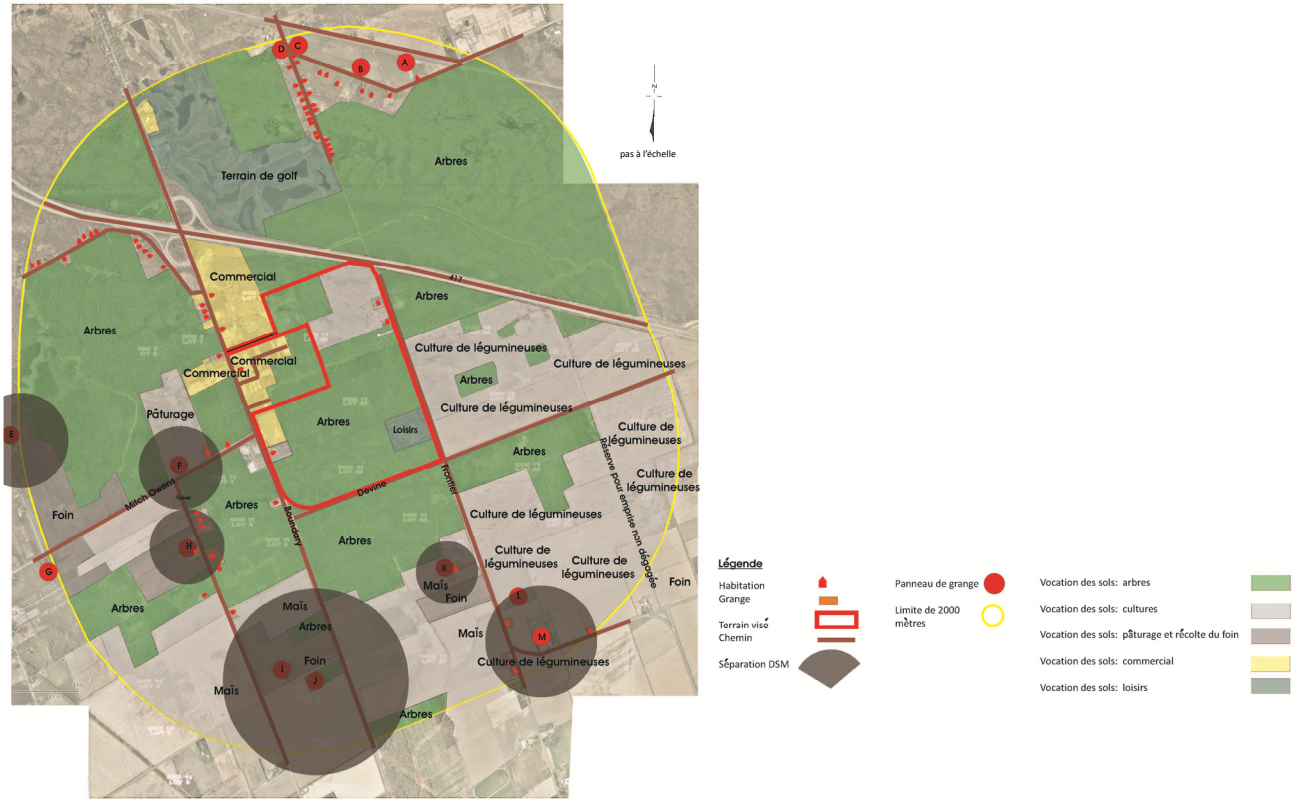
- Aucun site archéologique inscrit sur le territoire du site ni dans la zone environnante.
- Tous les terrains sur le site ont peu ou pas de potentiel archéologique; une évaluation de phase 2 n'est pas requise.
- On a recensé, dans un rayon de 250 m du site, cinq propriétés d'avant 1973 qui pourraient représenter des ressources du patrimoine culturel. Après évaluation, on n'a pas été en mesure de faire la démonstration que l'une ou l'autre de ces ressources représentât une valeur ou un intérêt en tant que patrimoine culturel et, par conséquent, aucune n'est admissible à une désignation en vertu de la *Loi sur le patrimoine de l'Ontario*.



CONDITIONS ACTUELLES

- Une partie importante du site est arboré et repose sur une nappe phréatique dont le niveau est relativement élevé.
- La partie nord du site est cultivée, mais semble mal drainée.
- Sur le site et dans un rayon de 500 m du site, la production agricole ne représente pas d'investissements importants, sauf dans le cas des cultures vivrières dans les champs du côté est.

Carte des terres agricoles



MÉTHODES D'ÉVALUATION

- On a procédé à l'impact possible de l'aménagement proposé pour le site sur la vocation agricole des terres sur le site et en périphérie du site. En tenant compte des pratiques d'exploitation proposées du site, on a procédé à une évaluation des résultats des analyses prévisionnelles des possibles effets nuisibles effectuées par l'équipe chargée de l'étude des effets sur l'atmosphère, des considérations sur les eaux souterraines et les eaux de surface, et des effets possibles sur les utilisations actuelles et proposées des terres agricoles en périphérie du site.

Évaluation des impacts sur l'agriculture (suite)

SOURCES D'IMPACTS POSSIBLES

- Perte de terres agricoles
- Impact sur les cultures
- Contraintes imposées sur les bâtiments destinés au bétail
- Contraintes imposées sur les pratiques normales en matière de culture et d'élevage

PARAMÈTRES ÉVALUÉS

- Potentiel agricole des terres sur le site
- Impacts prévus des pratiques d'exploitation proposées sur le site
- Utilisation actuelle des terres agricoles
  - Sur le site
  - Dans un rayon de 2 000 m du site

RÉSULTATS DE L'ÉVALUATION DES IMPACTS

- Impact limité sur les activités agricoles actuelles et à venir en périphérie du site.
- Une évaluation exhaustive du site a permis de classer le potentiel agricole des terres comme de classe 4 et 5, en raison principalement de leurs caractéristiques hygrométriques et des restrictions aux pratiques culturales.
- Bien qu'il n'y ait actuellement qu'une petite partie du site en culture, on investit peu dans les améliorations agricoles et cette partie, tout comme la totalité du site, n'est pas désignée zone agricole de premier ordre.
- Selon les résultats de l'évaluation des possibles effets nuisibles, on ne prévoit aucun impact sur les cultures.
- L'évaluation de la distance de séparation minimale (DSM) n'indique aucune incompatibilité entre le projet proposé et les bâtiments actuels destinés au bétail (en usage ou inoccupés).
- L'introduction de l'utilisation proposée limitera l'emplacement des bâtiments pour le bétail dans la zone adjacente (c.-à-d. dans les 500 m), mais aucun ne s'y trouve pour l'instant et dans les secteurs au nord et à l'ouest, il y a d'autres utilisations qui limitent déjà la construction de bâtiments pour le bétail.
- L'accès au site le long du chemin Boundary aura peu d'impact sur l'accès aux terres agricoles et à la circulation de la machinerie agricole.
- Aucune mesure d'atténuation ne sera nécessaire.

Évaluation des impacts sur la circulation

CONDITIONS ACTUELLES

- Le débit journalier moyen annuel le long du chemin Boundary est environ 8 000 véhicules au sud de l'autoroute 417. La circulation de camions au sud de l'autoroute 417 pendant 8 heures représente environ 9 à 10 % du volume total de la circulation au cours d'une journée.

MÉTHODES D'ÉVALUATION

- Les effets générés par la circulation de camions qui entrent et sortent du site aux heures de pointe les jours de semaine ont été évalués pour les voies et les intersections à une distance d'environ 1,75 kilomètre du site. Des exigences en matière d'amélioration des routes ont été recensées. On a également évalué les effets possibles de la circulation générée par le site sur les routes environnantes, y compris sur la circulation de la machinerie agricole.

SOURCES D'IMPACTS POSSIBLES

- Le CRRRC aura une entrée principale qui donne directement sur le chemin Boundary. Le site aura un accès auxiliaire donnant sur le chemin Frontier.
- Les déplacements générés par le site devraient consister en ce qui suit :
  - des camions chargés transportant des déchets dont la matière a été séparée à la source et d'autres composés de matières mélangées ainsi que de sols excédentaires et de sols contaminés
  - des camions chargés transportant des matières organiques prétraitées et compostées et d'autres matières valorisées
  - des camions chargés transportant des lixiviats provenant du site d'enfouissement vers le Centre environnemental Robert-O.-Pickard (CEROP) de la ville d'Ottawa pour traitement.
- L'analyse repose sur l'hypothèse que les employés du site arrivent et repartent à l'extérieur des heures de pointe des routes adjacentes.

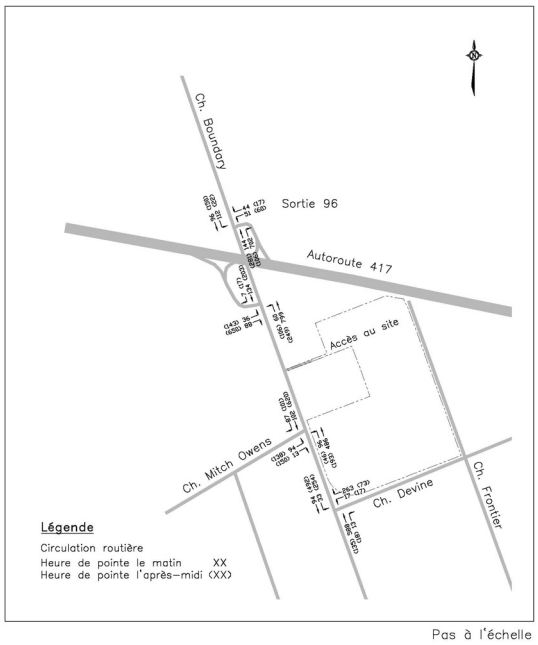
PARAMÈTRES ÉVALUÉS

- Les volumes de la circulation de fond (ajustés en fonction d'une augmentation futur)
- Le nombre des déplacements par camions entrant et sortant du site au cours des heures d'exploitation
- Le niveau de service de chaque virage sur les voies à chaque intersection pertinente. Le niveau de service est déterminé en fonction du ralentissement des véhicules à l'approche du site
- La configuration requise de la voie au point d'accès au site sur le chemin Boundary

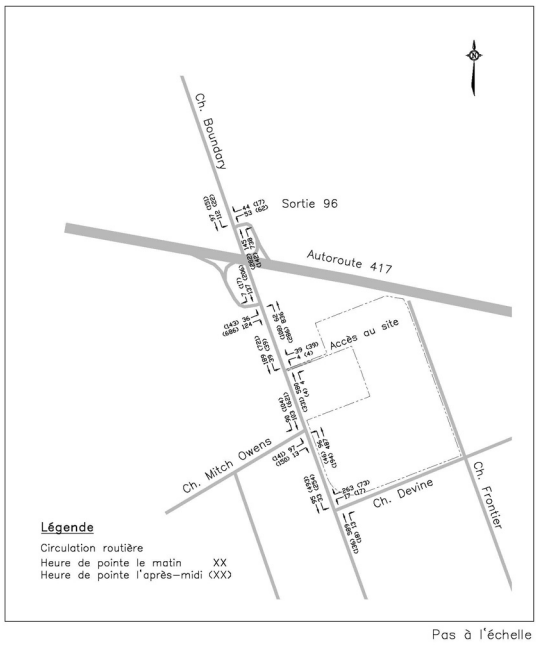
Évaluation des impacts sur la circulation (suite)

RÉSULTATS DE L'ÉVALUATION DES IMPACTS

- Dans le cas d'arrivages d'au plus 3 000 tonnes par jour, le nombre estimé de camions par jour sur une période de 10 heures serait 287 camions entrant et sortant du site.
- Le nombre de déplacements aux heures de pointe s'élèverait à 43 camions entrant et sortant du site.
- Le débit maximal de camions qui circulent au CRRRC représente environ 8 % du débit total le long du chemin Boundary entre l'accès au site et l'autoroute 417. Le débit moyen annuel prévu (1 500 tonnes par jour) serait de l'ordre de 6 %.
- La totalité des intersections suivantes qui se trouvent dans la zone visée par l'étude fonctionnerait à un niveau de service acceptable au cours des heures de pointe les jours de semaine. Aucune intersection ne nécessite des modifications en raison des déplacements de camions au CRRRC :
  - Chemin Boundary et en direction de l'est vers les bretelles d'accès et de sortie de l'autoroute 417
  - Chemin Boundary et en direction de l'ouest vers les bretelles d'accès et de sortie de l'autoroute 417
  - Chemin Boundary et chemin Mitch Owens
  - Chemin Boundary et chemin Devine
- La configuration proposée de la chaussée pour l'accès au site comprend une voie exclusive pour les virages à gauche en direction sud sur le chemin Boundary.
- Il n'y a aucune terre à vocation agricole le long du chemin Boundary, entre l'autoroute 417 et l'accès au site. À ce titre, la circulation générée par le CRRRC le long de ce segment du chemin Boundary n'aura pas d'incidences sur les entrées ni sur la circulation de la machinerie agricole.



Débit <u>de fond</u>
pour les heures de pointe les jours de semaine, matin et soir, 2022



Débit <u>total</u>
pour les heures de pointe les jours de semaine, matin et soir, 2022 (avec le CRRRC)

Exigences en matière de mesures d'atténuation, de programmes de suivi et de plans en cas d'urgence

L'aménagement et l'exploitation du CRRRC devront faire appel à une série de mesures d'atténuation, de programmes de suivi et de plans en cas d'urgence, normalisés et propres au site. Ces mesures, programmes et plans seront traités en détail dans le rapport sur l'aménagement et l'exploitation (qui fera partie du dossier de présentation de l'EE) pour les installations. Voici les points saillants accompagnés d'une brève description.

Discipline	Exigence proposée en matière de mesures d'atténuation, de programmes de suivi et de plans en cas d'urgence
Atmosphère – Air et odeurs	➢ Installation d'un système de captage actif des biogaz émanant du site d'enfouissement et d'un système de captage des gaz de la cellule du réacteur primaire afin de capter les émissions possibles, les dérivant vers une torchère enfermée ou vers une usine de génération d'électricité ➢ Pavage de plusieurs routes et réglementation de la vitesse sur le site ➢ Fermeture progressive du site d'enfouissement et végétalisation des surfaces ➢ Plan de gestion des poussières comprenant des méthodes de contrôle de la génération excessive de poussières ➢ Plan de gestion des odeurs
Atmosphère – Bruit	➢ Recours à la construction de bermes et à la végétalisation dans le périmètre du site, là où il manque d'arbres. ➢ Entretien systématique de la machinerie du site d'enfouissement ➢ Organisation d'une aire d'attente pour les camions à l'intérieur du site ➢ Bermes temporaires face au front de déchets du côté ouest du site d'enfouissement et autour des phases de décharge active, au besoin
Environnement géologique, hydrogéologique et géotechnique	➢ Une barrière hydraulique autour du site d'enfouissement sera érigée pour prévenir les possibles impacts sur les eaux souterraines à l'intérieur de la strate superficielle composée de sable limoneux ➢ Système de récupération des lixiviats sous la totalité du site d'enfouissement ➢ Nettoyage et drainage des canalisations du système de récupération des lixiviats ➢ Réacteur primaire pour matières organiques et cellules de traitement des sols dotés d'une doublure et bassin(s) de rétention des lixiviats ➢ Suivi de la qualité des eaux souterraines sous les endroits du site présentant un déclivité ascendante et descendante et aux limites du terrain ➢ Suivi géotechnique de l'affaissement du site d'enfouissement ➢ Puits de drainage des lixiviats et collecteurs ou intercepteurs dans le périmètre des eaux souterraines comme mesures en cas d'urgence

Exigences en matière de mesures d'atténuation, de programmes de suivi et de plans en cas d'urgence (suite)

Discipline	Exigence proposée en matière de mesures d'atténuation, de programmes de suivi et de plans en cas d'urgence
Eaux de surface	➢ Séparation physique des eaux de ruissellement propres qui entrent en contact avec des déchets ➢ Réseaux de tranchées conçus pour acheminer les eaux pluviales et réduire au maximum les changements à apporter aux drains installés sur le site avant l'aménagement. ➢ Bassins de rétention des eaux pluviales permettant de réguler les débits de pointe éventuels en fonction des conditions avant l'aménagement du site, d'enlever les sédiments et d'améliorer la qualité des eaux de surface. ➢ Suivi de la qualité de l'eau des bassins de rétention des eaux pluviales et des tranchées d'évacuation pour confirmer les prévisions selon lesquelles la qualité des eaux de surface sur le site et à l'extérieur ne sera pas compromise par le projet ➢ Entretien et inspection des tranchées et des bassins sur le site pour s'assurer de maintenir les capacités (notamment au cours de la construction du site) ➢ Pose, au besoin, d'une ou de plusieurs soupapes aux bassins pour évacuer les eaux du site lorsqu'il est fortement recommandé de procéder ainsi à la lecture du suivi permanent de la qualité des eaux de surface.
Biologie	➢ Maintien, dans la mesure du possible, de zones tampons végétalisées ➢ Stabilisation et végétalisation des sols déplacés ou exposés à la suite de travaux de construction (ou utilisation d'autres matériaux ou application des mesures pertinentes aux conditions du site) ➢ Dans la mesure du possible, la coupe de la végétation aura lieu après la saison de reproduction des oiseaux migrateurs.
Utilisation des terres et impacts socioéconomiques	➢ Utilisation de bermes et végétalisation du périmètre du site là où il n'y a pas encore suffisamment d'arbres. L'érection de bermes et la plantation d'arbres sont des volets prioritaires des travaux de construction. ➢ Suivi permanent de l'avancement des travaux de plantation d'arbres dans le périmètre ➢ Aménagement du paysage tel que requis au cours de l'exploitation du site ➢ Mise sur pied d'un comité de liaison avec la communauté
Circulation	➢ Mise en place d'une voie exclusive pour les virages à gauche sur le chemin Boundary en direction du sud

OPTIONS DE GESTION DES LIXIVIATS – MÉTHODOLOGIE

- En tenant compte de la gestion et du traitement des lixiviats qui se font actuellement dans d'autres sites d'enfouissement des déchets et de la réglementation en vigueur en matière d'approbations, on prévoit qu'il sera possible de construire une usine de traitement des lixiviats sur le site qui permettra d'obtenir des effluents de haute qualité qui pourront être rejetés dans le réseau local des eaux de surface. On a procédé à l'examen des technologies de traitement des lixiviats sur place et l'option privilégiée de traitement sur place a été retenue en raison de son rendement démontré et de son rapport coût-efficacité.
- D'autres options de réception et de traitement des lixiviats hors site ont été évaluées et des solutions de rechange pour transporter les lixiviats vers d'autres sites de traitement ont été envisagées.
- Une analyse comparative de la technologie privilégiée de traitement sur place des lixiviats et d'une solution de rechange viable de traitement hors site a été réalisée aux termes de l'annexe B du mandat.

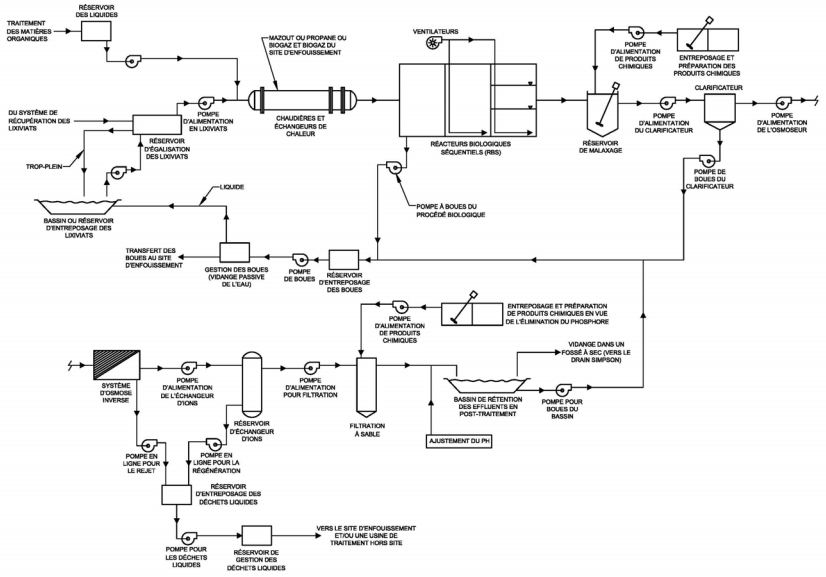
POINTS À CONSIDÉRER AU SUJET DES LIXIVIATS

- Un lixiviat est le liquide résiduel produit par la percolation de l'eau au travers des déchets et qui se mêle aux composants de ces déchets à mesure qu'elles s'y infiltrent. Le site d'enfouissement du CRRRC sera doté d'un système de récupération des lixiviats conçu en conformité avec les dispositions du règlement de l'Ontario 232/98.
- Tant la qualité que la quantité des lixiviats provenant du site d'enfouissement varieront au cours de l'exploitation du site d'enfouissement et après sa fermeture.
- Quant à l'usine de traitement des matières organiques, elle produira elle aussi une lessive qui devra être récupérée puis traitée en même temps que les lixiviats.

GESTION DES LIXIVIATS SUR LE SITE

- L'examen des options a indiqué que le traitement des lixiviats récupérés serait plus adéquat en recourant à des procédés de filtration au moyen de membranes et de sables et à des procédés par sorption chimique et biologique, de sorte que les lixiviats traités sont conformes aux objectifs provinciaux de qualité des eaux, lesquels visent à protéger toutes les formes de vie aquatique.
- Les lixiviats traités seraient évacués dans un cours d'eau; le drain Simpson serait proposé comme drain collecteur.

Schéma du procédé de traitement des lixiviats sur le site

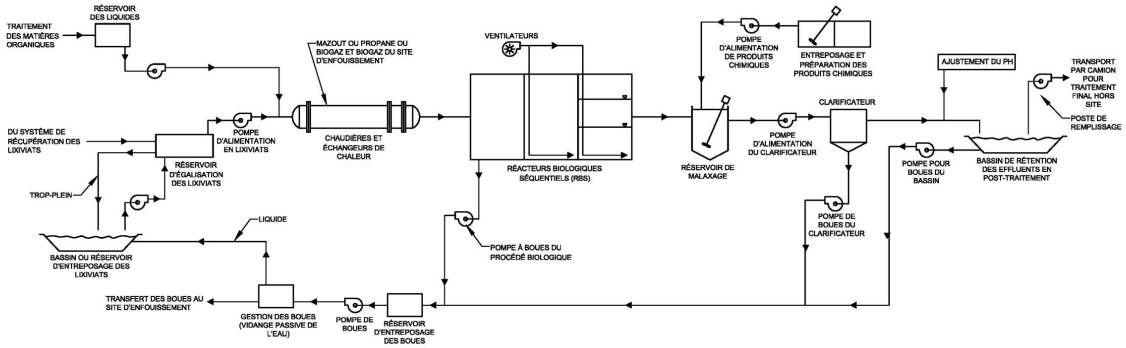


Gestion des lixiviats (suite)

GESTION DES LIXIVIATS HORS SITE

- Un examen des options a permis de déterminer qu'un traitement final hors site par l'usine de traitement des eaux usées de la Ville d'Ottawa était possible.
- À la suite de la lecture des renseignements à sa disposition et de consultations auprès de la municipalité, Taggart Miller a conclu qu'il est raisonnable de demander que l'usine municipale accepte les lixiviats du CRRRC afin de les traiter, à la condition que les eaux usées soient conformes aux limites imposées par le règlement sur l'utilisation des égouts et qu'il y ait une entente à cet effet.
- Cette option prévoit un prétraitement des lixiviats et un dernier traitement à l'usine de traitement des eaux usées de la ville d'Ottawa.
- Les lixiviats seraient transportés à l'usine de traitement des eaux usées de la Ville d'Ottawa par camions-citernes en attendant qu'une option avec conduite de refoulement soit disponible.
- La méthode privilégiée de prétraitement des lixiviats récupérés fait appel à des procédés chimiques et biologiques.

Schéma du procédé de prétraitement des lixiviats hors site



COMPARAISON DES OPTIONS DE GESTION DES LIXIVIATS

- Les éléments environnementaux pris en compte au cours de l'analyse comparative comprennent entre autres :

Atmosphère	Géologie et hydrogéologie
Eaux de surface	Biologie
Utilisation des terres	Circulation
Efficacité sur le plan technique	Admissibilité à une approbation réglementaire
Coûts en immobilisations et coûts d'exploitation	

- Les critères et les indicateurs qui ont servi à l'analyse comparative sont ceux à l'annexe B du mandat approuvé.

Gestion des lixiviats (suite)

COMPARAISON DES OPTIONS DE GESTION DES LIXIVIATS

Critère Environnementale	Traitement des lixiviats sur le site et décharge vers le drain Simpson	Prétraitement des lixiviats sur le site et gestion des lixiviats dans un autre site à l'usine de traitement de la Ville d'Ottawa
Atmosphère – Air et odeur	**Classé au deuxième rang parce que :** Les opérations de traitement auraient un plus grand nombre de procédés complexes, par conséquent il y a augmentation du potentiel de production d'odeurs	**Classé au premier rang parce que :** Les opérations de prétraitement auraient moins de procédés complexes, par conséquent il y a moins de potentiel de production d'odeurs
Atmosphère – Qualité de l'air	**Classé au deuxième rang parce que :** Les opérations de traitement auraient un plus grand nombre de procédés complexes, par conséquent il y a augmentation du potentiel d'impactes sur la qualité de l'air	**Classé au premier rang parce que :** Les opérations de prétraitement auraient moins de procédés complexes, par conséquent il y a moins de potentiel de production d'impactes sur la qualité de l'air
Atmosphère – Bruit	**Classé au deuxième rang parce que :** Cette option comprend plus d'équipement et, par conséquent, le potentiel de générer plus de bruit	**Classé au premier rang parce que :** Cette option comprend moins d'équipement et, par conséquent, générerait moins de bruit.
Géologie et hydrogéologie – Qualité des eaux souterraines	**Classé au premier rang (égalité) parce que :** Aucun effet prévu sur la qualité des eaux souterraines à proximité du site	**Classé au premier rang (égalité) parce que :** Aucun effet prévu sur la qualité des eaux souterraines hors site
Eaux de surface – Qualité des eaux de surface	**Classé au deuxième rang parce que :** Bien que cette option est conçue pour répondre aux objectifs provinciaux en matière de qualité de l'eau dans le cours d'eau de surface de réception, il y aura un débit à gérer et à surveiller et certaines concentrations de paramètres augmenteront à partir des conditions de référence. Le débit limité dans le cours d'eau de surface de réception fournira une zone de mélange.	**Classé au premier rang parce que :** Aucun effet prévu sur la qualité des eaux de surface à proximité du site. L'usine de la Ville d'Ottawa est tenu de répondre aux objectifs provinciaux en matière de qualité de l'eau dans le cours d'eau pour l'usine de traitement des eaux usées de la Ville d'Ottawa.
Eaux de surface – Quantité des eaux de surface	**Classé au premier rang (égalité) parce que :** Cette option se déchargerait les eaux vers le drain Simpson. La quantité de décharge serait contrôlée et contribuera une petite quantité du débit total.	**Classé au premier rang (égalité) parce que :** Cette option déchargerait les eaux vers la rivière des Outaouais et aurait un effet négligeable.
Biologie – Ressources biologiques aquatiques	**Classé au deuxième rang parce que :** Bien que cette option est conçue pour répondre aux objectifs provinciaux en matière de qualité de l'eau dans le cours d'eau de surface de réception, il y aura une décharge à gérer et à surveiller et certaines concentrations de paramètres augmenteront à partir des conditions de référence.	**Classé au premier rang parce que :** Cette option n'a aucune influence sur les ressources biologiques aquatiques dans le secteur du site et le traitement des lixiviats du CRRRC par l'usine de la Ville n'aurait aucun effet important sur les ressources aquatiques à cet emplacement.

COMPARAISON DES OPTIONS DE GESTION DES LIXIVIATS (suite)

Critère Environnementale	Traitement des lixiviats sur le site et décharge vers le drain Simpson	Prétraitement des lixiviats sur le site et gestion des lixiviats dans un autre site à l'usine de traitement de la Ville d'Ottawa
Biologie – Ressources biologiques terrestres	**Classé au premier rang (égalité) parce que :** Rien ne permet de distinguer les deux options pour ce critère puisque la zone dans laquelle l'installation sera située sera perturbé en tout cas	**Classé au premier rang (égalité) parce que :** Rien ne permet de distinguer les deux options pour ce critère puisque la zone dans laquelle l'installation sera située sera perturbé en tout cas
Utilisation des terres	**Classé au premier rang (égalité) parce que :** Aucun impact prévu sur l'utilisation future certaine ou probable des terres.	**Classé au premier rang (égalité) parce que :** Aucun impact prévu sur l'utilisation future certaine ou probable des terres.
Circulation	**Classé au premier rang parce que :** Cette option ne comprend pas des camions qui transportent des lixiviats.	**Classé au deuxième rang parce que :** Cette option comprend des camions qui transportent des lixiviats, qui généreront de la circulation additionnelle liée au site.
Efficacité technique	**Classé au deuxième rang parce que :** Un traitement complet est nécessaire pour répondre aux objectifs provinciaux en matière de qualité de l'eau. Moins flexible aux écarts de qualité des lixiviats.	**Classé au premier rang parce que :** Les lixiviats peuvent être facilement traités pour répondre aux limites du règlement relatif aux égouts. Le traitement ne nuira pas aux opérations ou au rendement de l'usine de traitement des eaux usées de la Ville d'Ottawa.
Approbation réglementaire	**Classé au deuxième rang parce que :** Ce type de système de traitement a été approuvé pour le traitement des eaux usées dans la province de l'Ontario, et affiche habituellement un rendement acceptable. Cependant, il nécessitera un examen réglementaire plus poussé.	**Classé au premier rang parce que :** Le système de prétraitement des lixiviats est facilement approuvé. Le système de traitement de la Ville est déjà approuvé.
Coûts en capital et coûts de fonctionnement	**Classé au deuxième rang parce que :** Coût en capital plus élevé par rapport à l'autre option. Exigences et coûts opérationnels plus élevés. Une surveillance de la qualité de la décharge est nécessaire.	**Classé au premier rang parce que :** Coût en capital plus faible par rapport à l'autre option. Exigences et coûts opérationnels plus faibles. Une surveillance de la qualité de la décharge est nécessaire.
CLASSEMENT GÉNÉRAL	**2e**	**1er**

L'option de gestion des lixiviats à privilégier est le prétraitement sur le site et le transport en camion vers l'usine de traitement de la municipalité. Si l'option de la Ville d'Ottawa n'est pas disponible, l'option sur le site décrite ci-dessus sera retenue.

Évaluation des effets cumulatifs

- Dans le mandat approuvé, Taggart Miller a proposé de réaliser une évaluation des possibles effets cumulatifs du projet du CRRRC ainsi que des autres activités prévues, connues ou probables, à proximité du site.
- Les effets cumulatifs tiennent compte des effets d'un projet qui se comporteraient vraisemblablement de manière cumulative avec les effets d'autres activités ou de projets existants ou prévisibles dans un avenir raisonnable.
- Le zonage en vigueur a été considéré lors de la détermination de la région pour cette évaluation :
  - Immédiatement au nord : le corridor de l'autoroute 417
  - Immédiatement à l'ouest : zone d'industrie lourde rurale avec une zone résidentielle limitée
  - Plus à l'ouest et au sud, au sud-ouest et au nord-est : zone rurale et largement non développée
  - Plus au sud ouest et au sud, et au sud-est et à l'est : zone agricole
  - Au nord-ouest de l'échangeur du chemin Boundary et de l'autoroute 417 : désignation de milieu naturel
  - Au nord de l'autoroute 417 : un terrain de golf
- Les terres rurales sont largement non développées et possèdent un potentiel limité de développement futur; les terres agricoles sont utilisées à des fins agricoles et devraient le rester; le parc industriel est partiellement développé et il s'y trouve peu d'activité.
- Il n'y a qu'une seule proposition connue de nouvelles installations au sud-est du chemin Boundary et de l'autoroute 417 pour découpler les camions-remorques doubles en camions-remorques simples pour se rendre à des sites dans la ville.
- On a émis l'hypothèse que l'exploitation et le rendement des activités hors site respectent les normes et les exigences pertinentes.
- Les composantes environnementales suivantes ont été considérées pour l'évaluation des effets cumulatifs :
  - Atmosphère
  - Géologie et hydrogéologie
  - Eaux de surface
  - Biologie
  - Utilisation des terres et aspect socioéconomique
  - Agriculture
  - Circulation

Évaluation des effets cumulatifs (suite)

Composante environne-mentale	Critères d'évaluation	Possibles effets du projet de CRRRC	Possibles effets cumulatifs	Mesures d'atténuation du CRRRC	Possibles effets cumulatifs résiduels
Atmosphère	Odeurs	Odeurs	Odeurs d'autres sources combinées aux odeurs émanant du CRRRC	Mettre en œuvre les mesures d'atténuation des odeurs proposées par le CRRRC	On ne s'attend à aucun effet cumulatif résiduel substantiel étant donné les mesures d'atténuation du CRRRC et le fait que les autres projets et activités doivent se conformer aux normes et aux exigences du MEO
	Poussière	Émissions de poussière	La poussière associée aux activités existantes de traitement des sols et de mise en dépôt des terres ainsi que les pratiques agricoles se combinent à la poussière provenant du CRRRC	Mettre en œuvre les mesures d'atténuation de la poussière proposées par le CRRRC	On ne s'attend à aucun effet cumulatif résiduel substantiel étant donné les mesures d'atténuation du CRRRC et le fait que les autres projets et activités doivent se conformer aux normes et aux exigences du MEO
	Qualité de l'air	Émission de composés réglementés	Les émissions atmosphériques d'autres projets et activités se combinent avec les émissions atmosphériques du CRRRC	Mettre en œuvre les mesures d'atténuation liées à la qualité de l'air proposées par le CRRRC	On ne s'attend à aucun effet cumulatif résiduel substantiel étant donné les mesures d'atténuation du CRRRC et le fait que les autres projets et activités doivent se conformer aux normes et aux exigences du MEO
	Bruit	Émissions de bruit	Les émissions de bruit d'autres projets et activités se combinent avec les émissions de bruit du CRRRC	Mettre en œuvre les mesures d'atténuation du bruit proposées par le CRRRC	On ne s'attend à aucun effet cumulatif résiduel substantiel étant donné les mesures d'atténuation du CRRRC et le fait que les autres projets et activités doivent se conformer aux normes et aux exigences du MEO
Hydrogéologie	Qualité des eaux souterraines	Impacts sur la qualité des eaux souterraines	Les impacts sur la qualité des eaux souterraines d'autres projets et activités se combinent aux impacts sur la qualité des eaux souterraines du CRRRC	Concevoir et exploiter le CRRRC de manière à respecter les lignes directrices et les normes provinciales pertinentes relatives à la protection de la qualité des eaux souterraines à l'intérieur des limites de la propriété	On ne s'attend à aucun effet cumulatif résiduel substantiel étant donné les mesures d'atténuation du CRRRC et le fait que les autres projets et activités doivent se conformer aux normes et aux exigences du MEO
	Débit des eaux souterraines	Impacts sur le débit des eaux souterraines	Les impacts d'autres projets et activités sur le débit des eaux souterraines se combinent à ceux du CRRRC	Aucune n'est requise	On ne s'attend à aucun effet cumulatif

Évaluation des effets cumulatifs (suite)

Composante environne-mentale	Critères d'évaluation	Possibles effets du projet de CRRRC	Possibles effets cumulatifs	Mesures d'atténuation du CRRRC	Possibles effets cumulatifs résiduels
Eaux de surface	Qualité des eaux de surface	Impacts sur la qualité des eaux de surface	Les impacts sur la qualité des eaux de surface d'autres projets et activités se combinent avec les impacts sur la qualité des eaux de surface du CRRRC	Concevoir et exploiter le CRRRC de manière à respecter les lignes directrices et les normes provinciales pertinentes relatives à la qualité des eaux de surface	On ne s'attend à aucun effet cumulatif résiduel substantiel étant donné les mesures d'atténuation du CRRRC et le fait que les autres projets et activités doivent se conformer aux normes et aux exigences du MEO
	Débits des eaux de surface	Impacts sur le débit des eaux de surface	Les impacts d'autres projets et activités sur le débit des eaux de surface se combinent à ceux du CRRRC	Taux de décharge contrôlé aux récepteurs des eaux de surface par le système de gestion des eaux de ruissellement	On ne s'attend à aucun effet cumulatif
Biologie	Ressources biologiques aquatiques	Modification de l'habitat en raison d'un déplacement des fossés	Il est peu probable que les impacts du CRRRC sur les ressources biologiques aquatiques du CRRRC se produisent en même temps et à un même endroit ou qu'ils soient de même nature que ceux d'autres sources	Restaurer et améliorer l'habitat comme il convient	On ne s'attend à aucun effet cumulatif.
	Ressources biologiques terrestres	Suppression de la végétation et perturbation de la faune et de la flore	Il est peu probable que les impacts du CRRRC sur les ressources biologiques terrestres se produisent en même temps, à un même endroit ou qu'ils soient de même nature que ceux d'autres sources	Restaurer et améliorer l'habitat qui reste comme il convient	On ne s'attend à aucun effet cumulatif.
Utilisation des terres et aspect socio-économique	Utilisation des terres	Effet de nuisance des utilisations de la terre à l'extérieur du site	Effets liés aux nuisances cumulatives provenant d'autres projets et activités et du CRRRC	Mettre en œuvre les mesures d'atténuation proposées par le CRRRC relativement à la poussière, à la qualité de l'air et au bruit en matière de conception et d'exploitation afin d'assurer le respect des normes du MEO	On ne s'attend à aucun effet cumulatif résiduel substantiel étant donné les mesures d'atténuation du CRRRC et le fait que les autres projets et activités doivent se conformer aux normes et aux exigences du MEO

Évaluation des effets cumulatifs (suite)

Composante environne-mentale	Critères d'évaluation	Possibles effets du projet de CRRRC	Possibles effets cumulatifs	Mesures d'atténuation du CRRRC	Possibles effets cumulatifs résiduels
Utilisation des terres et aspect socio-économique	Aspect socio-économique	Augmentation des dépenses directes locales et de l'emploi	L'activité économique combinée peut conduire à des emplois et des investissements supplémentaires à l'extrémité est d'Ottawa	Aucun	On s'attend à des effets positifs.
	Aspect visuel	Le CRRRC peut être visible de certains points de vue	Il est peu probable que l'impact visuel du CRRRC interagisse de manière cumulative avec d'autres projets et activités dans le même champ visuel	Installer des écrans devant le CRRRC là où ils sont nécessaires	On ne s'attend à aucun impact visuel cumulatif substantiel
Agriculture		Aucun effet matériel n'a été établi	Aucun	Mettre en œuvre les mesures d'atténuation proposées par le CRRRC relativement à la poussière, à la qualité de l'air et au bruit en matière de conception et d'exploitation afin d'assurer le respect des normes du MEO	On ne s'attend à aucun effet cumulatif
Circulation		Augmentation de la circulation	➢ Les activités et les projets existants ont déjà été pris en compte dans l'évaluation de la circulation du CRRRC ➢ Tout projet, autre que celui de CRRRC, pouvant accroître la circulation sera tenu d'étudier les questions de circulation propres à ce projet	Dispositions d'amélioration du chemin Boundary au point d'accès du site, y compris une voie exclusive pour les virages à gauche en direction sud sur le chemin Boundary	Compte tenu des mesures d'atténuation prévues pour le CRRRC et nécessaires pour tout projet concernant les impacts sur la circulation, on ne s'attend à aucun effet cumulatif substantiel

En tenant compte de l'évaluation des effets cumulatifs, il a été déterminé qu'aucun des possibles effets cumulatifs résiduels n'était substantiel.

Prochaines étapes et calendrier

Renseignements supplémentaires – Veuillez visiter l'accueil pour obtenir le document contenant l'information suivante :

- Les grandes lignes de la proposition de dossier portant sur la documentation de l'évaluation environnementale en vertu de la *Loi sur la protection de l'environnement*
- Un aperçu du calendrier proposé pour les présentations
- Un aperçu du processus de prise de décisions du ministère de l'Environnement
- Les plans concernant la diffusion, pour étude, de l'ébauche de rapport sur l'évaluation environnementale

À la suite de la séance portes ouvertes nº 5, Taggart Miller entend faire ce qui suit :

- Terminer les ébauches de rapports dans le cadre de l'évaluation environnementale
- Tenir la séance portes ouvertes n° 6 afin de présenter l'ébauche de rapport sur l'évaluation. La séance portes ouvertes nº 6 devrait avoir lieu au cours de l'hiver ou du printemps 2014.

De nombreuses possibilités s'offrent à vous pour participer et exprimer votre opinion.

- Remplir la fiche de commentaires qui vous a été remise à la cinquième séance portes ouvertes.
- Demander la tenue d'une réunion ou des renseignements supplémentaires.
- Consulter notre site Web **CRRRC.ca** pour obtenir des renseignements et nous faire part de vos commentaires.

Responsable du projet
Monsieur Hubert Bourque, directeur de projet
a/s de Taggart Miller Environmental Services
225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
Téléphone : 613-454-5580
Télécopieur : 613-454-5581
Courriel : hjbourque@crrrc.ca

Appendix E-9

Bilingual Comment Sheet

Name _____ **Address** _____

Email _____ **Phone** _____

Thank you for attending Open House #5.

Please provide your comments on anything presented at this Open House in the space provided below.

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All personal information included in a submission – such as name, address, telephone number and property location – is collected, maintained and disclosed by the Ministry of the Environment for the purpose of transparency and consultation. The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s.37 of the *Freedom of Information and Protection of Privacy Act* (FIPPA). Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential.

For more information, please contact the Ministry of the Environment's Freedom of Information and Privacy Coordinator at (416) 327-1434.

Nom _____ **Adresse** _____

Courriel _____ **Téléphone** _____

Merci de participer aux portes ouvertes n° 5.

Veuillez fournir vos commentaires sur tout sujet présenté à ces portes ouvertes dans l'espace fourni ci-dessous.

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Tous les renseignements personnels tels que le nom, l'adresse, le numéro de téléphone et l'emplacement de la propriété qui sont inclus dans une soumission sont recueillis, conservés et divulgués par le ministère de l'Environnement aux fins de transparence et de consultation. Les renseignements sont recueillis en vertu de la *Loi sur les évaluations environnementales* ou sont recueillis et conservés dans le but de créer un dossier qui sera diffusé au grand public aux termes de la *Loi sur l'accès à l'information et la protection de la vie privée*. Les renseignements que vous soumettez feront partie d'un dossier public qui restera accessible au grand public à moins que vous demandiez que vos renseignements personnels demeurent confidentiels.

Pour en savoir plus, veuillez communiquer avec le coordonnateur; Accès à l'information et protection de la vie privée au 416-327-1434.

Appendix E-10

Bilingual Overview of the EA/EPA Study Report

Overview of the Environmental Assessment (EA)/Environmental Protection Act (EPA) Study Report

- The study report is anticipated to consist of four volumes as follows:
  - Volume 1 Environmental Assessment (including technical support documents on discipline assessment results, as required);
  - Volume 2 Consultation Record;
  - Volume 3 Hydrogeology Report;
  - Volume 4 Design and Operations Report (including Stormwater Management, Leachate Management, Acoustic Assessment and Air Quality and Odour Assessment appendices).

Proposed Schedule

- Taggart Miller is working towards submitting the draft EA/EPA study report for public and agency review this winter or in the early spring of 2014, which would commence the 7 week review period.

- Open House #6, to review the draft report, will be scheduled within the draft review period.

- Formal submission of the final EA/EPA report would occur thereafter, which would commence the 7 week review period.

Overview of Ministry of the Environment Decision-Making Process

- During each of the two 7 week review periods for the draft and final EA/EPA study report, any interested party can provide comments on the documents to the Ministry of the Environment.

- For the final report submission, the Ministry of the Environment staff takes 5 weeks to write and publish a review of the environmental assessment document, called the "Ministry Review".

- Following completion of the Ministry Review, any interested party has five weeks to provide comments to the Ministry of the Environment.

- All comments received are taken into consideration prior to making a decision. Projects that go through the EA process require approval from the Minister of the Environment and Cabinet. Following receipt of the Ministry Review, the Minister has up to 13 weeks to make a decision about the EA. The Minister has three options:
  - Refer it to mediation;
  - Refer it to the Environmental Review Tribunal for a hearing;
  - Make a decision to approve, approve with conditions or refuse the EA.

Distribution of the Draft Environmental Assessment/Environmental Protection Act Study Report

- The draft and final EA/EPA study report will be posted on the project website and be available for electronic secure file transfer. Hard copies of the document will be available for review on-site at the Taggart Miller office in Ottawa as well as the Ottawa District Ministry of the Environment office. Locations to review the draft and final EA/EPA study report are as follows:

Taggart Miller Environmental Services 225 Metcalfe Street, Suite 708 Ottawa, Ontario	Carlsbad Springs Community Centre 6020 Piperville Road Carlsbad Springs, Ontario
Township of Russell Public Library 1053 Concession Street Russell, Ontario	City of Ottawa Public Library, Blackburn Hamlet Branch 199 Glen Park Drive Ottawa, Ontario
Ministry of the Environment Ottawa District Office 2430 Don Reid Drive Ottawa, Ontario	Project Website www.crrrrc.ca

- Notification that the study report is available will be advertised in local papers and e-mails will be sent to those on the project notification list approximately one week in advance of the documents being available for review.

Aperçu du rapport d'étude sur l'évaluation environnementale (EE) et la Loi sur la protection de l'environnement (LPE)

- On s'attend à ce que le rapport d'étude consiste en quatre volumes, comme suit:
  - Volume 1 Évaluation environnementale (y compris des documents d'appui technique sur les résultats d'évaluation des disciplines, le cas échéant);
  - Volume 2 Dossier des consultations;
  - Volume 3 Rapport d'hydrogéologie;
  - Volume 4 Rapport de conception et d'exploitation (y compris les annexes sur la gestion des eaux de ruissellement, la gestion des lixiviats, l'évaluation acoustique et l'évaluation de la qualité de l'air et de l'odeur).

Échéancier proposé

- Taggart Miller travaille actuellement sur la présentation de l'ébauche du rapport d'étude sur l'EE et la LPE aux fins d'examen par le public et les organismes au début du printemps 2014, ce qui lancera la période d'examen de sept semaines.

- La date de la séance portes ouvertes n° 6, dont le but est l'examen de l'ébauche du rapport, sera fixée durant la période d'examen de l'ébauche.

- La présentation officielle du rapport final sur l'EE et la LPE aura lieu par la suite et marquera le début de la période d'examen de sept semaines.

Aperçu du processus décisionnel du ministère de l'Environnement

- Durant chacune des deux périodes d'examen de sept semaines pour l'ébauche et la version définitive du rapport d'étude sur l'EE et la LPE, toute partie intéressée peut fournir des commentaires concernant les documents au ministère de l'Environnement.

- En ce qui concerne la présentation du rapport final, il faut cinq semaines au personnel du ministère de l'Environnement pour rédiger et publier un examen du document d'évaluation environnementale, appelé « Examen du ministère ».

- Lorsque l'Examen du ministère est terminé, toute partie intéressée dispose de cinq semaines pour fournir des commentaires au ministère de l'Environnement.

- Tous les commentaires reçus sont pris en considération avant la prise de décision. Les projets qui suivent le processus de l'EE nécessitent l'approbation du ministère de l'Environnement et du Cabinet. À la suite de l'Examen du ministère, le ministère dispose d'une période allant jusqu'à 13 semaines pour prendre une décision sur l'EE. Le ministère a trois options:
  - Le soumettre à la médiation;
  - Le soumettre au Tribunal de l'environnement pour une audience publique;
  - Prendre la décision d'approuver, d'approuver sous réserve de conditions ou de refuser l'EE.

Distribution de l'ébauche du rapport d'étude sur l'évaluation environnementale et la Loi sur la protection de l'environnement

- L'ébauche et la version définitive du rapport d'étude sur l'EE et la LPE seront affichées sur le site Web du projet et disponibles pour le transfert sécuritaire de fichiers par voie électronique. Des copies sur papier du document pourront être obtenues aux fins d'examen au bureau même Taggart Miller à Ottawa de même qu'au bureau du district d'Ottawa du ministère de l'Environnement. Voici les endroits où se tiendra l'examen de l'ébauche et de la version définitive du rapport d'étude sur l'EE et la LPE:

Taggart Miller Environmental Services 225, rue Metcalfe, bureau 708 Ottawa (Ontario)	Centre communautaire de Carlsbad Springs 6020 chemin Piperville Carlsbad Springs (Ontario)
Bibliothèque publique du canton de Russell 1053, rue Concession Russell (Ontario)	Bibliothèque publique de la Ville d'Ottawa Succursale de Blackburn Hamlet 199, promenade Glen Park Ottawa (Ontario)
Ministère de l'Environnement Bureau du district d'Ottawa 2430, chemin Don Reid Ottawa (Ontario)	Site Web du projet www.crrrc.ca

- L'avis annonçant la disponibilité du rapport d'étude sera publié dans les journaux locaux et des courriels seront envoyés aux personnes sur la liste de distribution du projet environ une semaine avant que les documents soient accessibles aux fins d'examen.

Appendix E-11

Comments Received from Comment Sheets

A total of 8 comment sheets were submitted at the Open House and 1 additional comment sheet was received by email.

Comments Received:

Please provide your comments on anything presented at this Open House in the space provided below.

- I want to thank you for providing all the information concerning the application for building. The recycling plant here in Carlsbad Springs, it was impressive to see all the hard work involved. In all of the processes required by all levels of government as well as keeping the local residents informed about every step. I would like to bring to your attention that we are on a trickle system for our water since our wells were capped due to too much sulfur. Since you will obviously need a large amount of water and will be paying the city high taxes will the city build a pump house and bring running water to our area? We have been residents here for the last 10 years and have found that our taxes don't bring much in terms of infrastructure. For example, the curbs are always overflowing and caved in (i.e.: the corner store and gas station at the corner of Boundary and Russell) They just repaved Russell through Carlsbad (but cheaply done after having endured potholes for years). It would have been great if they would have considered bicycle lanes since this road is the main artery for all the villages going east & a lot of people bike. Another good infrastructure would be a sewer system since a lot of residents have old not properly functioning septic beds. I could go on so just to say your plant would be a great addition to our neighbourhood.

- We are not a willing community for this mega unnecessary landfill. I am not a willing member for the installation of this landfill.

- I & we do not want or need this dump. We are unwilling host communities. If you are to proceed with a project choose something else besides landfill. We all know they leak!! Look at other ways: this is where you may possibly make progress.

- From my house the last house on Carlsbad Lane, I clearly hear tailgates banging by Pomerleau, also the work that just finished on Boundary Road. Was noisy from my house and also shaking my house. That dump will be too noisy and smelly.

- We don’t want this dump in our back doors. Would you want to live here after dump is built. I don’t think so. You will be destroying a community and surrounding areas. All for the mighty dollar. Leave our community alone.

- I am opposed to this dump as it will affect our community in several negative ways. We already have an impact on Real Estate for our homes. We cannot sell them at this time because of this proposal. We sure will not be able to sell them when the site is in production. Will we sell them then what will be the reduced price? I am running out of room to explain all the negative reasons why this site should not be in our area. Please go AWAY!

- This facility is not required. Please remove yourselves.

- Unwilling host community. I fought a battle in the 80's and it's a shame that I fight "the battle" again! Two big companies – private industries that want to make big $$ in a small community – near the Capital City of Canada – shame on you! Recycle like the Europeans.

- Assessment considerations are present, but I do have concern about biological evaluations/parameters check list. Here's the question: You receive waste (fresh or in decomposition) from various industries/shops. You receive them through trucks. Upon reception they will need to be transferred for final storage. But in time, they will release various gas. Would you consider to predict the impact of released gas in the environment and their consequences on bees and other pollinating insects since most of residents rely on these pollinating insects for their crops?

APPENDIX F

Meetings and Calls

Appendix F-1

Summary of Call with MOECC; Alternative Site Development Concepts

MEMORANDUM

TO Ministry of the Environment **DATE** June 25, 2013

CC Nigel Guilford, Miller Waste; Jeff Parkes, The Taggart Group; Doug Thomson, McCarthy Tetrault

FROM Trish Edmond and Paul Smolkin
Golder Associates Ltd.

PROJECT No. 12-1125-0045

SUMMARY OF THE JUNE 19, 2013 CALL WITH THE MINISTRY OF THE ENVIRONMENT TO DISCUSS ALTERNATIVE SITE DEVELOPMENT CONCEPTS FOR THE CRRRC

Call Purpose

To review alternative site development concepts prepared for the CRRRC and obtain Ministry of the Environment (MOE) feedback on them, as per the approved, amended Terms of Reference (TOR)

Attendance

Trish Edmond and Paul Smolkin (Golder Associates Ltd.)

Jason Ryan and Dale Gable (MOE, Environmental Assessment and Approvals Branch)

Peter Taylor, Gillian Dagg-Foster, Ruth Orwin, Frank Crossley and Victor Castro (MOE, Eastern Region Technical Support)

Sandra Ausma (MOE, Sudbury District Office)

Steve Burns and Tara MacDonald (MOE, Ottawa District Office)

Discussion

General Background

Golder Associates Ltd. (Golder) provided a general overview of the project, as several of the participants on the call did not have previous experience with this project. The Capital Region Resource Recovery Centre (CRRRC) is a proposed waste management facility and the proponent is Taggart Miller Environmental Services (Taggart Miller). The Notice of Commencement of the TOR occurred in November 2010. The project is to manage industrial, commercial and institutional (I,C&I) and construction and demolition (C&D) waste from a service area of Eastern Ontario. The project is for an integrated waste management facility, the components of which are described further below.

The TOR was approved in December 2012. As this is a greenfield site the Environmental Assessment (EA) impact work will be completed to an Environmental Protection Act (EPA) level of detail. Taggart Miller had two proposed locations for the project. The first step in the EA was to complete some preliminary existing conditions work and complete a comparative assessment of the two sites as per the TOR. The assessment work was completed in January and February of 2013 and the identified preferred site was presented and described to the public at two open houses held in late February 2013. The preferred site is known as the Boundary Road Site and is located within the City of Ottawa. Following determination of the preferred site, the project team has worked on completing existing conditions studies and developing alternative site development concepts for the Boundary Road Site.

The alternative site development concepts were presented to the public at an open house held on June 5, 2013. Also presented were some preliminary results related to the geology, hydrogeology & geotechnical; socio-economic (visual) and traffic disciplines.

One component of the existing conditions that directly impacts the site design concepts is the geology of the Boundary Road Site. The geology consists of a variable thickness of surficial silty sand, or stiff weathered clay, typically up to about 1.5 m thick, overlying a thick deposit of about 30 m of clay to silty clay, followed by glacial till and Carlsbad Formation bedrock. One continuous layer was identified within the silty clay deposit beneath the Site consisting of sandy silt to silty sand with a trace of clay (known as the silty layer). The top of the continuous layer was found at a depth of about 4.5 to 5 m below ground, and the layer had a thickness ranging from 130 to 600 mm (average about 350 mm).

Alternative Site Development Concepts

In advance of the call three handouts had been circulated electronically to the MOE: the alternative site comparison summary part, the two alternative site development concepts and a plan with two cross sections. These are also attached to this summary for reference.

Golder reviewed the characteristics of the general property and surrounding area using one of the alternative site development concepts as a reference. Note that since the time of the TOR approval an additional piece of land has been added to the property. It is located near the northwest corner of the site and offers a site entrance closer to where Highway 417 exits onto Boundary Road. The Boundary Road site is very flat. The zoning of the Boundary Road Site is General Rural and Rural Heavy Industrial. There are limited residential land uses and no institutional uses within 1,000 m of the Boundary Road Site. The proposal is to receive 450,000 tonnes of waste per year with anticipated 40 to 55% diversion commencing at the beginning of operations. The airspace volume of a landfill to support 450,000 tonnes per year, the anticipated diversion and a 30 year operating period is about 9.5 to 10.5 million cubic metres.

The CRRRC will include a Material Recovery Facility (MRF), C&D recycling building, contaminated soil processing, organics processing (in a pre-processing building and cells), a leachate treatment facility, and a landfill for waste which cannot be otherwise diverted.

The site geology will limit the actual design of the landfill component at the site. For either alternative site development concept, the landfill component will be approximately 1.5 to 2 metres below ground surface with a constructed perimeter berm, have 14H:1V side slopes with the top deck being 20H:1V and have a maximum waste thickness of 20 to 25 metres. The site geology also has implications on buildings with larger buildings requiring piles while smaller buildings will be on footings.

Alternative A site development concept was reviewed. Essentially all buildings are located on the north part of the site, with the landfill occupying the south part of the site. The plan shows the location for on-site leachate treatment, although this will be assessed and it is possible that there could be off-site treatment at the City of Ottawa sewage treatment plant with, or without pre-treatment. This is true of either development concept.

Alternative B site development concept was reviewed. Essentially the MRF and C&D recycling facilities are located to the north, near the site access. All other buildings and processing are located in the southwest part of the property adjacent to Boundary Road. This leaves the eastern side of the site for landfilling in two areas split by the Simpson Drain, which runs through the site from west to east.

Cross sections of the landfill component for both alternative site design concepts were briefly discussed. Some visual assessment work for these two site development concepts has been completed and was presented at the June 5, 2013 open house. Three viewpoints were developed and the proposed alternative site development concepts are only visible from Devine Road looking west toward the Boundary Road Site.

For the actual design of the containment system, Golder is proposing a site specific design. Golder is proposing to cut off the surficial sand and weathered clay using a liner on the side of the landfill or a cut-off wall. Modelling will determine if it is necessary to also isolate the continuous silty layer located at 4.5 to 5 metres below ground surface. If required, a cut-off wall can be extended to this depth. Modelling work to demonstrate compliance with groundwater regulations and requirements is not yet complete but at this time a liner along the base of the landfill is not proposed.

Comments and Questions:

Liner Several comments and questions regarding the liner were received from MOE and there was some concern that a bottom liner may be required to cut-off the continuous silty layer pathway. The initial suggestion not to use a bottom liner is not a cost saving measure, but based on Golder's experience in similar conditions in Eastern Ontario, it will not likely be necessary. Modelling will be conducted to support this. Further, the construction of a bottom liner in these geological conditions will present some challenges.

Buffer The direction of groundwater flow is to the east and northeast. For both site development concept Alternatives A and B, the landfill footprint is within 120 metres of the eastern property boundary. The question was raised whether this buffer would be sufficient, considering no bottom liner. Golder discussed that the groundwater flow velocity at the site is very low, centimetres per year, even in the surficial sand unit and the continuous silty layer. Nevertheless there is some by the MOE regarding the adequacy of the width of the eastern buffer.

Stormwater Management Neither alternative site development concept shows stormwater management ponds or ditching. Golder has completed some conceptual work on stormwater management but will develop this further and show information on the plans once the preferred site development concept is determined.

O. Reg. 419 A reminder that landfills now fall under O. Reg. 419 for monitoring requirements.

Overall Impression of Alternative Site Development Concepts MOE would like to see this summary document before providing further thoughts. Generally no opinion was expressed. Eastern Region says that a landfill further away from the eastern property boundary would be preferable and that this is easier to accomplish with Alternative A than Alternative B. Also, in terms of phasing of the landfill, consideration could be given to initially filling an area more westerly, away from the eastern area of the proposed footprint.

Attachments: Design Comment Sheet
Cross Section

N:\Active\2012\1125 - Environmental and Civil Engineering\12-1125-0045 CRRRC EA Eastern ON\Phase 9000_Proj_Mgmt\i. Meeting Summaries\MOE Call Summary June 25 2013_final.docx

Appendix F-2

Summary of Call with MOECC; Groundwater Impact Assessment

Edmond, Trish

From: Edmond, Trish
Sent: September 24, 2013 9:53 PM
To: Zappone, Lorna (ENE) (Lorna.Zappone@ontario.ca)
Cc: 'frank.crossley@ontario.ca'; 'kyle.stephenson@ontario.ca'; Farnel, Megan
Subject: CRRRC Groundwater Impact Assessment

Hello Lorna,

As discussed this email outlines the conference call held on September 12, 2013 between the MOE Kingston office and Golder Associates Ltd. The attendees on the call included:

- Frank Crossley, MOE
- Kyle Stephenson, MOE
- Trish Edmond, Golder Associates Ltd.; and,
- Megan Farnel, Golder Associates Ltd.

The phone call was arranged to discuss the groundwater impact assessment for the Environmental Assessment for the Capital Region Resource Recovery Centre (CRRRC) in Ottawa, Ontario (site). Golder Associates Ltd. wanted feedback from the MOE related to the parameters that would be used for the contaminant transport modeling in groundwater at the site. The call's duration was approximately ½ hour.

During the call Trish Edmond gave an overview of the project and where it stands in the approvals process. Megan Farnel then described the existing geology and hydrogeology and discussed the groundwater impact assessment that is going to be completed and described the parameters that Golder is proposing to use for the assessment. Due to the naturally poor groundwater quality at the site some parameters that are listed in the MOE's Landfill Standards and are typically used for contaminant transport modeling have concentrations in groundwater at the site greater than the Ontario Drinking Water Quality Standards (ODWQS). The parameters listed in the Landfill Standards with concentrations naturally exceeding the ODWQS at the site include chloride. Golder wanted the MOE's thoughts on removing this parameter from the contaminant transport modeling but adding in boron as a replacement. Boron is a parameter that is observed in leachate from landfills that accept similar waste to what is proposed at the CRRRC (industrial, commercial and institutional (IC&I) as well as construction and demolition (C&D) waste).

Frank Crossley indicated that he agreed with the addition of boron as it is a good tracer for IC&I waste but thought that chloride should be included to avoid criticism. Although compliance cannot be demonstrated using chloride since it naturally exceeds the ODWQS in groundwater at the site, expected concentrations of chloride from the landfill should still be provided and then qualified.

To be conservative, Golder will use the Landfill Standard source concentrations even though the concentrations in the waste proposed for the CRRRC will likely be less.

Golder will start the groundwater impact assessment using the natural clay as a liner and if the contaminant transport modeling indicates that there may be a problem then another liner system will be considered. Golder will stay in touch with the MOE as any new concerns arise.

If you have any concerns with this summary of the conference call please do not hesitate to get in touch with me.

Thank you,
Trish

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Appendix F-3

Summary of Meeting with the NCC; EA Findings

Edmond, Trish

Subject: NCC areas of interest (Provincial) EA for CRRRC- Boundary Rd

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From: Candow, Sandra [mailto:sandra.candow@ncc-ccn.ca]
Sent: May 6, 2014 2:59 PM
To: Edmond, Trish
Subject: RE: NCC areas of interest (Provincial) EA for CRRRC- Boundary Rd

Trish,
Thank you for providing the summary- it has been on my to-do list also to confirm back to Taggart/Golder;

Yes- from an EA perspective, the NCC concerns have been addressed.

I have made one minor addition below, should you also wish to reflect our issues in any other documentation/draft EA (I added the capital arrival route status for 417).

We look forward to receiving the design/operation package via CD/electronically when available.

Many thanks
Sandra

Merci,
Sandra
Tél: 613 239-5678 ext 5586

From: Edmond, Trish [mailto:Trish_Edmond@golder.com]
Sent: Tuesday, May 06, 2014 7:49 AM
To: Candow, Sandra
Subject: NCC Summary of Meeting for your review- see edits incorporated

Hello Sandra,

We want to thank you for taking the time to meet with us and organizing a time for your colleagues to join us on April 16. I have been travelling a bit so my apologies for not sending this e-mail sooner.

From our discussion we understand that the NCC's main interests in the CRRRC project are stormwater management and the potential for surface water flow from the CRRRC site toward the Mer Bleue Bog, and the traffic flow on the off-ramps from Highway 417 to the CRRRC Site. During consultation on the TOR the NCC also indicated a concern regarding the appearance of the CRRRC from Highway 417. Finally, during our meeting on April 16 we also discussed the recently published Canada's Capital Greenbelt Masterplan.

As described at the meeting, the CRRRC Site is located approximately 3.5 kilometres southeast of the Mer Bleue Bog. Drainage at the CRRRC Site is via three ditches (that include one municipal drain) whose outlets will be maintained post construction. All of these ditches drain to the east and combine in Shaw's Creek and then Bear Brook, flowing away from the Mer Bleue Bog. The EA studies specifically considered and mentioned the Mer Bleue Bog and found that there are no anticipated direct or indirect adverse surface water (or groundwater) effects from the CRRRC on the Mer Bleue.

During the meeting we discussed the traffic assessment that has been completed. We noted the main Site access is located 850 metres south of the eastbound Highway 417 on/off ramp on Boundary Road. Although there is presently significant traffic on Boundary Road, with an annual average daily traffic of 7,820, the analysis showed that there would

be no requirement for modifications to any of the existing intersections analyzed, which included the Highway 417 on/off ramps. The analysis did warrant a dedicated left turn lane on Boundary Road into the Site access.

Representative viewpoints of the CRRRC were reviewed during the meeting, including one from a capital arrival route, Highway 417. The viewpoint from Highway 417 showed the Site in its present existing conditions, what it will look like with the CRRRC built, and what it will look like with some visual mitigation (i.e., a screening berm and tree planting). It was concluded that the CRRRC would not materially affect the viewshed from Highway 417.

The 2013 NCC Greenbelt Masterplan was also discussed with regard to the greenbelt concept figure that shows the greenbelt, connecting natural areas and ecological corridors. This plan and the information it contains was considered in the CRRRC and no adverse impacts were identified to the greenbelt or the associated ecological functions.

The NCC appreciated that their interests have been considered and addressed in the EA.

We trust that this accurately reflects our meeting. Should you have any questions or comments, please feel free to contact us. We expect the draft EA to be circulated sometime over the next few months.

Regards,

Trish

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www.golder.com

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Appendix F-4

Presentation to City of Ottawa

Environmental Assessment of the Proposed Capital Region Resource Recovery Centre

Presented to: City of Ottawa

June 24, 2014

Background

- Taggart Miller Environmental Services (Taggart Miller) has recently completed the draft Environmental Assessment for an integrated waste management facility
- 7 week comment period, ending July 31, 2014

- Purpose of Presentation:
  - provide an overview of the project and its evolution
  - present the layout and structure of the draft Environmental Assessment Study Report package
  - review some results from the environmental assessment

Who is the Proponent

The Taggart Group of Companies

- Ottawa-based, family-owned, business founded in 1948
  - Tamarack Homes, Doran Contractors, Taggart Realty Management and Taggart Construction Ltd. - Eastern Ontario's largest civil works contractor
  - Operates in all parts of Eastern Ontario, with offices in both Ottawa and Kingston

Who is the Proponent

Miller Waste Systems Inc.

- Wholly owned by The Miller Group, a privately-owned Canadian company dating back to 1916
- Operates waste diversion/processing facilities at 9 locations in the GTA; in North Bay, Owen Sound and London; and in Halifax
- Designed, constructed and operate 2 open windrow and 2 in-vessel organics composting facilities, about 175,000 tonnes per year
- Designed, constructed and operate 5 facilities for processing of recyclables
- Markets 150,000 tonnes/yr of recycled materials and 50,000 – 60,000 m^3 of compost products/yr
- Collects 2 of the 5 residential waste zones in Ottawa under recent contract to the City

CRRRC Project Overview

- Proposed CRRRC will only accept solid non – hazardous IC&I and C&D waste materials, including multi-residential recyclables
- Primary focus of the proposed CRRRC is to maximize diversion of materials from disposal through recycling and other processes, and generation of products with commercial value. However, a portion of the wastes received and process residuals that cannot be diverted will be disposed of on-site in a landfill
- For economic and operational efficiencies, both the diversion and disposal components will be on the same site (also minimizes transportation impacts)
- Committed to build diversion facilities as part of the initial construction of the facility
- 30 year operational planning period

Proposed CRRRC Components


Miller – Wood Recycling into Mulch


Miller – Windrow Composting of Leaf & Yard Waste

- Materials Recovery Facility (MRF)
- C&D Processing Facility
- Organics Processing Facility
- Petroleum Hydrocarbon Soil Treatment
- Surplus Soil Management
- Leaf and Yard Material Composting

- Engineered Landfill
- Landfill Gas Management/Power Generation
- Leachate Management

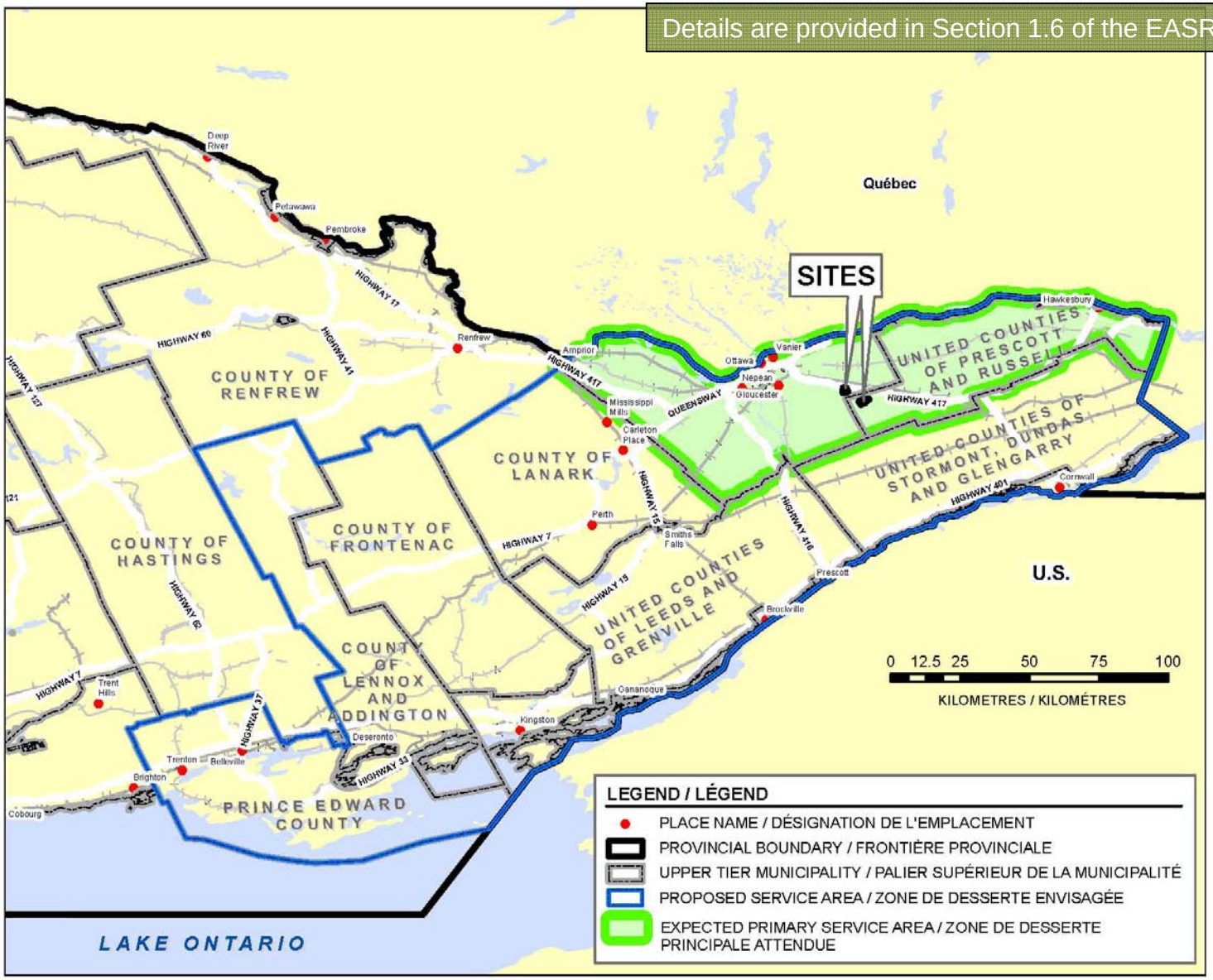

Miller – Paper Sort Line, York Region MRF


Miller – Toronto Dufferin MRF

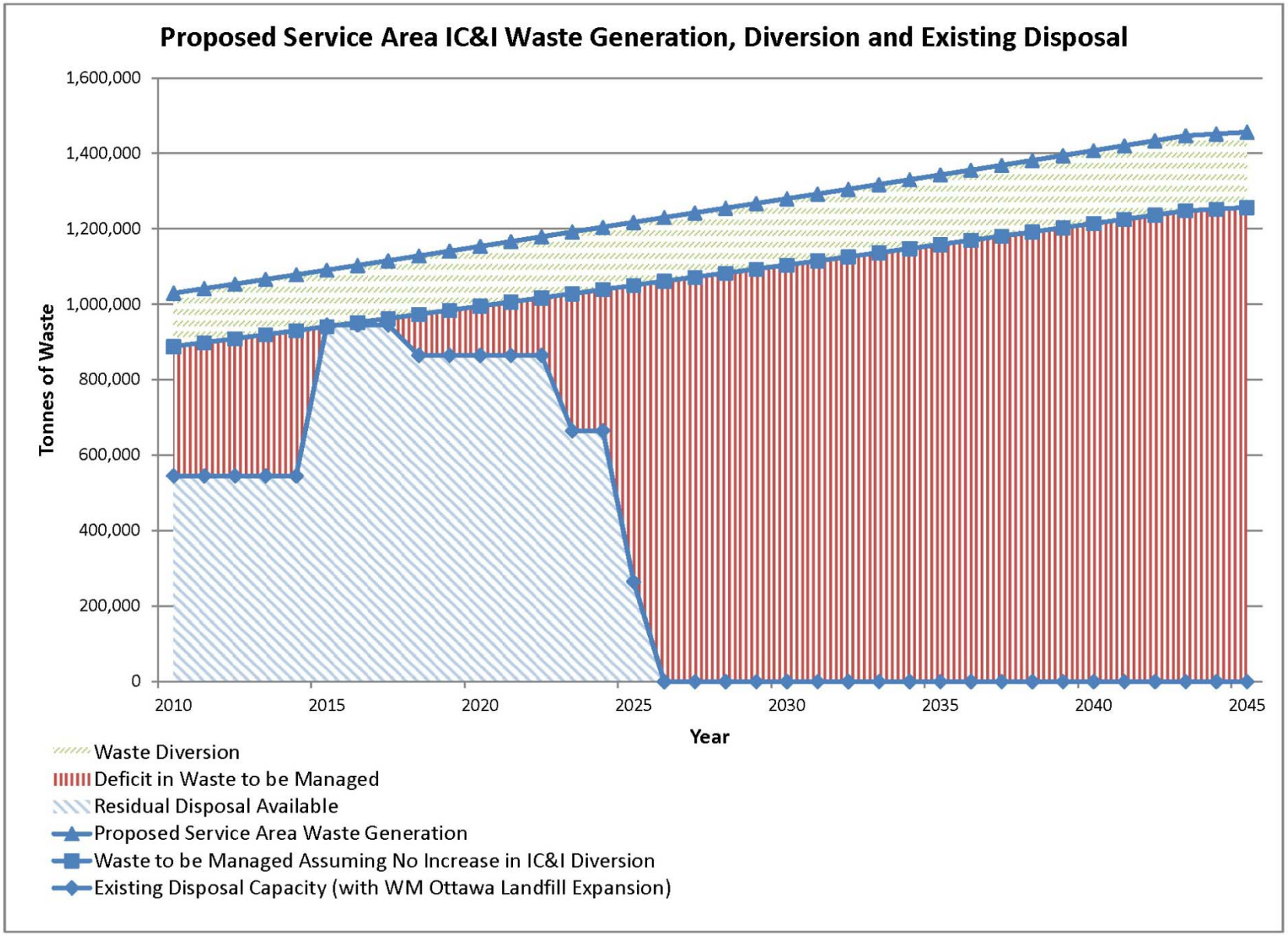
Details are provided in Section 6.0 of the EASR Volume I

Proposed Service Area

Details are provided in Section 1.6 of the EASR Volume I



Predicted Waste Management Requirements (with WM Ottawa Landfill Expansion)



CRRRC Project Overview (cont'd)

- Planning to receive up to 450,000 tonnes per year of waste and recyclable materials, average 1,500 tonnes per day (middle of the range for large waste management sites in the area)

- Taggart Miller believe that the CRRRC can realistically achieve diversion of up to 43 to 57% of the waste received once the facility is fully commissioned and end markets develop

- Taggart Miller hope to have all approvals in place and be operational in 2017/2018

Project Evolution

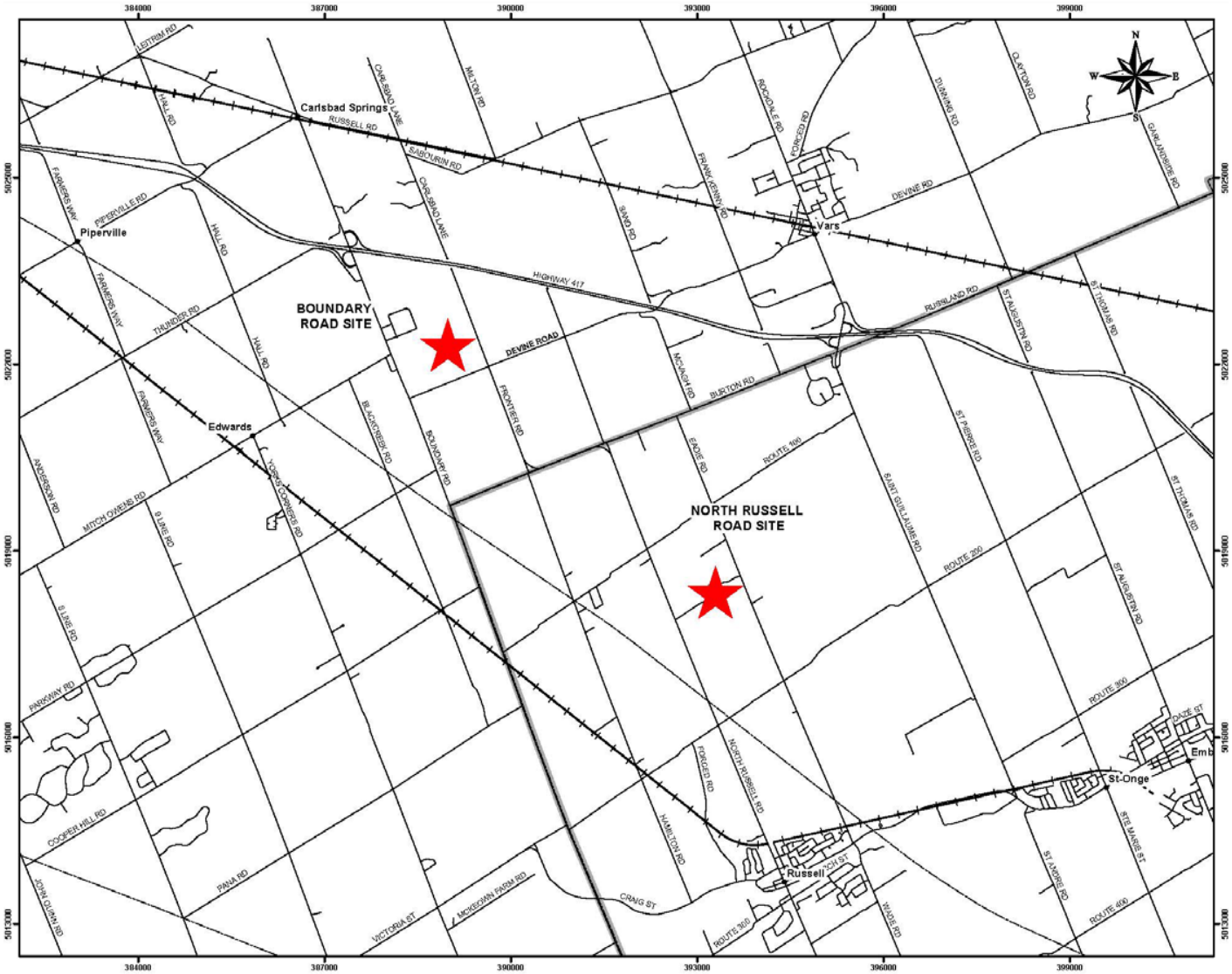
After the proposed CRRRC project was announced in November 2010, to be located on a site in the north part of Russell Township, Taggart Miller heard:

- Some liked the idea of the project, but questioned the merits of the Russell location ("Good project, wrong location").
- Concern about possible impacts to groundwater, traffic and proximity to residential neighbours.
- Should be looking at a site with industrial neighbours.
- Should be looking for a site that is not underlain by bedrock.
- Ottawa waste should be managed in Ottawa, not in Russell.
- Site should be located closer to major transportation routes.

Acquisition of Second Alternative Site for the Proposed CRRRC

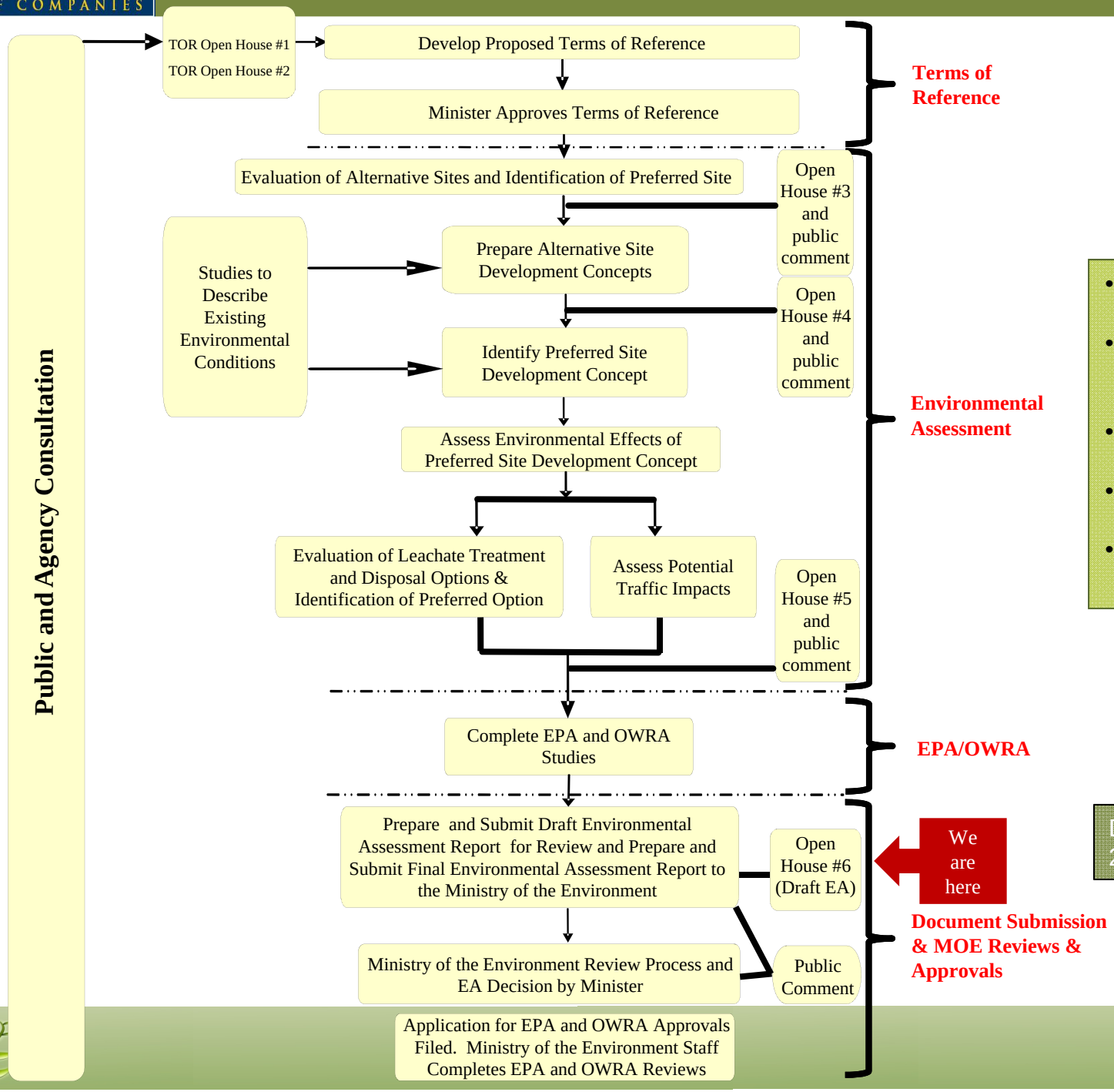
- Taggart Miller listened carefully to input about the North Russell Road Site, and decided to look for another site with these characteristics, that could be considered for the CRRRC.
- Taggart Miller Identified an undeveloped parcel of land southeast of the Highway 417/Boundary Road interchange that appeared to have these characteristics, i.e.,
  - Adjacent to Highway 417 and an Industrial Park
  - Few residential neighbours
  - Within the City of Ottawa
  - Based on published information, underlain by thick clay soils
- Taggart Miller then learned the identified site is within the area identified by the RMOC during their Waste Planning Study in the mid to late 1980's as the preferred site for a new Regional Landfill.

Alternative Sites for Proposed CRRRC



Details are provided in Section 1.4 of the EASR Volume I

The TOR and EA Process



- November 10, 2010 – Notice of Commencement of EA
- May 29, 2012 – Announcement of second alternative site
- September 14, 2012 – Completion of the TOR
- December 17, 2012 – Approval of the TOR
- June 11, 2014 – Completion of Draft EA Package

Details are provided in Section 2.0 of the EASR Volume I

Organization of the Draft EA Documentation

The EASR is presented in 4 volumes:

- Volume I is the main EASR
  - TSD #1 is a technical support document to the main EASR
  - TSD #2 to #10 are additional technical support documents to the main EASR
- Volume II contains the consultation record
- Volume III contains the Geology, Hydrogeology & Geotechnical Report
- Volume IV contains the Design and Operations Report

Approved TOR is quite prescriptive on how the comparative evaluation of the two sites and the impact assessment at the Boundary Road site is to be carried out.

Details are provided in Section 1.9 of the EASR Volume I

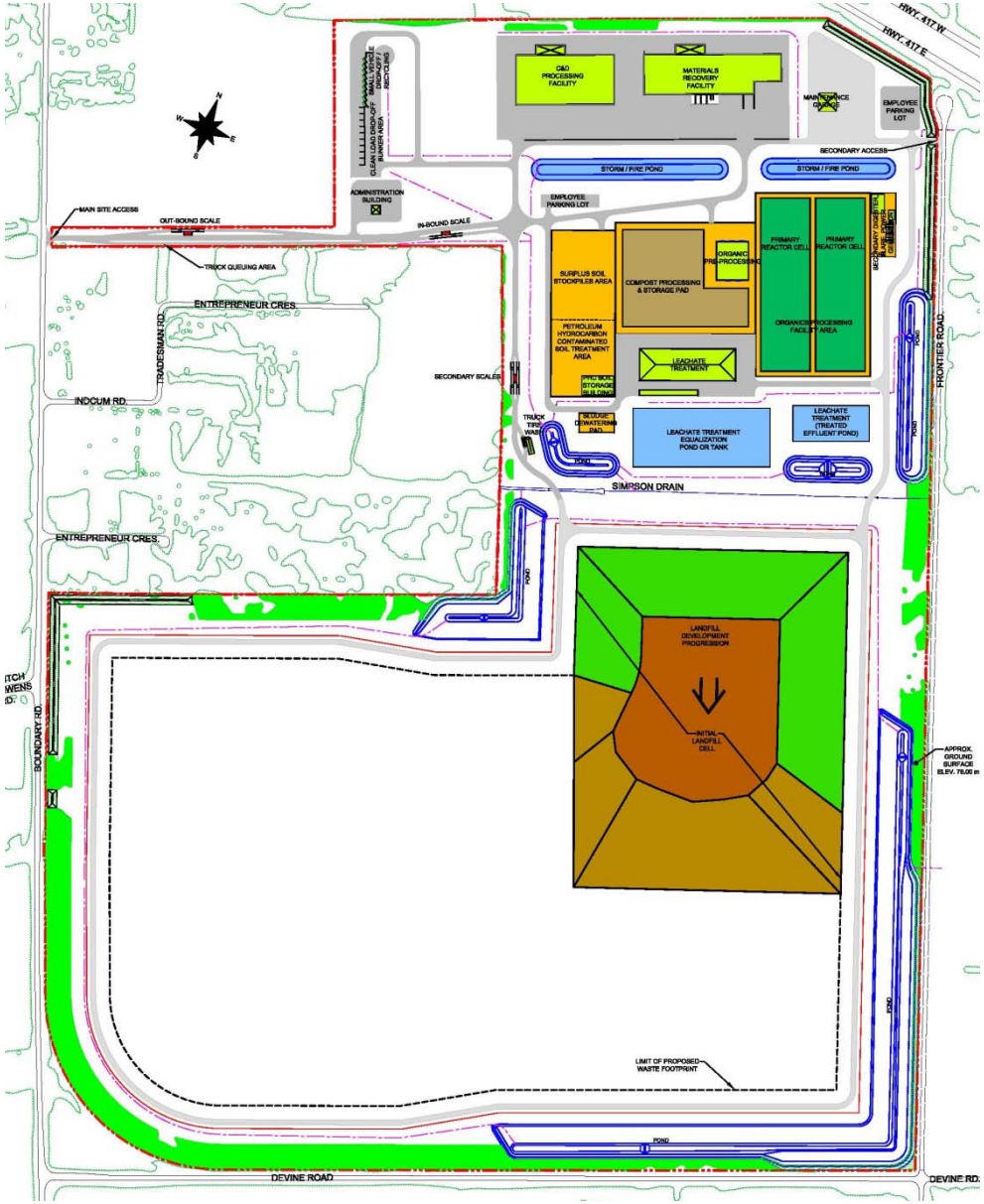
Comparative Evaluation of Alternative Sites

Component	Preferred Site
Most Important	
Atmospheric	Boundary Road Site
Geology, Hydrogeology & Geotechnical	Boundary Road Site
Land Use & Socio-economic	Boundary Road Site
Traffic	Boundary Road Site
Important	
Surface Water	Boundary Road Site
Biology	Boundary Road Site
Agriculture	Boundary Road Site
Design & Operations	Boundary Road Site
Less Important	
Cultural & Heritage Resources	Boundary Road Site

Details are provided in Section 7.0 of the EASR Volume I and TSD #1

Boundary Road Site & Surrounding Area

Site Development Plan



LEGEND

- PROPOSED FACILITY BUILDING
- OUTDOOR DIVERSION AREA
- PAVED ROAD (ASPHALT)
- GRAVEL ROAD
- PROPERTY BOUNDARY
- EXISTING VEGETATION SCREENING
- CONSTRUCTED SCREENING FEATURE
- PERIMETER BERM CONTOURS (interval 1 m)
- STORMWATER MANAGEMENT PONDS

120 0 120 240
METRES

Details are provided in Section 10.0 of the EASR Volume I

Boundary Road Site Impact Assessment: List of Disciplines Evaluated

- Atmosphere
  - Air Quality and Odour
  - Noise
- Geology, Hydrogeology & Geotechnical
- Surface Water
- Biology
- Land Use & Socio-economic
  - Land Use
  - Socio-economic
  - Visual
- Cultural Heritage & Archaeology
- Agriculture
- Traffic

Details are provided in Section 2.0 of the EASR Volume I, TSD#2 to #10, Volume III and Appendix A of Volume IV

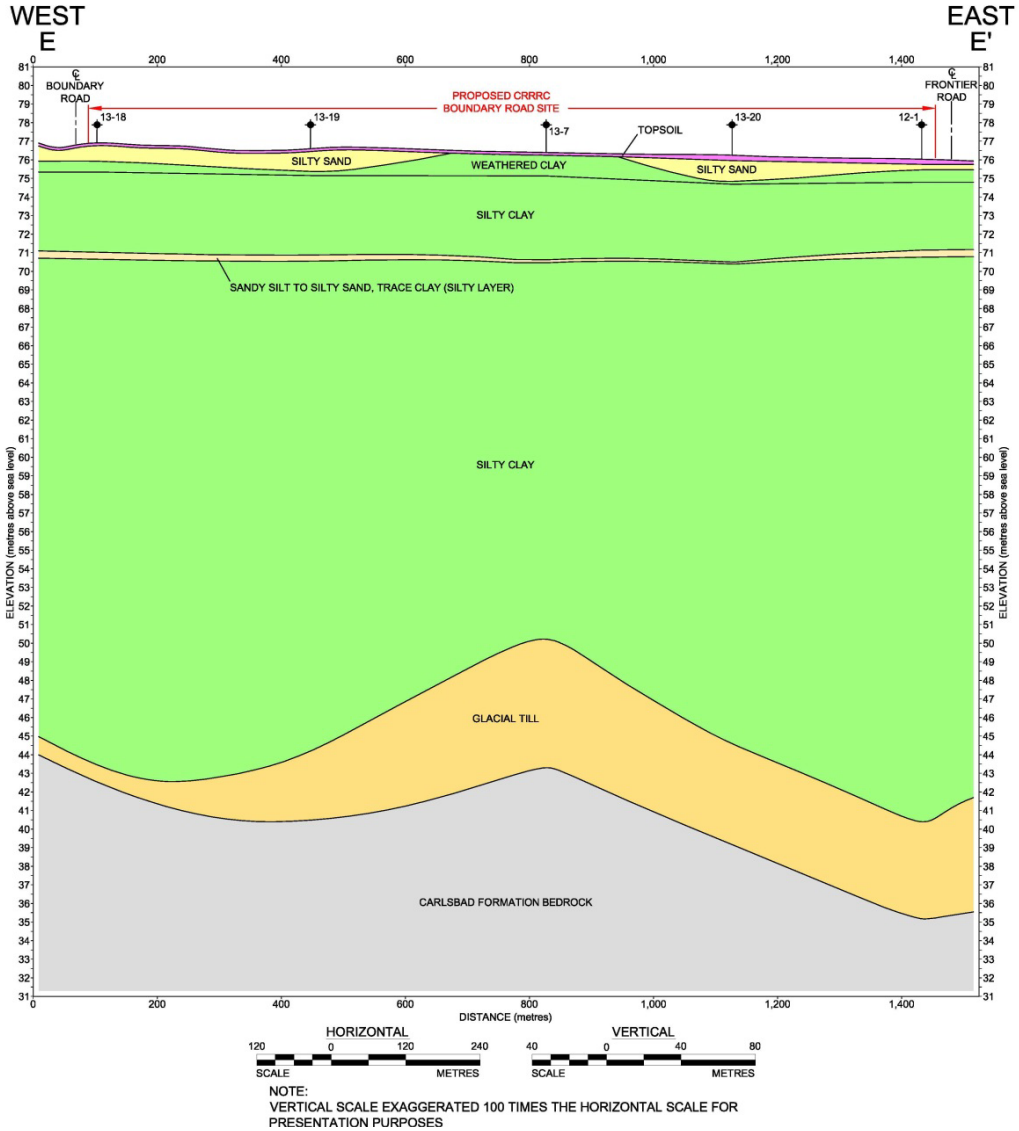
Results of EA
Air/Odour

- The MOE has point-of-impingement (POI) criteria for various compounds. The MOE POI criteria are used to assess specific impacts of an individual facility.

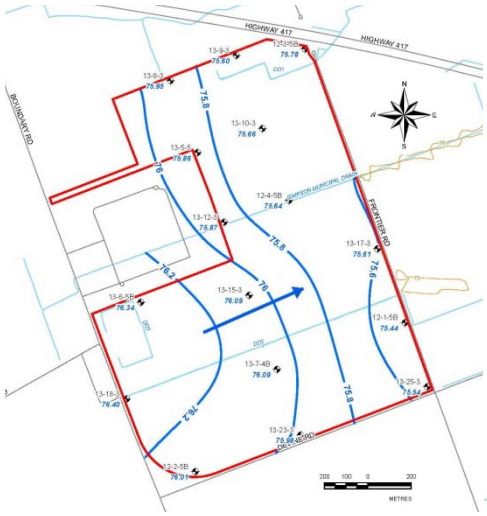
- All of the predicted maximum POI concentrations meet the relevant standards, which are intended to be protective of human health. The CRRRC regulated sources would include LFG, combustion processes and materials handling emissions. Mobile equipment was conservatively included in the assessment of POI compliance, even though such equipment is not considered for ECA permitting purposes under O. Reg. 419/05.

Details are provided in Section 11.2 of the EASR Volume I and TSD #3

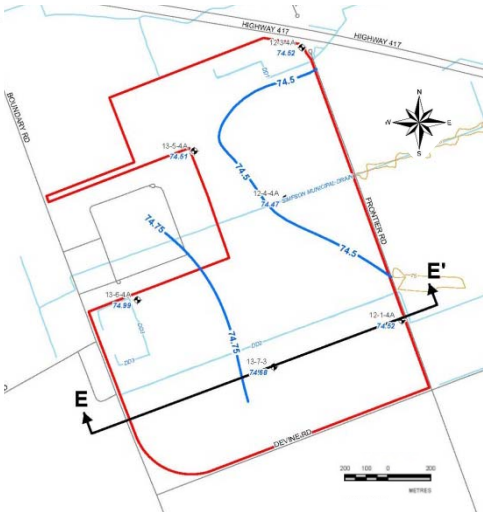
Results of EA Groundwater



Horizontal Groundwater Flow – May 2013



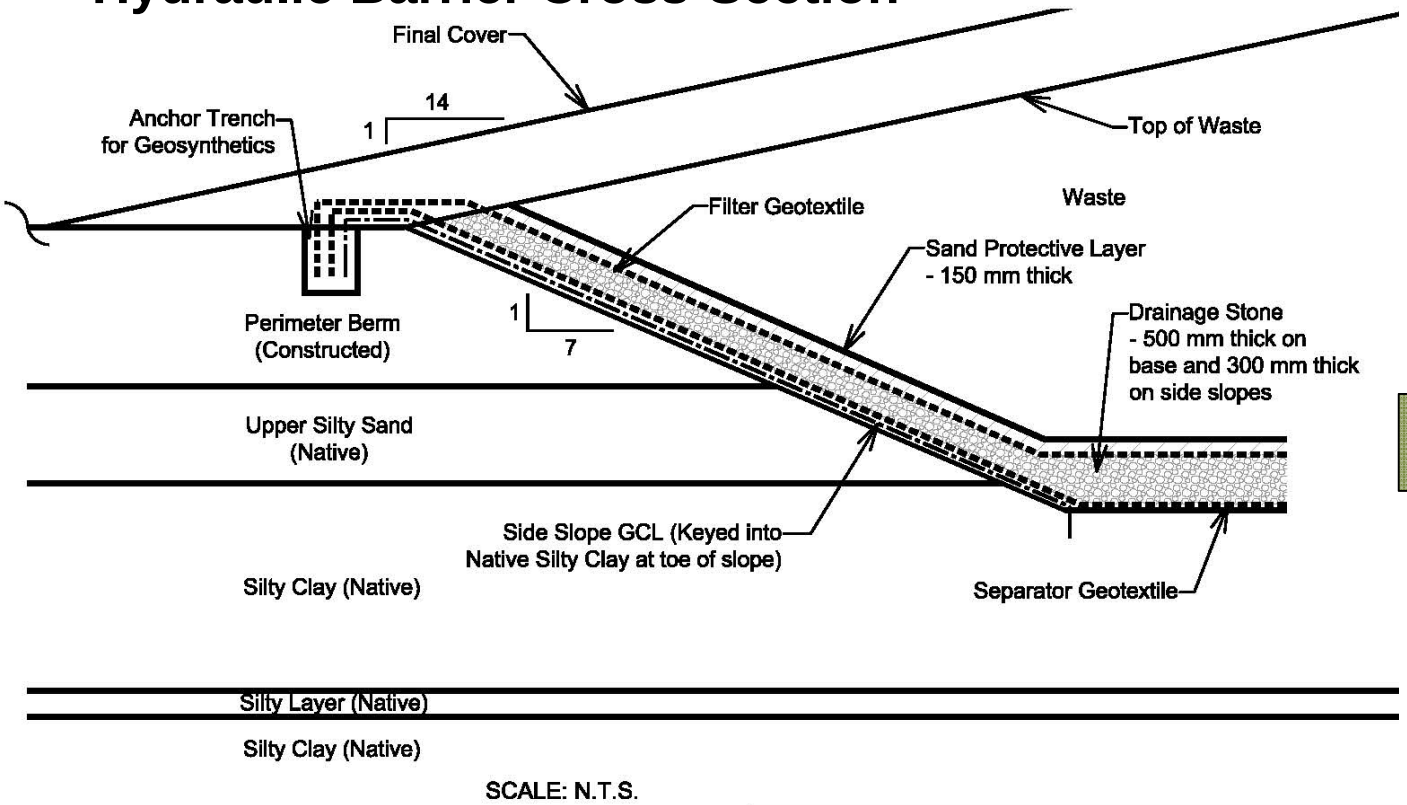
Details are provided in Section 8.5.2 of the EASR Volume I and Volume III



Results of EA Groundwater

- A hydraulic barrier will be constructed around the landfill perimeter to prevent impacts to the surficial silty sand.

Hydraulic Barrier Cross-Section

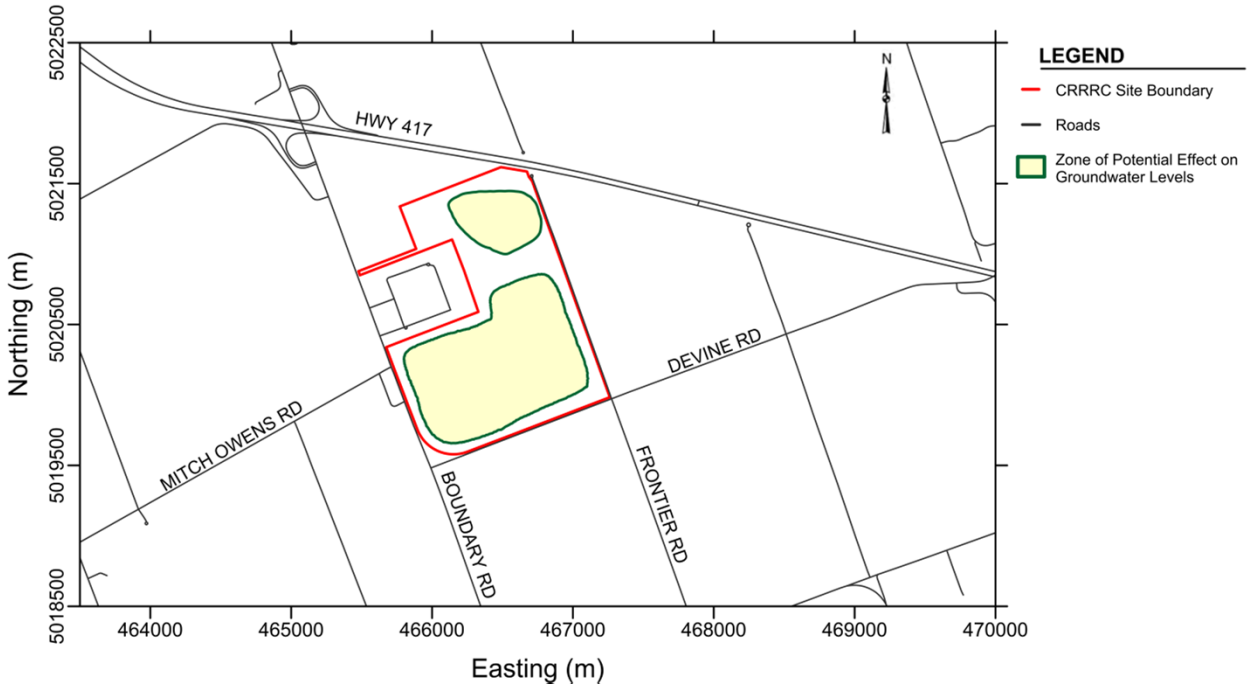


Details are provided in Section 11.3.2 of the EASR Volume I

- The natural clay deposit and the proposed engineered leachate collection and management systems will contain and control landfill leachate at the Site.

Results of EA Groundwater

Zone of Potential Effect on Groundwater Levels



Details are provided in Section 11.3.2 of the EASR Volume I and in Volume III

- Leachate management ponds and organics primary reactor and soil treatment cells are lined and always accessible for repair.
- The Site will remain in compliance with MOE groundwater protection requirements (Reasonable Use Guideline) in both the short term and long term.
- Based on groundwater modelling, the maximum lowering of the groundwater level in the surficial silty sand occurs while the leachate collection system is operational. During these conditions the impacts of the CRRRC on off-Site groundwater levels are negligible beyond the Site boundary.

Geotechnical Considerations

- Site underlain by a 30 m thick deposit of marine silt clay
- Similar to many other sites in Ottawa and eastern Ontario underlain by these clay soils (i.e., Navan and Lafleche landfills), appropriate geotechnical design is required for the proposed development to perform acceptably
- A detailed geotechnical investigation has been carried out at the CRRRC site, and the results used in analysis to prepare the site development plan and the landfill configuration (Volume III of EA/EPA package)
- For geotechnical reasons, the landfill component has:
  - A base at shallow depth below ground
  - A perimeter berm to provide stability and lateral containment
  - A relatively flat sideslope profile
  - A maximum peak height of 25 m above ground

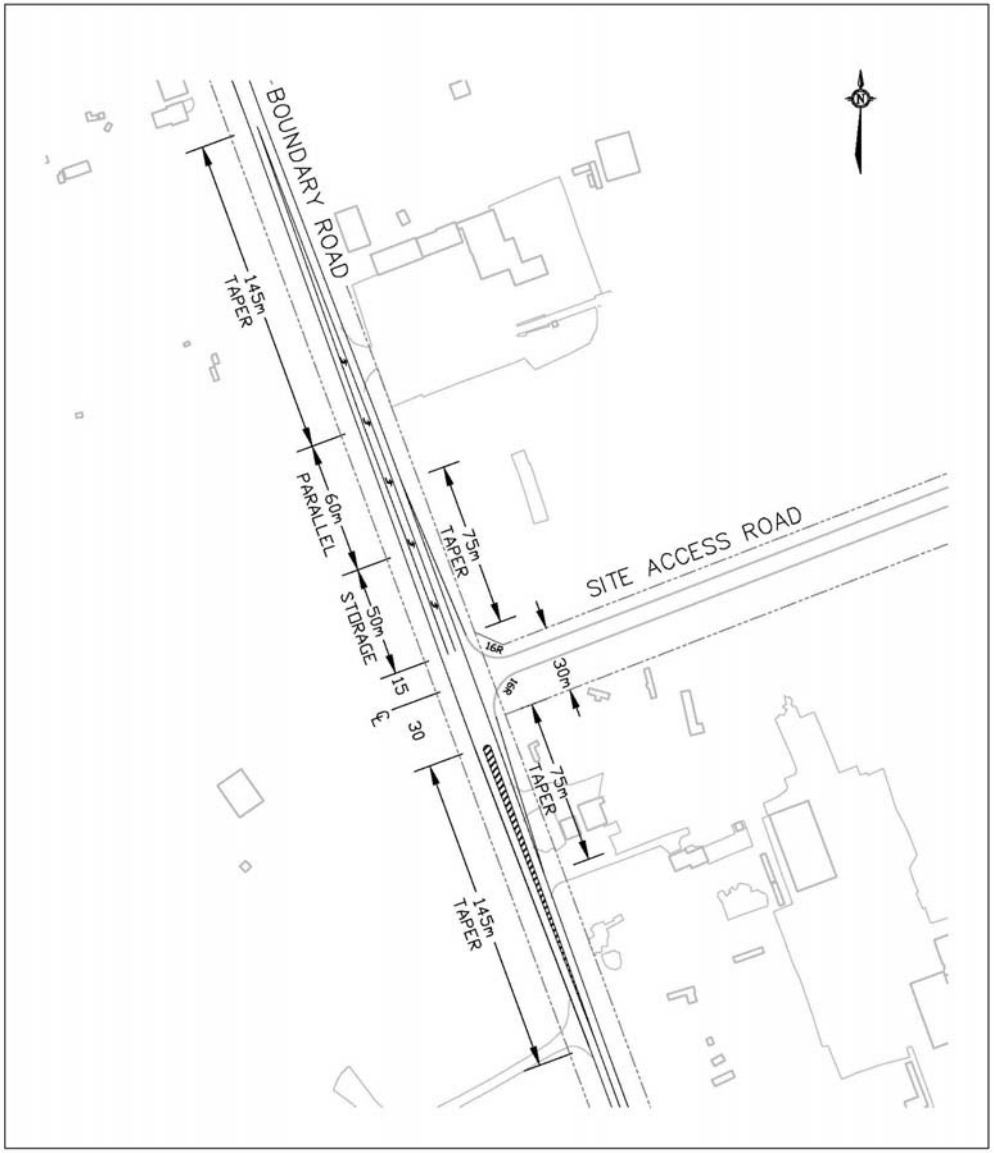
Details are provided in Section 11.3.3 of the EASR Volume I and Volume III

Results of EA
Traffic

- For a maximum daily receipt of 3,000 tonnes per day, the estimated daily number of trucks over a 10-hour time period would be 287 trucks entering and exiting the Site.
- The number of peak hour trips would be 43 trucks entering and exiting the Site.
- The maximum CRRRC truck traffic represents approximately 8 percent of the total volume of traffic along Boundary Road between the Site access and Highway 417. The predicted annual average traffic (1,500 tonnes per day) would be in the range of 6 percent.
- All of the existing intersections within the study area would operate at an acceptable Level of Service during the weekday peak AM and PM hours, with no intersections requiring modifications due to the CRRRC truck trips.
- The proposed lane configuration at the Site access includes an exclusive left turn lane on southbound Boundary Road.

Details are provided in Section 11.9 of the EASR Volume I and TSD #9

Results of EA
Traffic



NOT TO SCALE

Proposed Boundary Road/Site Access Geometry

Details are provided in Section 11.9 of the EASR Volume I and TSD #9

Leachate Management

LEACHATE MANAGEMENT OPTIONS - METHODOLOGY

- Based on existing leachate management and treatment being provided at other disposal sites, and the current regulatory approvals requirements, it is expected to be possible to construct an on-Site leachate treatment plant that will achieve a high quality effluent to allow discharge into the local surface water system. On-Site leachate treatment technologies were screened and a preferred on-Site treatment option was selected based on demonstrated performance and cost-effectiveness.
- Off-Site leachate receiver/treatment alternatives were evaluated and alternatives to convey leachate to available off-Site leachate treatment alternatives were considered.
- A comparison of the preferred on-Site leachate treatment technology to a viable off-Site treatment alternative was completed as per Appendix B of the TOR.

COMPARISON OF LEACHATE MANAGEMENT OPTIONS

- Environmental components considered in the comparison of on-Site versus off-Site treatment included:

Atmosphere	Geology & Hydrogeology
Surface Water	Biology
Land Use	Traffic
Technical Effectiveness	Regulatory Approvability
Capital and Operating Costs	

Details are provided in Section 12.0 of the EASR Volume I , TSD #10 and Volume IV

- The criteria and indicators for comparison were those in Appendix B of the approved TOR.

- The preferred leachate management option is on-Site pre-treatment and trucking to the City treatment facility (ROPEC). If the City of Ottawa option proves not to be available, other possible alternatives, including the on-Site option described above will be re-visited.

APPENDIX G

Aboriginal Community Meetings

Appendix G-1

AOO Meeting Summary – April 9, 2013

MEMORANDUM

TO File **DATE** April 30, 2013

CC AOO, c/o Janet Stavinga

FROM Trish Edmond, Paul Smolkin- Golder Assoc. Ltd. **PROJECT No.** 12-1125-0045

SUMMARY OF MEETING WITH ALGONQUINS OF ONTARIO ON APRIL 9, 2013

Meeting Attendees:

- Paul Smolkin, Golder Associates
- Trish Edmond, Golder Associates
- Jim Hunton, technical advisor from Jp2g
- Janet Stavinga, Executive Director of the AOO Consultation Office
- Lynn Clouthier, Algonquin Negotiation Representative from Ottawa

Golder Associates (Golder) started the meeting by asking Algonquins of Ontario (AOO) who is included in their group and what are their roles. Golder learned that the Algonquins of Pikwakanagan is the only Algonquin reserve in Ontario. There are many other Algonquins in the province who didn't opt to join the reserve but yet they still have rights. The AOO is a group representing Algonquins. You had to sign on to this group to be party to any negotiations and benefits. The Algonquins of Pikwakanagan signed on along with thousands of non-reserve Algonquins. There are Algonquins in the province who are not part of the AOO. The Algonquin Negotiation Representatives (ANRs) are 16 elected representatives representing the 10 communities party to the AOO. There are 9 communities with 1 ANR each, plus the Algonquins of Pikwakanagan whose council of 7 make up the 16 ANRs. The AOO provides a one window approach for consultation for all the Algonquin communities who are members of AOO; it is the AOO who are currently negotiating with Canada and Ontario for the overall treaty agreement.

Golder then briefed the AOO representatives on the CRRRC project. In particular the AOO representatives wanted to understand the diversion components; what would be diverted and how could it be re-used. The AOO let us know about the 2 properties they will potentially be given through the Agreement on the west side of Boundary Road as part of negotiations; these possible properties are the basis of their interest in the CRRRC. They wanted to understand potential impacts on their property from this project. Taggart Miller and Golder were asked to consider their lands while advancing the CRRRC project. Specifically Golder was asked about drinking water, roads, drainage and power. Golder described the availability and quality of drinking water from wells in the area (Jim was already aware of the naturally poor groundwater quality) and the possibility that Taggart Miller might consider providing money to assist the City to expand the trickle feed system; the AOO would obviously like that to happen, and recognize this project would be something the City has to decide to do. Golder indicated we didn't anticipate needing to do any road improvement along Boundary Road and that studies would still need to be completed to confirm this. If Taggart Miller did need to fund a portion of road improvements, the AOO representatives asked that we consider where an entrance(s) to their site might be. In terms of drainage, Golder explained about the Simpson Drain being the drainage outlet for the AOO possible

properties, and how that would be maintained or enhanced by our project to their benefit without cost to them. Golder indicated we would need to bring 3 phase power into the CRRRC site and the AOO representatives were pleased about this since it would also be available to their sites.

The AOO indicated that they will be interested to see our biology work and archeology work when it is finalized. They suggested that the AOO should likely see the Phase 1 archaeology study in advance of submitting it to the MTCS in case they have issues that need to be addressed. They would like Taggart Miller via Golder to send them material directly instead of having to find it on the project website. The AOO are trying to gain information about the area from us and ensure protection of their future lands. Jim expressed an interest that they could use their lands for some kind of complimentary business to the CRRRC.

After hearing Golder's explanation of the project, Jim Hunton indicated he would be advising the ANRs that he doesn't see the CRRRC as a threat to their lands. Lynn Clouthier indicated that the ANRs make decisions as a whole and all ANRs must be in agreement (it's not decision by majority or consensus).

N:\Active\2012\1125 - Environmental and Civil Engineering\12-1125-0045 CRRRC EA Eastern ON\Phase 4000_EA_Documentation\Vol 2 - Consultation Record\Aboriginal_Groups\Mtg_summary_AOO_3Apr2013_PAS.docx

Appendix G-2

AOO Summary provided October 30, 2013

October 28, 2013

Janet Stavinga
Executive Director
Algonquins of Ontario
Consultation Office

Jim Hunton
Land Use Planning and Consultation
Vice President
Jp2g Consultants Inc.

CAPITAL REGION RESOURCE RECOVERY CENTRE (CRRRC)
NOVEMBER 2013 UPDATE FOR THE ALGONQUINS OF ONTARIO

Representatives of Taggart Miller Environmental Services (Taggart Miller), the proponent of the CRRRC waste management project, have met with representatives of the Algonquins of Ontario (AOO) on April 9, 2013 and October 8, 2013 to discuss the CRRRC. The following provides some key points about the project:

- The proposed CRRRC project is a facility focused on diversion/recycling of commercial waste with a landfill for materials that cannot be diverted.
- The proposed 475 acre site for the CRRRC is to the southeast of the Highway 417/Boundary Road interchange in Ottawa's east end, and is located adjacent to an existing Industrial Park.
- Taggart Miller is currently carrying out the studies required to prepare and submit an Environmental Assessment (EA) for approval by the Ontario Ministry of Environment (MOE).

One of the studies required for the EA is an archaeology study of the site. The draft Stage 1 archaeology study report was provided originally to the AOO in early July 2013, and an updated version in the latter part of September 2013 for review and comments. Based on the findings of the draft Stage 1 archaeology study report no further archeology study at the site was recommended.

Two alternative concepts for development of the CRRRC project on the site were developed by Taggart Miller, and in early July 2013 the two concepts (A and B) were provided by Taggart Miller to the AOO to solicit their input. These concepts were also provided to the public and MOE. As discussed at the October 8, 2013 meeting with the AOO, Taggart Miller has compared the two concepts and identified Concept A as preferred since it is most compatible with existing and future neighbouring land uses and offers better site operational features. Of the comments received from the public at the last open house, all favoured Concept A. Following are the key reasons for selecting Concept A:

- The landfill component of Concept A is more than half a kilometre further removed from Highway 417 than Concept B.
- The buildings within which most diversion processes will be contained will back onto Highway 417 and the adjacent Industrial Park lands on the east side of Boundary Road (with Concept B the landfill would back onto Highway 417).
- With Concept A, all diversion facilities are located in the north part of the site, so there would be less on-site traffic movements compared to Concept B where the diversion facilities are split between the north and southwest parts of the site separated by about 1 kilometre of internal roadway.

The access to the CRRRC will be off Boundary Road, and upgrades to the site access intersection with Boundary Road will be required as part of the CRRRC project. The site access is near the northern parcel of land that is part of the AOO land claim agreement, and the intersection improvements will be beneficial to the AOO land parcel. In addition, the CRRRC project will require three-phase power to be brought to the Industrial Park area, where it would also then be available for the two AOO land parcels along the west side of Boundary Road. Development of the CRRRC will be such that the portion of the CRRRC project closest to the southern parcel of land that is part of the AOO land claim agreement will be developed last, likely some 25 years from now.

It is estimated that the CRRRC project will result in about $400 million of investment over its 30 year planned operating life, which will create opportunities for businesses to develop in the area of the site, i.e., in the Industrial Park or elsewhere to provide related processes, support and services to the CRRRC.

Approval of the CRRRC project requires design measures and operational practices such that its activities meet provincial standards at its property limits, and so prevent adverse effects on off-site properties. These measures include containment and management of landfill leachate so it does not affect groundwater, stormwater management, and control of air, odour, noise and dust emissions. As is the case with most modern waste management facilities, it is expected that a local Public Liaison Committee (PLC) will be formed to work with the site owner and monitor the activities at the site; in view of the two AOO land parcels in the area, if interested the AOO would be welcome to participate on the PLC, should its acquisition of the Boundary Road properties proceed.

Appendix G-3

AOO Comments on Stage 1 Archaeology Assessment

Algonquins of Ontario

February 20, 2014

Trish Edmond
Associate, Geoenvironmental Engineer
Golder Associates Ltd.
32 Steacie Drive
Kanata, ON K2K 2A9

BY EMAIL ONLY Trish_Edmond@golder.com

Dear Ms. Edmond,

Subject: Review of Stage 1 Archaeological Assessment Capital Region Resource Recovery Centre, Boundary Road Site, Part Lots 22-25, Concession 11 Cumberland Township, City of Ottawa, Ontario (Our File CP 211)

Thank you for providing the Algonquins of Ontario (AOO) with the opportunity to review the Stage 1 archaeological assessment report prepared in support of an overall assessment of lands located between Boundary Road and Frontier Road, south of Highway 417 (as outlined in Map 1 and Map 2 in the assessment report) and dated August 21, 2013. The project area has been selected as a possible location for the construction of the Capital Region Resource Recovery Centre (CRRRC). We have reviewed the document with our principal focus on First Nations cultural resources.

It is our understanding that the Stage 1 background study was conducted by Golder Associates Ltd. on Part Lots 22 to 25, Concession 11 in the Geographic Township of Cumberland, now the City of Ottawa. The study area consists of four part lots totaling approximately 192 hectares. The archaeological survey was undertaken for Taggart Miller Environmental Services as part of the pre-development permitting process and the *Canadian Environmental Assessment Act.*

In addition to a general property background study covering the periods before and after European contact, property inspections were undertaken on November 22, 2012 and June 18, 2013. First Nations archaeological potential within the project area was determined to be low since it is “poorly drained, low lying and a significant distance from any permanent or ancient source of water.” Given the late Euro-Canadian settlement (post 1870) and recent development, the project area was determined to have low Euro-Canadian archaeological potential. As a result, the following recommendation was made:

31 Riverside Drive, Suite 101, Pembroke, Ontario K8A 8R6
Telephone: (613) 735-3759 Fax: (613) 735-6307
Website: www.tanakiwin.com E-Mail: algonquins@nrtco.net

1. That the CRRRC Boundary Road study area does not require further archaeological assessment.

The AOO have reviewed the assessment report in its entirety and concur with the aforementioned recommendation. The AOO have the following request to be included in a revised report:

AOO Request #1

The potential always exists to miss important information in archaeological surveys consequently we request a condition of approval as follows:

> *If during the process of development any archaeological resources or human remains of potential Aboriginal interest are encountered, the Algonquins of Ontario Consultation Office will be contacted immediately at:*
>
> *Algonquins of Ontario Consultation Office*
> *31 Riverside Drive, Suite 101*
> *Pembroke, Ontario K8A 8R6*
> *Telephone: (613) 735-3759*
> *Fax: (613) 735-6307*
> *e-mail: algonquins@nrtco.net*

Ensuring Effective Engagement of the AOO in Archaeological Assessments

In the future, we encourage project proponents and their archaeologists to contact the AOO during the very early stages of a proposed project (including Stage 1) to discuss potential regional traditional knowledge that may assist with all stages of the archaeological process. We also look forward to opportunities to be more fully engaged in the archaeological work itself.

Lastly, please keep our office informed of the status of the archaeological assessment report with the Ministry of Culture, Tourism and Sport, including providing a copy of the acceptance letter. We would also appreciate being provided with the final report (both an electronic and a printed version).

Should you have any questions or require further information, please do not hesitate to contact me either by telephone at 613-735-3759 ext 202 or by email at jstavinga@nrtco.net.

Sincerely,

Janet Stavinga

Janet Stavinga
Executive Director

c.c. Algonquin Negotiation Representatives – AOO
Robert Potts, Principal Negotiator – AOO
Jim Hunton, Vice-President, Jp2g Consultants Inc. Technical Advisor – AOO
Derek Paauw, Professional Archaeologist, Technical Advisor – AOO
Jim Sherratt, A/Manager, Culture Programs Unit, Ministry of Tourism, Culture and Sport

Appendix G-4

E-mail Request for Feedback to Aboriginal Communities

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Janet Stavinga

DATE: June 11, 2013

TELEPHONE No.: 1 613 - 735 - 3759 ext 202

PROJECT No.: 12-1125-0045

MADE/RECEIVED BY: PLE

JOB TITLE: CRKRC EA

RE: Left message that I would send the site concepts & confirmation about sending the draft Stage 1 archeological assessment.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Chief Whiteduck

DATE: June 12, 2013

TELEPHONE No.: 613-625-2800

PROJECT No.: 12-1125-0045

MADE/RECEIVED BY: Blair Heng

JOB TITLE: CRRRC

RE: Algonquins of Pikwakanagan:
Left voicemail requesting feedback on 2 site development concepts followed up w/ e-mail

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Mr. Random

DATE: June 12, 2013

TELEPHONE No.: 613-575-2250

PROJECT No.: 12-1125-0045

MADE/RECEIVED BY: Blair Hay

JOB TITLE: CRRRC

RE: Mohawk Council of Akwesasne
left voicemail requesting feedback on 2 site development concepts. followed up w/ e-mail

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: President Gilbeau **DATE:** June 12, 2013

TELEPHONE No.: 613-859-4782 **PROJECT No.:** 12-1125-0045

MADE/RECEIVED BY: Blair Haug **JOB TITLE:** CRRRC

RE: Métis Council of Ottawa
left voicemail requesting feedback on 2 site development concepts - followed up w/ e-mail.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Mr. Bowles

DATE: June 12, 2013

TELEPHONE No.: 416-977-9881

PROJECT No.: 12-1125-0045

MADE/RECEIVED BY: Blair Haug

JOB TITLE: CRRRC

RE: Metis Nation of Ontario:
left voicemail requesting feedback on 2 site development concepts. Followed up w/ e-mail

COMMENT/MEMO:

ACTION:

COPIES TO:

Edmond, Trish

From: Edmond, Trish
Sent: June 11, 2013 8:42 AM
To: jstavinga@nrtco.net
Subject: CRRRC EA: Request for feedback on the Alternative Site Development Concepts
Attachments: Design Comment Sheet.pdf

Hi Janet,

As per my phone message this morning, we would be interesting in getting feedback on the Capital Region Resource Recovery Centre (CRRRC) Alternative Site Development Concepts.

Taggart Miller completed a comparative evaluation of the two sites proposed for the CRRRC project, and in February 2013 announced that the preferred site for the project is the Boundary Road Site. Since then, alternative site development concepts for the Boundary Road site have been prepared, and were presented to the public at an open house on June 5 to obtain comments from the public. In accordance with the approved, amended Terms of Reference for the CRRRC, Golder Associates wishes to consult with the Algonquins of Ontario on the two proposed alternative site development concepts for the Boundary Road Site. We would be pleased to meet you in person or have a teleconference to review the alternative site design concepts. The two concepts have also been attached to this email (the attachment is the actual comment sheet handed out to members of the public attending Open House #4 on June 5th).

Also, as per our conversation several weeks ago, Golder Associates is updating the Stage 1 archeological assessment completed on the Boundary Road Site to include the new property optioned and shown on the alternative site design concepts. We will provide a draft version of this Stage 1 archeological assessment to AOO before submitting it to the Ministry of Tourism, Culture and Sport for your review and comment.

Please note we have also provided this information to the Algonquins of Pikwakanagan First Nation, but have let them know that you received this information also.

Thank you

Trish

Trish Edmond (M.E.Sc., P.Eng.) | Associate, Geoenvironmental Engineer | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 x 3246 | **F:** +1 (613) 592 9601 | **C:** +1 (613) 799 1960 | **E:** Trish_Edmond@golder.com |
www.golder.com

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: June 12, 2013 8:35 AM
To: markbowler@metisnation.org
Cc: hankr@metisnation.org; consultations@metisnation.org; Haug, Blair
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: Design Comment Sheet.pdf

Hello Mr. Bowler,

As per my phone message this morning, we would be interesting in getting feedback on the Capital Region Resource Recovery Centre (CRRRC) Alternative Site Development Concepts.

Taggart Miller completed a comparative evaluation of the two sites proposed for the CRRRC project, and in February 2013 announced that the preferred site for the project is the Boundary Road Site. Since then, alternative site development concepts for the Boundary Road site have been prepared, and were presented to the public at an open house on June 5 to obtain comments from the public. In accordance with the approved, amended Terms of Reference for the CRRRC, Golder Associates wishes to consult with the Métis Nation of Ontario on the two proposed alternative site development concepts for the Boundary Road Site. We would be pleased to meet you in person or have a teleconference to review the alternative site design concepts. The two concepts have also been attached to this email (the attachment is the actual comment sheet handed out to members of the public attending Open House #4 on June 5th).

Thank you,

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: June 12, 2013 8:38 AM
To: karla.ransom@akwesasne.ca
Cc: Haug, Blair
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: Design Comment Sheet.pdf

Hello Mr. Ransom,

As per my phone message this morning, we would be interesting in getting feedback on the Capital Region Resource Recovery Centre (CRRRC) Alternative Site Development Concepts.

Taggart Miller completed a comparative evaluation of the two sites proposed for the CRRRC project, and in February 2013 announced that the preferred site for the project is the Boundary Road Site. Since then, alternative site development concepts for the Boundary Road site have been prepared, and were presented to the public at an open house on June 5 to obtain comments from the public. In accordance with the approved, amended Terms of Reference for the CRRRC, Golder Associates wishes to consult with the Mohawk Council of Akwesasne on the two proposed alternative site development concepts for the Boundary Road Site. We would be pleased to meet you in person or have a teleconference to review the alternative site design concepts. The two concepts have also been attached to this email (the attachment is the actual comment sheet handed out to members of the public attending Open House #4 on June 5th).

Thank you,

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: June 12, 2013 8:39 AM
To: gilbeaud@gmail.com
Cc: Haug, Blair
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: Design Comment Sheet.pdf

Hello President Gilbeau,

As per my phone message this morning, we would be interesting in getting feedback on the Capital Region Resource Recovery Centre (CRRRC) Alternative Site Development Concepts.

Taggart Miller completed a comparative evaluation of the two sites proposed for the CRRRC project, and in February 2013 announced that the preferred site for the project is the Boundary Road Site. Since then, alternative site development concepts for the Boundary Road site have been prepared, and were presented to the public at an open house on June 5 to obtain comments from the public. In accordance with the approved, amended Terms of Reference for the CRRRC, Golder Associates wishes to consult with the Ottawa Métis Council on the two proposed alternative site development concepts for the Boundary Road Site. We would be pleased to meet you in person or have a teleconference to review the alternative site design concepts. The two concepts have also been attached to this email (the attachment is the actual comment sheet handed out to members of the public attending Open House #4 on June 5th).

Thank you,

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Haug, Blair
Sent: June 12, 2013 8:33 AM
To: chiefcouncil@pikwakanagan.ca
Cc: Haug, Blair
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: Design Comment Sheet.pdf

Hello Chief Whiteduck,

As per my phone message this morning, we would be interesting in getting feedback on the Capital Region Resource Recovery Centre (CRRRC) Alternative Site Development Concepts.

Taggart Miller completed a comparative evaluation of the two sites proposed for the CRRRC project, and in February 2013 announced that the preferred site for the project is the Boundary Road Site. Since then, alternative site development concepts for the Boundary Road site have been prepared, and were presented to the public at an open house on June 5 to obtain comments from the public. In accordance with the approved, amended Terms of Reference for the CRRRC, Golder Associates wishes to consult with the Algonquins of Pikwakanagan First Nation on the two proposed alternative site development concepts for the Boundary Road Site. We would be pleased to meet you in person or have a teleconference to review the alternative site design concepts. The two concepts have also been attached to this email (the attachment is the actual comment sheet handed out to members of the public attending Open House #4 on June 5th).

Please note we have also provided this information to the Algonquins of Ontario, and have let them know that you also received this information.

Thank you,

Blair Haug (B.A.) | Project Coordinator | **Golder Associates Ltd.**
683 Innovation Drive, Unit 1, Kingston, Ontario, Canada K7K 7E6
T: +1 (613) 542 0029 | **D:** +1 (613) 542-0029 x5262 | **F:** +1 (613) 542-0689 | **C:** +1 (613) 329 7268 | **E:** Blair_Haug@golder.com | **www.golder.com**

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APPENDIX H

Open House #6 – June 25, 2014

Appendix H-1

Le Reflet/The News French Ad

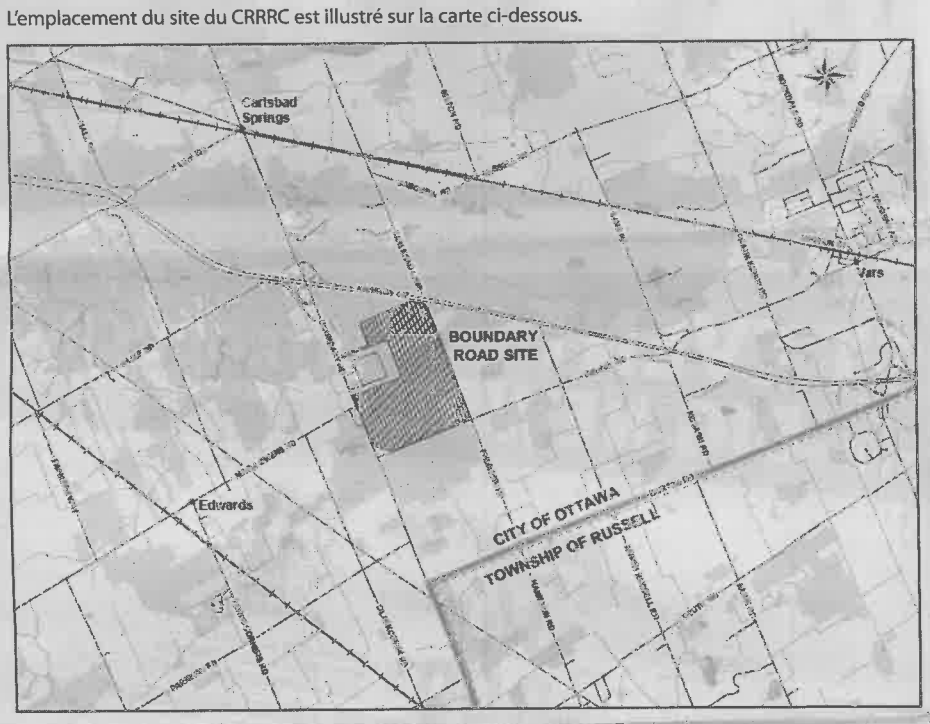
Avis de disponibilité de l'ébauche du rapport et sixième journée portes ouvertes pour une évaluation environnementale du Centre de récupération des ressources de la région de la Capitale

Taggart Miller Environmental Services (Taggart Miller) a terminé l'ébauche de l'évaluation environnementale pour une proposition de projet de gestion intégrée des déchets connu sous le nom de Centre de récupération des ressources de la région de la Capitale (CRRRC). Conformément aux exigences du Cadre de référence approuvé par le ministre de l'Environnement le 17 décembre 2012, Taggart Miller rend son ébauche de l'évaluation environnementale disponible pour recueillir les commentaires du public avant la finalisation et la soumission du rapport au ministère de l'Environnement. Le rapport principal de l'ébauche de l'évaluation environnementale, Volume 1, et son sommaire seront aussi offerts en français.

Le CRRRC, s'il est approuvé, fournirait des installations et une capacité requises pour récupérer les ressources et réacheminer les matériaux destinés à être éliminés qui sont produits par les secteurs industriel, commercial et institutionnel (ICI) et par les entreprises de construction et de démolition (CD) à Ottawa et dans l'Est de l'Ontario, ainsi qu'une capacité d'élimination pour les matériaux qui ne sont pas réacheminés. Les composants du CRRRC seront élaborés au moyen d'une consultation plus approfondie au cours de l'évaluation environnementale et ils comprennent actuellement les éléments proposés suivants :

- un centre de récupération des matériaux;
- une installation de traitement des matériaux de construction et de démolition;
- le traitement des matières organiques;
- le traitement des sols contaminés aux hydrocarbures;
- la gestion des sols excédentaires;
- un écocentre des matériaux triés ou pour le tri des matériaux;
- le compostage des feuilles mortes et des résidus de jardin (s'il y a suffisamment de matières);
- un site d'enfouissement aménagé pour l'élimination des résidus.

L'emplacement du site du CRRRC est illustré sur la carte ci-dessous.



Conformément aux exigences du Cadre de référence, l'ébauche de l'évaluation environnementale sera offerte pour consultation par le public et dans le but de recueillir ses commentaires du 11 juin 2014 au 31 juillet 2014.

La participation publique de résidents locaux et d'autres parties concernées est une étape importante du processus d'évaluation environnementale. Vous pouvez examiner l'ébauche de l'évaluation environnementale sur le site Web du projet (www.crrrc.ca) ou au cours des heures normales d'ouverture aux endroits suivants :

Taggart Miller Environmental Services Taggart Realty 225, rue Metcalfe, bureau 708 Ottawa (Ontario) 613-234-7000, poste 235	Centre communautaire de Carlsbad Springs 6020, rue Piperville Carlsbad Springs (Ontario) (accès réduit; téléphoner pour obtenir de plus amples détails)
Bibliothèque publique du canton de Russell 1053, rue Concession Russell (Ontario) 613-445-5331	Bibliothèque publique d'Ottawa, succursale de Blackburn Hamlet 199, rue Glen Park Ottawa (Ontario) 613-824-6926
Ministère de l'Environnement Bureau de district d'Ottawa 2430, rue Don Reid Ottawa (Ontario) 613-521-3450	

Veuillez fournir vos commentaires sur l'ébauche de l'évaluation environnementale par écrit à Taggart Miller d'ici le **31 juillet 2014.** Tous les commentaires devraient être envoyés à la personne suivante :

M. Hubert Bourque, directeur de projet
Taggart Miller Environmental Services
a/s de 225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
No de téléphone : 613-454-5580
No de télécopieur : 613-454-5581
Courriel : hjbourque@crrrc.ca

Au cours de la sixième journée portes ouvertes, nous présenterons un aperçu de l'ébauche de l'EE.

Sixième journée portes ouvertes

Le mercredi 25 juin 2014
De 16 h à 21 h
Centre communautaire de Carlsbad Springs
6020, rue Piperville (Eighth Line), Ottawa

Votre participation est requise et considérée.

En vertu de l'autorité de la *Loi sur l'accès à l'information et la protection de la vie privée* et de la *Loi sur l'évaluation environnementale*, à moins d'indications contraires dans la soumission, tous les renseignements personnels, comme le nom, l'adresse, le numéro de téléphone et l'emplacement des terrains, compris dans une soumission, feront partie des dossiers publics pour cette question et seront divulgués à quiconque en fait la demande. Ces renseignements sont recueillis, maintenus et divulgués par le ministère de l'Environnement à des fins de transparence et de consultation.

Pour de plus amples renseignements, veuillez communiquer avec le coordonnateur de l'accès à l'information et de la protection de la vie privée du ministère de l'Environnement au 416-327-1434.

H185763_TS

Appendix H-2

The Villager English Ad

70th anniversary remembered

From left: World War II veteran Donald Potvin, Ethel Hamilton, GPR MP Pierre Lemieux and Hazel McFaul. Lemieux helped a 'dream come true' for the Russell Meadows residents recently. The Meadows 'Share your Dream Program' was launched encouraging seniors to live their dreams and 12 dreams have been granted over the past two years. The threesome had always wanted to visit Parliament and have lunch in the Parliamentary Restaurant. On June 6, in remembrance of D-Day in Normandy, Russell Meadows residents held a ceremony that had 14 of their veterans piped into the luncheon by Douglas Heyland and accompanied by Legion members Ken Woods and Victor McAthy. Out of the 14 veterans, Potvin was the only soldier who was present at Juno Beach on that day 70 years ago. Veteran Alive Wilson was also honoured with the Bletchley Park Commemorative Badge, and the late Raymond Desroches with a certificate for his participation in the Korean War.

Courtesy Photo

Russell Kin Club continues its winning ways

RUSSELL — The Russell Kin Club continues its winning ways as the club and its members were awarded another seven of the nine District Awards at Kin Canada's District 6 Convention, held in Smith Falls over the June 7 weekend.

Recognized for the third year in a row, the organization received the Outstanding Club Award in the entire District. Kin Helen Meinzinger was recognized for her work with cystic fibrosis with the very prestigious and inaugural Lynn Stoliker Memorial Service Award of Distinction.

The club won the District Service Award for its Winter Carnival extravaganza; it won the Ottawa Convention Award, Costume Award, Skit Award, directed by Kin Bill McInnis and written by the creative mind of Joe McInnis, and was runner up in the Noel Kerr District Cystic Fibrosis Award for its donation of $41,000 towards cystic fibrosis research.

Club Secretary Cindy Anthony won the District public speaking competition and will represent District 6 (Quebec and south eastern Ontario) at the national convention in Toronto.

A cut above

From left: Deputy Governor Judy Dallaway, Julie Furlotte, Dave Dallaway, Governor Robert Watkins and Helen Meinzinger at the Kin Canada's District 6 Convention held on June 7 in Smith Falls.

Courtesy Photo

Lifetime members

From left: Jack Skidmore, Connie Stinson and Rae Lowe received their honorary Life Members with the Russell Seniors 55+ Club on June 4. The club, which consists of 214 members, meets monthly, operates shuffle board, euchre and bridge days, and walk-a-thons. Many of the members also travel by bus to various places such as Morrisburg to watch local theatre, and to Washington DC to see the cherry blossoms in April.

PJ Pearson Photo

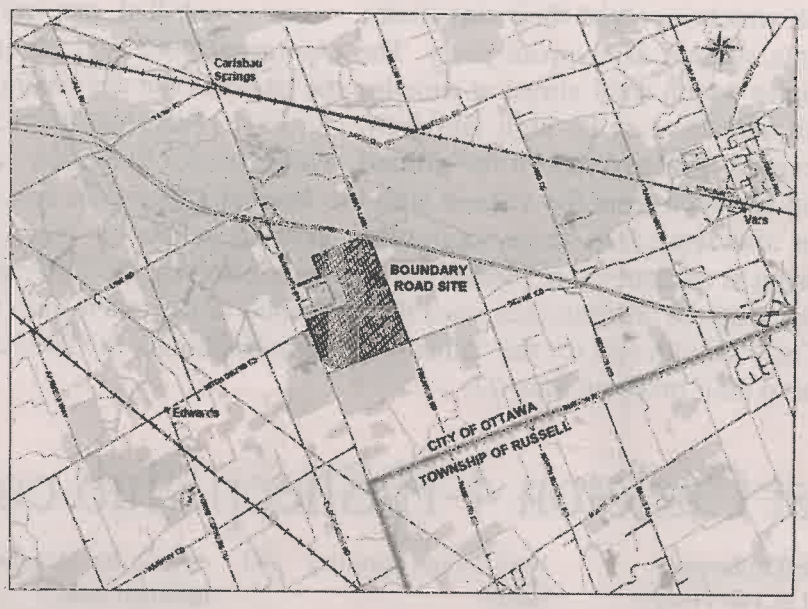
Notice of Availability of Draft Report and Sixth Open House for an Environmental Assessment of the Capital Region Resource Recovery Centre

Taggart Miller Environmental Services (Taggart Miller) has completed the draft environmental assessment for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC). As required by Terms of Reference approved by the Minister of the Environment on December 17, 2012, Taggart Miller is making its draft environmental assessment available for public comment prior to finalization and submission to the Ministry of the Environment.

The CRRRC, if approved, would provide facilities and capacity for recovery of resources and diversion of materials from disposal that are generated by the Industrial, Commercial and Institutional (IC&I) and Construction and Demolition (C&D) sectors in Ottawa and eastern Ontario, as well as disposal capacity for material that is not diverted. The components of the CRRRC will be developed through further consultation during the environmental assessment and are currently proposed to include:

- material recovery facility;
- construction and demolition waste processing;
- organics processing;
- hydrocarbon contaminated soil treatment;
- surplus soil management;
- a drop off for separated materials or separation of materials;
- leaf and yard materials composting (if there is enough material available); and
- an engineered landfill for residuals disposal.

The location of the CRRRC site is shown on the map below.



As required according to the Terms of Reference, the draft environmental assessment will be available for public review and comment from June 11, 2014 to July 31, 2014.

Public participation by local residents and other interested parties is an important part of the environmental assessment process. You may review the draft environmental assessment on the project website (www.crrrc.ca) or during normal business hours at the following locations:

Taggart Miller Environmental Services Taggart Realty 225 Metcalfe Street, Suite 708 Ottawa, Ontario 613-234-7000 ext 235	Carlsbad Springs Community Centre 6020 Piperville Road Carlsbad Springs, Ontario (reduced access, call for details)
Township of Russell Public Library 1053 Concession Street Russell, Ontario 613-445-5331	City of Ottawa Public Library, Blackburn Hamlet Branch 199 Glen Park Drive Ottawa, Ontario 613-824-6926
Ministry of the Environment Ottawa District Office 2430 Don Reid Drive Ottawa, Ontario 613-521-3450	

Comments on the draft environmental assessment should be provided in writing to Taggart Miller by **July 31, 2014**. All comments should be submitted to:

Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

Open House #6 will present an overview of the draft EA.

Open House # 6

Wednesday, June 25, 2014
4:00 to 9:00 pm
Carlsbad Springs Community Centre
6020 Piperville Road (Eighth Line), Ottawa

Your participation is requested and appreciated.

Under the authority of the *Freedom of Information and Protection of Privacy Act* and the *Environmental Assessment Act*, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person. This information is collected, maintained and disclosed by the Ministry of the Environment for transparency and consultation.

For more information, please contact the Ministry of the Environment's Freedom of Information and Privacy coordinator at 416-327-1434.

Appendix H-3

Le Droit French Ad

Avis de disponibilité de l'ébauche du rapport et sixième journée portes ouvertes pour une évaluation environnementale du Centre de récupération des ressources de la région de la Capitale

Taggart Miller Environmental Services (Taggart Miller) a terminé l'ébauche de l'évaluation environnementale pour une proposition de projet de gestion intégrée des déchets connu sous le nom de Centre de récupération des ressources de la région de la Capitale (CRRRC). Conformément aux exigences du Cadre de référence approuvé par le ministre de l'Environnement le 17 décembre 2012, Taggart Miller rend son ébauche de l'évaluation environnementale disponible pour recueillir les commentaires du public avant la finalisation et la soumission du rapport au ministère de l'Environnement. Le rapport principal de l'ébauche de l'évaluation environnementale, Volume 1, et son sommaire seront aussi offerts en français.

Le CRRRC, s'il est approuvé, fournirait des installations et une capacité requises pour récupérer les ressources et réacheminer les matériaux destinés à être éliminés qui sont produits par les secteurs industriel, commercial et institutionnel (ICI) et par les entreprises de construction et de démolition (CD) à Ottawa et dans l'Est de l'Ontario, ainsi qu'une capacité d'élimination pour les matériaux qui ne sont pas réacheminés. Les composants du CRRRC seront élaborés au moyen d'une consultation plus approfondie au cours de l'évaluation environnementale et ils comprennent actuellement les éléments proposés suivants :

- un centre de récupération des matériaux;
- une installation de traitement des matériaux de construction et de démolition;
- le traitement des matières organiques;
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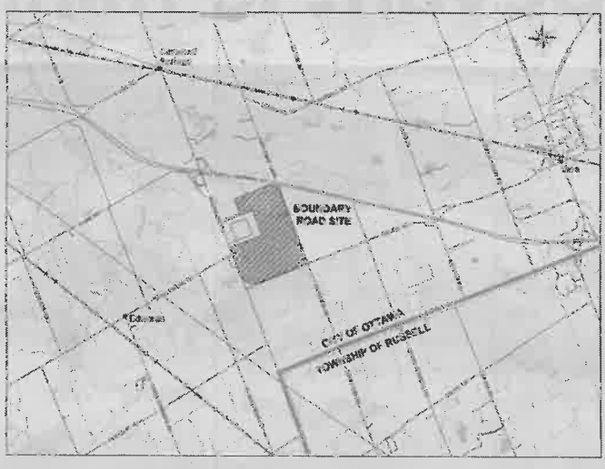
- un site d'enfouissement aménagé pour l'élimination des résidus.

L'emplacement du site du CRRRC est illustré sur la carte ci-dessous.



Conformément aux exigences du Cadre de référence, l'ébauche de l'évaluation environnementale sera offerte pour consultation par le public et dans le but de recueillir ses commentaires du 11 juin 2014 au 31 juillet 2014.

La participation publique de résidents locaux et d'autres parties concernées est une étape importante du processus d'évaluation environnementale. Vous pouvez examiner l'ébauche de l'évaluation environnementale sur le site Web du projet (www.crrrc.ca) ou au cours des heures normales d'ouverture aux endroits suivants :

Taggart Miller Environmental Services Taggart Realty 225, rue Metcalfe, bureau 708 Ottawa (Ontario) 613-234-7000, poste 235	Centre communautaire de Carlsbad Springs 6020, rue Piperville Carlsbad Springs (Ontario) (accès réduit; téléphoner pour obtenir de plus amples détails)
Bibliothèque publique du canton de Russell 1053, rue Concession Russell (Ontario) 613-445-5331	Bibliothèque publique d'Ottawa, succursale de Blackburn Hamlet 199, rue Glen Park Ottawa (Ontario) 613-824-6926
Ministère de l'Environnement Bureau de district d'Ottawa 2430, rue Don Reid Ottawa (Ontario) 613-521-3450	

Veuillez fournir vos commentaires sur l'ébauche de l'évaluation environnementale par écrit à Taggart Miller d'ici le 31 juillet 2014. Tous les commentaires devraient être envoyés à la personne suivante :

M. Hubert Bourque, directeur de projet
Taggart Miller Environmental Services
a/s de 225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
No de téléphone : 613-454-5580
No de télécopieur : 613-454-5581
Courriel : hjbourque@crrrc.ca

Au cours de la sixième journée portes ouvertes, nous présenterons un aperçu de l'ébauche de l'EE.

Sixième journée portes ouvertes

Le mercredi 25 juin 2014
De 16 h à 21 h
Centre communautaire de Carlsbad Springs
6020, rue Piperville (Eighth Line), Ottawa

Votre participation est requise et considérée.

En vertu de l'autorité de la *Loi sur l'accès à l'information et la protection de la vie privée* et de la *Loi sur l'évaluation environnementale,* à moins d'indications contraires dans la soumission, tous les renseignements personnels, comme le nom, l'adresse, le numéro de téléphone et l'emplacement des terrains, compris dans une soumission, feront partie des dossiers publics pour cette question et seront divulgués à quiconque en fait la demande. Ces renseignements sont recueillis, maintenus et divulgués par le ministère de l'Environnement à des fins de transparence et de consultation.

Pour de plus amples renseignements, veuillez communiquer avec le coordonnateur de l'accès à l'information et de la protection de la vie privée du ministère de l'Environnement au 416-327-1434.

Appendix H-4

Ottawa Citizen English Ad

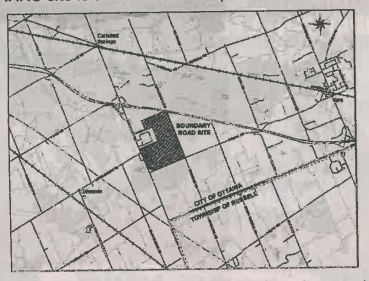
Notice of Availability of Draft Report and Sixth Open House for an Environmental Assessment of the Capital Region Resource Recovery Centre

Taggart Miller Environmental Services (Taggart Miller) has completed the draft environmental assessment for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC). As required by Terms of Reference approved by the Minister of the Environment on December 17, 2012, Taggart Miller is making its draft environmental assessment available for public comment prior to finalization and submission to the Ministry of the Environment.

The CRRRC, if approved, would provide facilities and capacity for recovery of resources and diversion of materials from disposal that are generated by the Industrial, Commercial and Institutional (IC&I) and Construction and Demolition (C&D) sectors in Ottawa and eastern Ontario, as well as disposal capacity for material that is not diverted. The components of the CRRRC will be developed through further consultation during the environmental assessment and are currently proposed to include:

- material recovery facility;
- construction and demolition waste processing;
- organics processing;
- hydrocarbon contaminated soil treatment;
- surplus soil management;
- a drop off for separated materials or separation of materials;
- leaf and yard materials composting (if there is enough material available); and
- an engineered landfill for residuals disposal.

The location of the CRRRC site is shown on the map below.



As required according to the Terms of Reference, the draft environmental assessment will be available for public review and comment from June 11, 2014 to July 31, 2014.

Public participation by local residents and other interested parties is an important part of the environmental assessment process. You may review the draft environmental assessment on the project website (www.crrrc.ca) or during normal business hours at the following locations:

Taggart Miller Environmental Services Taggart Realty 225 Metcalfe Street, Suite 708 Ottawa, Ontario 613-234-7000 ext 235	Carlsbad Springs Community Centre 6020 Piperville Road Carlsbad Springs, Ontario (reduced access, call for details)
Township of Russell Public Library 1053 Concession Street Russell, Ontario 613-445-5331	City of Ottawa Public Library, Blackburn Hamlet Branch 199 Glen Park Drive Ottawa, Ontario 613-824-6926
Ministry of the Environment Ottawa District Office 2430 Don Reid Drive Ottawa, Ontario 613-521-3450	

Comments on the draft environmental assessment should be provided in writing to Taggart Miller by **July 31, 2014.** All comments should be submitted to:

Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

Open House #6 will present an overview of the draft EA.

Open House # 6
Wednesday, June 25, 2014
4:00 to 9:00 pm
Carlsbad Springs Community Centre
6020 Piperville Road (Eighth Line), Ottawa

Your participation is requested and appreciated.

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10626692

Ottawa Citizen
June 11, 2014
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Appendix H-5

Bilingual E-mail Invitation to Mailing List

From: Hubert Bourque <hjbourque@crrrc.ca>
Subject: **Open House #6 for Capital Region Resource Recovery Centre/Sixième journée portes ouverte**

SVP faites défiler vers le bas pour la version française.

Taggart Miller Environmental Services (Taggart Miller) has completed the draft environmental assessment for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC), to be located near the Boundary Road/Highway 417 interchange. Taggart Miller is now making its draft environmental assessment available for public comment prior to finalization and submission of the final environmental assessment to the Ministry of the Environment.

Public participation by local residents and other interested parties is an important part of the environmental assessment process. You may review the draft environmental assessment on the project website (www.crrrc.ca) or during normal business hours at the following locations:

Taggart Miller Environmental Services Taggart Realty 225 Metcalfe Street, Suite 708 Ottawa, Ontario	Carlsbad Springs Community Centre 6020 Piperville Road Carlsbad Springs, Ontario (call for access)
Township of Russell Public Library 1053 Concession Street Russell, Ontario	City of Ottawa Public Library, Blackburn Hamlet Branch 199 Glen Park Drive Ottawa, Ontario
Ministry of the Environment Ottawa District Office 2430 Don Reid Drive Ottawa, Ontario	

Comments on the draft environmental assessment should be provided in writing to Taggart Miller by **July 31, 2014**. All comments should be submitted to:

Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
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Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
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Open House #6 will present an overview of the draft EA.

Open House # 6

Wednesday, June 25, 2014
4:00 to 9:00 pm
Carlsbad Springs Community Centre
6020 Piperville Road (Eighth Line), Ottawa

You are receiving this message a because you signed up for the mailing list at at one of our Open Houses or at crrrc.ca. You may click here to Unsubscribe.

Taggart Miller Environmental Services (Taggart Miller) a terminé l'ébauche de l'évaluation environnementale pour une proposition de projet de gestion intégrée des déchets connu sous le nom de Centre de récupération des ressources de la région de la capitale (CRRRC). Ce centre sera situé près de l'échangeur du chemin Boundary et de l'autoroute 417. Taggart Miller met maintenant l'ébauche de son évaluation environnementale à la disposition du public afin que ce dernier puisse le commenter avant l'achèvement et la présentation de la version définitive au ministère de l'Environnement.

La participation publique de résidents locaux et d'autres parties concernées est une étape importante du processus d'évaluation environnementale. Vous pouvez examiner l'ébauche de l'évaluation environnementale sur le site Web du projet (www.crrrc.ca) ou au cours des heures normales d'ouverture aux endroits suivants :

Taggart Miller Environmental Services Taggart Realty 225, rue Metcalfe, bureau 708 Ottawa (Ontario)	Centre communautaire de Carlsbad Springs 6020, chemin Piperville Carlsbad Springs (Ontario) (appelez pour obtenir l'accès)
Bibliothèque publique du canton de Russell 1053, rue Concession Russell (Ontario)	Bibliothèque publique d'Ottawa, succursale de Blackburn Hamlet 199, promenade Glen Park Ottawa (Ontario)
Ministère de l'Environnement Bureau de district d'Ottawa 2430, promenade Don Reid Ottawa (Ontario)	

Le rapport principal de l'ébauche d'évaluation environnementale - Volume 1 et son résumé seront également disponibles en français.

Vous devez fournir vos commentaires sur l'ébauche de l'évaluation environnementale par écrit à Taggart Miller d'ici le **31 juillet 2014**. Tous les commentaires doivent être envoyés à la personne suivante :

M. Hubert Bourque, directeur de projet
Taggart Miller Environmental Services
a/s 225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
Téléphone : 6134545580
Télécopieur : 6134545581
Courriel : hjbourque@crrrc.ca

Au cours de la sixième journée porte ouverte, nous présenterons un aperçu de l'ébauche de l'EE.

Sixième journée portes ouvertes

Mercredi 25 juin 2014
De 16 h à 21 h
Centre communautaire de Carlsbad Springs
6020, chemin Piperville (chemin Eighth Line), Ottawa

Vous recevez ce message parce que vous vous êtes inscris à la liste de diffusion à l'une de nos journées portes ouvertes ou au crrrc.ca. Veuilliez cliquer Unsubscribe pour vous désabonner.

Appendix H-6

E-mail and Record of Phone Conversations with Aboriginal Communities

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Chief Whiteduck → Alg. of Pikwakanagan First Nation

DATE: June 17, 2014 10 AM

TELEPHONE No.: 613-625-2800

PROJECT No.: 12-1125-0045/530

MADE/RECEIVED BY: YJM

JOB TITLE: CRRRC OH6

RE: CRRRC OH #6 regarding Draft EA

Wednesday, June 25, 2014
4:00 to 9:00 PM
Carlsbad Springs Community Centre
6020 Piperville Road (8th Line), OTTAWA

Left a VM to his assistant.

⇒ Sent an email to him shortly after.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Janet Stavinga → ACO DATE: June 17, 2014 10 AM

TELEPHONE No.: 613 - 735 - 3759 PROJECT No.: 12-1125-0045/5300

MADE/RECEIVED BY: YJD JOB TITLE: CRRRC OH6

RE: CRRRC OH #6 regarding Draft EA

Wed. June 25, 2014 4:00 to 9:00 PM
Carlsbad Springs Community Centre
6020 Pipeville Rd (8th Line), OTTAWA

Left VM. Sent email shortly after.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Aly N. Alibhai Director Métis Nation of Ontario / Mark Bowler

DATE: June 17, 2014 10 AM

TELEPHONE No.: 416-977-9881 x 114

PROJECT No.: 12-1125-0045/5300

MADE/RECEIVED BY: YJM

JOB TITLE: CRRRC OM6

RE: CRRR OM#6 regarding Draft EA

Wed. June 25, 2014 4:00 to 9:00 PM
Carlsbad Springs Community Centre
6020 Pipeville Rd (8th Line), OTTAWA

MB no longer there: Aly N. Alibhai, Director, Lands, Res. & Consult.
Alya@metisnation.org

Left VM to Aly Alibhai
Sent email shortly after.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: Chris Lavigne - Ottawa Métis Council

DATE: June 17, 2014 10 AM

TELEPHONE No.: 613-850-8024

PROJECT No.: 12-1121-0045 / 5300

MADE/RECEIVED BY: YJN

JOB TITLE: CRRRC OH 6

RE: CRRRC OH #6 Draft EA

Wed. June 25 2014 4:00 to 4:00 PM
Carlsbad Springs Community Centre
6020 Ripenville Rd (8th Line), OTTAWA

Send emails to:

* OTTAWAMETISCOUNCIL@GMAIL.COM
* JAMESW@METISNATION.ORG.

Email out shortly afterwards.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

FN7 Mohawk Council of Akwesasne

CALL TO/FROM: Curtis Lagore

DATE: June 17, 2014 10 AM

TELEPHONE No.: ~~1-613-575-2348~~ (1-613-936-1548 x1038)

PROJECT No.: 12-1125-0045/5300

MADE/RECEIVED BY: YJN

JOB TITLE: CRRRC OH 6

RE: CRRRC OH #6 Draft EA

Wed June 25, 2014 4:30 to 9:00 PM
Carlsbad Springs Community Centre
6020 Aiperville Rd (8th Line), OTTAWA

Left VM. Sent email shortly afterwards.

COMMENT/MEMO:

ACTION:

COPIES TO:

Golder Associates

RECORD OF TELEPHONE CONVERSATION

CALL TO/FROM: James W. Ransom, Director, Mohawk Council of Akwesasne

DATE: June 17, 2014 10 AM

TELEPHONE No.: 1-613-575-2250

PROJECT No.: 12-1121.5-0045/5300

MADE/RECEIVED BY: YJM

JOB TITLE: CRRRC OH 6

RE: CRRRC OH #6 Draft EA

Wed June 25, 2014 4:00 to 9:00 PM
Carlsbad Springs Community Centre
6020 Piperville Rd (8th Line), OTTAWA.

Left VM. Sent an email shortly afterwards.

COMMENT/MEMO:

ACTION:

COPIES TO:

Edmond, Trish

From: Marcerou, Yannick
Sent: June 17, 2014 11:04 AM
To: 'alya@metisnation.org'
Cc: 'consultations@metisnation.org'; 'hankr@metisnation.org'; Marcerou, Yannick (Yannick_Marcerou@golder.com)
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: Draft EA and OH # 6 Ad.pdf

Dear Mr. Alibhai,

This e-mail is a follow up to the message that I left this morning. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the sixth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. We would be pleased to speak to you at the Open House on June 25 or alternatively we can meet with you separately to receive your feedback.

Sincerely,

Yannick

Yannick Marcerou (MEng) | Environmental/Waste Consultant | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **E:** Yannick_Marcerou@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Marcerou, Yannick
Sent: June 17, 2014 10:56 AM
To: 'chiefcouncil@pikwakanagan.ca'
Cc: Marcerou, Yannick (Yannick_Marcerou@golder.com)
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: Draft EA and OH # 6 Ad.pdf

Dear Chief Whiteduck,

This e-mail is a follow up to the message that I left this morning. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the sixth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. We would be pleased to speak to you at the Open House on June 25 or alternatively we can meet with you separately to receive your feedback.

Please note that this information has also been provided to Janet Stavinga, Algonquins of Ontario.

Sincerely,

Yannick

Yannick Marcerou (MEng) | Environmental/Waste Consultant | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **E:** Yannick_Marcerou@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Marcerou, Yannick
Sent: June 17, 2014 11:13 AM
To: 'ottawametiscouncil@gmail.com'
Cc: 'jamesw@metisnation.org'
Subject: RE: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: Draft EA and OH # 6 Ad.pdf

Dear President Lavigne,

Please find attached the announcement mentioned in my previous email.

Sorry about this mistake.

Have a good day.

Yannick

From: Marcerou, Yannick
Sent: June-17-14 11:08 AM
To: 'ottawametiscouncil@gmail.com'
Cc: 'jamesw@metisnation.org'; Marcerou, Yannick (Yannick_Marcerou@golder.com)
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment

Dear President Lavigne,

This e-mail is a follow up to the message that I left this morning. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the sixth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. We would be pleased to speak to you at the Open House on June 25 or alternatively we can meet with you separately to receive your feedback.

Sincerely,

Yannick

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T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **E:** Yannick_Marcerou@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Marcerou, Yannick
Sent: June 17, 2014 11:15 AM
To: 'curtis.lazore@akwesasne.ca'
Cc: Marcerou, Yannick (Yannick_Marcerou@golder.com)
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: Draft EA and OH # 6 Ad.pdf

Dear Mr. Lazore,

This e-mail is a follow up to the message that I left this morning. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the sixth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. We would be pleased to speak to you at the Open House on June 25 or alternatively we can meet with you separately to receive your feedback.

Sincerely,

Yannick

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32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **E:** Yannick_Marcerou@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Marcerou, Yannick
Sent: June 17, 2014 11:17 AM
To: 'karla.ransom@akwesasne.ca'
Cc: Marcerou, Yannick (Yannick_Marcerou@golder.com)
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: Draft EA and OH # 6 Ad.pdf

Dear Mr. Ransom,

This e-mail is a follow up to the message that I left this morning. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the sixth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. We would be pleased to speak to you at the Open House on June 25 or alternatively we can meet with you separately to receive your feedback.

Sincerely,

Yannick

Yannick Marcerou (MEng) | Environmental/Waste Consultant | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **E:** Yannick_Marcerou@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Marcerou, Yannick
Sent: June 17, 2014 11:00 AM
To: 'jstavinga@nrtco.net'
Cc: Marcerou, Yannick (Yannick_Marcerou@golder.com)
Subject: Announcement for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: Draft EA and OH # 6 Ad.pdf

Hello Ms. Stavinga,

This e-mail is a follow up to the message that I left this morning. On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the sixth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre (CRRRC), to which you are invited. We would be pleased to speak to you at the Open House on June 25 or alternatively we can meet with you separately to receive your feedback.

We are looking forward to receiving AOO comments on the draft Environmental Assessment for the CRRRC Site.

Sincerely,

Yannick

Yannick Marcerou (MEng) | Environmental/Waste Consultant | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **E:** Yannick_Marcerou@golder.com | **www.golder.com**

Work Safe, Home Safe

Edmond, Trish

From: Thomson, Doug <DTHOMSON@MCCARTHY.CA>
Sent: June 16, 2014 12:01 PM
To: 'Paul Lamothe'
Subject: FW: CRRRC
Attachments: Draft EA and OH # 6 Ad.pdf

Hi Paul. Hope all's well. The draft EA for the CRRRC is now available for review. Also, the next open house is on June 25 in Carlsbad. See attached. Let me know if you have any questions or would like to discuss the project further. Doug

---

Appendix H-7

E-mail Invitation to GRT

Edmond, Trish

From: Edmond, Trish
Sent: June 16, 2014 8:36 AM
Subject: Sixth Open House for Capital Region Resource Recovery Centre Environmental Assessment
Attachments: Draft EA and OH # 6 Ad.pdf; Ébauche EE et OH#6 Ad.pdf

Hello,

On behalf of our client, Taggart Miller Environmental Services, please find attached an announcement of the sixth Open House for the Environmental Assessment of the Capital Region Resource Recovery Centre. You are being sent this as part of the Government Review Team and should have also recently received a copy of the draft Environmental Assessment. Should you have any problems viewing the attachment please let me know.

Sincerely,

Trish Edmond (M.E.Sc., P.Eng.) | Associate, Geoenvironmental Engineer | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 x 3246 | **F:** +1 (613) 592 9601 | **C:** +1 (613) 799 1960 | **E:** Trish_Edmond@golder.com | **www.golder.com**

Work Safe, Home Safe

Appendix H-8

Bilingual Display Boards

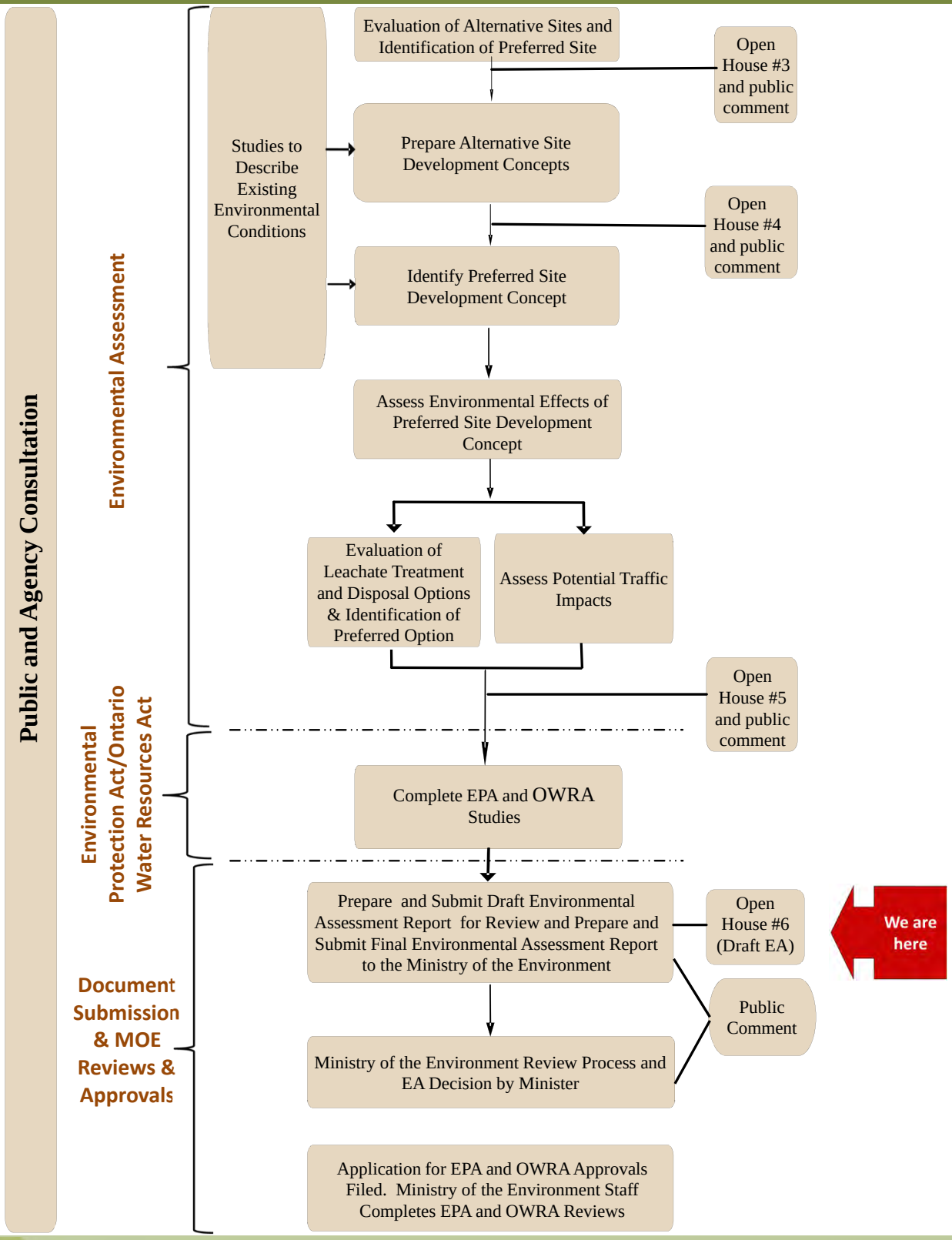
Welcome to Open House #6

Taggart Miller Environmental Services

Environmental Assessment of the Proposed Capital Region Resource Recovery Centre (CRRRC)

Please review our displays and speak with our representatives

Environmental Assessment/ Environmental Protection Act Process Flow Chart



Organization of the EASR Documentation

EASR: ENVIRONMENTAL ASSESSMENT STUDY REPORT

The EASR (Volumes I and II) and accompanying Technical Support Documents (TSD) and Volumes III and IV address the requirements of the Terms of Reference (TOR) previously approved by the Minister of the Environment. The draft report is being made available for review and comment for a 7 week period.

VOLUME I: DESCRIPTION OF ENVIRONMENTAL ASSESSMENT (EA) STUDIES

- Section 1.0 – Introduction to the EA and relevant background information;
- Section 2.0 – Methodology used for the EA;
- Section 3.0 – Consultation methods, activities and events and summary of each event;
- Section 4.0 – Rationale for the proposed CRRRC;
- Section 5.0 – Assessment of 'Alternatives To' the proposed CRRRC;
- Section 6.0 – Description of the proposed CRRRC for the purpose of comparing the alternative Sites;
- Section 7.0 – Comparative evaluation and identification of the Boundary Road Site for the CRRRC facility;
- Section 8.0 – Existing environmental conditions at and in the vicinity of the Boundary Road Site;
- Section 9.0 – Identification of the preferred Site development concept at the Boundary Road Site;
- Section 10.0 – Detailed description of the proposed CRRRC facility at the Boundary Road Site;
- Section 11.0 – Predicted net environmental effects of the proposed CRRRC;
- Section 12.0 – Evaluation of leachate treatment alternatives and identification of a preferred alternative;
- Section 13.0 – Predicted cumulative impacts of the CRRRC and other known or probable projects;
- Section 14.0 – Follow-up monitoring programs to confirm that the CRRRC is performing as expected. Conceptual contingency measures that would be implemented should the proposed CRRRC not perform as expected and remedial measures are required; and,
- Section 15.0 – Commitments made during the TOR and EA process.

VOLUME II: CONSULTATION RECORD

- Records of the consultation process.

VOLUME III: GEOLOGY, HYDROGEOLOGY & GEOTECHNICAL REPORT

- Results of the subsurface investigation programs, hydrogeological assessment and geotechnical assessment of the CRRRC.

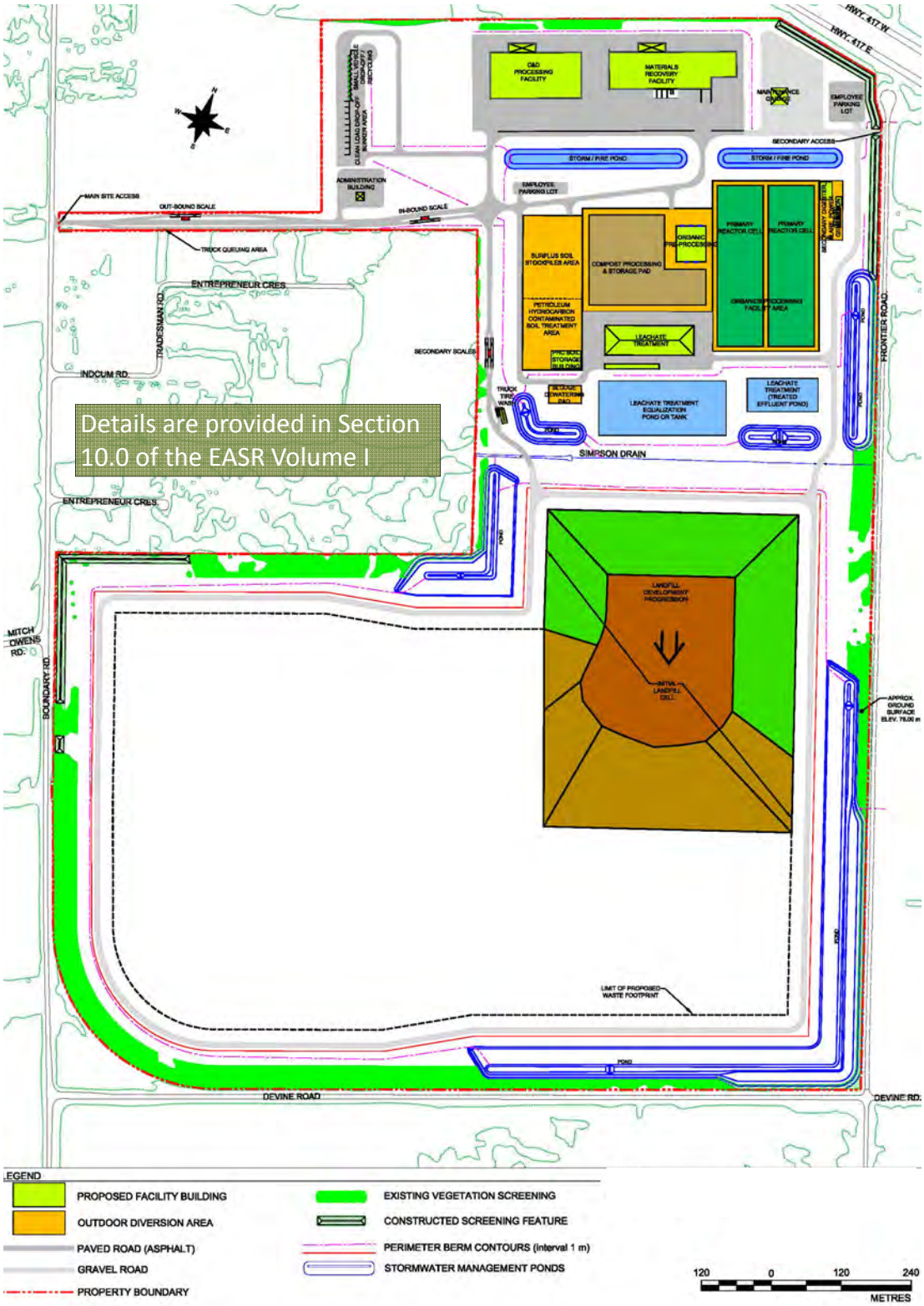
VOLUME IV: DESIGN AND OPERATIONS (D&O) REPORT

- Along with Design and Operational details, includes the following: Stormwater Management, Leachate Management, Acoustic Assessment, Air Quality and Odour Assessment, and Site Design and Operations.

The final report will be submitted to the Minister of the Environment for approval.

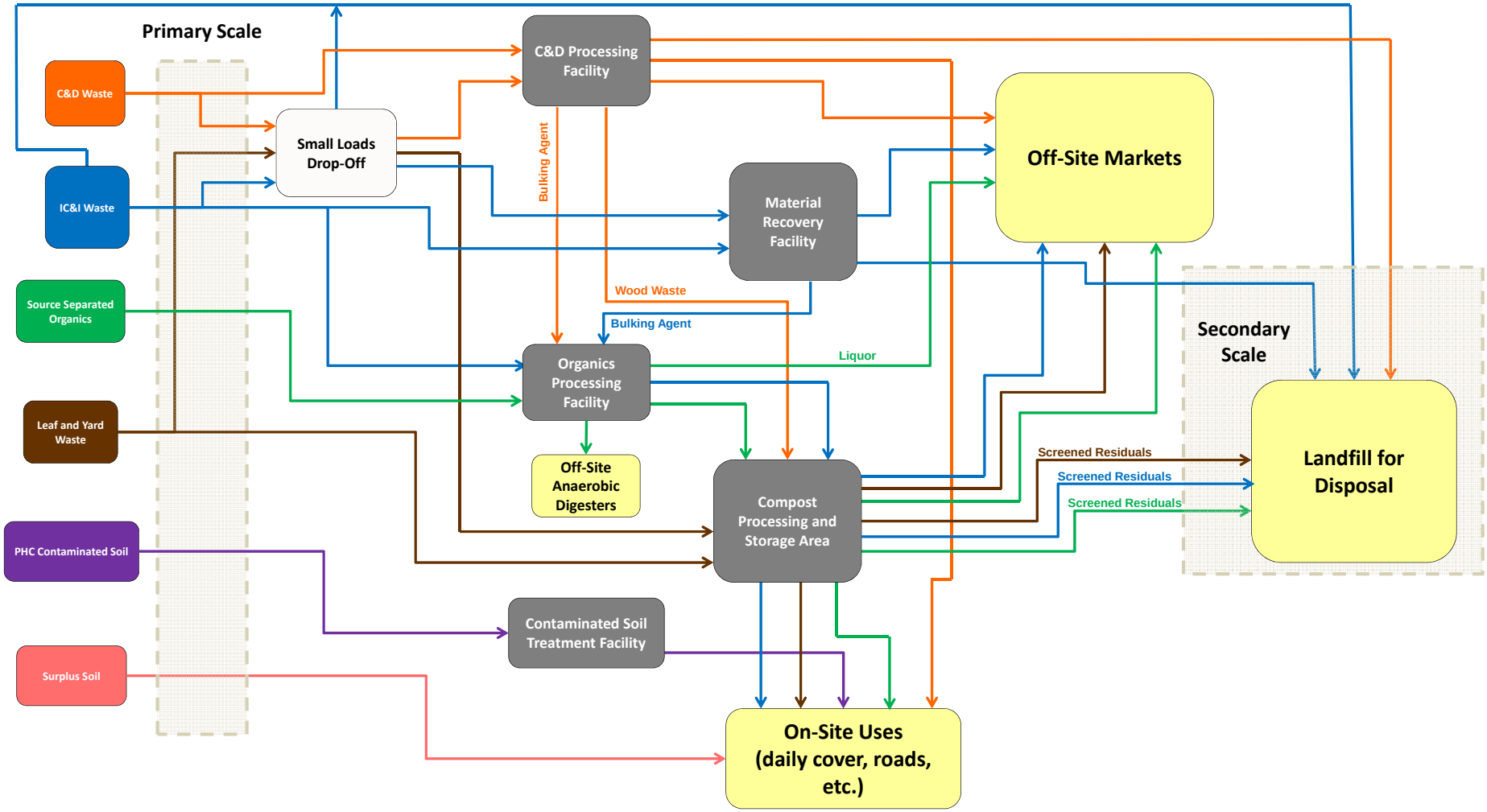
Details are provided in Section 1.9 of the EASR Volume I

Site Development Plan



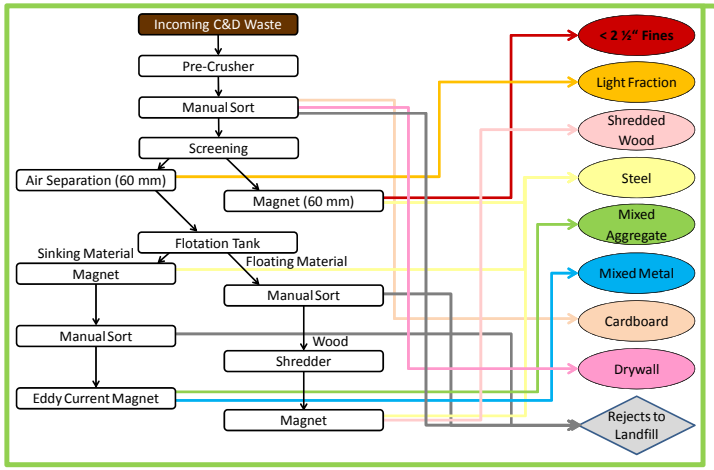
Details are provided in Section 10.0 of the EASR Volume I

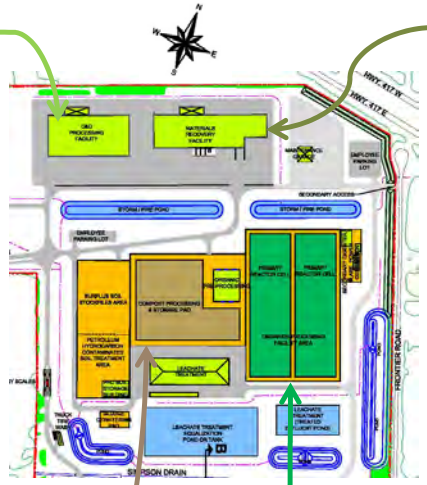
Overall Site Process Schematic



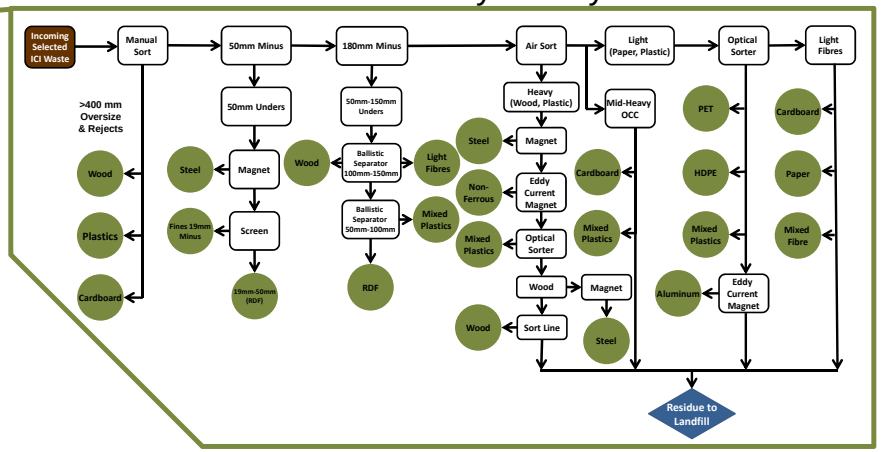
Individual Process Schematics

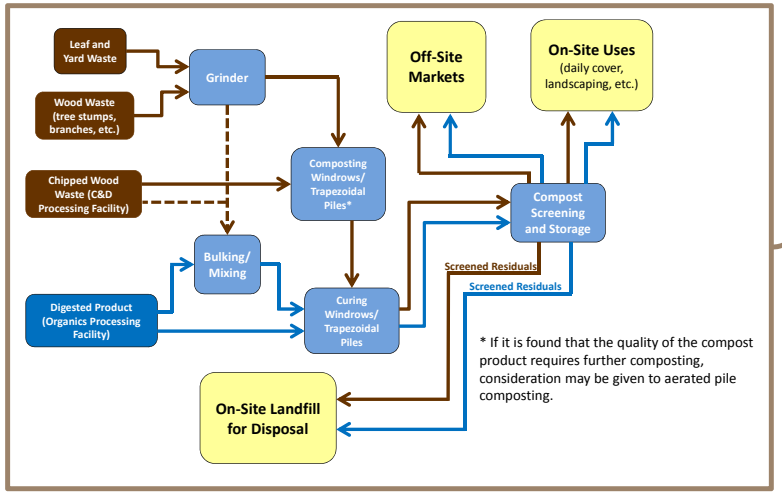
Construction and Demolition Processing Facility



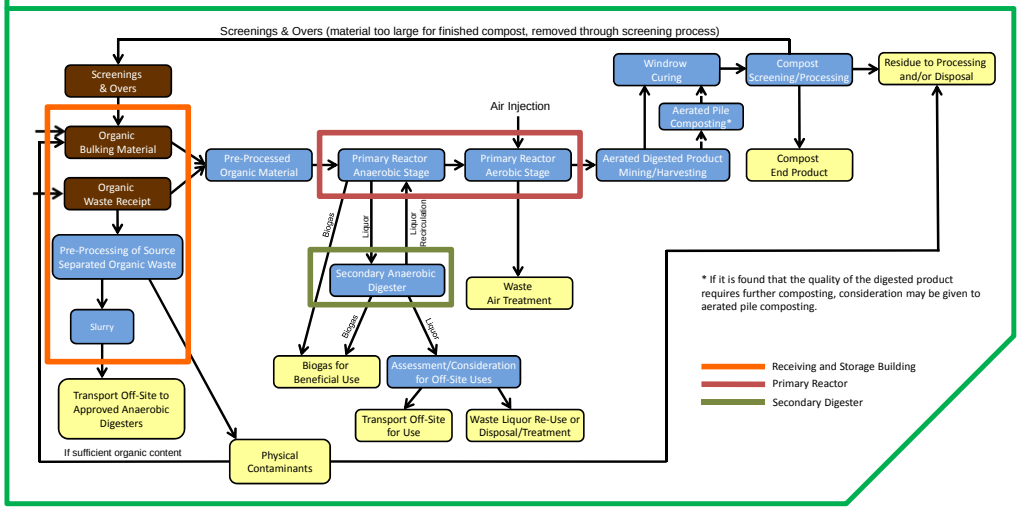


Materials Recovery Facility





Compost Processing and Storage Area



Organics Processing Facility

Design and Operational Mitigation Measures

In order to ensure that the CRRRC operates in accordance with MOE and other regulatory requirements, a number of mitigation measures were incorporated into the design. Some of the in-design mitigation measures and best management practices (BMP's) presented in the EASR are:

- Atmosphere
  - Air Quality: paved roads, truck tire washing station, dust collection system (MRF and C&D processing buildings), biofilters (organics and PHC contaminated soil treatment facilities), horizontal landfill gas collection system, flare for combustion of biogas, dust BMP.
  - Noise: berms, existing vegetation (around the Site perimeter), drive-through road patterns to minimize the need for use of back-up alarms, speed limit.
  - Odour: turning compost piles, daily cover on landfill, final cover progressively placed on completed portions of the landfill, odour control measures for leachate ponds.
- Geology and Hydrogeology (Groundwater)
  - Landfill: perimeter liner system cut-off for the landfill together with leachate collection system (+ construction quality control), buffer between landfill and property boundary, monitoring and maintenance of leachate collection system components.
  - Other components: engineered leachate/liquid containment for the leachate ponds, organics processing and PHC treatment cells (+ construction quality control).
- Surface Water
  - Quality: separation between leachate and clean surface water runoff, monitoring and maintenance of stormwater ponds and leachate collection systems, enhanced sediment removal in SWM system design, sedimentation and erosion control measures.
  - Quantity: managing surface water on-Site, controlling off-Site stormwater discharge.
  - Accidental Spills: regular inspections and repairs of equipment, spill response plan.
- Biology
  - Maintaining existing perimeter vegetative buffers where possible, managing waste effectively to avoid attracting nuisance wildlife and pests, pest control as permitted and required, regular inspections.
- Land Use & Socio-economic and Agriculture
  - Provide a Property Value Protection Plan, procedure to register and address complaints, maintaining appropriate buffer between proposed on-Site activities and off-Site land uses, controlling off-Site nuisance emissions, litter fencing.
- Culture and Heritage Resources
  - Should any archaeological resources be discovered, cease all alteration immediately and engage a licensed consultant archaeologist, contact the Registrar of Cemeteries or the Algonquins of Ontario Consultation Office if applicable.
- Traffic
  - Intersection improvements at the Site access location off Boundary Road, on-Site queuing area of sufficient capacity to avoid truck queuing on Boundary Road.

Details are provided in Section 11.1 of the EASR Volume I

Results of EA
Air/Odour/Noise

Air/Odour

- The MOE has point-of-impingement (POI) criteria for various compounds. The MOE POI criteria are used to assess specific impacts of an individual facility.

- All of the predicted maximum POI concentrations meet the relevant standards. The CRRRC regulated sources would include LFG, combustion processes and materials handling emissions. Mobile equipment was conservatively included in the assessment of POI compliance even though such equipment is not considered for ECA permitting purposes under O. Reg. 419/05.

Noise

- With the inclusion of proposed on-Site mitigation measures, the predicted noise levels associated with landfill operations and ancillary facilities are compliant with the applicable MOE noise guidelines.

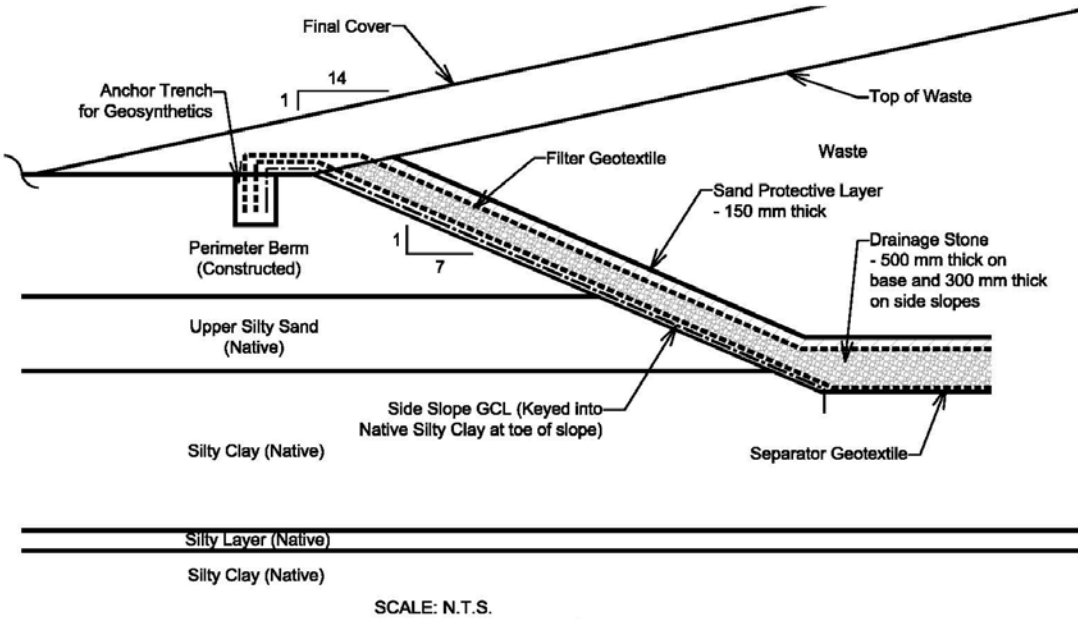
- The maximum predicted change in noise levels along the off-Site haul route based on the expected truck traffic is classified as 'noticeable' for residential receptors along Boundary Road and 'insignificant' elsewhere in the Site-vicinity; this is well within the acceptable change to background noise level.

Details are provided in Section 11.2 of the EASR Volume I

Results of EA Groundwater

- A hydraulic barrier will be constructed around the landfill perimeter to prevent impacts to the surficial silty sand.

Hydraulic Barrier Cross-Section

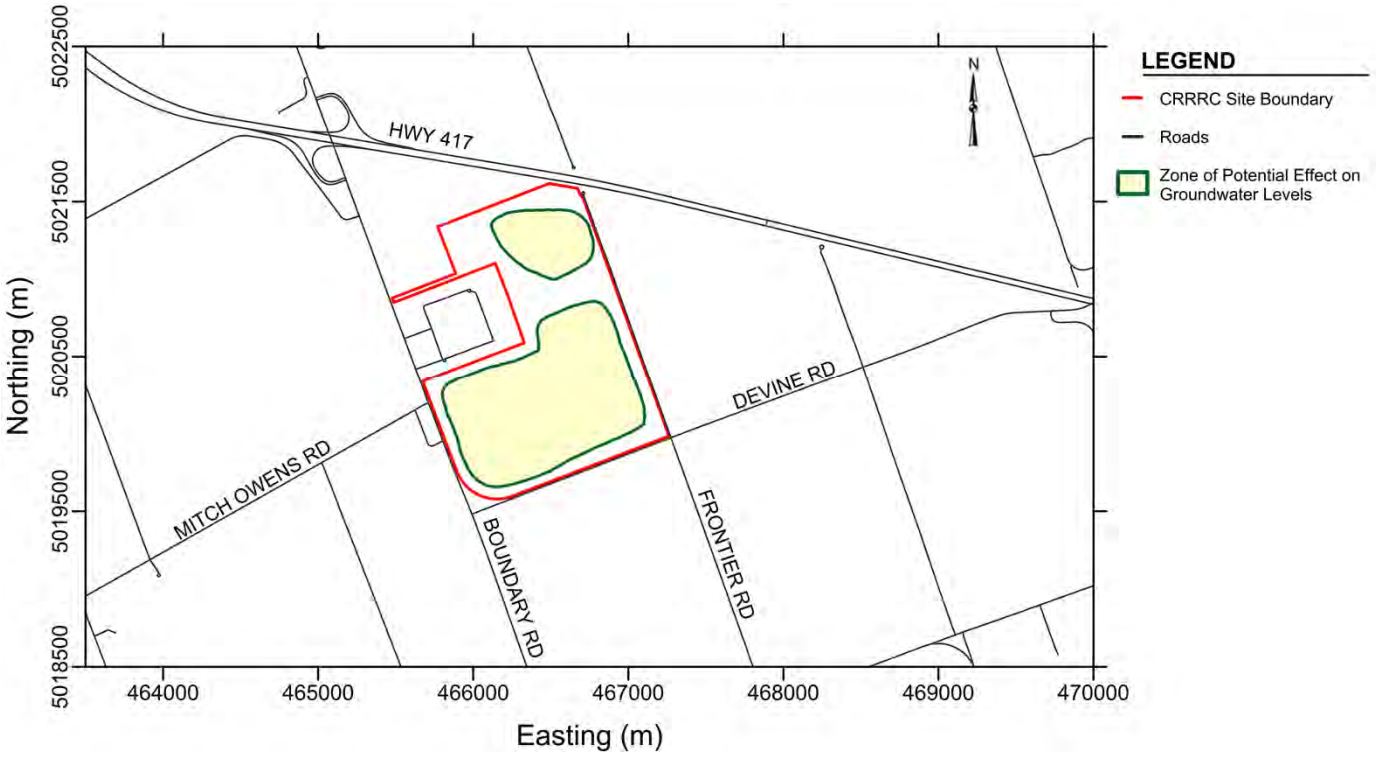


- The natural clay deposit and the proposed engineered leachate collection and management systems will contain and control landfill leachate at the Site.

Details are provided in Section 11.3.2 of the EASR Volume I

Results of EA Groundwater

Zone of Potential Effect on Groundwater Levels



- Leachate management ponds and organics primary reactor and soil treatment cells are lined and always accessible for repair.
- The Site will remain in compliance with MOE groundwater protection requirements in both the short term and long term.
- Based on groundwater modelling, the maximum lowering of the groundwater level in the surficial silty sand occurs while the leachate collection system is operational.
- During these conditions the impacts of the CRRRC on off-Site water levels are negligible beyond the Site boundary.

Details are provided in Section 11.3.2 of the EASR Volume I

Results of EA
Seismic & Geotechnical

Potential for Movement of Faults in the Regional Area

- The presence of calcite within most of the fault planes (that occurred about 40 to 65 million years ago) suggests that there has been no movement along calcite-bearing faults and joints in the bedrock in the vicinity of the CRRRC Site.

Potential for Effects at Surface from Movement of Faults at the CRRRC Site

- Considering the regional, local and Site geological conditions within the CRRRC Site and surrounding area, and the nature of "active" faults, it is reasonable to conclude that the probability of future fault movement resulting in large differential displacements at the surface or shallow subsurface is negligible and of no engineering or environmental significance for the development of the CRRRC Site.

Potential for Subsurface Settlement from Ground Shaking

- The large pre-historic earthquakes (4,550 and 7,060 years BP) inferred by Aylsworth et al. (2000) and Aylsworth and Lawrence (2003) to have caused disturbance of the clay deposit at 3 Eastern Ontario locations have not resulted in deformation of the silty clay deposit that underlies the Site.
- Differential settlement from strong earthquake shaking (liquefaction) is not considered to be a hazard at the CRRRC Site.

Details are provided in Section 11.3.1 of the EASR Volume I

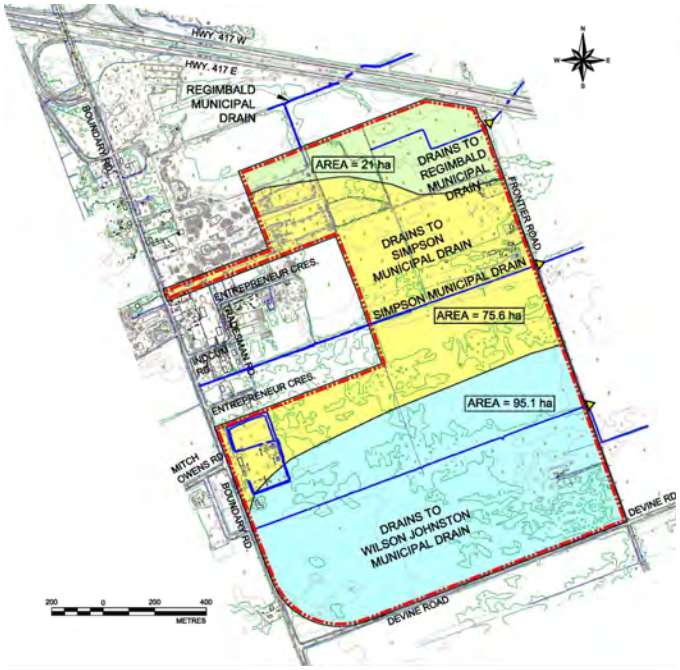
Geotechnical Findings

- Proposed landfill configuration is stable under both static and the design seismic conditions.
- Permanent lateral movement of the landfill soil foundation under seismic loading of less than 200 mm, which has been accommodated in the landfill design.
- CRRRC Site buildings will be seismically designed as per the Building Code for a thick clay deposit.

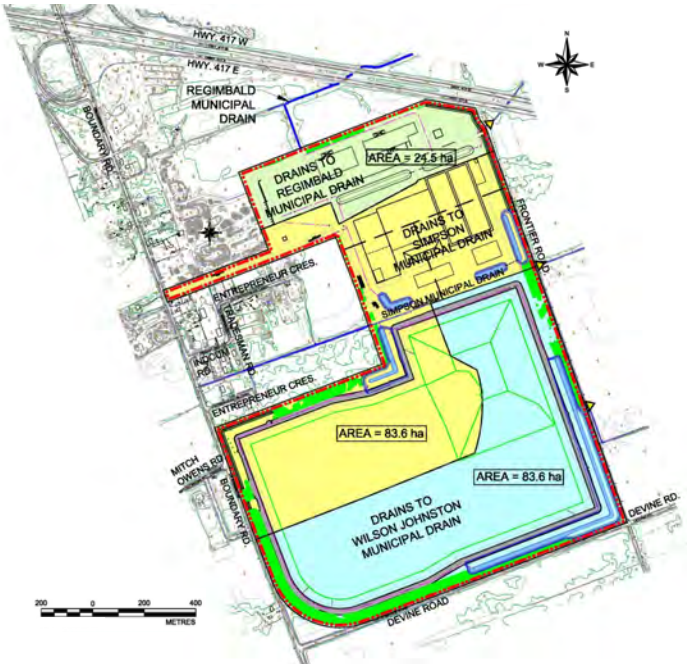
Details are provided in Section 11.3.3 of the EASR Volume I

Results of EA
Surface Water

Existing Site Drainage



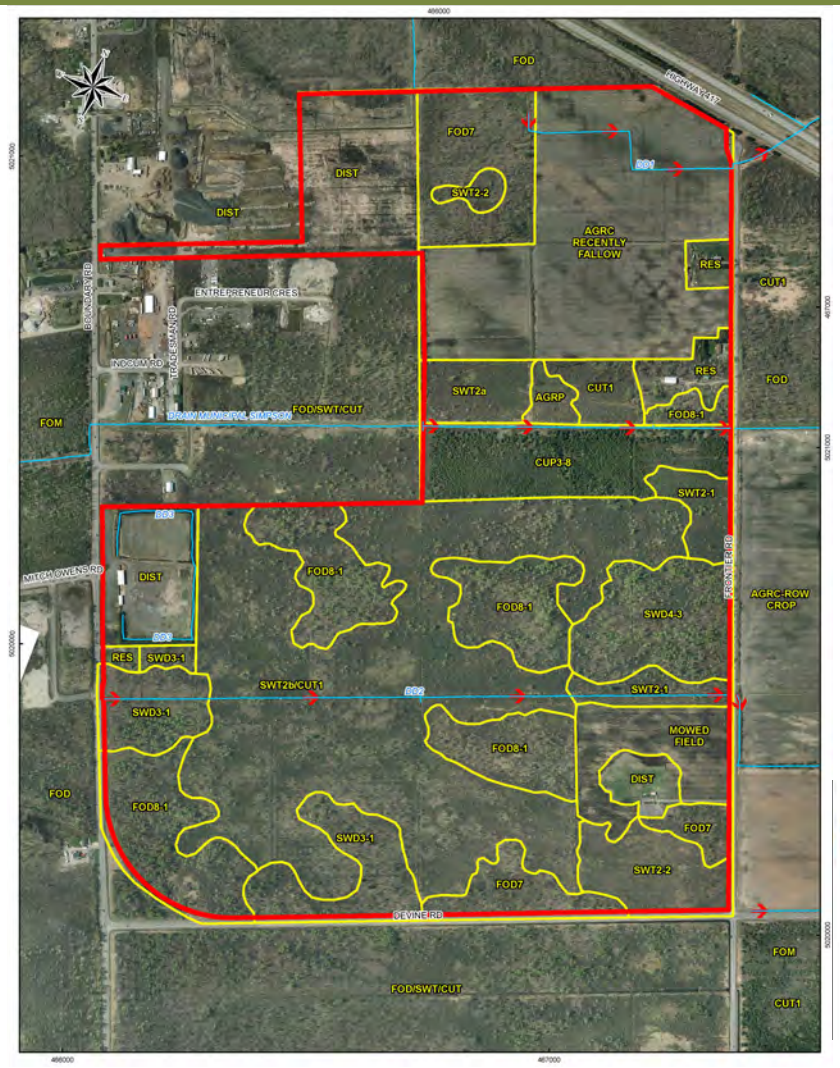
Proposed Site Drainage



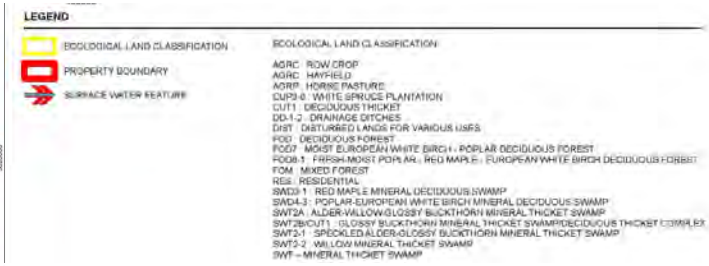
- Surface drainage can be designed such that waste related activities are isolated from drainage.
- Surface drainage and stormwater management features can be designed to protect water quality and maintain peak water quantity leaving the Site.
- Site development will result in changes to the respective watersheds on the Site as follows:
  - Regimbald Drain increase of 3.5 ha (total 24.5 ha);
  - Simpson Drain increase of 8 ha (total 83.6 ha); and
  - Wilson Johnston Drain decrease of 11.5 ha (total 83.6 ha).
- Although the post-development Site watershed areas and corresponding land uses will change, these Site alterations will not disrupt, or otherwise have an adverse effect on, natural drainage patterns on-Site or off-Site. This will be achieved by maintaining existing peak flow design targets through stormwater management pond controls.
- The Site stormwater management features have been designed in compliance with the City of Ottawa stormwater policies and Ontario Reg. 232/98, and no adverse effects on the above three municipal drains are predicted.
- During phased Site development, appropriate erosion and sediment control measures (E&SC), on-going monitoring and maintenance/clean-out practices will protect surface water quality.

Details are provided in Section 11.4 of the EASR Volume I

Results of EA – Biology



Potential Impact	Predicted Effect
Direct Impacts	
Loss of vegetation communities, wildlife habitat and fish habitat	No ecologically important adverse effects predicted
Physical hazards and wildlife vehicle collisions	
Indirect Impacts (potential effects on aquatic and terrestrial ecosystems from changes to the following)	
Air emissions, including dust deposition	No ecologically important adverse effects predicted
Sensory disturbance (noise)	
Alteration of surface water flow regime	
Alteration of groundwater flow regime	
Surface water or groundwater contamination	
Changes to wildlife movement corridors	



Details are provided in Section 11.5 of the EASR Volume I

Results of EA
Land Use & Socio-Economic

Socio-economic Findings

- Direct employment estimates
  - Construction (one year): 400,000 person-hours (about 160 - 200 workers)
  - Operation (30 years): 198,000 person-hours/year (about 80 - 100 workers)
  - This represents employment opportunities for local workers
- Direct spending estimates (excluding labour)
  - Annual municipal property tax revenue increase: $1.6 - 3.7 Million (based on current MPAC valuation process)
  - Building permit fees: $250,000 to $300,000
  - Construction costs (excluding labour): $58 Million initial, $700,000/year ongoing
  - Operation costs (excluding labour): $3.2 Million capital expenditures/year, $16.2 Million operating expenditures/year (includes escalating the costs 2% per year)
  - Much of this direct spending will be on goods and services from local businesses
  - Direct spending will also create indirect and induced "spin-off" benefits for local businesses and communities

Details are provided in Section 11.6.2 of the EASR Volume I

Land Use Findings

- Proposed CRRRC is consistent with Provincial Policy Statement:
  - Facilitate and encourage reduction, reuse and recycling
  - Need to provide waste management systems that are an appropriate size and type to accommodate present and future requirements
- Proposed CRRRC is consistent with the intent of the Smart Growth Panel:
  - Diversion is to be promoted
- Proposed CRRRC is consistent with the City of Ottawa's Background Report on Future Employment to support areas near Highway 417 Interchanges close to the Urban Area
- Proposed CRRRC will be screened from Highway 417, which meets the objectives of the National Capital Commission's Plan for Canada's Capital and the Greenbelt Master Plan
- Potential for future development of sensitive land uses (residential) nearby is very limited:
  - Only rural development permitted
  - Concern over availability of groundwater supply limits residential growth, and development in general
  - Existing Industrial zoning in the area limits opportunities for residential development due to separation requirements from this zone
  - Agricultural lands to the east do not allow for residential development
  - Golf course to the north limits potential residential development
  - Limited development potential to the north-west due to Natural Environment Designation

Details are provided in Section 11.6.1 of the EASR Volume I

Results of EA – Visual Impact

Viewpoint 1 Mitigated View

Viewpoint 2 Mitigated View

Details are provided in Section 11.6.3 of the EASR Volume I

Viewpoint 3 Mitigated View

Results of EA – Visual Impact

Viewpoint 4 Mitigated View

Viewpoint 5 Mitigated View

Details are provided in Section 11.6.3 of the EASR Volume I

Results of EA
Archeology & Heritage

- No registered archaeological sites within the Site and Site-vicinity.
- All of the on-Site lands contain no or low archaeological potential; no Stage 2 assessment required.
- Five pre-1973 properties within 250 m of the Site were identified as potential cultural heritage resources. After assessment, none of the five potential cultural heritage resources demonstrate cultural heritage value or interest and are therefore not eligible for designation under the *Ontario Heritage Act*.

LEGEND

- ROAD
- SURFACE WATER FEATURE
- CITY OF OTTAWA PROPERTY PARCELS
- 250 m BUFFER AROUND PROPERTY BOUNDARY
- PROPERTY BOUNDARY
- PRE-1973 POTENTIAL CULTURAL HERITAGE RESOURCE

1. 5384 BOUNDARY ROAD
2. 5409 BOUNDARY ROAD
3. 5507 BOUNDARY ROAD
4. 5508 BOUNDARY ROAD
5. 1129 BLACKCREEK ROAD

200 100 0 200 METRES

Details are provided in Section 11.7 of the EASR Volume I

Results of EA
Agriculture

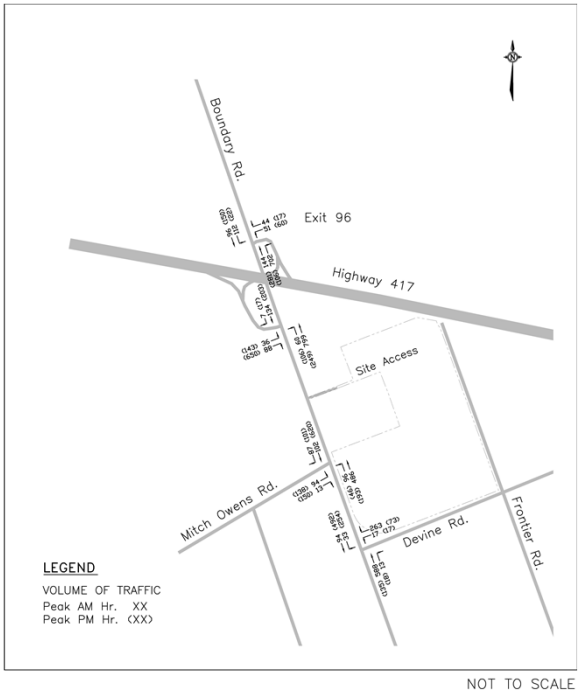
- No adverse impact on existing and future agricultural operations in the Site-vicinity.
- A detailed on-Site assessment rated the agricultural capability of the lands as Class 4 and 5, due principally to wetness and limitations on cultivation and harvesting of crops.
- Although a small portion of the Site has been cropped, there is a low investment in agricultural improvements.
- Based on results of assessment of CRRRC, no impacts on off-Site crop production expected.
- Minimum Distance Separation (MDS) assessment indicated no incompatibility between the proposed project and current livestock facilities (in use or vacant).
- Access to the Site along Boundary Road will have little impact on agricultural access and movement of agricultural equipment.
- No mitigation is required.

MDS & Land Use Map

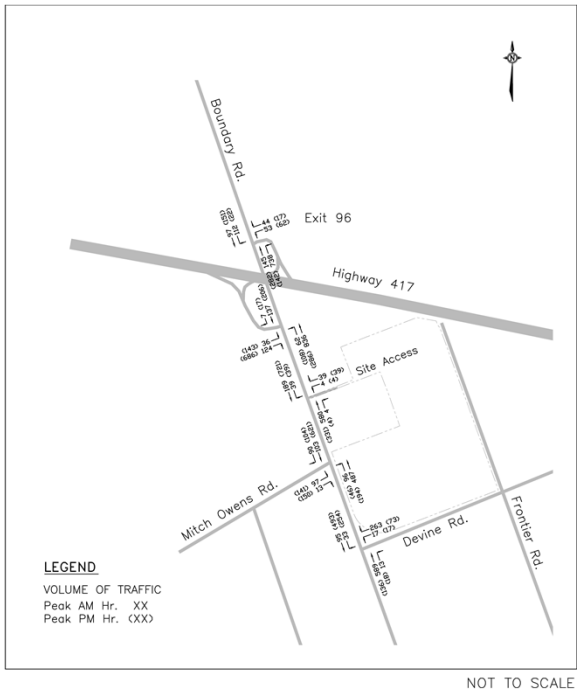
Details are provided in Section 11.8 of the EASR Volume I

Results of EA
Traffic

- For a maximum daily receipt of 3,000 tonnes per day, the estimated daily number of trucks over a 10-hour time period would be 287 trucks entering and exiting the Site.
- The number of peak hour trips would be 43 trucks entering and exiting the Site.
- The maximum CRRRC truck traffic represents approximately 8 percent of the total volume of traffic along Boundary Road between the Site access and Highway 417. The predicted annual average traffic (1,500 tonnes per day) would be in the range of 6 percent.
- All of the following existing intersections within the study area would operate at an acceptable Level of Service during the weekday peak AM and PM hours, with no intersections requiring modifications due to the CRRRC truck trips:
  - Boundary Road and the eastbound Highway 417 on/off ramps;
  - Boundary Road and the westbound Highway 417 on/off ramps;
  - Boundary Road and Mitch Owens Road; and
  - Boundary Road and Devine Road.
- The proposed lane configuration at the Site access includes an exclusive left turn lane on southbound Boundary Road.
- There are no agricultural land uses along Boundary Road between Highway 417 and the Site access location. As such, the CRRRC Site-related traffic along this section of Boundary Road will not affect the use of agricultural site entrances or farm vehicle movements.



2022 Weekday Peak AM and PM Hour
Background Traffic



2022 Weekday Peak AM and PM Hour
Total Traffic (with the CRRRC)

Details are provided in Section 11.9 of the EASR Volume I

Cumulative Effects Interactions Matrix

The significance of any residual cumulative effects was determined taking into account the probable magnitude, frequency and reversibility of the residual (non-zero) effects of the CRRRC in combination with the residual (non-zero) effects of the identified existing and future activities in the Site-vicinity.

Interaction of Effects

Environmental Component	CRRRC Residual Effect	Wood Splitting Facility	Shingle Storage and Transfer Building	Pomerleau Ltd.	Gas Bar	Additional Small Commercial / Industrial Operations	Farming Operations	Tractor / Trailer De-coupling Proposal
Atmosphere	Odour	no	no	yes	no	no	yes	no
	Dust emissions	yes	no	yes	no	yes	yes	yes
	Air quality	no	no	no	no	no	yes	yes
	Noise emissions	yes	yes	yes	no	yes	yes	yes
Hydrogeology	Groundwater quality impacts	no	no	no	no	no	no	no
	Groundwater quantity impacts	no	no	no	no	no	no	no
Surface Water	Surface water quality impacts	no	no	yes	no	yes	yes	no
	Surface water quantity impacts	no	no	no	no	no	no	no
Biology	Aquatic biological resources	no	no	yes	no	yes	yes	no
	Terrestrial biological resources	no	no	yes	no	yes	yes	yes
Land Use & Socio-economic	Atmosphere, groundwater and surface water impacts	yes	yes	yes	no	yes	yes	yes
	Spending and employment	yes	yes	yes	yes	yes	yes	yes
	Visual	no	no	yes	no	no	no	yes
Agriculture	Loss of productive land on Site	no	no	no	no	no	no	no
	Atmosphere, surface water and groundwater impacts off-Site	yes	no	yes	no	yes	yes	yes
Traffic	Increased traffic	yes	yes	yes	yes	yes	no	yes

Details are provided in Section 13.2 of the EASR Volume I

Cumulative Effects Evaluation of Significance

In general, there is little indication of baseline environmental quality concerns or existing cumulative environmental impacts on the Site or in the Site-vicinity arising from past/present activities and projects.

- Atmosphere
  - Air quality typical of the Ottawa urban environment, no evidence of measurable adverse cumulative air quality impacts.
  - Noise levels typical of a Class 1 area, dominated by road noise from Highway 417 and Boundary Road.

- Biology
  - Aquatic and terrestrial biological resources do not exhibit indicators of adverse cumulative impacts in the Site-vicinity, other than benthic organisms associated with surface water quality.

- Land Use & Socio-economic, Agriculture and Traffic
  - No obvious existing social, agricultural or traffic issues that could be attributed to the cumulative impact of past and present activities and projects on and in the vicinity of the Site.

- Surface Water
  - Background surface water quality in municipal drains and watercourses on-Site and in the Site-vicinity regularly exceeds PWQO for iron and phosphorus, and dissolved oxygen levels are regularly lower than the PWQO.
  - The exact source or sources of these elevated or reduced parameters is unclear; elevated phosphorus levels are likely due to agricultural land use in the general area; agricultural land use and other activities may also be the cause of the lower dissolved oxygen levels. Elevated concentrations of such parameters in local surface water features are common in the Ottawa urban/rural environment.
  - Special care will be taken to monitor surface water quality leaving the CRRRC with respect to these parameters to ensure that surface water quality downstream of the Site is not further degraded for these parameters.

Details are provided in Section 13.4 of the EASR Volume I

CRRRC Site Monitoring

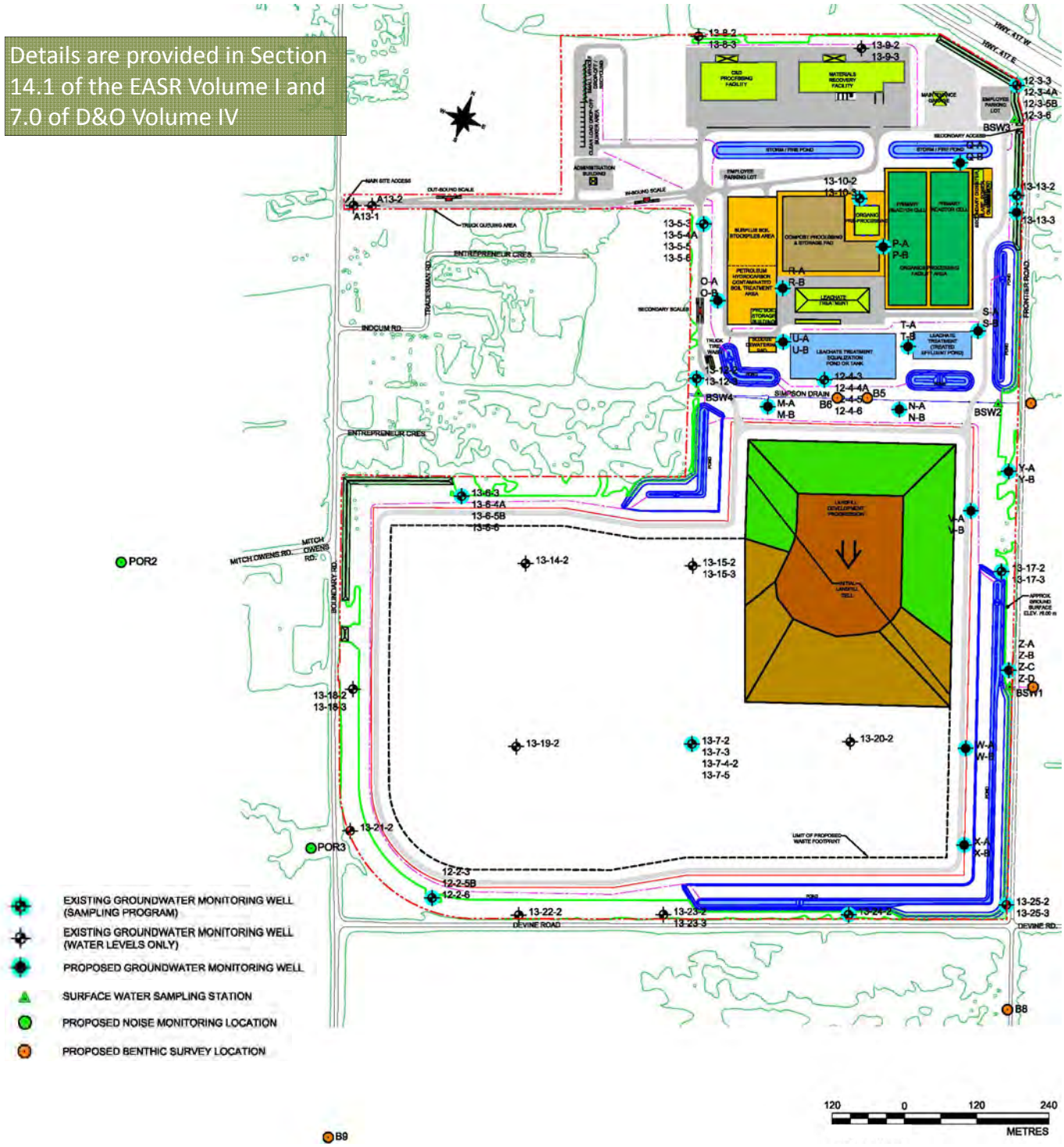
An effective monitoring program provides results to: indicate whether the facility is working as expected and that the assumptions used in the assessment were correct; assess on an ongoing basis whether mitigation measures as designed and operated are effective; and identify unforeseen problems so they can be addressed in a timely manner. The conceptual monitoring programs are described below. The final details will be determined in consultation with the MOE and incorporated in the ECA for the CRRRC.

- Atmosphere
  - Noise: noise monitoring (initially 1x per year during operations with monitors logging acoustic data every hour for the duration of the monitoring period);
  - Air Quality: annual property line dust monitoring during the summer season for the first 2 summers after operational start up.
- Geology, Hydrogeology and Geotechnical (Groundwater)
  - Groundwater and Leachate:
    - A monitoring program for the processing and treatment facilities and the landfill component;
    - Existing groundwater monitoring wells + some additional monitoring well locations;
    - Groundwater monitoring 3x per year (spring, summer and fall).
  - Geotechnical:
    - Monitoring of subgrade settlement; unit weight of the as-placed waste; and lateral displacements of the silty clay beneath the perimeter berm of the landfill using inclinometers and surface survey point/monuments;
    - Monitoring the rate of porewater pressure dissipation in the underlying clay (vibrating wire piezometers in the upper portion of the silty clay deposit).
- Surface Water
  - Sampling stations located at each of the 3 discharge points at the eastern boundary as well as the Simpson Drain as it enters the Site at the western property boundary;
  - Estimate of flow, where appropriate, and collection and analysis of surface water samples;
  - Surface water monitoring to coincide with the groundwater monitoring 3x per year.
- Biology
  - Benthics and sediment quality monitoring on a bi-annual basis at 6 locations;
  - Monitoring for barn swallow, following the creation of the new habitat for 3 years, and maintaining a mitigation and restoration record for an additional 2 years;
  - Ongoing review of condition of vegetation and maintenance.
- Land Use & Socio-economic and Agriculture
  - Community Liaison Committee and development of a communication plan.

Details are provided in Section 14.1 of the EASR Volume I and Section 7.0 of D&O Volume IV

CRRRC Site Monitoring

Details are provided in Section 14.1 of the EASR Volume I and 7.0 of D&O Volume IV



Contingency Measures

In the event that the monitoring programs detect unexpected problems or show that assumptions used in the assessment are incorrect, it may be necessary to implement contingency measures to further reduce the potential for any adverse environmental effects associated with the CRRRC.

- Groundwater

  In the event that the leachate collection system beneath the landfill component were to fail and monitoring results suggest leachate is getting into the groundwater system on-Site, the following contingency measures could be implemented:
  - Installation of purge wells through the landfill cover and into the granular blanket to remove leachate by pumping to the treatment facility;
  - Construction of a perimeter groundwater collection trench and removal of leachate impacted water for treatment;
  - Installation of a low permeability perimeter cut-off barrier;
  - Repairs in the event that the liner systems for the ponds or organics primary reactor cells are compromised.

- Surface Water

  In the event that leachate-impacted water were to reach either SWM ponds or ditches:
  - Determination of the source of impacts and then interception, as required;
  - Affected ditches and ponds could be emptied and the water sent for treatment with leachate.

- Leachate Pre-Treatment Facility

  In the event that the flow is higher or lower:
  - System can easily be adapted to the flow.

  In the event that there is higher metal loading or the presence of toxic constituents:
  - Chemical treatment to be implemented before the biological treatment.

  In the event that there is disruption to hauling treated liquid effluent:
  - 2 weeks of storage at the effluent storage pond (with volume kept to a minimum during normal operations);
  - Reduction in leachate pumping from the landfill;
  - Reduction of flow rate through the treatment system.

- Landfill Gas (LFG) Collection System

  In the event of odours or insufficient quantity of collected LFG for usage:
  - Installation of vertical LFG extraction wells in areas where horizontal collectors may have become blocked due to settlement or are just not as effective.

  In the event of unexpected LFG system component failure:
  - Automatic shutdown by programmable logic controller+ alarm via autodialler + supply of typical spare parts on-Site.

Details are provided in Section 14.2 of the EASR Volume I and Section 8.0 of D&O Volume IV

Commitments
PVPP

For the proposed CRRRC, Taggart Miller has committed to providing of a **Property Value Protection Plan (PVPP)** for property owners within a certain distance from the CRRRC. Taggart Miller is proposing a PVPP with the following key elements, the details of which may be refined through discussion with the proposed community liaison committee (CLC):

- Zone of 5 kilometres (km) measured from the centre of the Boundary Road Site (suggested by the City for other waste management sites in Ottawa);
- Only residential properties within the 5 km zone owned or optioned on or before January 1, 2013 are eligible for PVPP and only on a one time basis;
- Program available from the time the CRRRC receives all necessary approvals to proceed until closure of the landfill component of the CRRRC;
- Intention: provide assurance of fair market value for residential property sale as though the CRRRC did not exist;
- Procedure:
  - Prior to listing the property, the owner would notify Taggart Miller that the sale will be pursuant to the PVPP and enter into an agreement with Taggart Miller;
  - Taggart Miller would retain a qualified appraiser to estimate the value of the property as if the CRRRC does not exist;
  - If the owner does not accept the appraisal, they would retain a qualified appraiser (cost to be split with Taggart Miller) to estimate the value of the property as if the CRRRC does not exist;
  - If the difference between the two appraised values is less than 10%, the two values would be averaged to establish a value for the purposes of the PVPP;
  - If the difference between the two values is more than 10%, the two appraisers would choose a third appraiser whose appraisal would be final and binding for the purposes of the PVPP;
  - Following the establishment of the appraised value, the owner would list the property at the appraised value;
  - Taggart Miller would top up the purchase price of the property to the PVPP appraised value in the event of a bona fide arms length sale at less than that value;
  - If the proposed sale is for less than 90% of the PVPP appraised value, TM would have the option to purchase the property itself rather than topping up the sale price; and,
  - The PVPP would not apply to subsequent purchasers of the land.

Details are provided in Section 15.0 of the EASR Volume I

Next Steps and Schedule

The 7 week review period for evaluation of the draft EA/EPA study reports closes on July 31, 2014. During this period any interested party can provide comments on the draft documents to Taggart Miller. Following this time period Taggart Miller will review comments received and amend/update the EA/EPA study reports as appropriate. Once the final EA/EPA study reports are submitted to the MOE the following steps will occur:

- A 7 week review period where any interested party can provide comments on the final documents to the MOE;
- A 5 week period for MOE staff to prepare and publish a review of the EA document, called the "*Ministry Review*";
- A 5 week period for any interested party to provide comments to the MOE on the Ministry Review;
- Following receipt of the Ministry Review, the Minister of the Environment has up to 13 weeks to make a decision about the EA. The Minister has 3 options:
  - Refer it to mediation;
  - Refer it to the Environmental Review Tribunal for a hearing;
  - Make a decision to approve, approve with conditions or refuse the EA.

There are different opportunities for you to get involved and provide your views.

- Complete the comment sheet provided at this Open House #6.
- Submit your comments on the draft EA/EPA Study Reports.
- Visit our website **CRRRC.ca** to obtain information and provide comments.

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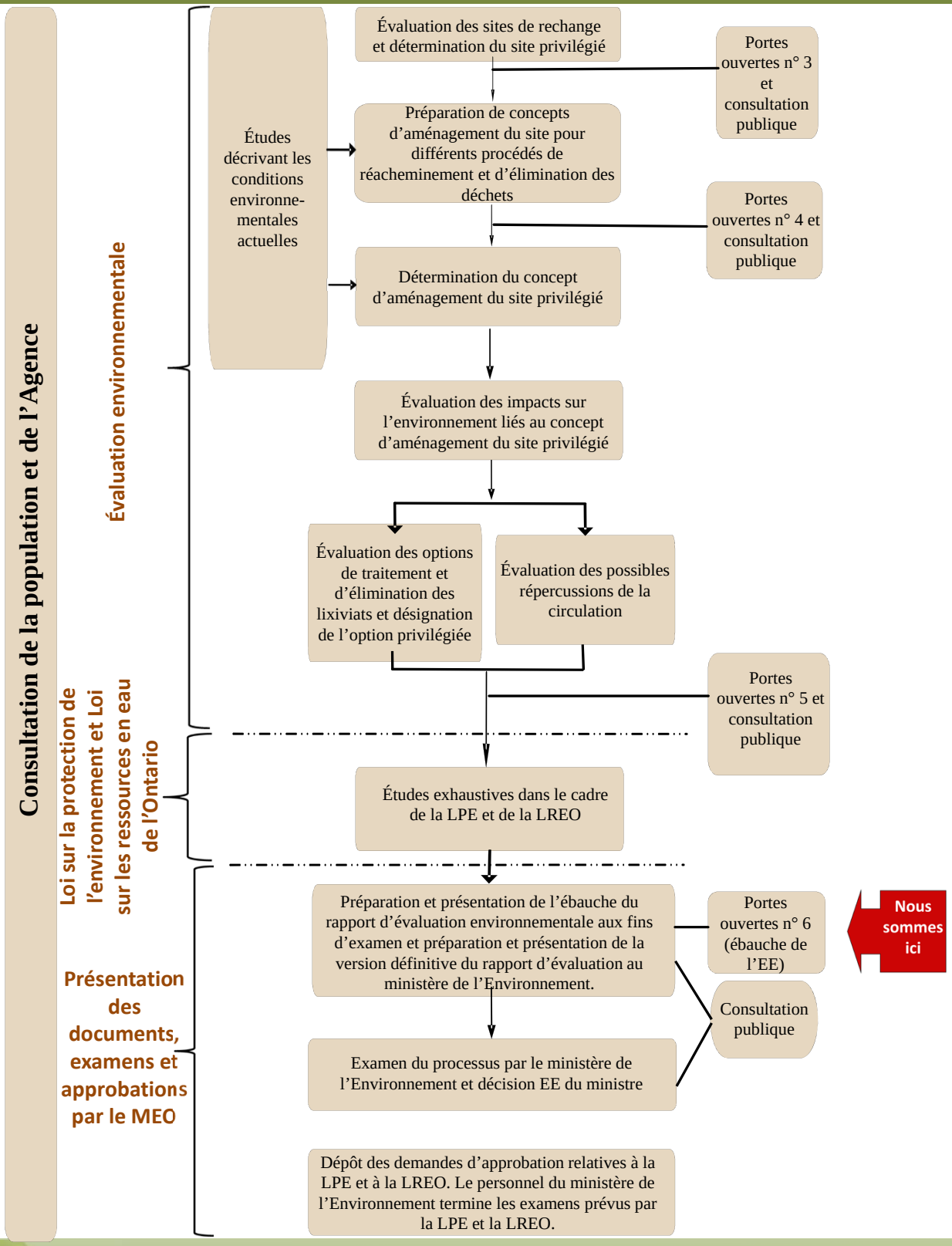
Bienvenue à la sixième journée portes ouvertes

Taggart Miller Environmental Services

Évaluation environnementale du Centre de récupération des ressources de la région de la capitale proposé

Veuillez examiner nos présentations et en discuter avec nos représentants.

Organigramme du processus de la LPE et des évaluations environnementales



Organisation de la documentation liée au REEE

REEE : RAPPORT D'ÉTUDE D'ÉVALUATION ENVIRONNEMENTALE

Le REEE (volumes I et II) et les documents d'appui technique (DAT) s'y rattachant ainsi que les volumes III et IV abordent les exigences du Cadre de Référence (CdR) approuvé par le ministre de l'Environnement. Le rapport d'ébauche est offert aux fins d'examen et de commentaires pour une période de sept semaines.

VOLUME I : DESCRIPTION DES ÉTUDES LIÉES À L'ÉVALUATION ENVIRONNEMENT ALE

- Section 1.0 – Introduction de l'EE et renseignements généraux pertinents;
- Section 2.0 – La méthodologie utilisée dans l'EE;
- Section 3.0 – Les méthodes, les activités et les événements liés à la consultation, ainsi qu'un sommaire de chaque événement;
- Section 4.0 – La justification du CRRRC proposé;
- Section 5.0 – Évaluation des solutions de rechange au CRRRC proposé;
- Section 6.0 – Description du CRRRC proposé aux fins de comparaison entre les sites alternatifs;
- Section 7.0 – Évaluation comparative et détermination du site du chemin Boundary pour l'installation du CRRRC;
- Section 8.0 – Conditions environnementales existantes au site du chemin Boundary et à proximité du site;
- Section 9.0 – Détermination du concept privilégié du site du chemin Boundary;
- Section 10.0 – Description détaillée de l'installation proposée du CRRRC au site du chemin Boundary;
- Section 11.0 – Effets environnementaux nets prévus du CRRRC proposé;
- Section 12.0 – Évaluation des solutions alternatives liées au traitement des lixiviats et la détermination d'une solution alternative préférée;
- Section 13.0 – Impacts cumulatifs prévus du CRRRC et d'autres projets connus ou probables;
- Section 14.0 – Programmes de suivi afin de confirmer que le CRRRC offre le rendement prévu. Mesures de contingence qui seraient mises en œuvre si le CRRRC n'offre pas le rendement prévu et que des mesures correctives sont nécessaires;
- Section 15.0 – Engagements pris au cours du processus du CdR et de l'EE.

VOLUME II DOSSIER DES CONSULTATIONS

- Dossiers sur le processus de consultation.

VOLUME III RAPPORT GÉOLOGIQUE, HYDROGÉOLOGIQUE ET GÉOTECHNIQUE

- Résultats des programmes d'étude sousterraine, évaluation hydrogéologique et évaluation géotechnique du CRRRC.

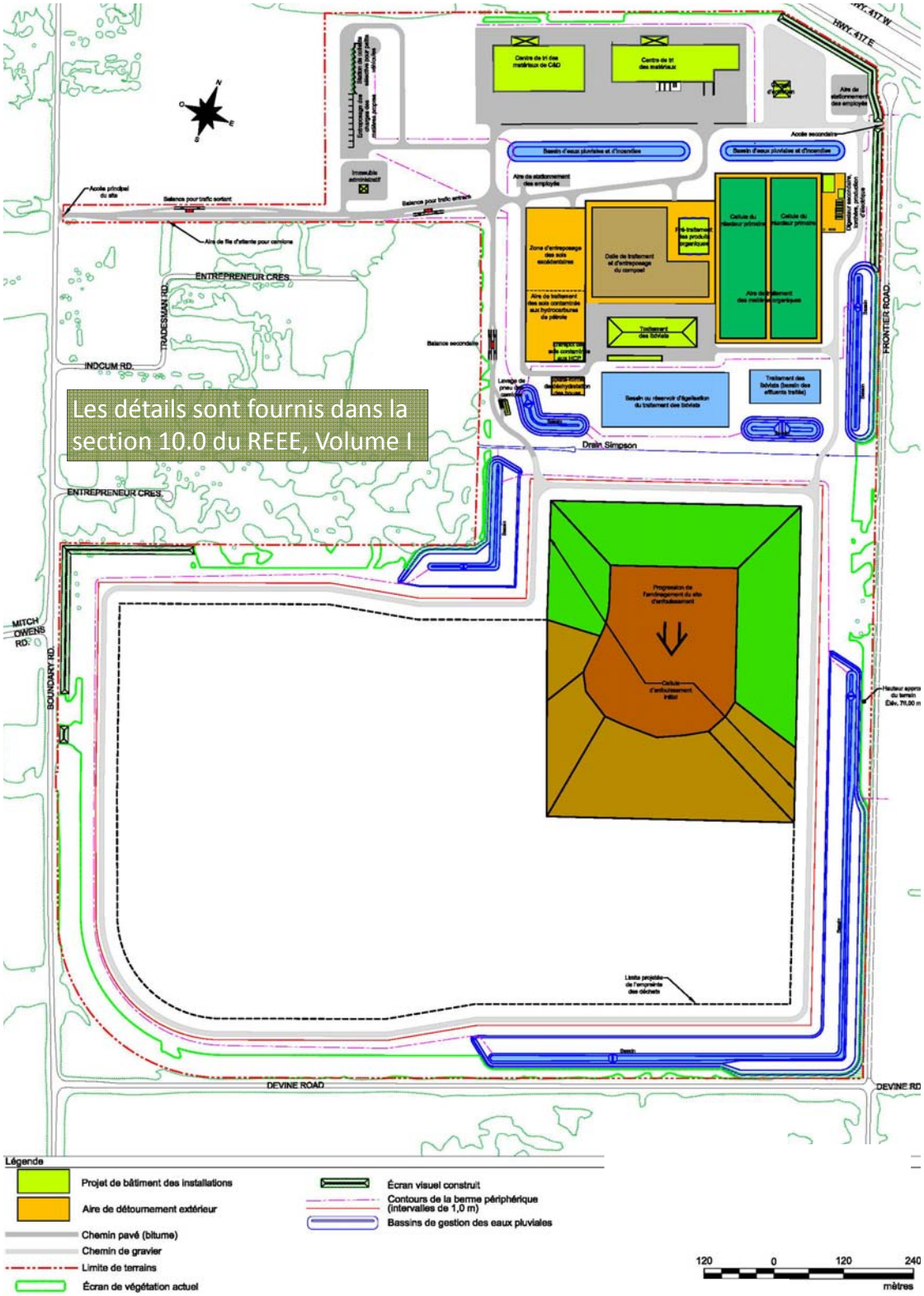
VOLUME IV RAPPORT DE CONCEPTION ET EXPLOITATION (C ET E)

- Les détails sur la conception et l'exploitation du site (notamment la gestion des eaux pluviales, la gestion des lixiviats, l'évaluation acoustique, l'évaluation de la qualité de l'air et des odeurs de même que l'aménagement et l'exploitation du site).

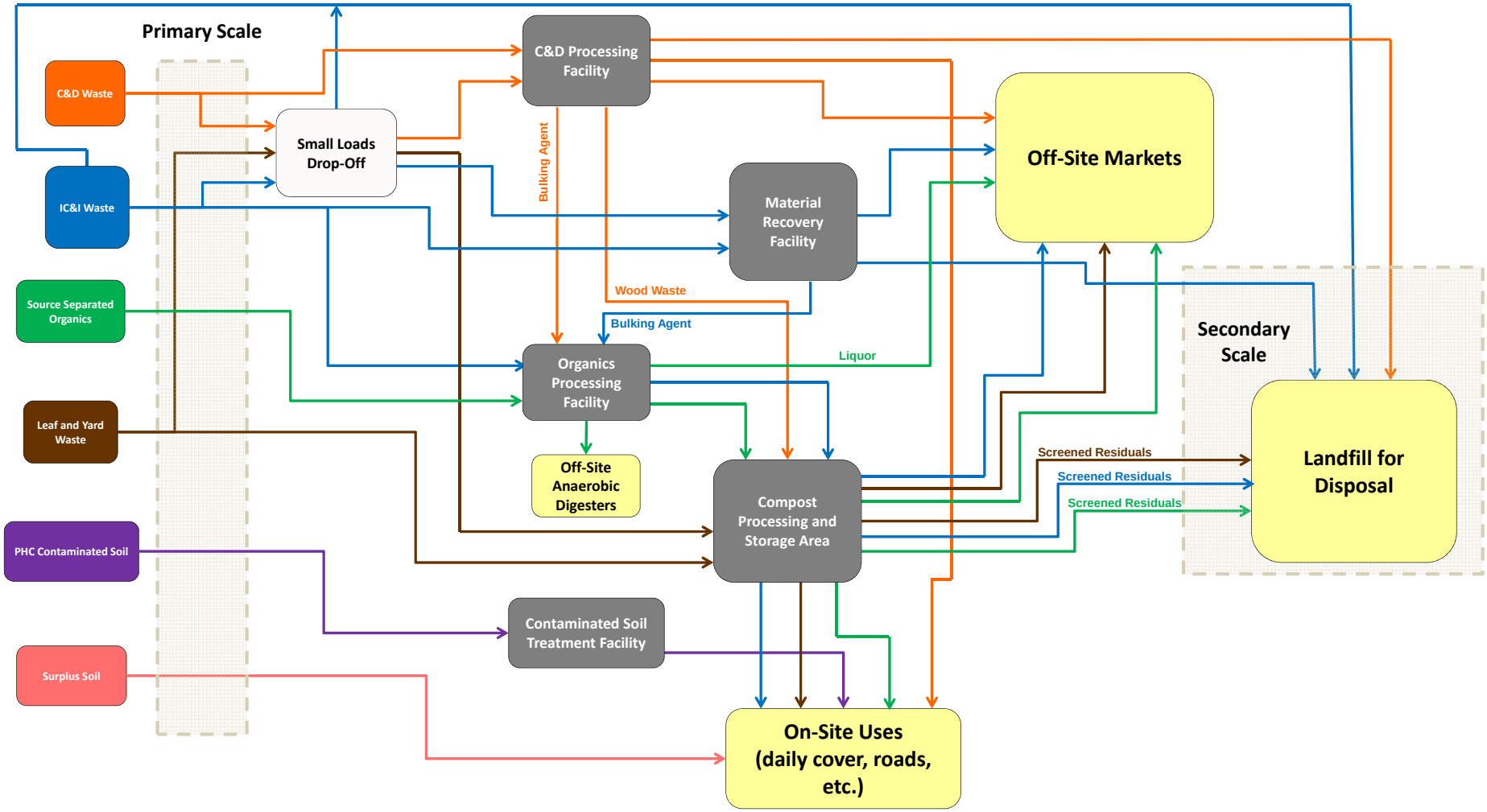
Le rapport final sera soumis au ministère de l'Environnement aux fins d'approbation.

Les détails sont fournis dans la section 1.9 du REEE, Volume I

Plan d'aménagement du site

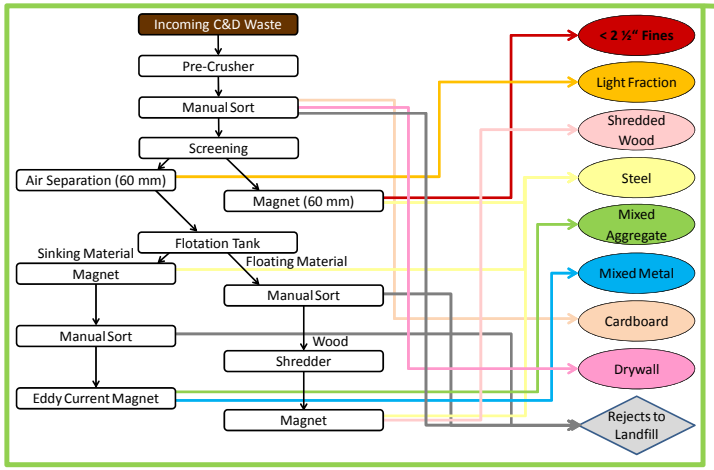


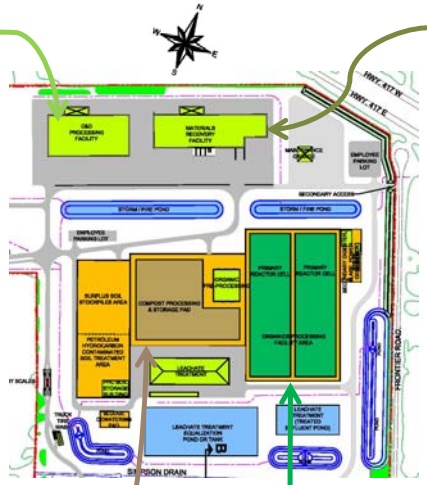
Overall Site Process Schematic



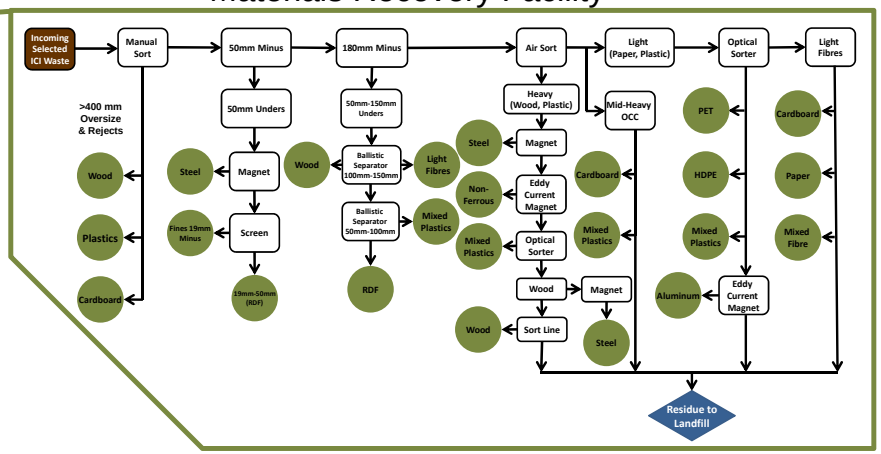
Individual Process Schematics

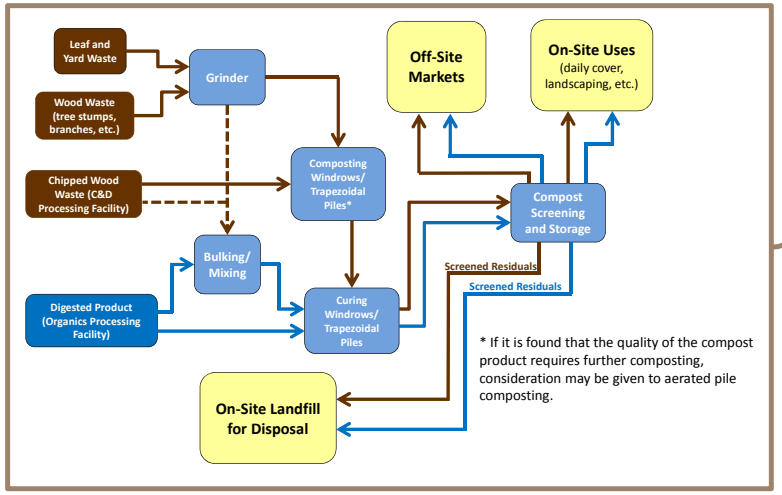
Construction and Demolition Processing Facility



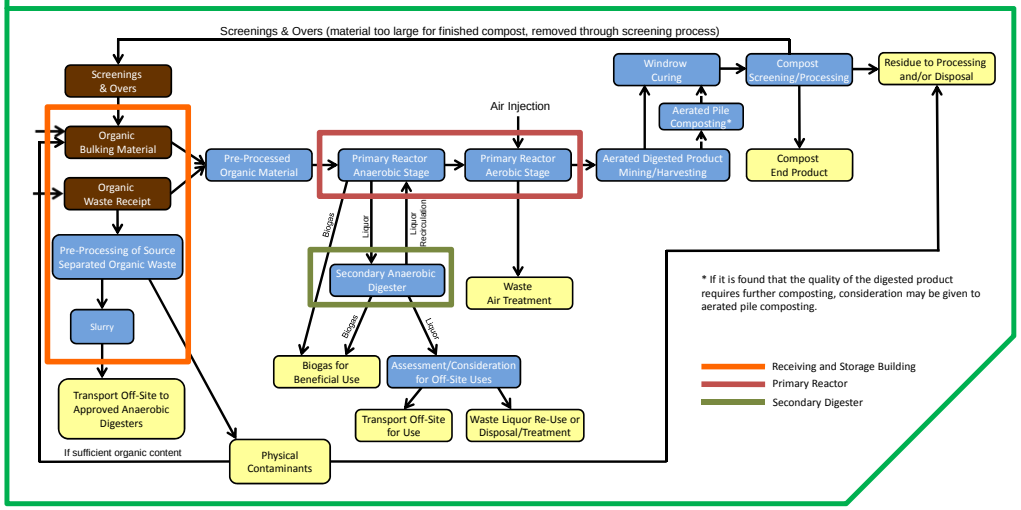


Materials Recovery Facility





Compost Processing and Storage Area



Organics Processing Facility

Mesures d'atténuation en matière de conception et d'exploitation

Afin de s'assurer que le CRRRC est exploité conformément au MEO et à d'autres exigences réglementaires, un certain nombre de mesures d'atténuation ont été intégrées à la conception. Quelques-unes des mesures d'atténuation intégrales à la conception et les pratiques exemplaires de gestion (PEG) présentées dans le REEE sont les suivantes :

- Atmosphère
  - Qualité de l'air : chemins pavés, station de lavage des pneus de camion, système d'enlèvement des poussières (bâtiments du CRM et du centre de tri des matériaux de C et D), biofiltres (installation de traitement des sols contaminés aux HCP et aux organiques), système horizontal de captage du biogaz d'enfouissement, torchère pour la combustion des biogaz, PEG liées à la poussière.
  - Bruit : bermes, végétation existante (périmètre du site), tracés des chemins du site afin de réduire au minimum le besoin d'utiliser les signaux de marche arrière, limite de vitesse.
  - Odeur : tournage des tas de compost, recouvrement journalier approprié au site d'enfouissement, couverture finale placée progressivement sur les portions terminées du site d'enfouissement, mesures de contrôle des odeurs pour les bassins de lixiviat.
- Géologie et hydrogéologie – (Eaux souterraines)
  - Site d'enfouissement : limite du système de doublure périphérique pour le site d'enfouissement ensemble avec le système de collecte de lixiviats (+ contrôle de la qualité de la construction), tampon entre le site d'enfouissement et la limite des terrains, surveillance et entretien des composants du système de collecte de lixiviats.
  - Autres composants : confinement conçu pour lixiviat et les liquides des bassins de lixiviat, le traitement des matières organiques et des cellules de traitement des HCP (+ contrôle de la qualité de la construction).
- Eau de surface
  - Qualité : la séparation entre le lixiviat et l'eau d'écoulement propre, la surveillance et la maintenance des bassins d'eau pluviales et les systèmes de récupération des lixiviats, enlèvement amélioré des sédiments dans la conception des systèmes de GEP et les contrôles de mesures d'érosion.
  - Quantité : gérer l'eau de surface sur place, contrôle de l'évacuation des eaux pluviales hors site.
  - Déversements accidentels : inspections et réparations habituelles de l'équipement, plan d'intervention en cas de déversement.
- Biologie
  - Maintenir des zones tampons végétales périphériques lorsque c'est possible, gestion efficace des déchets afin de ne pas attirer la faune et les organismes nuisibles, lutte antiparasitaire tel qu'il est permis et requis, inspections habituelles.
- Utilisation des terres & aspects socioéconomiques et agriculture
  - Fournir un Plan de protection de la valeur des biens immobiliers, procédure pour inscrire et aborder les plaintes, maintenir la zone tampon appropriée entre les activités sur place proposées et les utilisation des terres hors site, le contrôle des émissions nuisibles hors site, clôture pare-papiers.
- Ressources patrimoniales et culturelles
  - Si une ressource archéologique est découverte, cesser toute modification immédiatement et embaucher un archéologue-conseil agréé, communiquer avec le registre des cimetières ou le Bureau de consultation des Algonquins de l'Ontario, s'il y a lieu.
- Circulation
  - Améliorations des intersections à l'endroit d'accès au site à partir du chemin Boundary Road, aire de file d'attente sur place de capacité suffisante afin d'éviter les files d'attentes de camions sur le chemin Boundary.

Les détails sont fournis dans la section 11.19 du REEE, Volume I

Résultats de l'EE
Atmosphère, odeur et bruit.

Atmosphère et odeur

- Le MEO a établi des critères de point de contact (PC) pour différents composés. Les critères de PC du MEO sont utilisés pour évaluer les effets particuliers d'une installation.

- Toutes les concentrations maximales de PC prévues sont conformes aux normes pertinentes. Les sources réglementées du CRRRC comprendraient le biogaz d'enfouissement, les procédés de combustion et les émissions liées au traitement des matériaux. L'équipement mobile a été inclus par mesure de prudence dans l'évaluation de conformité en matière de PC même si cet équipement n'est pas considéré aux fins d'ACE en vertu du Règlement de l'Ontario 419/05.

Bruit

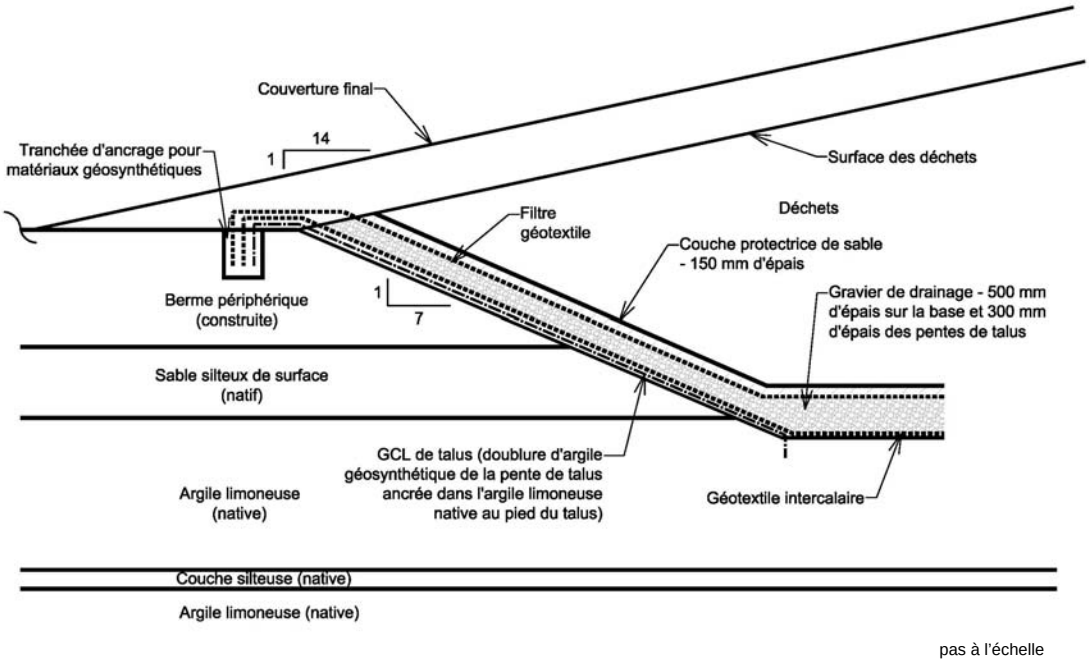
- Les niveaux de bruit prévus associés aux activités d'enfouissement et aux installations connexes sont conformes aux lignes directrices en matière de bruit pertinentes du MEO.

- La variation maximale prévue en matière de niveau de bruit le long de la route de transport en dehors du site basée sur la circulation de camions prévue est classée comme « perceptible » pour les récepteurs résidentiels se trouvant sur le chemin Boundary et comme « insignifiant » ailleurs à proximité du site; cela se trouve dans le spectre acceptable de niveau de bruit ambiant.

Les détails sont fournis dans la section 11.2 du REEE, Volume I

Résultats de l'EE
Eaux souterraines

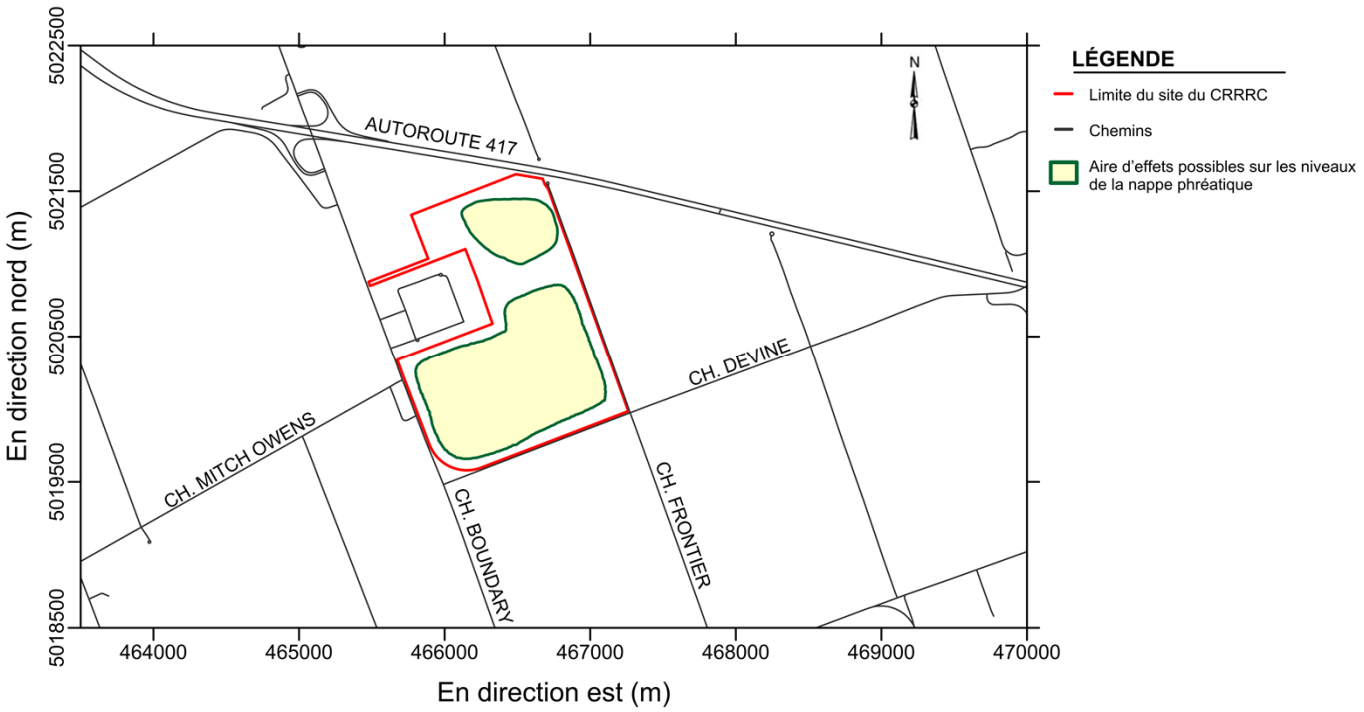
- Une barrière hydraulique sera construite autour du périmètre du site d'enfouissement pour empêcher impacts sur le sable limoneux en surface.



- Le dépôt d'argile naturel et les systèmes de récupération et de rétention des lixiviats proposés et mis au point contiendront et contrôleront les lixiviats du site d'enfouissement.

Les détails sont fournis dans la section 11.3.2 du REEE Volume I

Zone d'effet potentiel sur les niveaux d'eau souterraine



- Les bassins de rétention des lixiviats et cellules du réacteur primaire des matières organiques et de traitement des sols sont alignés et toujours accessibles pour la réparation.
- Le site restera conforme aux exigences du MEO en matière de protection de l'eau souterraine à court et à long terme.
- En s'appuyant sur la modélisation des eaux souterraines, la diminution maximale du niveau d'eau souterraine dans le sable limoneux en surface se produit pendant que le système de récupération du lixiviat est fonctionnel.
- Dans ces conditions, les effets éventuels du CRRRC sur les niveaux d'eau hors site sont négligeables au-delà de la limite du site.

Les détails sont fournis dans la section 11.3.2 du REEE Volume I

Résultats de l'EE
Sismique et géotechnique

Risque de mouvement de failles dans la zone régionale

- La présence de calcite dans la plupart des plans de faille (qui a eu lieu il y a environ 40 à 65 millions d'années) suggère qu'il n'y a eu aucun mouvement le long des failles et des joints à calcite dans le substratum rocheux dans les environs du site du CRRRC.

Effets possibles à la surface découlant du mouvement des failles au site du CRRRC

- Il est raisonnable de conclure, en considérant les conditions géologiques régionales, locales et du site dans le site du CRRRC et dans le secteur environnant ainsi que la nature des failles « actives », que la probabilité d'un mouvement de faille futur découlant d'importants déplacements différentiels à la surface ou à la subsurface peu profonde est négligeable et d'aucune importance sur le plan de l'ingénierie ou de l'environnement pour l'aménagement d'un site du CRRRC.

Potentiel d'affaissement de la subsurface en raison des secousses

- Les grands séismes préhistoriques (4 550 et 7 060 ans AP) suggérés par Aylsworth et coll. (2000) et Aylsworth et Lawrence (2003) d'avoir causé une perturbation au dépôt d'argile à trois endroits dans l'Est ontarien n'ont pas entraîné de déformation des dépôts d'argile limoneuse se trouvant sous le site.
- L'affaissement différentiel découlant des secousses d'un fort séisme (liquéfaction) n'est pas considéré comme un danger pour le site du CRRRC.

Les détails sont fournis dans la section 11.3.1 du REEE Volume I

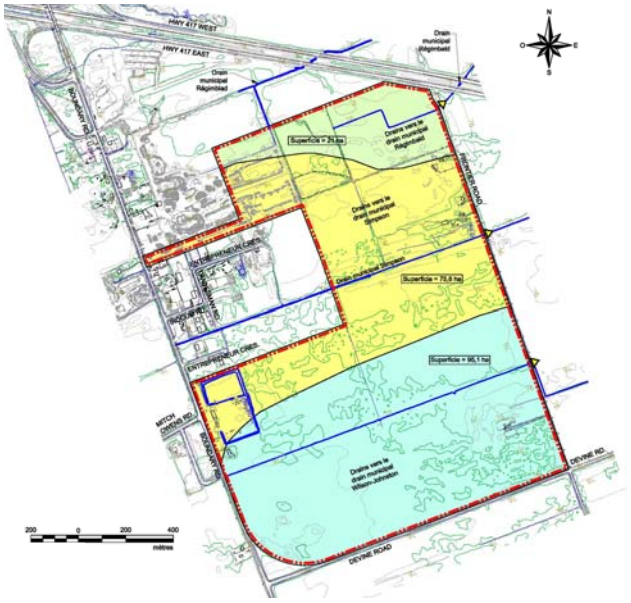
Constatations géotechniques

- La configuration proposée du site d'enfouissement est stable en fonction des conditions statiques et séismiques de conception.
- Le mouvement latéral permanent de la fondation de sol du site d'enfouissement sous les charges sismiques est de moins de 200 mm, ce qui a été intégré à la conception du site d'enfouissement.
- Les bâtiments du site du CRRRC seront conçus pour résister aux séismes conformément au Code du bâtiment pour un épais dépôt d'argile.

Les détails sont fournis dans la section 11.3.3 du REEE Volume I

Résultats de l'EE
Eau de surface

Drainage du site actuel

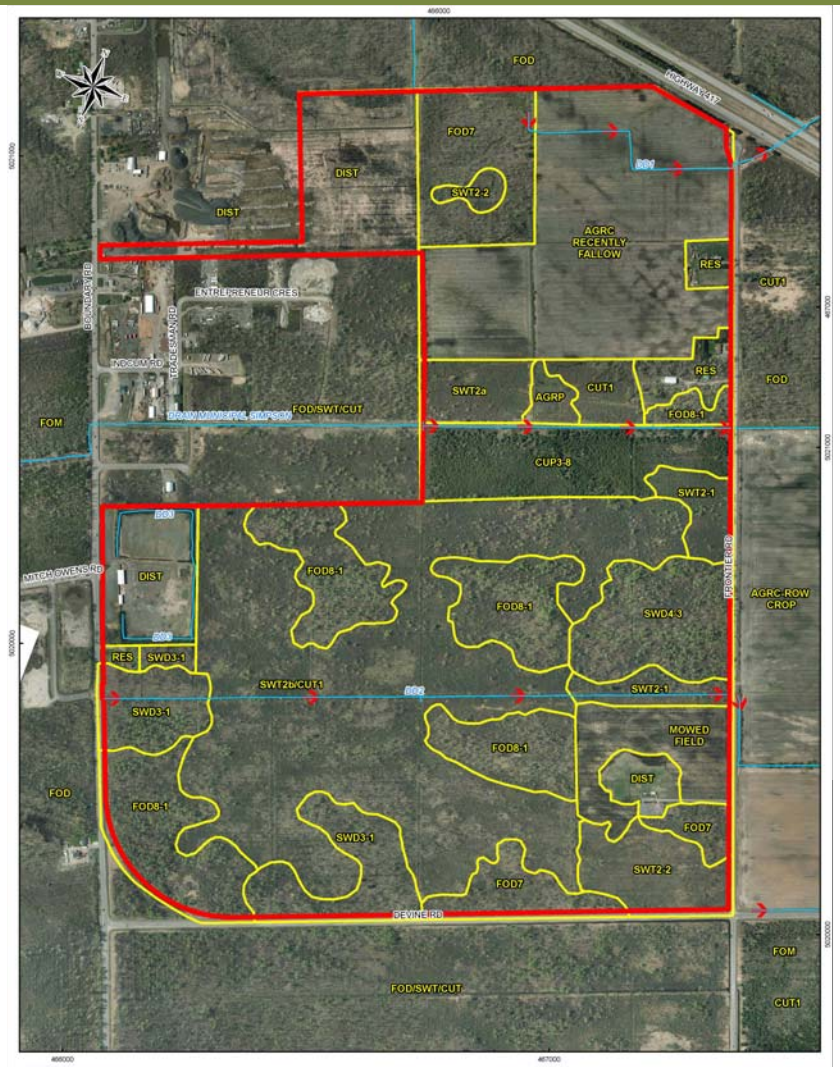


Drainage du site proposé

- Le drainage de surface peut être conçu de telle sorte que les activités liées aux déchets sont isolées du drainage.
- Les caractéristiques du drainage de surface et de la gestion des eaux pluviales peuvent être conçues pour protéger la qualité de l'eau et conserver une quantité d'eau maximale à la sortie du site.
- L'aménagement du site entraînera des changements aux bassins hydrographiques respectifs sur le site comme suit :
  - Augmentation de 3,5 ha (total de 24,5 ha) au drain Régimbald;
  - Augmentation de 8 ha (total de 83,6 ha) au drain Simpson;
  - Réduction 11,5 ha (total de 83,6 ha) au drain Wilson Johnston.
- Bien que les zones du bassin hydrographique d'après aménagement et l'utilisation des terres correspondantes changeront, ces modifications du site ne perturberont pas et n'auront aucun effet indésirable sur le tracé naturel du réseau hydrographique au site ou hors site. Cela sera réalisé par le maintien des objectifs de conception des débits de pointe existant au moyen de contrôle des bassins de rétention des eaux pluviales.
- Les caractéristiques de la gestion des eaux pluviales ont été conçues conformément aux politiques de gestion des eaux pluviales de la Ville d'Ottawa et au règlement de l'Ontario 232/98, et on ne prévoit aucun effet négatif sur les trois drains municipaux ci-dessus.
- Durant l'aménagement progressif du site, des mesures de contrôle de l'érosion et des sédiments, une surveillance régulière et des pratiques d'entretien et de nettoyage protégeront la qualité de l'eau de surface.

Les détails sont fournis dans la section 11.4 du REEE Volume I

Results of EA – Biology



Potential Impact	Predicted Effect
Direct Impacts	
Loss of vegetation communities, wildlife habitat and fish habitat	No ecologically important adverse effects predicted
Physical hazards and wildlife vehicle collisions	
Indirect Impacts (potential effects on aquatic and terrestrial ecosystems from changes to the following)	
Air emissions, including dust deposition	No ecologically important adverse effects predicted
Sensory disturbance (noise)	
Alteration of surface water flow regime	
Alteration of groundwater flow regime	
Surface water or groundwater contamination	
Changes to wildlife movement corridors	

LEGEND

- ECOLOGICAL LAND CLASSIFICATION
- PROPERTY BOUNDARY
- SURFACE WATER FEATURE

ECOLOGICAL LAND CLASSIFICATION:

AGRC : ROW CROP
AGRC : HAYFIELD
AGRP : HORSE PASTURE
CUP3-8 : WHITE SPRUCE PLANTATION
CUT1 : DECIDUOUS THICKET
DD-1-2 : DRAINAGE DITCHES
DIST : DISTURBED LANDS FOR VARIOUS USES
FOD : DECIDUOUS FOREST
FOD7 : MOIST EUROPEAN WHITE BIRCH - POPLAR DECIDUOUS FOREST
FOD8-1 : FRESH-MOIST POPLAR - RED MAPLE - EUROPEAN WHITE BIRCH DECIDUOUS FOREST
FOM : MIXED FOREST
RES : RESIDENTIAL
SWD3-1 : RED MAPLE MINERAL DECIDUOUS SWAMP
SWD4-3 : POPLAR-EUROPEAN WHITE BIRCH MINERAL DECIDUOUS SWAMP
SWT2A : ALDER-WILLOW-GLOSSY BUCKTHORN MINERAL THICKET SWAMP
SWT2B/CUT1 : GLOSSY BUCKTHORN MINERAL THICKET SWAMP/DECIDUOUS THICKET COMPLEX
SWT2-1 : SPECKLED ALDER-GLOSSY BUCKTHORN MINERAL THICKET SWAMP
SWT2-2 : WILLOW MINERAL THICKET SWAMP
SWT – MINERAL THICKET SWAMP

Details are provided in Section 11.5 of the EASR Volume I

Résultats de l'EE Utilisation des terres et aspects socioéconomiques

Résultats socioéconomiques

- Estimation de l'emploi direct
  - Construction (un an) : 400 000 heures-personnes (environ 160 à 200 travailleurs)
  - Exploitation (30 ans) : 198 000 heures-personnes par année (environ 80 à 100 travailleurs)
  - Ceci représente des possibilités d'emploi pour les travailleurs locaux
- Estimation des dépenses directes (excluant la main d'œuvre)
  - Augmentation annuelle des recettes des impôts fonciers municipaux : de 1,6 à 3,7 millions de dollars (en fonction du processus d'évaluation actuel de la SÉFM)
  - Frais de permis de construire : de 250 000 $ à 300 000 $
  - Frais de construction (excluant la main d'œuvre) : frais initiaux de 58 millions de dollars, frais récurrents de 700 000 $ par année
  - Coûts de fonctionnement (excluant la main d'œuvre) : 3,2 millions de dollars de dépenses en capital par année, 16,2 millions de dollars de dépenses de fonctionnement par année (comprend une hausse des coûts de 2 % par année)
  - La majorité de ces dépenses directes seront sur des biens et services provenant d'entreprises locales
  - Les dépenses directes créeront également des retombées pour les entreprises et les communautés locales

Les détails sont fournis dans la section 11.6.2 du REEE Volume I

Résultats liés à l'utilisation des terres

- Le CRRRC proposé correspond à la déclaration de principes provinciale :
  - Faciliter et encourager la réduction, la réutilisation et le recyclage
  - Il faut fournir des systèmes de gestion des déchets qui sont d'une taille et d'un type appropriés afin de s'adapter aux exigences actuelles et futures
- Le CRRRC proposé correspond à l'intention du Comité des initiatives de croissance intelligente :
  - Le réacheminement doit être préconisé
- Le CRRRC proposé correspond au rapport d'information sur les emplois d'avenir de la ville d'Ottawa pour appuyer les zones près des échangeurs de l'autoroute 417 près de la zone urbaine
- Le CRRRC sera masqué à partir de l'autoroute 417, ce qui satisfait les objectifs du plan de la Commission de la capitale nationale pour la capitale canadienne et du plan directeur de la ceinture verte
- Le potentiel d'aménagement futur d'utilisations sensibles des terres (résidentielles) dans les environs est très limité :
  - Seulement l'aménagement rural est permis
  - La préoccupation liée à la demande en eau de surface limite la croissance résidentielle et l'aménagement en général
  - Le zonage industriel existant dans la région limite les possibilités d'aménagement résidentiel en raison d'exigences en matière de séparation de cette zone
  - Les terres agricoles à l'est ne favorisent pas l'aménagement résidentiel
  - Un terrain de golf au nord limite l'aménagement résidentiel éventuel
  - Il y a un potentiel limité d'aménagement au nord-ouest en raison d'une désignation d'environnement naturel

Les détails sont fournis dans la section 11.6.1 du REEE Volume I

Results of EA – Visual Impact

Viewpoint 1 Mitigated View

Viewpoint 2 Mitigated View

Details are provided in Section 11.6.3 of the EASR Volume I

Viewpoint 3 Mitigated View

Results of EA – Visual Impact

Viewpoint 4 Mitigated View

Viewpoint 5 Mitigated View

Details are provided in Section 11.6.3 of the EASR Volume I

Résultats de l'EE
Archéologie et patrimoine

- Aucun site archéologique n'est inscrit à l'intérieur du site et dans les environs du site.
- Tous les terrains du site comportent un potentiel archéologique faible ou aucun potentiel archéologique; aucune évaluation d'étape 2 n'est requise.
- Cinq propriétés d'avant 1973 dans un rayon de 250 m du site ont été relevées comme ressources patrimoniales culturelles potentielles. Après leur évaluation, aucune des cinq ressources patrimoniales culturelles potentielles n'a démontré une valeur ou un intérêt en matière de patrimoine culturel et, par conséquent, aucune n'est admissible à la désignation en vertu de la *Loi sur le patrimoine de l'Ontario*.

LÉGENDE

- CHEMIN
- PLANS D'EAU
- PARCELLES DE PROPRIÉTÉ DE LA VILLE D'OTTAWA
- ZONE TAMPON DE 250 M AUTOUR DES TERRAINS
- LIMITE DES TERRAINS
- POSSIBLE RESSOURCE DU PATRIMOINE CULTUREL ANTÉRIEURE À 1973
- (1) 5384 BOUNDARY ROAD
- (2) 5409 BOUNDARY ROAD
- (3) 5507 BOUNDARY ROAD
- (4) 5508 BOUNDARY ROAD
- (5) 1129 BLACKCREEK ROAD

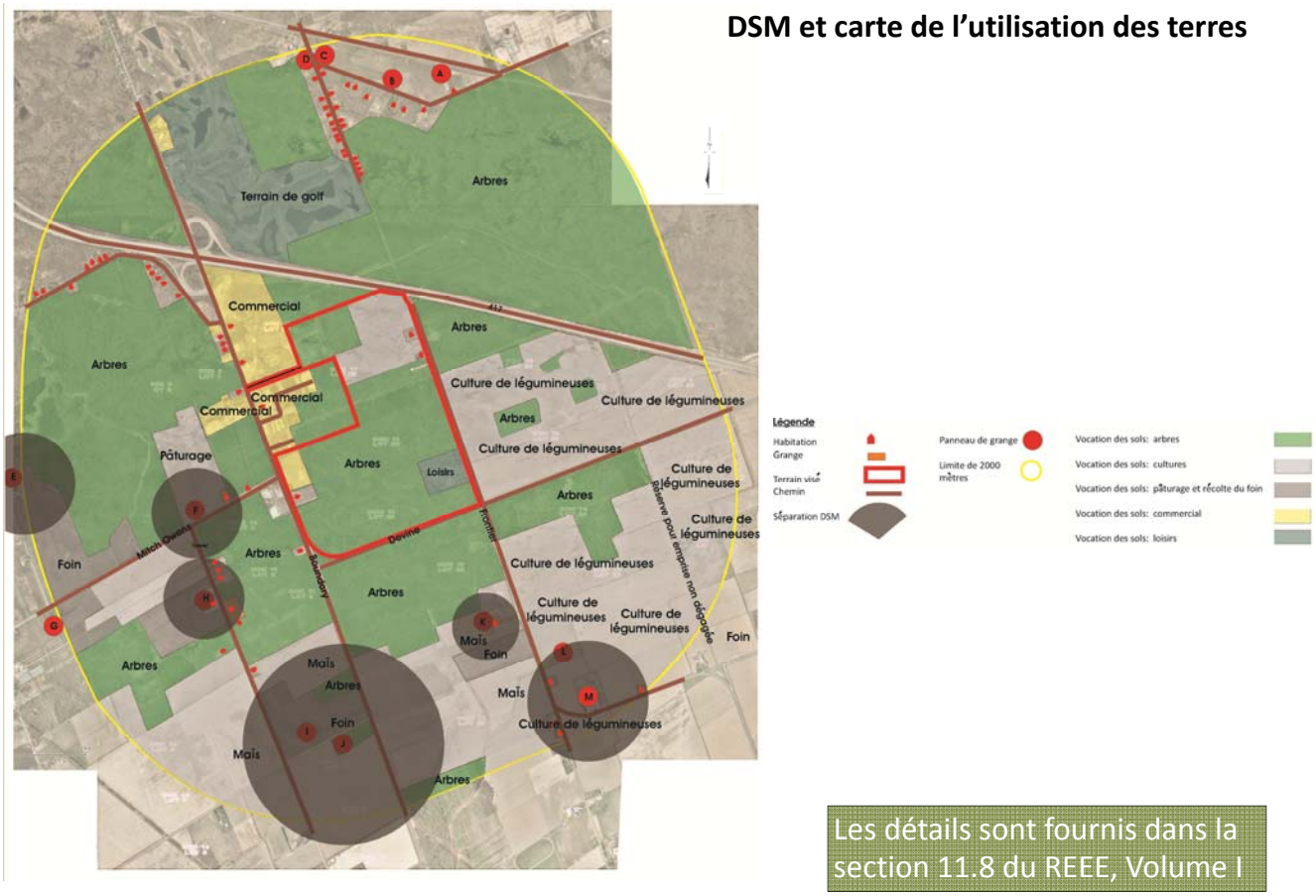
200 100 0 200
MÈTRES

Les détails sont fournis dans la section 11.7 du REEE, Volume I

Résultats de l'EE Agriculture

- Il n'y a aucune répercussion sur les activités agricoles existantes et futures dans les environs du site.
- Une évaluation détaillée du site a déterminé que la capacité agricole des terres était de catégorie 4 et 5, principalement en raison de l'humidité et des limitations sur la culture et la récolte.
- Bien qu'une petite part du site a été cultivée, il y a un faible investissement dans le réaménagement agricole.
- Selon les résultats de l'évaluation du CRRRC, aucune répercussion sur la production des récoltes hors site n'est prévue.
- L'évaluation de la Distance de séparation minimale (DSM) n'a indiqué aucune incompatibilité entre le projet proposé et les installations à bétail actuelles (utilisées ou vacantes).
- L'accès au site le long du chemin Boundary aura très peu de impacts sur l'accès agricole et le déplacement de l'équipement agricole.
- Aucune mesure d'atténuation n'est requise.

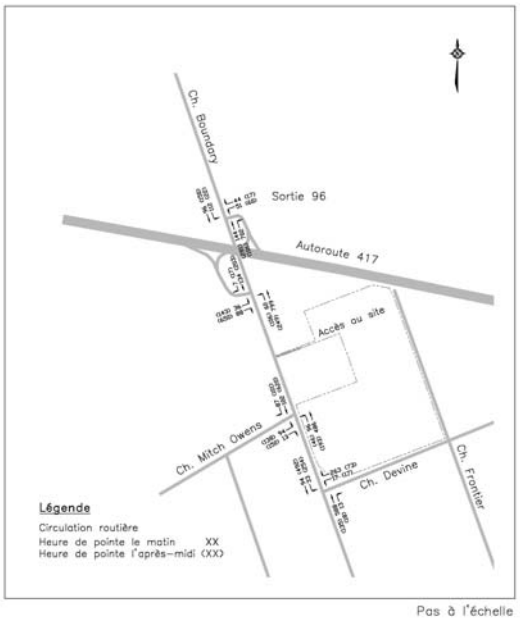
DSM et carte de l'utilisation des terres



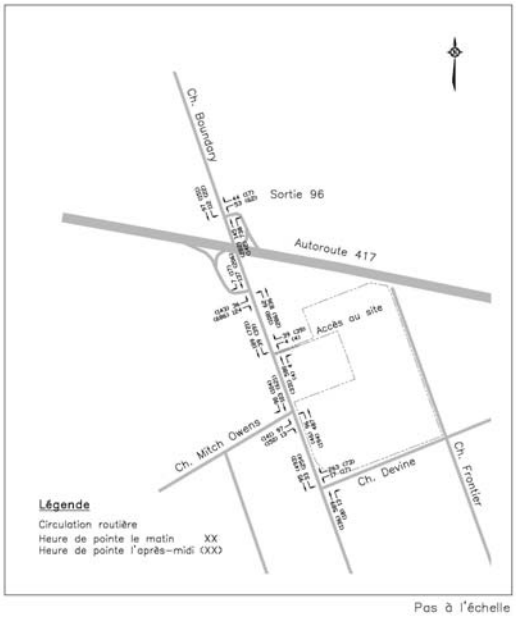
Les détails sont fournis dans la section 11.8 du REEE, Volume I

Résultats de l'EE
Circulation

- Pour une réception quotidienne maximale de 3 000 tonnes par jour, le nombre quotidien estimé de camions sur une période de dix heures est 287 camions qui entrent sur le site et le quittent.
- Le nombre de voyages aux heures de pointe serait de 43 camions qui entrent sur le site et le quittent.
- La circulation maximale de camions du CRRRC représente environ 8 pour cent du volume total de la circulation le long du chemin Boundary entre l'accès du site et l'autoroute 417. La circulation moyenne annuelle prévue (1 500 tonnes par jour) serait dans les environs de 6 pour cent.
- Toutes les intersections existantes suivantes à l'intérieur de la zone d'étude seraient utilisées à un niveau de service acceptable au cours des heures de point d'avant-midi et d'après-midi des jours de semaine, sans aucune intersection nécessitant de modification en raison des voyages de camion du CRRRC :
  - les bretelles d'accès d'entrée et de sortie du chemin Boundary et de l'autoroute 417 Est;
  - les bretelles d'accès d'entrée et de sortie du chemin Boundary et de l'autoroute 417 Ouest;
  - le chemin Boundary et le chemin Mitch Owens;
  - le chemin Boundary et le chemin Devine.
- La configuration des voies proposée à l'accès du site comprend une voie réservée de virage à gauche sur le chemin Boundary en direction sud.
- Il n'y a aucune utilisation des terres agricoles le long du chemin Boundary entre l'autoroute 417 et l'emplacement de l'accès du site. Par conséquent, la circulation relative au site du CRRRC dans cette section du chemin Boundary n'aura aucune répercussion sur l'utilisation des entrées de sites agricoles ou les déplacements des véhicules de fermes.



Circulation de base des heures de pointe d'avant-midi et d'après-midi des jours de semaine de 2022



Circulation totale des heures de pointe d'avant-midi et d'après-midi des jours de semaine de 2022 (avec le CRRRC)

Les détails sont fournis dans la section 11.9 du REEE, Volume I

Effets cumulatifs
Matrice des interactions

L'importance de tout effet cumulatif résiduel a été déterminée en tenant compte de l'ampleur possible, de la fréquence et de la réversibilité des effets résiduels (non nuls) du CRRRC conjointement avec les effets résiduels (non nuls) des activités actuelles et futures déterminées à proximité du site.

Interaction des effets

Composante environnementale	Effet résiduel du CRRRC	Installation de fendage du bois	Bâtment de entreposage et de transfert des bardeaux	Pomerleau Ltd.	Poste d'enssence	Installation commerciale et industrielle petite supplémentaire	Exploitations agricoles	Proposition de dédoublement de camion gros porteur
Atmosphère	Odeur	non	non	oui	non	non	oui	non
	Émissions de poussières	oui	non	oui	non	oui	oui	oui
	Qualité de l'air	non	non	non	non	non	oui	oui
	Émissions de bruits	oui	oui	oui	non	oui	oui	oui
Hydrogéologie	Impacts sur la qualité des eaux souterraines	non	non	non	non	non	non	non
	Impacts sur la quantité des eaux souterraines	non	non	non	non	non	non	non
Eau de surface	Impacts sur la qualité de l'eau de surface	non	non	oui	non	oui	oui	non
	Impacts sur la quantité de l'eau de surface	non	non	non	non	non	non	non
Biologie	Ressources biologiques aquatiques	non	non	oui	non	oui	oui	non
	Ressources biologiques terrestres	non	non	oui	non	oui	oui	oui
Utilisation des terres et aspect socioéconomique	Impacts sur l'atmosphère, les eaux souterraines et l'eau de surface	oui	oui	oui	non	oui	oui	oui
	Dépenses et emplois	oui	oui	oui	oui	oui	oui	oui
	Visuel	non	non	oui	non	non	non	oui
Agriculture	Perte de terres productives sur le site	non	non	non	non	non	non	non
	Impacts hors site sur l'atmosphère, l'eau de surface et les eaux souterraines	oui	non	oui	non	oui	oui	oui
Circulation	Circulation accrue	oui	oui	oui	oui	oui	non	oui

Les détails sont fournis dans la section 13.2 du REEE, Volume I

Effets cumulatifs
Évaluation de l'importance

En général, il y a peu d'indications pour ce qui est des préoccupations concernant la qualité de l'environnement de base ou les impacts cumulatifs sur l'environnement dans le site ou à proximité découlant des activités et des projets passés et présents.

- Atmosphère
  - La qualité de l'air est typique de l'environnement urbain d'Ottawa, sans aucune preuve indiquant qu'il y a des impacts cumulatifs sur la qualité de l'air.
  - Les niveaux de bruit sont normaux pour une zone de catégorie 1, dominés par la circulation sur l'autoroute 417 et du chemin Boundary.

- Biologie
  - Les ressources biologiques aquatiques et terrestres ne présentent aucun indicateur d'impacts cumulatives à proximité du site, sauf pour les organismes benthiques associés à la qualité de l'eau de surface.

- Utilisation des terres et aspects socioéconomiques, agriculture et circulation
  - Aucun problème apparent sur le plan social, agricole et de la circulation qui peut être attribué aux impacts cumulatifs et des activités et des projets passés et présents menés dans le site et à proximité.

- Eau de surface
  - La qualité de l'eau de surface de base dans les drains municipaux et les cours d'eau du site et dans les environs du site dépasse régulièrement les OPQE pour le fer et le phosphore et les niveaux d'oxygène dissout sont régulièrement inférieurs à l'OPQE.
  - La où les sources exactes de ces paramètres élevés ou réduits ne sont pas claires; les niveaux élevés de phosphore proviennent probablement de l'utilisation des terres agricoles dans le secteur en général et l'utilisation des terres agricoles et d'autres activités pourraient aussi être à l'origine des niveaux d'oxygène dissout plus faibles. Les concentrations élevées de tels paramètres dans les éléments locaux d'eau de surface sont communes dans l'environnement urbain et rural d'Ottawa.
  - Une attention spéciale sera portée pour surveiller la qualité de l'eau de surface qui quitte le CRRRC en ce qui a trait à ces paramètres afin de s'assurer que la qualité de l'eau de surface en aval du site n'est pas encore plus dégradée pour ces paramètres.

Les détails sont fournis dans la section 13.4 du REEE, Volume I

Surveillance du site du CRRRC

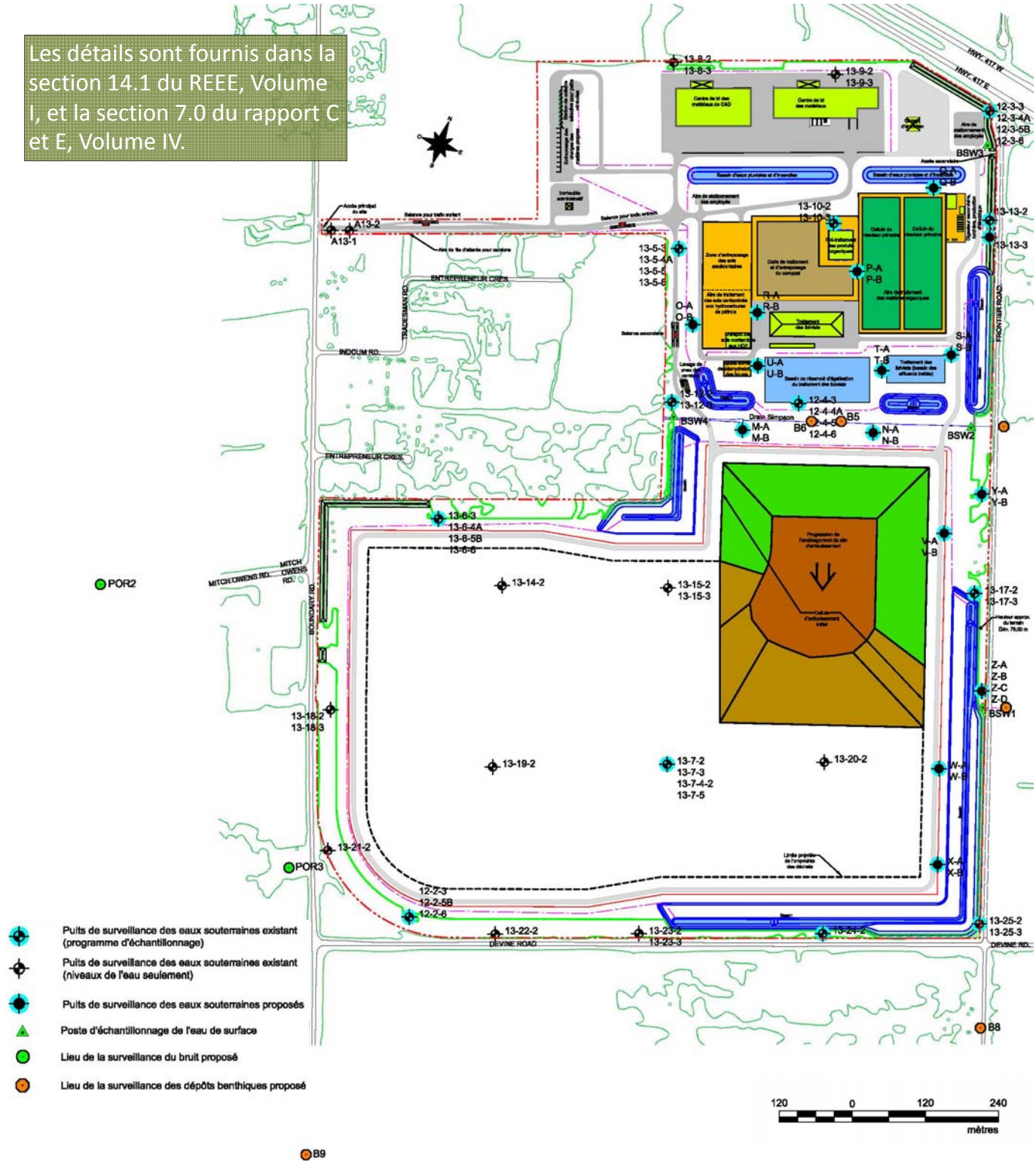
Un programme de surveillance efficace fournit des résultats aux fins suivantes : indiquer si l'installation fonctionne tel que prévu et si les hypothèses utilisées dans l'évaluation étaient justes; évaluer de manière continue si les mesures d'atténuation conçues et utilisées sont efficaces; et déceler les problèmes imprévus afin de les régler en temps opportun. Les programmes de surveillance conceptuels sont décrits ci-dessous. Les détails finaux seront déterminés en consultation avec le MEO et intégrés dans l'AE pour le CRRRC.

- Atmosphère
  - Bruit : surveillance du bruit (une fois par année au début au cours des activités avec les moniteurs enregistrant des données acoustiques chaque heure pour la durée de la période de surveillance);
  - Qualité de l'air : surveillance annuelle de la poussière à la limite des terrains au cours de l'été pour les deux premiers étés après le début des activités.
- Géologie, hydrogéologie et géotechnique (eaux souterraines)
  - Eaux souterraines et lixiviats :
    - Un programme de surveillance pour les installations de traitement et le composant d'enfouissement;
    - Des puits de surveillance des eaux souterraines existants et quelques lieux supplémentaires de puits de surveillance;
    - Surveillance des eaux souterraines trois fois par année (printemps, été et automne).
  - Géotechnique :
    - Surveillance de l'affaissement du sol d'assise, du poids unitaire des déchets tels qu'enfouis et des mouvements latéraux de l'argile limoneuse sous la berme périphérique du site d'enfouissement à l'aide d'inclinomètres et de points et monuments de référence d'arpentage de surface;
    - Surveillance du taux de dissipation de la pression de l'eau interstitielle dans l'argile sous-jacente (piézomètre à fil vibrant dans la partie supérieure du dépôt d'argile limoneuse).
- Eau de surface
  - Postes d'échantillonnage situés à chacun des trois points de décharge à la limite est ainsi qu'au drain Simpson où il entre au site à la limite ouest des terrains;
  - Estimation du débit, le cas échéant, et collecte et analyse d'échantillons d'eau de surface;
  - La surveillance de l'eau surface coïncidera avec la surveillance des eaux souterraines trois fois par année.
- Biologie
  - Surveillance de la qualité des dépôts benthiques et des sédiments deux fois par année à six emplacements;
  - Surveillance pour l'hirondelle rustique après la création du nouvel habitat pendant trois ans et maintien d'un dossier sur les mesures d'atténuation et la restauration pendant deux années supplémentaires;
  - Examen permanent de la condition de la végétation et entretien.
- Utilisation des terres et aspects socioéconomiques et agriculture
  - Comité de liaison avec la communauté et élaboration d'un plan de communication.

Les détails sont fournis dans la section 14.1 du REEE, Volume I, et la section 7.0 du rapport C et E, Volume IV.

Surveillance du site du CRRRC

Les détails sont fournis dans la section 14.1 du REEE, Volume I, et la section 7.0 du rapport C et E, Volume IV.



Mesures de contingence

Si jamais les programmes de surveillance permettent de déceler des problèmes imprévus ou démontrent que les hypothèses utilisées dans l'évaluation sont inexactes, il peut être nécessaire de mettre en œuvre des mesures de contingence afin de réduire davantage le potentiel lié à tout effet négatif sur l'environnement associé au CRRRC.

- Eau souterraine

  Dans l'éventualité que le système de récupération des lixiviats en dessous du composant d'enfouissement fasse défaillance et que les résultats de la surveillance suggèrent que le lixiviat s'introduit dans les eaux souterraines du site, les mesures de contingence suivantes seraient mises en œuvre :
  - Installation de puits de purge à travers la couverture du site d'enfouissement et jusqu'à la couche granulaire pour éliminer le lixiviat en le pompant dans l'installation de traitement;
  - Construction d'une tranchée de collecte des eaux souterraines périphérique et retrait des eaux contaminées par le lixiviat pour leur traitement;
  - Installation d'une barrière de confinement périphérique de faible perméabilité;
  - Réparations dans l'éventualité que les systèmes de revêtement pour les bassins ou les cellules du réacteur primaire des matières organiques soient compromis.

- Eau de surface

  Dans l'éventualité que les eaux contaminées par le lixiviat atteignent soit les bassins de GEP, soit les fossés :
  - Détermination de la source des impacts, puis interception, au besoin;
  - Les fossés et les bassins touchés pourraient être vidés et l'eau envoyée pour traitement avec le lixiviat.

- Installation de prétraitement des lixiviats

  Dans l'éventualité que le débit soit supérieur ou inférieur :
  - Le système peut facilement s'adapter au débit.

  Dans l'éventualité que la charge de métaux soit plus élevée ou que des composés toxiques soient présents :
  - Un traitement chimique sera mis en œuvre avant le traitement biologique.

  Dans l'éventualité qu'il y ait une interruption du transport de l'effluent liquide traité :
  - Deux semaines d'entreposage au bassin de rétention des effluents (avec un volume conservé à un minimum au cours du fonctionnement normal);
  - Réduction du pompage de lixiviats du site d'enfouissement;
  - Réduction du débit dans le système de traitement.

- Système de captage des biogaz d'enfouissement (BGE)

  Dans l'éventualité d'odeurs ou d'une quantité insuffisante de BGE récupérés pour l'utilisation :
  - Installation de puits d'extraction de BGE verticaux dans les secteurs où les collecteurs horizontaux pourraient être obstrués en raison de l'affaissement ou ne sont simplement pas aussi efficaces.

  Dans l'éventualité d'une défaillance imprévue d'un composant du système de BGE :
  - Fermeture automatique par un contrôleur logique programmable, alarme par composeur automatique et approvisionnement des pièces de rechange habituelles sur le site.

Les détails sont fournis dans la section 14.2 du REEE, Volume I, et la section 8.0 du rapport C et O, Volume IV.

Engagements du PPVBI

Pour le CRRRC proposé, Taggart Miller s'est engagé à fournir un **Plan de protection de la valeur des biens immobiliers (PPVBI)** pour les propriétaires à une certaine distance du CRRRC. Taggart Miller propose un PPVBI avec les éléments clés suivants, les détails desquels peuvent être mis au point au moyen de discussions avec le comité de liaison avec la communauté (CLC) proposé :

- Zone de 5 kilomètres (km) mesurée à partir du centre du site du chemin Boundary (suggéré par la Ville pour d'autres sites de gestion des déchets à Ottawa);

- Seules les propriétés résidentielles dans la zone de 5 km détenues ou sous option le 1er janvier 2013 ou avant sont admissibles au PPVBI et seulement de manière ponctuelle;

- Le programme est disponible à partir du moment que le CRRRC obtient toutes les approbations nécessaires pour poursuivre jusqu'à la fermeture du composant d'enfouissement du CRRRC;

- Intention : fournir une assurance d'une juste valeur marchande pour la vente des propriétés résidentielles comme si le CRRRC n'existait pas;

- Procédure :
  - Avant de mettre en vente la propriété, le propriétaire informerait Taggart Miller que la vente se fera en vertu du PPVBI et conclura une entente avec Taggart Miller;
  - Taggert Miller obtiendra les services d'un évaluateur qualifié pour évaluer la valeur de la propriété comme si le CRRRC n'existait pas;
  - Si le propriétaire n'accepte pas l'évaluation, il obtiendra les services d'un évaluateur qualifié (le coût serait divisé avec Taggart Miller) pour évaluer la valeur de la propriété comme si le CRRRC n'existait pas;
  - Si la différence entre les deux valeurs d'évaluation est inférieure à 10 %, la moyenne des deux valeurs sera calculée pour établir une valeur aux fins du PPVBI;
  - Si la différence entre les deux valeurs est supérieure à 10 %, les deux évaluateurs choisiront un troisième évaluateur dont l'évaluation serait finale et contraignante aux fins du PPVBI;
  - Après l'établissement de la valeur d'évaluation, le propriétaire mettra en vente la propriété à la valeur d'évaluation;
  - Taggart Miller compenserait le prix d'achat de la propriété jusqu'à la valeur évaluée aux fins du PPVBI dans l'éventualité qu'une vente légitime sans lien de dépendance soit inférieure à cette valeur;
  - SI la vente proposée est inférieure à 90 % de la valeur évaluée aux fins du PPVBI, Taggart Miller aura l'option d'acheter lui-même la propriété plutôt que de compenser le prix de vente;
  - Le PPVBI ne s'appliquera pas aux acheteurs subséquents des terrains.

Les détails sont fournis dans la section 15.0 du REEE, Volume I

Prochaines étapes et calendrier

La période d'examen de 7 semaines pour l'évaluation de l'ébauche des rapports d'étude de l'EE et de la LPE se termine le 31 juillet 2014. Au cours de cette période, toute partie intéressée peut faire part de ses commentaires sur l'ébauche des documents à Taggart Miller. Après cette période, Taggart Miller examinera les commentaires reçus et modifiera ou mettra à jour les rapports d'étude de l'EE et de la LPE, le cas échéant. Une fois que les rapports d'étude de l'EE et de la LPE seront présentés au MEO, les étapes suivantes se dérouleront :

- Une période d'examen de 7 semaines où toute partie intéressée peut faire part de ses commentaires sur les documents finaux au MEO;
- Une période de 5 semaines pour le personnel du MEO pour préparer et publier un examen du document d'EE, nommé « *Examen du ministère* »;
- Une période de 5 semaines pour toute partie intéressée pour faire part de ses commentaires au MEO sur l'Examen du ministère;
- Après la réception de l'Examen du ministère, le ministre de l'Environnement a jusqu'à 13 semaines pour prendre une décision relative à l'EE. Le ministre a trois options :
  - le renvoyer pour médiation;
  - le renvoyer au Tribunal de l'environnement pour une audience;
  - prendre une décision pour approuver, approuver sous certaines conditions ou refuser l'EE.

Vous avez différentes possibilités pour participer et faire part de vos opinions.

- Remplissez la feuille de commentaire fournie lors de cette journée porte ouverte n° 6.
- Soumettez vos commentaires sur l'ébauche des rapports d'étude de l'EE et de la LPE.
- Visitez notre site Web à **CRRRC.ca** pour obtenir des renseignements et fournir des commentaires.

Personne-ressource du projet
M. Hubert Bourque, directeur de projet
Taggart Miller Environmental Services
a/s 225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
Téléphone : 613-454-5580
Télécopieur : 613-454-5581
Courriel : hjbourque@crrrc.ca

Appendix H-9

Bilingual Comment Sheet

Name _____ **Address** _____

Email _____ **Phone** _____

Thank you for attending Open House #6.

Please provide your comments on any aspect of the results of the draft Environmental Assessment presented at this Open House in the space provided below.

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The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s.37 of the *Freedom of Information and Protection of Privacy Act* (FIPPA). Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential.

If you do not have time to submit your comment sheet this evening, please email or mail your comments to:
Williamson Consulting Inc. P.O. Box 14556, 2954 St. Joseph Blvd., Ottawa, ON K1C 1J0
Email: howard@williamsonconsulting.ca

Nom _____ **Adresse** _____

Courriel _____ **Téléphone** _____

Merci de participer aux portes ouvertes n° 6.

Veuillez fournir tous commentaires que vous auriez sur les résultats de l'ébauche d'Évaluation environnementale présentée à ces portes ouvertes dans l'espace fourni ci-dessous.

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Les renseignements sont recueillis en vertu de la *Loi sur les évaluations environnementales* ou sont recueillis et conservés dans le but de créer un dossier qui sera diffusé au grand public aux termes de la *Loi sur l'accès à l'information et la protection de la vie privée*. Les renseignements que vous soumettez feront partie d'un dossier public qui restera accessible au grand public à moins que vous demandiez que vos renseignements personnels demeurent confidentiels.

Si le temps vous manque et que vous ne pouvez pas remettre votre fiche de commentaires ce soir,
veuillez nous faire parvenir vos commentaires par courriel ou par la poste à :
Williamson Consulting Inc. P.O. Box 14556, 2954 St. Joseph Blvd., Ottawa, ON K1C 1J0
Courriel : howard@williamsonconsulting.ca

Appendix H-10

Comments Received from Comment Sheets

TAGGART
GROUP OF COMPANIES

THE MILLER GROUP

Nom _____ **Adresse** _____

Courriel _____ **Téléphone** _____

Merci de participer aux portes ouvertes n° 6.

Veuillez fournir tous commentaires que vous auriez sur les résultats de l'ébauche d'Évaluation environnementale présentée à ces portes ouvertes dans l'espace fourni ci-dessous.

Pas de déportoire, Stress action suit coming as soon it is approved.

Les renseignements sont recueillis en vertu de la *Loi sur les évaluations environnementales* ou sont recueillis et conservés dans le but de créer un dossier qui sera diffusé au grand public aux termes de la *Loi sur l'accès à l'information et la protection de la vie privée*. Les renseignements que vous soumettez feront partie d'un dossier public qui restera accessible au grand public à moins que vous demandiez que vos renseignements personnels demeurent confidentiels.

Si le temps vous manque et que vous ne pouvez pas remettre votre fiche de commentaires ce soir, veuillez nous faire parvenir vos commentaires par courriel ou par la poste à :
Williamson Consulting Inc. P.O. Box 14556, 2954 St. Joseph Blvd., Ottawa, ON K1C 1J0
Courriel : howard@williamsonconsulting.ca

TAGGART
GROUP OF COMPANIES

THE MILLER GROUP

Nom _____ **Adresse** _____

Courriel _____ **Téléphone** _____

Merci de participer aux portes ouvertes n° 6.

Veuillez fournir tous commentaires que vous auriez sur les résultats de l'ébauche d'Évaluation environnementale présentée à ces portes ouvertes dans l'espace fourni ci-dessous.

Ces evaluations environnementales me semblent excessivement optimistes.

Ayant vécu, voyagé, visité des endroits où il y avait des sites d'enfouissements (Stittsville, Valley Field, Navan), je sais qu'il finit toujours par y avoir des odeurs, des oiseaux charognards malades, des puits contaminés.

Cela me rend extrêmement triste de penser que notre belle région est à risque d'avoir un site de plus.

Si seulement les dépotoirs de la ville d'Ottawa n'acceptaient que les déchets de la ville d'Ottawa, nous n'aurions pas ce problème

Les renseignements sont recueillis en vertu de la *Loi sur les évaluations environnementales* ou sont recueillis et conservés dans le but de créer un dossier qui sera diffusé au grand public aux termes de la *Loi sur l'accès à l'information et la protection de la vie privée*. Les renseignements que vous soumettez feront partie d'un dossier public qui restera accessible au grand public à moins que vous demandiez que vos renseignements personnels demeurent confidentiels.

Si le temps vous manque et que vous ne pouvez pas remettre votre fiche de commentaires ce soir, veuillez nous faire parvenir vos commentaires par courriel ou par la poste à :
Williamson Consulting Inc. P.O. Box 14556, 2954 St. Joseph Blvd., Ottawa, ON K1C 1J0
Courriel : howard@williamsonconsulting.ca

Les citoyens de cette région ne veulent pas de ce site d'enfouissement !!!

TAGGART
GROUP OF COMPANIES

THE MILLER GROUP

Name _____ **Address** _____

Email _____ **Phone** _____

Thank you for attending Open House #6.

Please provide your comments on any aspect of the results of the draft Environmental Assessment presented at this Open House in the space provided below.

Our community has clearly communicated that we are not willing to host this project. It is not an acceptable, progressive plan for Ottawa and we say no.

The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s.37 of the *Freedom of Information and Protection of Privacy Act* (FIPPA). Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential.

If you do not have time to submit your comment sheet this evening, please email or mail your comments to:
Williamson Consulting Inc. P.O. Box 14556, 2954 St. Joseph Blvd., Ottawa, ON K1C 1J0
Email: howard@williamsonconsulting.ca

TAGGART GROUP OF COMPANIES

THE MILLER GROUP

Name _____ **Address** _____

Email _____ **Phone** _____

Thank you for attending Open House #6.

Please provide your comments on any aspect of the results of the draft Environmental Assessment presented at this Open House in the space provided below.

How much does your biologist know about the importance of this piece of land as a corridor for wildlife, and as a part of the aquifer for Mer Bleue? No piece of property is an island unto itself, and there is precious little natural forest and wetland in this area, which is primarily agricultural.

This is the WRONG PLACE to be making a land fill ....
yes we know that most of what you plan to do is land fill!
And it is only monetary gain that would make it such a monstrous one! You plan to bury in waste from far away ... into this area which is seismically active!
How are you going to walk away from the inevitable catastrophe? Do you have a plan for when the earthquake comes?
This site was already rejected in the 1980's!
It's obvious that this project is wrong, both here and at the Russell Quarry. You do not make for a good neighbour!

The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s.37 of the *Freedom of Information and Protection of Privacy Act* (FIPPA). Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential.

If you do not have time to submit your comment sheet this evening, please email or mail your comments to:
Williamson Consulting Inc. P.O. Box 14556, 2954 St. Joseph Blvd., Ottawa, ON K1C 1J0
Email: howard@williamsonconsulting.ca

TAGGART
GROUP OF COMPANIES

THE MILLER GROUP

Name _____ **Address** _____

Email _____ **Phone** _____

Thank you for attending Open House #6.

Please provide your comments on any aspect of the results of the draft Environmental Assessment presented at this Open House in the space provided below.

Engineers were polite, knowledgeable and considerate in their answering questions.

I maintain, that the underlying clay and peripheral liners, should have an additional protective layer of charcoal to remove organic volatile substances. Especially should earthquake activity occur: or should the facility have licenses to process more hazardous substances at a later date.

The # and the gradation of earthquakes and giant cracks in land occurring, has been increasing around the globe. It is difficult to plan for these events. But every effort should be made to preserve the groundwater, in any event.

Thank you for your time and consideration.

The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s.37 of the *Freedom of Information and Protection of Privacy Act* (FIPPA). Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential.

If you do not have time to submit your comment sheet this evening, please email or mail your comments to:
Williamson Consulting Inc. P.O. Box 14556, 2954 St. Joseph Blvd., Ottawa, ON K1C 1J0
Email: howard@williamsonconsulting.ca

APPENDIX I

Summary of Comments Received Outside Consultation Events

Appendix I-1

Comments Received at Commencement of Environmental Assessment Studies

Table I-1: Summary of Comments Received at Commencement of Environmental Assessment Studies

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Issues / Concerns Raised	Action
Appendix I-1-1a	Appendix J-1-1a	Individual 1	January 21, 2013	Inquired about whether a geologist was present during the drilling activities observed at the Site, and whether it was possible to evaluate the geologic core obtained during drilling.	A response was provided. An experienced civil engineering technologist logged the soil and rock samples in the field and returned the samples to the Golder officer where a geologist and geotechnical engineer evaluated the samples. Detailed borehole logs are provided in Volume III of the EASR.
Appendix I-1-1b	Appendix J-1-1b	Individual 1	January 21, 2013	Inquired about whether gas had been encountered during drilling in the clay, and the depth and type of bedrock encountered.	A response was provided. Details of the Site geology are provided in Section 3.3 of Volume III of the EASR.
Appendix I-1-1c		Individual 1	January 22, 2013	Appreciated the information provided.	No further action required.
				Recommended that borehole logs and location maps be provided at the next Open House, and that a geologist be available to answer questions.	Information regarding the borehole investigation program was provided at Open House #3. No further action required. Details of the Site geology and borehole logs are provided in Section 3.3 and Appendix A, respectively, of Volume III.
				Inquired about whether the three boreholes being drilled at the Site were located close to each other.	

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Issues / Concerns Raised	Action
Appendix I-1-2a	Appendix J-1-2a	Individual 2	January 27, 2013	Inquired about when the preferred Site location would be announced.	A response was provided. The comparison of the two sites and announcement of the preferred site was to occur within the next month.
Appendix I-1-2b	Appendix J-1-2b	Individual 2	January 30, 2013	Inquired about the steps and associated timeline between the announcement of the preferred Site location and a decision regarding EA approval followed by construction.	A response was provided. The EA/EPA Process Flow Chart is provided as Figure 2.1-1 of the EASR Volume I and has been presented at each Open House.

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: January 21, 2013 8:26 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: La Permission d'Evaluer Les Carottes / Permission to Study the Core

English below French text...

Begin forwarded message:

From:
Subject: La Permission d'Evaluer Les Carottes / Permission to Study the Core
Date: 21 January, 2013 8:00:07 AM EST
To: Hubert Bourque <hjbourque@crrrc.ca>

Le 21 janvier 2013

M. Hubert Bourque
Gérant de Projet
Les Services Environnementaux Taggart Miller
225, rue Metcalfe
Bureau 708
Ottawa, ON K2P 1P9

M. Bourque

Nous avons observé les camions et les foreurs de Marathon Drilling sur le site #2, qui se situe à l'angle de Chemins Boundary et Devine. Alors ledit situation me mène à poser les deux questions suivantes: 1) Dans ce groupe y'a t-il au moins un géologue? 2) Pourrais j'obtenir la permission d'évaluer, dans la proche avenir, le(s) carottes moi-même?

Je tiens à vous remercier pour votre réponse dans les meilleurs délais

Cordialement,

January 21, 2013

Mr Hubert Bourque
Project Director
Taggart Miller Environmental Services
225 Metcalfe Street
Suite 208
Ottawa, ON K2P 1P9

Dear Mr. Bourque

There are trucks and drillers from Marathon Drilling at your second site, which is located at the intersection of Boundary and Devine Roads. That, therefore, leads to the two following questions: 1) is there a geologist among them and 2) would you allow me to evaluate the core(s) fairly soon?

Thank you very much for your prompt answer to this request.

Sincerely,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: January 21, 2013 4:29 PM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Thanks

Begin forwarded message:

From:
Subject: Thanks
Date: 21 January, 2013 4:24:12 PM EST
To: Hubert Bourque <hjbourque@crrrc.ca>

Hubert,

Thanks for replying to my query.

I do have some questions:

1) Have the drillers encountered any gas so far in the clay. If so, what kind and at what depth(s)?

2) How deep have they drilled and have they hit any bedrock yet? If they have, can you please find out what the rock type is under the leda clay.

Thanks,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: January 22, 2013 4:57 PM
To: Howard C. Williamson; Edmond, Trish; Doug Thomson
Subject: Fwd: Thanks

Begin forwarded message:

From:
Subject: Re: Thanks
Date: 22 January, 2013 4:00:55 PM EST
To: Hubert Bourque <hjbourque@crrrc.ca>

Hubert,

Thank you very much for the information and for advising that there will be a summary at the next open house. I hope that there will be copies of maps, for people to take home, showing the precise locations of the 3 boreholes and the UTM coordinates of each hole. It would also be very helpful if there are well logs, or core, from each hole and a bona fide geologist, preferably a stratigrapher, who can answer questions. If core boxes are shown, the elevations of each borehole and the depths should also be well marked.

There is just one final point and that is it appears, from my rather rare drive-byes, as if the three holes may have been located pretty near each other. Is that correct?

Thanks again, Hubert. I look forward to seeing whatever is available at the next open house.

On Tue, Jan 22, 2013 at 12:26 PM, Hubert Bourque <hjbourque@crrrc.ca> wrote:

1) We haven't encountered any gas in the clay.

2) The bedrock surface was encountered at depths ranging from about 37 to 40 metres at the three locations completed and consists of interbedded limestone and shale.

The information from the drilling activities at the Boundary Road Site will be summarized and presented at the next open house.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580

Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-01-21, at 4:24 PM, wrote:

Hubert,

Thanks for replying to my query.

I do have some questions:

1) Have the drillers encountered any gas so far in the clay. If so, what kind and at what depth(s)?

2) How deep have they drilled and have they hit any bedrock yet? If they have, can you please find out what the rock type is under the leda clay.

Thanks,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: January 28, 2013 6:06 AM
To: Howard C. Williamson; Edmond, Trish
Subject: Fwd: crrrc question

-Sent from my iPhone

Begin forwarded message:

> **From:**
> **Date:** 27 January, 2013 10:02:01 PM EST
> **To:** "hjbourque@crrrc.ca" <hjbourque@crrrc.ca>
> **Subject: crrrc question**
>
> Hello,
>
> Assuming the projects tracks to the proponents latest estimated timeline, and that it proceeds, when would the choice of site location (north Russell vs. Boundary road) be finalized and announced publicly ?
>
> Thank you,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: January 30, 2013 7:49 PM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: crrrc question

-Sent from my iPhone

Begin forwarded message:

> **From:**
> **Date:** 30 January, 2013 7:37:07 PM EST
> **To:** Hubert Bourque <hjbourque@crrrc.ca>
> **Subject: Re: crrrc question**
>
> Thank you for the reply,
>
> Assuming the project tracks to the proponents latest estimated timeline, what would be left to do following the announcement of the preferred site before a final site decision might reached and construction might commence ?
>
> Broadly speaking, I understand there would then be an EA, a public review thereof, a ministerial review of options, and then a final ministerial approval which could take until August 2013 or so to reach. I am interested in understanding when reasonable certainty might be reached (based on precedent or otherwise) wrt a final site location, and also when construction might commence. Any insights that could be provided there would be appreciated.
>
> Thank you again,
>
> On Mon, Jan 28, 2013 at 9:46 AM, Hubert Bourque <hjbourque@crrrc.ca> wrote:
> Hello
>
> Currently, we are scheduled to complete comparative assessments of the two sites and publicly announce the preferred site within the next month.
>
> Regards,
>
> Hubert Bourque, P.Eng.
> Project Manager/Directeur de projet
> Taggart Miller Environmental Services
> c/o 225 Metcalfe Street, Suite 708
> Ottawa, Ontario K2P 1P9
> Tel: 613-454-5580
> Fax: 613-454-5581

Email: hjbourque@crrrc.ca

On 2013-01-27, at 10:02 PM, wrote:

Hello,

Assuming the projects tracks to the proponents latest estimated timeline, and that it proceeds, when would the choice of site location (north Russell vs. Boundary road) be finalized and announced publicly ?

Thank you,

Appendix I-2

Comments Received Following the Notice of Open House #3

Table I-2: Summary of Comments Following the Notice of Open House #3

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Response to Event	Issues/ Concerns Raised	Action
Appendix I-2-1a	Appendix J-2-1a	Individual 3	February 7, 2013	Post Notice of OH#3	Inquired about when the North Russell Road Site would be sold. Concerned about ability to sell their house before the future use of the North Russell Road Site is finalized.	A response was provided. Taggart Miller does not need two sites for the integrated waste management facility; the site not used will likely be sold, however the timing of any sale has not been decided.
Appendix I-2-1b		Individual 3	February 8, 2013	Post Notice of OH#3	Concerned about being "held prisoner" until the North Russell Road Site is sold.	The North Russell Road Site cannot be "released" until the EA process is concluded.
Appendix I-2-1c	Appendix J-2-1c	Individual 3	February 8, 2013	Post Notice of OH#3	Inquired about when the North Russell Road Site would be sold, and whether it would be retained until the end of the approval process for the Boundary Road Site.	A response was provided. It is unlikely that the Russell Road Site will be retained until the end of the approval process for the Boundary Road Site, however a definitive time for sale of the Russell Road Site has not been determined.
Appendix I-2-2a		Individual 4	February 8, 2013	Post Notice of OH#3	Concerned about impacts to groundwater quality and air quality.	The groundwater and air quality impact assessments were summarized in the EASR Volume I. More detailed information on the groundwater and air quality assessments can be found in Volume III and TSD #3, respectively.
Appendix I-2-3a		Individual 5	February 20, 2013	Post Notice of OH#3	Recommended that incinerators should be considered for waste management instead of the CRRRC.	Taggart Miller's opportunity assessment for this proposal was provided in Supporting Document #1 to the TOR. Thermal treatment was eliminated for the reasons provided.

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Response to Event	Issues/ Concerns Raised	Action
Appendix I-2-4a	Appendix J-2-4a	Individual 6	February 26, 2013	Post Notice of OH#3	Noted disappointment that certain topics were omitted from presentation boards.	Noted. It was considered that the presentation boards contained the key information at that time in the EA process.
					Noted that a Miller representative did not answer a question regarding the circumstances under which the Boundary Road Site would no longer be considered for the CRRRC. Requested that a response to this question be provided.	A response was provided. If it was determined that the Boundary Road Site was not approvable by the MOE, It would be dropped from further consideration.
Appendix I-2-5a	Appendix J-2-5a	Individual 7	February 26, 2013	Post Notice of OH#3	Concerned about impacts from increased truck traffic, particularly on Sand Road. Inquired about how this would be addressed.	The traffic impact assessment was summarized in the EASR Volume I and addressed in detail in TSD #9.
Appendix I-2-6a	Appendix J-2-6a	Individual 8	February 28, 2013	Post Notice of OH#3	Concerned about the design (engineered components breaking down and causing impacts to groundwater and health).	A response was provided. An assessment of long-term groundwater impacts from the landfill component of the CRRRC is summarized in the EASR Volume I and detailed in Section 12.3 of Volume III. The assessment includes failure of the engineered features of the landfill. The proposed groundwater monitoring program and contingency measures are described in Sections 13 and 14 of Volume III.
					Recommended that the City of Ottawa set a standard regarding recycling and waste incineration.	A response was provided. Taggart Miller indicated that their innovative project will set a very high standard for commercial waste handling and waste recycling.

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Response to Event	Issues/ Concerns Raised	Action
Appendix I-2-7a	Appendix J-2-7a	Individual 9	March 4, 2013	Post Notice of OH#3	Inquired about when and how the land use and visual impact assessments would be made available.	A response was provided. The land use assessment (which includes the visual impact assessment) is summarized in the EASR Volume I and is described in TSD #5.
Appendix I-2-8a		Individual 3	April 24, 2013	Post Notice of OH#3	Inquired about the status of the North Russell Road Site. Concerned that potential purchasers of their property will not be interested until the North Russell Road Site is sold.	The North Russell Road Site cannot be “released” until the EA process is concluded.
Appendix I-2-9a	Appendix J-2-9a	Individual 3	May 3, 2013	Post Notice of OH#3	Inquired about whether the North Russell Road Site was permanently removed from consideration and when the future plans for that site would be announced. Inquired about when a decision would be made regarding approval of the CRRRC at the Boundary Road Site.	A response was provided. The North Russell Road Site cannot be “released” until the EA process is concluded.
Appendix I-2-9b	Appendix J-2-9b	Individual 3	May 6, 2013	Post Notice of OH#3	Requested more specific information regarding plans for the North Russell Road Site.	A response was provided. The North Russell Road Site cannot be “released” until the EA process is concluded.
Appendix I-2-9c		Individual 3	May 7, 2013	Post Notice of OH#3	Requested more specific information regarding plans for the North Russell Road Site.	The North Russell Road Site cannot be “released” until the EA process is concluded.

Edmond, Trish

Subject: FW: North Russell Rd

On 2013-02-07, at 2:40 PM, wrote:

I just noticed your announcement that the Boundary Road site as the preferred site. However, the announcement does not state that the North Russell site will be sold. Can you please confirm the timing regarding your intention to sell the Russell site? Selling our house will remain difficult until the uncertainty over the future use of the North Russell site is resolved.

From: Hubert Bourque
To: Howard C. Williamson; Edmond, Trish
Cc: Jeff Parkes; Doug Thomson
Subject: Fwd North Russell Rd
Date: February 8, 2013 10:53:45 AM

Begin forwarded message:

From:
Subject: Re: North Russell Rd
Date: 8 February, 2013 10:47:26 AM EST
To: <hjbourque@crrrc.ca>

We are being held prisoner,as we have been since the original announcement, until the Russell site is sold.

Sent from/Envoye du BlackBerry.

>>> Hubert Bourque <hjbourque@crrrc.ca> 08/02/2013 8:57:36 AM >>>

Taggart Miller does not need two sites for the integrated waste management facility; the site not used will likely be sold, however the timing of that has not been decided. The timing of any sale will of course depend on interest and market conditions.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-02-07, at 2:40 PM,
wrote:

I just noticed your announcement that the Boundary Road site as the preferred site. However, the announcement does not state that the North Russell site will be sold. Can you please confirm the timing regarding your intention to sell the Russell site? Selling our house will remain difficult until the uncertainty over the future use of the North Russell site is resolved.

Edmond, Trish

Subject: FW: North Russell Rd

From:
Subject: Re: North Russell Rd
Date: 8 February, 2013 11:20:24 AM EST
To: Hubert Bourque <hjbourque@crrrc.ca>

Henri, will you be keeping the Russell Road site until the approval process is finished for the Boundary Road location? Can you provide me any info regarding the timing of the sale of the Russell Site. I would appreciate a real answer regarding the timing so we can plan are lives?

On 2013-02-08, at 8:57 AM, Hubert Bourque <hjbourque@crrrc.ca> wrote:

Taggart Miller does not need two sites for the integrated waste management facility; the site not used will likely be sold, however the timing of that has not been decided. The timing of any sale will of course depend on interest and market conditions.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-02-07, at 2:40 PM, wrote:

I just noticed your announcement that the Boundary Road site as the preferred site. However, the announcement does not state that the North Russell site will be sold. Can you please confirm the timing regarding your intention to sell the Russell site? Selling our house will remain difficult until the uncertainty over the future use of the North Russell site is resolved.

From: Hubert Bourque
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: votre annonce
Date: February 8, 2013 11:48:19 AM

TRANSLATION:

Dear Mr. Bourque, GM Taggart Miller dump project

That a mega-dump be planned on a site a few kilometers within the City of Ottawa is not a victory for the people of Russell and Embrun. Boundary Road is not a wall. Threat to water quality and air remains intact on a site as dangerous and almost as close. The predominant wind will stink the two villages for generations.

Be aware of the facts, M Bourque. The region does not need another landfill. This is an outdated technology. I beg you to pack your bags, and recommend to the Taggart family (Tamarack Homes and company) to abandon its proposed mega-dump.

Begin forwarded message:

From:
Subject: votre annonce
Date: 8 February, 2013 11:07:43 AM EST
To: dum <hjbourque@crrrc.ca>
Cc:

Cher monsieur Bourque, DG projet dépotoir Taggart Miller

Que le méga-dépotoir soit planifié sur un site seulement quelques kilomètres en territoire de la Ville d'Ottawa n'est pas une victoire pour la population de Russell et Embrun. Le Boundary Road n'est pas un mur. La menace pour la qualité des eaux et de l'air demeure entière sur un site tout aussi dangereux et presqu'aussi proche. Le vent prédominant va empester les deux villages pour des générations.

Rendez vous à l'évidence, M Bourque. La région n'a pas besoin d'un autre site d'enfouissement. C'est une technologie dépassée. Je vous prie de plier baggage, et de recommander à la famille Taggart (Tamarack Homes et compagnie) d'abandonner son projet de méga-dépotoir.

From: Hubert Bourque
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Dump the dump
Date: February 20, 2013 5:02:23 PM

Begin forwarded message:

From:
Subject: Dump the dump
Date: 20 February, 2013 4:56:32 PM EST
To:
Cc: hjbourque@crrrc.ca,

To all concerned.

Opening a new dump does not make sense.

Incinerators are the way to go. Europe is leading the way. Why can we not learn from their experience and make use of the energy produced.

I grew up in Switzerland. I am now 85 years old and before I came to Canada I never heard of a dump. There was just no room to have dumps.

In Bern (Switzerland) the main hospital complex is heated by the city's garbage. Leftover metal and glass is retrieved.

We lived close by, never was there any air pollution or smell from it. It all spends on the proper technology.

So get with it and look at alternatives to dumps!

From: Hubert Bourque
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson; Blair McArthur
Subject: Fwd: unanswered consultation question
Date: February 26, 2013 1:43:51 PM

-Sent from my iPhone

Begin forwarded message:

> **From:**
> **Date:** 26 February, 2013 10:52:58 AM EST
> **To:**
> **Cc:** Hubert Bourque <hjbourque@crrrc.ca>
> **Subject: unanswered consultation question**
>
> Good morning,
>
> I participated in the Open House consultation last night in Carlsbad Springs, sponsored by Taggart Miller regarding their proposed CRRRC landfill project.
>
> While I was disappointed that certain topics were omitted from the presentation panels, it was still informative and staff generally attempted to answer my questions - with one notable exception:
>
> Blair MacArthur (Miller) refused to answer the following question when I posed it:
>
> "Under what circumstances would this site be dropped from contention?"
>
> Now, please bear in mind that in the ToR for this EA phase which the MOE recently approved, the provision exists for EXACTLY what I asked - section 8 states that should EA studies discover unsuitable aspects to the "preferred" site, it could be dropped from contention. I was asking for definitions of such conditions, but what I got was:
>
> "I don't need to tell you that."
>
> I replied that since we were standing in the middle of a public consultation event, I very much thought he should answer the question, but Blair refused, and then added that they hadn't even thought about it yet.
>
> This is entirely unsatisfactory. Since section 8 is in the approved ToR, this exact issue has been considered. I reiterate: I would like a precise description of the conditions under which the Boundary Rd site would be removed from contention.

Not impressed,

From: Howard C. Williamson
To:
Subject: Re: CRRRC Public Meeting #3
Date: February 27, 2013 9:50:32 AM

Hello

Thank you for your comments. I have passed your email on to the engineering consultants for a response.

Sincerely,

On Tue, Feb 26, 2013 at 10:47 AM,
wrote:

> Hello,
>
> After attending the meeting last night at the Carlsbad Community Center, the follow concerns have come to mind.
>
> 1. Traffic will inevitably be affected locally by the increased truck traffic to the site.
>
> a. How is this being addressed?
>
> b. As a resident on Sand Road. How is truck traffic going to be eliminated from this road?
>
> c. Sand Road is low traffic and has been proven to not withstand the current traffic well. What steps would be taken to minimize car traffic on this road??
>
> **Yours truly,**

--
Howard C. Williamson
Williamson Consulting Inc.
P.O. Box 14556
2954 St. Joseph Blvd.
Ottawa, ON Canada K1C 1J0
t. 613.590.7880
Email howard@williamsonconsulting.ca
Web www.williamsonconsulting.ca

Edmond, Trish

Subject: FW: Boundary Road Landfill Proposal

From: Giguère, Joshua [mailto:Joshua.Giguere@ottawa.ca]
Sent: Friday, March 08, 2013 12:06 PM
To: Parkes Jeff
Subject: FW: Boundary Road Landfill Proposal

Hello Jeff,

I'd also appreciate it if you could CC me in any response that Taggart-Miller provides to

Thank you

Joshua Giguère
Special Assistant/Adjoint Spécial
Office of Councillor Stephen Blais/Bureau du Conseiller Stephen Blais
613-580-2424, ext 26681 (office)
613-552-6874 (cell)

From: Giguère, Joshua
Sent: March 08, 2013 12:05 PM
To:
Cc: 'Parkes Jeff'; Brown, Stephanie
Subject: FW: Boundary Road Landfill Proposal

Hello

Where the CRRRC is a Taggart-Miller project and remains in the hands of the Province, I will refer your questions to Jeff Parkes of Taggart-Miller (I have cc'd him in this response). Taggart-Miller would be best suited to respond to your queries.

I would also refer you to the CRRRC website (link below) which may have some of the answers that you are looking for.

http://www.crrrc.ca/

Please do not hesitate to contact me again on this or any other issue.

Yours very truly,

Joshua Giguère
Special Assistant

Office of Councillor Stephen Blais
613-580-2489

From: Schulz, Luc
Sent: February 28, 2013 2:25 PM
To:
Cc: Giguère, Joshua
Subject: RE: Boundary Road Landfill Proposal

My apologies, I forgot to cc Josh on the previous message.

Luc

From: Schulz, Luc
Sent: February 28, 2013 2:20 PM
To:
Subject: RE: Boundary Road Landfill Proposal

Dear

Thank you for raising these concerns with us. Stephanie will be back at the office next Monday, but my colleague Josh, whom I have cc'd on this message, will be able to address your questions with regards to this issue.

Should you have any further questions or concerns with which we can be of assistance, please do not hesitate to contact us.

Regards,

Luc Schulz

Luc Schulz
Special Assistant | Adjoint spécial
Office of Stephen Blais | Cabinet de Stephen Blais
Councillor for Cumberland Ward (19)
Conseiller pour le quartier Cumberland (19)
City of Ottawa | Ville d'Ottawa
613.580.2424 x12169
luc.schulz@ottawa.ca

From:
Sent: February 28, 2013 1:19 PM
To: Schulz, Luc
Subject: Fw: Boundary Road Landfill Proposal

Dear Luc, I received and error message from this message and was advised to forward it to you.

From:
Sent: Thursday, February 28, 2013 1:03 PM
To: Brown, Stephanie
Subject: Boundary Road Landfill Proposal

Dear Ms. Brown, could you bring this to the attention of Councilor Blais?
We recently had a public information session, hosted by Taggart Group of Companies, related to the proposed Boundary Road Landfill proposal.
The concerns that people voiced repeatedly were:
1) we question that any containment apparatus liner could last forever, especially with an unknown soup of chemicals/ chemical reactions.
2) Once a leak does take place; how can it be repaired, given the ever increasing weight above? How could reactions of untold compounds be curtailed, once released? Obviously contaminating numerous unknown directions in ground water.
3) What are the potential health effects of unknown reactions, of unknown compounds?
4) As the Nation's Capital, why not set the gold standard for about 85% -100% recycling and energy recuperation (natural gas) + incinerated/ processing of any potential problem chemicals/ substances? Similar to what Guelph attempted to do.
Thank you for your time and consideration,

Edmond, Trish

Subject: FW: CRRRC Task 3 Deadlines

From:
Date: Mon, Mar 4, 2013 at 5:58 PM
Subject: CRRRC Task 3 Deadlines
To: CRRRC Williamson <howard@williamsonconsulting.ca>

HW
We met Feb. 25 at Carlsbad Springs.
Please let me know the estimated dates of completion of
Task 3 -- Land Use
Task 3 -- Visual
(CRRRC TOR (2012) Appendix C-2.5 "Land Use & Socio-Economic Work Plan -- Boundary Road Site" (pages 4-5))
and how this information will be published, in print or on line. For example,
when will the VNS photos to be prepared for Task 3 be made public? (The point is not mentioned in the TOR but I take it there must be two sets, with and without snow cover.)

With thanks,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: April 24, 2013 3:31 PM
To: Edmond, Trish; Howard C. Williamson
Cc: Doug Thomson
Subject: Fwd: North Russell Rd

Follow Up Flag: Follow up
Flag Status: Completed

-Sent from my iPhone

Begin forwarded message:

> **From:**
> **Date:** 24 April, 2013 2:48:13 PM EDT
> **To:** "Hubert Bourque" <hjbourque@crrrc.ca>
> **Cc:**
> **Subject: Re: North Russell Rd**
>
> Henri, are there any updates available regarding the Russell Site? We have put our house on the market, however, the feedback obtained by our Real Estate Agent indicates that potential buyers are very concerned regarding future development of the site. Potential buyers are getting info for the Dump the Dump folks that the Russell Site, although not preferred, could be back on the table if the Carlsbad site does not proceed. It is clear that the Real Estate market will consider our property tainted until all further consideration of the Russell site (as a recovery site/dump) is clearly off the table.
>
> Can your group make a clear public statement re. sale of the owned, and/or optioned, land, which could alleviate this concern.
>
> We need to move on... Please help.

>>> Hubert Bourque <hjbourque@crrrc.ca> 08/02/2013 8:57 AM >>>

Taggart Miller does not need two sites for the integrated waste management facility; the site not used will likely be sold, however the timing of that has not been decided. The timing of any sale will of course depend on interest and market conditions.

Regards,

Hubert Bourque, P.Eng.

Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-02-07, at 2:40 PM, wrote:

I just noticed your announcement that the Boundary Road site as the preferred site. However, the announcement does not state that the North Russell site will be sold. Can you please confirm the timing regarding your intention to sell the Russell site? Selling our house will remain difficult until the uncertainty over the future use of the North Russell site is resolved.

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: May 3, 2013 9:08 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson; Jeff Parkes
Subject: Fwd: North Russell Road

Begin forwarded message:

From:
Subject: **North Russell Road**
Date: 3 May, 2013 7:36:45 AM EDT
To: <hjbourque@crrrc.ca>

Hello Hubert, can you please provide me with an update on your plans for the Russell site for the recovery centre. We are the only one's who did not oppose your project and we desperately need this info in order to plan our future. I would appreciate a response.

With the release of options on Liam's land, is the Russell site permanently off? If so, when will this be announced?

How long until we have some certainty over the future of the Russell Rd Site?

Is the "Pit" property currently on the market or are you waiting until a final decision is made on the Boundary Road site?

When is a final decision from Ont Environment expected on the Boundary Rd site?

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: May 6, 2013 8:28 AM
To: Doug Thomson; Howard C. Williamson; Edmond, Trish
Subject: Fwd: North Russell Road

Begin forwarded message:

From:
Subject: Re: North Russell Road
Date: 6 May, 2013 8:25:46 AM EDT
To: "Hubert Bourque" <hjbourque@crrrc.ca>

Anything more definite that I can share with prospective buyers?

>>> Hubert Bourque <hjbourque@crrrc.ca> 2013-05-06 8:23 AM >>>

It's highly unlikely we will return to the Russell site, however the timing of an announcement in that regard is not yet clear. We expect that will sometime this year.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-05-03, at 7:36 AM, wrote:

Hello Hubert, can you please provide me with an update on your plans for the Russell site for the recovery centre. We are the only one's who did not oppose your project and we desperately need this info in order to plan our future. I would appreciate a response.

With the release of options on Liam's land, is the Russell site permanently off? If so, when will this be announced?

How long until we have some certainty over the future of the Russell Rd Site?

Is the "Pit" property currently on the market or are you waiting until a final decision is made on the Boundary Road site?

When is a final decision from Ont Environment expected on the Boundary Rd site?

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: May 7, 2013 8:07 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: North Russell Road

Begin forwarded message:

From:
Subject: Re: North Russell Road
Date: 7 May, 2013 7:27:58 AM EDT
To: "Hubert Bourque" <hjbourque@crrrc.ca>

Hello Hubert, can you tell me what "shortly" means? Is it in a week or two, i.e., still prime real estate season OR later this summer/fall? I understand that this is the earliest possible timeframe and not a promise. However, an indication of the month would be useful for our planning. If it is later we will have to make alternate plans.

>>> Hubert Bourque <hjbourque@crrrc.ca> 2013-05-06 10:02 AM >>>

Its hard to be definitive right now. We may be able to update the situation shortly and if so I will of course let you know.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-05-06, at 8:25 AM, wrote:

Anything more definite that I can share with prospective buyers?

>>> Hubert Bourque <hjbourque@crrrc.ca> 2013-05-06 8:23 AM >>>

It's highly unlikely we will return to the Russell site, however the timing of an announcement in that regard is not yet clear. We expect that will sometime this year.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-05-03, at 7:36 AM, wrote:

Hello Hubert, can you please provide me with an update on your plans for the Russell site for the recovery centre. We are the only one's who did not oppose your project and we desperately need this info in order to plan our future. I would appreciate a response.

With the release of options on Liam's land, is the Russell site permanently off? If so, when will this be announced?

How long until we have some certainty over the future of the Russell Rd Site?

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When is a final decision from Ont Environment expected on the Boundary Rd site?

Appendix I-3

Comments Received Following the Notice of Open House #4

Table I-3: Summary of Comments Following the Notice of Open House #4

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Response to Event	Issues/ Concerns Raised	Action
Appendix I-3-1a		Individual 10	May 21, 2013	Post Notice of OH#4	Recommended moving or discontinuing the project.	Taggart Miller's opportunity assessment for this proposal was provided in Supporting Document #1 to the TOR. The Boundary Road Site was identified as preferred as discussed in Section 7.0 of Volume I of the EASR.
Appendix I-3-2a		Individual 11	May 21, 2013	Post Notice of OH#4	Questioned the need for the project.	Taggart Miller's opportunity assessment for this proposal was provided in Supporting Document #1 to the TOR.
Appendix I-3-3a	Appendix J-3-3a	Individual 12	May 22, 2013	Post Notice of OH#4	Inquired about the meaning of "alternative Site development concepts" and "present and obtain public input" in the OH#4 notice.	A response was provided. Identification of the preferred Site development concept is detailed in Section 9.0 of the EASR Volume I.
Appendix I-3-4a		Individual 4	May 30, 2013	Post Notice of OH#4	Concerned about seismic activity in the vicinity of the Site and potential groundwater contamination.	Seismic considerations and the groundwater impact assessment were summarized in the EASR Volume I and addressed in detail in Volume III.
Appendix I-3-5a		Individual 6	June 9, 2013	Post Notice of OH#4	Requested information regarding the Site bedrock geology.	Site geology was summarized in the EASR Volume I and addressed in detail in Volume III.

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: May 21, 2013 6:43 PM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Fourth Open House for Capital Region Resource Recovery Centre/ Quatrième Journée portes ouvertes pour le Centre de récupération des ressources de la région de la capitale

-Sent from my iPhone

Begin forwarded message:

From:
Date: 21 May, 2013 6:40:52 PM EDT
To: "'Hubert Bourque'" <hjbourque@crrrc.ca>
Subject: RE: Fourth Open House for Capital Region Resource Recovery Centre/ Quatrième Journée portes ouvertes pour le Centre de récupération des ressources de la région de la capitale

I have a much better alternative, relocate the project far away from Russell or better still, scrap the project all together. There are enough landfills in the area and we do not want other people's waste here. We do not want your pollution Taggart Miller.

From: Hubert Bourque [mailto:hjbourque@crrrc.ca]
Sent: May-21-13 12:00 PM
To:
Subject: Fourth Open House for Capital Region Resource Recovery Centre/ Quatrième Journée portes ouvertes pour le Centre de récupération des ressources de la région de la capitale

SVP faites défiler vers le bas pour la version française.

Taggart Miller Environmental Services (Taggart Miller) is undertaking an environmental assessment (EA) under the Ontario Environmental Assessment Act for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC). The project site is located east of Boundary Road and south of Highway 417 in the City of Ottawa near an existing industrial park.

Prior to approving in December 2012, the Minister of the Environment amended the Terms of Reference for the CRRRC. A copy of the approved amended Terms of Reference is available at the project website:

www.crrrc.ca

The environmental assessment is being carried out following the approved amended Terms of Reference.

Members of the public, agencies and other interested persons are encouraged to actively participate in the planning of this undertaking by attending consultation opportunities or contacting staff directly with information, comments or questions. The primary purpose of the Fourth Open House is to present and obtain comments from the public on alternative site development concepts and to provide an update on assessment work related to the geology, hydrogeology & geotechnical, socio-economic (visual component) and traffic disciplines at the Boundary Road Site.

Open House # 4

Wednesday June 5, 2013
4:00 to 9:00 pm

Carlsbad Community Centre
6020 Eighth Line (Piperville) Road, Ottawa

Public participation by local residents and other interested parties is an important part of the environmental assessment process. In addition to participating in these events, you are invited to submit your comments or be added to our project mailing list via the project website www.crrrc.ca, by mail, or fax to the address/number provided below.

Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581

Email: hjbourque@crrrc.ca

Taggart Miller Environmental Services (Taggart Miller) effectue une évaluation environnementale (EE) en vertu de la Loi sur les évaluations environnementales de l'Ontario pour la proposition d'un projet de gestion intégrée des déchets qui portera le nom de Centre de récupération des ressources de la région de la capitale (CRRRC). Le site du projet se situe à l'est du chemin Boundary et au sud de l'autoroute 417 dans la Ville d'Ottawa près d'un parc industriel existant.

Avant de donner son approbation en décembre 2012, le ministre de l'Environnement a modifié le mandat auquel est assujetti le CRRRC. Une copie du mandat approuvé après modification est disponible sur le site Web du projet.

www.crrrc.ca

L'évaluation environnementale est exécutée conformément au mandat modifié approuvé.

Les citoyens, les organismes et autres personnes intéressées sont invités à participer activement à la planification de cette entreprise en se présentant aux rencontres de consultation ou en communiquant directement avec le personnel pour lui faire part de renseignements, de commentaires ou de questions. La

quatrième Journée portes ouvertes vise principalement à présenter et à obtenir des commentaires du public au sujet des autres concepts d'aménagement du site et faire le point sur les travaux d'évaluation portant sur les domaines géologique, hydrogéologique et géotechnique, socio-économique (composante visuelle) et de la circulation au site du chemin Boundary.

Journée portes ouvertes n° 4

Le mercredi 5 juin 2013
De 16 h à 21 h

Centre communautaire Carlsbad Springs
6020, chemin Eighth Line (Piperville), Ottawa

La participation publique des résidents de la localité et d'autres parties intéressées représente un volet important du processus d'évaluation environnementale. Nous vous invitons non seulement à participer à cette rencontre, mais aussi à nous transmettre vos commentaires et à vous inscrire à notre liste de diffusion par la voie du site Web du projet, www.crrrc.ca, par la poste ou par télécopieur à l'adresse et au numéro qui figurent ci-dessous.

M. Hubert Bourque, directeur de projet

a/s Taggart Miller Environmental Services
225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
Téléphone : 613-454-5580
Télécopieur : 613-454-5581

Courriel: hjbourque@crrrc.ca

Cliquer Unsubscribe **pour ne pas recevoir ces messages à l'avenir**

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: May 21, 2013 8:42 PM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Dump Location

Categories: 09-1125-1008

Begin forwarded message:

From:
Subject: Dump Location
Date: 21 May, 2013 8:05:21 PM EDT
To: "hjbourque@crrrc.ca" <hjbourque@crrrc.ca>
Reply-To:

Dear sir; please put the dump next to the home of your distinguished mayor,Jim Watson, and see what he says. In this day and age Ottawa seems to get it wrong all the time, you already have Carp Mountain in the west end of the city plus turning waste to electricity or fertilizer .PLEASE FIX THEM UP SO THAT THEY WORK AND STOP SCREWING THE PEOPLE OF OTTAWA AND AREA SURROUNDING IT!!! Tomlinson is supposed to be 21st century technology not the 1st century, get your act together and look after our environment and your food growing land for us and your children.
THINK ABOUT WHAT YOU ARE DOING AND WHO YOU ARE HURTING AND DESTROYING. FIGURE IT OUT SO THIS DOES NOT NEED TO HAPPEN OR BE REPEATED. STOP THE EXCESSIVE PACKAGING OR RECYCLE IT FOR ELECTRICITY. GIVE THIS PROBLEM TO STUDENTS AT UNIVERSITIES ACROSS CANADA AND HIGH SCHOOLS ,I PERSONALLY BELIEVE YOU WILL GET MANY POSSIBLE GREAT SOLUTIONS THAT WILL HELP YOU TO BECOME A WELCOME ENTITY NOT A HATED ONE.
NO DUMP PLEASE!!

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: May 22, 2013 10:05 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Fourth Open House for Capital Region Resource Recovery Centre/ Quatrième Journée portes ouvertes pour le Centre de récupération des ressources de la région de la capitale

Begin forwarded message:

From:
Subject: Re: Fourth Open House for Capital Region Resource Recovery Centre/ Quatrième Journée portes ouvertes pour le Centre de récupération des ressources de la région de la capitale
Date: 22 May, 2013 9:53:25 AM EDT
To: hjbourque@crrrc.ca

Dear Mr. Bourque,

Your definition of "alternative site development concepts" is unclear. Does "alternative" refer to the second site (your team has used the term that way in the past)? Or does it refer to alternative uses at the first site?

Your statement that you will present and obtain public input is also unclear. Are you presenting existing public input? Or are you asking for public input? To what uses would such responses be put?

Regards,

on May 21, 2013, **Hubert Bourque** <hjbourque@crrrc.ca> wrote:
SVP faites défiler vers le bas pour la version française.

Taggart Miller Environmental Services (Taggart Miller) is undertaking an environmental assessment (EA) under the Ontario Environmental Assessment Act for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC). The project site is located east of Boundary Road and south of Highway 417 in the City of Ottawa near an existing industrial park.

Prior to approving in December 2012, the Minister of the Environment amended the Terms of Reference for the CRRRC. A copy of the approved amended Terms of Reference is available at the project website:

www.crrrc.ca

The environmental assessment is being carried out following the approved amended Terms of Reference.

Members of the public, agencies and other interested persons are encouraged to actively participate in the planning of this undertaking by attending consultation opportunities or contacting staff directly with information, comments or questions. The

primary purpose of the Fourth Open House is to present and obtain comments from the public on alternative site development concepts and to provide an update on assessment work related to the geology, hydrogeology & geotechnical, socio-economic (visual component) and traffic disciplines at the Boundary Road Site.

Open House # 4

Wednesday June 5, 2013
4:00 to 9:00 pm

Carlsbad Community Centre
6020 Eighth Line (Piperville) Road, Ottawa

Public participation by local residents and other interested parties is an important part of the environmental assessment process. In addition to participating in these events, you are invited to submit your comments or be added to our project mailing list via the project website www.crrrc.ca, by mail, or fax to the address/number provided below.

Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581

Email: hjbourque@crrrc.ca

Taggart Miller Environmental Services (Taggart Miller) effectue une évaluation environnementale (EE) en vertu de la Loi sur les évaluations environnementales de l'Ontario pour la proposition d'un projet de gestion intégrée des déchets qui portera le nom de Centre de récupération des ressources de la région de la capitale (CRRRC). Le site du projet se situe à l'est du chemin Boundary et au sud de l'autoroute 417 dans la Ville d'Ottawa près d'un parc industriel existant.

Avant de donner son approbation en décembre 2012, le ministre de l'Environnement a modifié le mandat auquel est assujetti le CRRRC. Une copie du mandat approuvé après modification est disponible sur le site Web du projet.

www.crrrc.ca

L'évaluation environnementale est exécutée conformément au mandat modifié approuvé.

Les citoyens, les organismes et autres personnes intéressées sont invités à participer activement à la planification de cette entreprise en se présentant aux rencontres de consultation ou en communiquant directement avec le personnel pour lui faire part de renseignements, de commentaires ou de questions. La quatrième Journée portes ouvertes vise principalement à présenter et à obtenir des commentaires du public au sujet des autres concepts d'aménagement du site et faire le point sur les travaux d'évaluation portant sur les domaines géologique, hydrogéologique et géotechnique, socio-économique (composante visuelle) et de la circulation au site du chemin Boundary.

Journée portes ouvertes n° 4

Le mercredi 5 juin 2013
De 16 h à 21 h

Centre communautaire Carlsbad Springs
6020, chemin Eighth Line (Piperville), Ottawa

La participation publique des résidents de la localité et d'autres parties intéressées représente un volet important du processus d'évaluation environnementale. Nous vous invitons non seulement à participer à cette rencontre, mais aussi à nous transmettre

vos commentaires et à vous inscrire à notre liste de diffusion par la voie du site Web du projet, www.crrrc.ca, par la poste ou par télécopieur à l'adresse et au numéro qui figurent ci-dessous.

M. Hubert Bourque, directeur de projet

a/s Taggart Miller Environmental Services
225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
Téléphone : 613-454-5580
Télécopieur : 613-454-5581

Courriel: hjbourque@crrrc.ca

Cliquer Unsubscribe **pour ne pas recevoir ces messages à l'avenir**

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: May 30, 2013 4:04 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Risque grave

TRANSLATION:

Re: Serious Risk

Dear Mr. Bourque

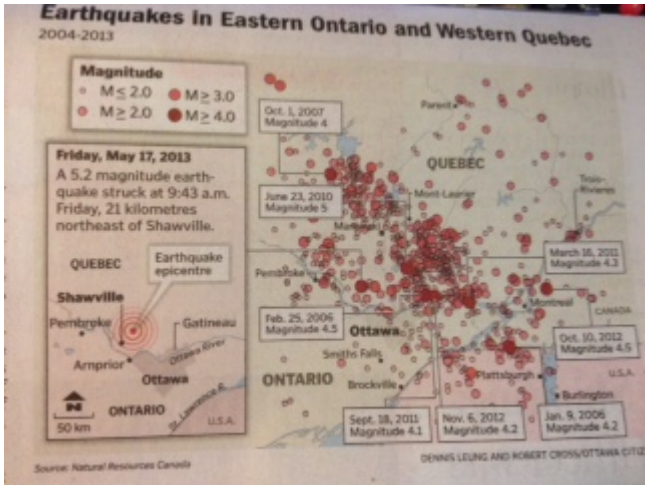
I am sending you this map of earthquakes published in the Cotizen.

Risk of serious contamination of the aquifer. When will you announce the end of your dump projects?

Begin forwarded message:

From:
Subject: FW: Risque grave
Date: 30 May, 2013 7:11:32 AM GMT+04:00
To: dum <hjbourque@crrrc.ca>

> Subject: Risque grave
> From:
> Date: Wed, 29 May 2013 23:09:13 -0400
> CC:
> To:
>
> Cher monsieur Bourque,
> Je vous transmet cette carte des tremblements de terre publiée dans le Cotizen.
>
> Risque grave de contamination de la nappe aquifère. Quand allez vous annoncer la fin de vos projets de dépotoir?
>
>
>


Earthquakes in Eastern Ontario and Western Quebec
2004-2013
Magnitude
M ≤ 2.0
M ≥ 2.0
M ≥ 3.0
M ≥ 4.0
Friday, May 17, 2013
A 5.2 magnitude earthquake struck at 9:43 a.m. Friday, 21 kilometres northeast of Shawville.
QUEBEC
Earthquake epicentre
Shawville
Pembroke
Gatineau
Ottawa River
Arnprior
Ottawa
ONTARIO
St. Lawrence R.
U.S.A.
50 km
Oct. 1, 2007 Magnitude 4
June 23, 2010 Magnitude 5
Feb. 25, 2006 Magnitude 4.5
Sept. 18, 2011 Magnitude 4.1
Nov. 6, 2012 Magnitude 4.2
Jan. 9, 2006 Magnitude 4.2
Oct. 10, 2012 Magnitude 4.5
March 16, 2011 Magnitude 4.3
QUEBEC
Parent
Mont-Laurier
Trois-Rivières
Montreal
CANADA
Ottawa
Smiths Falls
ONTARIO
Brockville
Plattsburgh
Burlington
U.S.A.
Source: Natural Resources Canada
DENNIS LEUNG AND ROBERT CROSS/OTTAWA CITIZ

Edmond, Trish

From:
Sent: June 9, 2013 6:58 PM
To: Edmond, Trish
Subject: the Carlsbad formation

Hi Trish,

Thanks for talking with me on Wed. I mentioned I am interested in information on the thickness of the Carlsbad formation on the site. One of the reasons is to establish the level of the contact between the Billings (black) and Carlsbad formations both on the site, and on the bedrock rise directly East (roughly at McVagh rd & the 417). One explanation for the 30m change in bedrock elevation could be a fault displacement, and knowing if the top of the Billings is at the same elevation would shed some light on the situation.

I appreciate any help you can provide,

Appendix I-4

Comments Received Following the Notice of Workshop #2

Table I-4: Summary of Comments Following the Notice of Workshop #2

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Response to Event	Issues / Concerns Raised	Action
Appendix I-4-1a	Appendix J-4-1a	Individual 4	June 12, 2013	Post Notice of Workshop #2	Inquired about services for francophones at Workshop #2.	A response was provided. Indicated that French translation services would be available at the workshop and that material loaded onto the project website would be available in French.
Appendix I-4-2a		Individual 10	June 12, 2013	Post Notice of Workshop #2	Concerned about impacts to groundwater.	The groundwater impact assessment was summarized in the EASR Volume I and addressed in detail in Volume III.
					Recommended moving the project.	The Boundary Road Site was identified as the preferred Site as described in Section 7.0 of the EASR Volume I.
Appendix I-4-3a		Individual 13	June 19, 2013	Post Notice of Workshop #2	Concerned about seismic activity in the vicinity of the Site and potential groundwater contamination.	Seismic considerations and the groundwater impact assessment were summarized in the EASR Volume I and addressed in detail in Volume III.
Appendix I-4-4a	Appendix J-4-4a	Individual 9	July 3, 2013	Post Notice of Workshop #2	Inquired about a discussion regarding the Richmond Landfill.	A response was provided. At this time a meeting to discuss the Richmond Landfill is not planned.
					Identified numerous concerns regarding the information in the brochure provided at Workshop #2.	A response was provided. Plans, figures and drawings presented at the groundwater workshop were prepared by AutoCAD or GIS professions however when material is prepared for workshops or open houses sometimes details are removed to ensure that the focus remains on the main subject matter presented with

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Response to Event	Issues / Concerns Raised	Action
						that particular figure, plan or drawing. The concerns identified were details of drawings, figures and plans and each was responded to individually.
Appendix I-4-5a		Individual 3	July 23, 2013	Post Notice of Workshop #2	Concerned about ability to sell their house. Inquired about status of the North Russell Road Site and when a decision would be made regarding approval of the CRRRC at the Boundary Road Site.	The Boundary Road Site was identified as the preferred Site as described in Section 7.0 of the EASR Volume I.
Appendix I-4-6a	Appendix J-4-6a	Individual 14	September 26, 2013	Post Notice of Workshop #2	Recommended moving the project.	The Boundary Road Site was identified as the preferred Site as described in Section 7.0 of the EASR Volume I.
Appendix I-4-7a		Individual 15	October 2, 2013	Post Notice of Workshop #2	Noted that Walter Cholowski had recently passed away.	

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: June 13, 2013 5:29 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Taggart Miller Groundwater Workshop—June 22/Atelier sur l'eau souterraine de Taggart Miller – Le 22 juin

TRANSLATION:

Hello M Bourque,

Have you French skills during this workshop? What services are provided for francophone participants?

-Sent from my iPhone

Begin forwarded message:

> **From:**
> **Date:** 12 June, 2013 11:02:29 PM EDT
> **To:** dum <hjbourque@crrrc.ca>
> **Subject: RE: Taggart Miller Groundwater Workshop—June 22/Atelier sur l'eau souterraine de Taggart Miller – Le 22 juin**
>
> Bonjour M Bourque,
>
> Avez vous des compétences françaises lors de cet atelier? Quels sont les services prévus pour les participants francophones?

From: hjbourque@crrrc.ca
Date: Wed, 12 Jun 2013 13:58:43 -0700
Subject: Taggart Miller Groundwater Workshop—June 22/Atelier sur l'eau souterraine de Taggart Miller – Le 22 juin
To:

SVP faites défiler vers le bas pour la version française.

Taggart Miller encourages the community to become involved in the environmental assessment process. As a result of comments received from the community at past open houses, Taggart Miller has organized a groundwater workshop that will take place on Saturday June 22 in Carlsbad Springs at the community centre. The workshop will discuss groundwater in general, groundwater in the area of the Boundary Road Site proposed for the CRRRC project, and groundwater protection.

If you would like to participate in this half day groundwater workshop on Saturday June 22, please respond via email to Hubert Bourque indicating whether you would prefer a morning or afternoon session.

Please note that advance registration is required to attend the workshop. Further information on the workshop will be provided in advance to registrants.

Sincerely,

Hubert Bourque, Project Manager

Taggart Miller Environmental Services

c/o 225 Metcalfe Street, Suite 708

Ottawa, Ontario K2P 1P9

Tel: 613-454-5580

Fax: 613-454-5581

Email: hjbourque@crrrc.ca

Taggart Miller invite les membres de la communauté à participer au processus d'évaluation environnementale. À la suite des commentaires reçus de la part des membres de la communauté lors des séances portes ouvertes précédentes, Taggart Miller a organisé un atelier sur l'eau souterraine qui aura lieu le samedi 22 juin au Centre communautaire de Carlsbad Springs. L'atelier portera sur l'eau souterraine en général, l'eau souterraine dans la zone du site du chemin Boundary tel que proposé dans le cadre du projet du Centre de récupération des ressources de la région de la capitale (CRRRC) et sur la protection de l'eau souterraine.

Si vous souhaitez participer à cet atelier d'une demi-journée sur l'eau souterraine qui aura lieu le samedi 22 juin, veuillez répondre par courriel à Hubert Bourque.

Veuillez noter que pour participer à l'atelier, il faut d'abord s'y inscrire. De plus amples renseignements sur l'atelier seront communiqués aux inscrits avant la tenue de l'atelier.

Je vous prie d'accepter mes salutations distinguées,

Hubert Bourque, directeur de projet

Taggart Miller Environmental Services

a/s 225, rue Metcalfe, bureau 708

Ottawa (Ontario) K2P 1P9

Téléphone : 613-454-5580

Télécopieur : 613-454-5581

Courriel : hjbourque@crrrc.ca

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: June 13, 2013 5:30 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Taggart Miller Groundwater Workshop—June 22/Atelier sur l'eau souterraine de Taggart Miller – Le 22 juin

-Sent from my iPhone

Begin forwarded message:

From:
Date: 12 June, 2013 10:52:54 PM EDT
To: "'Hubert Bourque'" <hjbourque@crrrc.ca>
Cc: <jeffrey.dea@ontario.ca>, <minister.moe@ontario.ca>
Subject: RE: Taggart Miller Groundwater Workshop—June 22/Atelier sur l'eau souterraine de Taggart Miller – Le 22 juin

Hubert, I work for a company that has some of the top hydrogeologists in Canada. What I know about groundwater protection is that you cannot guarantee it's protection when you put contaminants in the ground. Every landfill liner fails, it is just a question of when, The same goes for water control pumps. If you put garbage in an area with sensitive groundwater close to where there are drinking wells, you are asking for trouble no matter what engineered controls you try to put in place. That was the findings when a landfill was proposed for this site in the past, and it is the findings now. If the MOE allows this to happen, they will be equally guilty. The best solution would be to move the dump to a heavy industrial area like south of the Ottawa business park where the impacts will not be so catastrophic. If you continue to pursue this project and trying to teach people that you can protect the groundwater, those of us who know better will advertise the truth in a more vocal way.

The message should be clear that the involvement you are seeking from this community is consistent. Relocate this project!

From: Hubert Bourque [mailto:hjbourque@crrrc.ca]
Sent: June-12-13 4:59 PM
To:
Subject: Taggart Miller Groundwater Workshop—June 22/Atelier sur l'eau souterraine de Taggart Miller – Le 22 juin

SVP faites défiler vers le bas pour la version française.

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Sincerely,

Hubert Bourque, Project Manager

Taggart Miller Environmental Services

c/o 225 Metcalfe Street, Suite 708

Ottawa, Ontario K2P 1P9

Tel: 613-454-5580

Fax: 613-454-5581

Email: hjbourque@crrrc.ca

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Hubert Bourque, directeur de projet

Taggart Miller Environmental Services

a/s 225, rue Metcalfe, bureau 708

Ottawa (Ontario) K2P 1P9

Téléphone : 613-454-5580

Télécopieur : 613-454-5581

Courriel : hjbourque@crrrc.ca

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: June 19, 2013 11:10 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Taggart Miller Groundwater Workshop—June 22/Atelier sur l'eau souterraine de Taggart Miller – Le 22 juin

Begin forwarded message:

From:
Subject: Re: Taggart Miller Groundwater Workshop—June 22/Atelier sur l'eau souterraine de Taggart Miller – Le 22 juin
Date: 19 June, 2013 11:07:17 AM EDT
To: hjbourque@crrrc.ca
Cc: doug.thompson@ottawa.ca

With all due respect Hubert, I don't need you folks to tell me that the water isn't the greatest - I know that. But to use that as the excuse to make it worse - wow, that's logical. I'd like to make sure that doesn't happen. And I don't care what kind of liner you put there, it will not be earthquake proof. I've lived here 30 years and through at least 5 ground moving experiences ... and you are going to tell me that this isn't a problem? Again - wow!

on Jun 12, 2013, **Hubert Bourque** <hjbourque@crrrc.ca> wrote:

SVP faites défiler vers le bas pour la version française.

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Taggart Miller Environmental Services

c/o 225 Metcalfe Street, Suite 708

Ottawa, Ontario K2P 1P9

Tel: 613-454-5580

Fax: 613-454-5581

Email: hjbourque@crrrc.ca

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Veuillez noter que pour participer à l'atelier, il faut d'abord s'y inscrire. De plus amples renseignements sur l'atelier seront communiqués aux inscrits avant la tenue de l'atelier.

Je vous prie d'accepter mes salutations distinguées,

Hubert Bourque, directeur de projet

Taggart Miller Environmental Services

a/s 225, rue Metcalfe, bureau 708

Ottawa (Ontario) K2P 1P9

Téléphone : 613-454-5580

Télécopieur : 613-454-5581

Courriel : hjbourque@crrrc.ca

Edmond, Trish

From: Don Phillipson <d.phillipson@rogers.com>
Sent: July 3, 2013 1:36 PM
To: Edmond, Trish
Cc:
Subject: Re: Maloney email

TE
Please excuse my blushes concerning staff names . . .

I gather the June 22 Groundwater Workshop never got around to discussing the Richmond Landfill (the first topic you added to the whiteboard.) Is a continuation meeting planned, to complete discussion (with Prof. Rowe)?

The 47-page brochure for the Groundwater Workshop looks as if no professional cartographers contributed to its production. Notable points:

P.11 "Geological Setting of the Site" is dated solely to the GSC in 2001. Discussion June 22 confirmed that Golder compiled this map in 2012-13 from data published in 1992.

No key for this map explains the symbols (d, zz, numerals.)

The many watercourses shown on this map do not distinguish between those that usually contain water (e.g. the Bear Brook main course and the artificial ponds on the Greyhawk golf course) and dug ditches that hold water only during runoff.

P. 13 "Geological Setting of the Site . . . Bedrock" has no key, thus does not tell readers the dotted lines indicate notional faults

and the data source is undated. This is relevant so far as most of the watercourses shown north of Russell Rd. are nowadays boggy zones with no measurable water flow except during spates (runoff.)

P.14 "GSS . . . Cross-Section" sources are undated.

In p..21 "GSS . . . Interpreted Regional Bedrock Geology"
the legend (key) is erroneous for "water well locations."
The June 22 meeting was told the map shows for these locations only those wells that reach bedrock. City of Gloucester archives should still contain full details of all Carlsbad Springs wells (inventoried during planning for the Trickle System in the 1990s.)

This map is described as "Final Draft" and is undated. The topological source appears erroneous in at least two respects in the quadrant north of Russell Rd. and east of Boundary Rd.

The course of the Bear Brook is wholly omitted from Boundary Road eastward (although the topo. map on p. 13 shows the Bear Brook fully and accurately.)

The p.21 map shows an isolated pond north of Russell Rd. and east of Boundary Rd. This was a natural slough shown on many old maps which disappeared a decade ago. It is correctly absent from the maps on p.13 and p.

38. The pond's presence on p. 21 must be an error in either the source map or its attributed date (here given as 2010).

Pp.29-31 "Hydrogeology" (4 maps) have no key, thus fail to define contour lines and numbers (blue) and point numbers (black.) The source is given as MNR/Golder and all are undated.

P.37 cites "residents and businesses in the immediate vicinity of the site" without defining "immediate vicinity."

Good luck,

----- Original Message -----
From: "Edmond, Trish" <Trish_Edmond@golder.com>
To:
Sent: Monday, 24 June, 2013 10:49 AM
Subject: FW: Maloney email

Hello

Patricia Maloney is not involved in the CRRRC project. I am Patricia (Trish) Edmond and I was present at the workshop on Saturday. If you would like to discuss errors or send information you can provide it to this email address.

Regards,

Trish Edmond (M.E.Sc., P.Eng.) | Associate, Geoenvironmental Engineer |
Golder Associates Ltd.
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 x 3246 | F: +1 (613) 592 9601 | C: +1 (613) 799 1960 |
E: Trish_Edmond@golder.com | www.golder.com

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: August 1, 2013 8:22 AM
To: Edmond, Trish; Howard C. Williamson
Subject: Fwd: North Russell Rd

Begin forwarded message:

From:
Subject: **North Russell Rd**
Date: 23 July, 2013 12:39:54 PM EDT
To: <hjbourque@crrrc.ca>
Cc: <itaggart@taggartconstruction.com>

Hello Hubert, it seems clear that our house is un-sellable until there is more certainty surrounding the future of the North Russell Road site. Do you have any updates for us? At what stage is the Boundary Road site and when are decisions currently expected?

We are desperate to move to Ottawa for our boys' paddling. My oldest son set the fastest time for year old boys in Canada at National Team Trials earlier this year. My younger son is also showing great promise as he is faster then his older brother was at the same age. Moving to Ottawa would make it much easier to support our sons' different paddling schedules. What can you do for us?

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: September 26, 2013 5:46 PM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Carlsbad dump

-Sent from my iPhone

Begin forwarded message:

> **From:**
> **Date:** September 26, 2013 at 5:43:21 PM EDT
> **To:** "hjbourque@crrrc.ca" <hjbourque@crrrc.ca>
> **Subject: Carlsbad dump**
>
> Hi Taggart-Miller.
>
> My name is I live at I'm approximately km from the dump site proposal. I just bought this house. I love the area. I grew up around here. I just want to say I would like it if you guys could try to locate your dump somewhere else. I know you guys are a business and want to make money and grow as a business. I think this community has some of nicest people in Canada, and I honestly think the dump would hurt that. That's why I bought the house, And I don't think the dump in Carlsbad is the best place for it.

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: October 2, 2013 5:48 AM
To: Jeff Parkes; Nigel G. H. Guilford; Ian M. Taggart; ptaggart@taggart.ca Paul
Cc: Doug Thomson; Howard C. Williamson; Edmond, Trish; Smolkin, Paul; Denis Goulet; Derek Cathcart; Steve Moote
Subject: Fwd: Death of Walter Cholowski

-Sent from my iPhone

Begin forwarded message:

> **From:**
> **Date:** October 2, 2013 at 12:00:01 AM EDT
> **To:** hjbourque@crrrc.ca
> **Cc:**
> **Subject: Death of Walter Cholowski**
>
> Good Evening Hubert,
>
> It is with sadness that I inform you of the passing of Walter Cholowski, CESA-EO (Dump the Dump Now) first President.
>
> Walter battled cancer with the same determination he battled Taggart/Miller! The stress of the battle against T/M might have led to his early death! One wonders?
>
> Please inform Ian and the other Taggart family members of this sad news but let it be known that Walter's passing only strengthens our resolve to rid ourselves at Site 1 and Site 2 of the T/M menace!
>
> Let Ian ponder on his life and the eventual finality of it and question whether the stress and grief of the corporate greed is really worth the death of even one person, especially a community builder such as Walter!
>
> Walter spent his last years struggling to protect the people of Russell!
>
> He succeeded!
>
> We won at Site 1 and we will win at Site 2, as my Father did in 1986!
>
> We will do this for Walter!
>
> It is very personal now, tell Ian!
>
> In mourning,

Sent from my BlackBerry 10 smartphone on the Rogers network.

Appendix I-5

Comments Received Following Newsletter Distribution

Table I-5: Summary of Comments Following Newsletter Distribution

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Response to Event	Issues/ Concerns Raised	Action
Appendix I-5-1a		Individual 16	November 7, 2013	Following Newsletter Distribution	Requested information regarding the Property Value Protection Plan and their property.	Taggart Miller presented information about the Property Value Protection Plan at Open House #4 and it is also discussed in Section 15.0 of EASR Volume I.
Appendix I-5-1b		Individual 16	November 7, 2013	Following Newsletter Distribution	Provided additional information regarding their property.	Noted.
Appendix I-5-1c	Appendix J-5-1c	Individual 16	November 26, 2013	Following Newsletter Distribution	Requested a reply to recent voice mail and email messages.	A response was provided. Taggart Miller presented information about the Property Value Protection Plan at Open House #4 and it is also discussed in Section 15.0 of EASR Volume I.
AppendixI-5-2a		Individual 19	November 27, 2013	Following Newsletter Distribution	Requested not to receive future mailings.	Noted.

Edmond, Trish

From: Hubert Bourque <hjbourque@mac.com>
Sent: November 7, 2013 5:17 PM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: You have received a new voicemail message
Attachments: voice-message.wav; ATT00001.htm

"Yes, good-day Mr. Bourque, calling. I would have questions for you regarding the PVPP zone. I live at and the end of my property in on the red line of your map and I would like to have a bit of definition of how your propose to treat this. If someone can call me, I can be reached at

Begin forwarded message:

From:
Subject: You have received a new voicemail message
Date: November 7, 2013 at 2:01:33 PM EST
To: hjbourque@mac.com
Reply-To: donotreply@vonage.com

Date: Nov 07 2013 02:01:31 PM
From:
To : Hubert Bourque (16134545580)

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: November 7, 2013 8:09 PM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd:
Attachments: ATT00001.htm

"Here is the plan of my property following our discussion"

DT- the property is the triangular lot.

HB

Begin forwarded message:

From:
Subject: 200 Hughson Rd
Date: November 7, 2013 at 6:01:02 PM EST
To: hjbourque@crrrc.ca

Bonjour Mr Bourque,

Voici le plan de ma proprieté suivant notre discussion.

Merci

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: November 26, 2013 2:00 PM
To: Doug Thomson
Cc: Howard C. Williamson; Edmond, Trish
Subject: Fwd: You have received a new voicemail message
Attachments: voice-message.wav; ATT00001.htm

Hello Mr. Bourque. calling. I'm following up on the discussions we had on Novermber 7 regarding my property at regarding the property value protection for my property. I sent you an email with the details of my property. I've not received a reply to my email. I want to confirm that you have received all the details and want to know where we stand. Thank you. You can reach me at

Begin forwarded message:

From:
Subject: You have received a new voicemail message
Date: November 26, 2013 at 1:23:59 PM EST
To: hjbourque@mac.com
Reply-To: donotreply@vonage.com

Date: Nov 26 2013 01:23:58 PM
From:
To : Hubert Bourque (16134545580)

Edmond, Trish

Subject: FW: You have received a new voicemail message
Attachments: voice-message.wav; ATT00001.htm

From:
Subject: You have received a new voicemail message
Date: November 27, 2013 at 1:48:58 PM EST
To: hjbourque@crrrc.ca
Reply-To: donotreply@vonage.com

Date: Nov 27 2013 01:48:56 PM
From:
To : Hubert Bourque (16134545580)

Appendix I-6

Comments Received Following the Notice of Open House #5

Table I-6: Summary of Comments Following the Notice of Open House #5

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Response to Event	Issues/ Concerns Raised	Action
Appendix I-6-1a		Individual 17	November 21, 2013	Post Notice of OH#5	Noted intention to attend Open House #5.	Noted.
Appendix I-6-2a		Individual 10	November 21, 2013	Post Notice of OH#5	Concerned that previous comments were not addressed.	On May 21, 2013 this individual recommended moving or discontinuing the project and on June 12, 2013 this individual indicated they were concerned about impacts to groundwater and recommended moving the project. At those times responses were not provided directly to the individual. The Boundary Road Site was identified as the preferred Site as described in Section 7.0 of the EASR Volume I and presented at Open House #3 to which this individual was invited. The invitation indicated that the Boundary Road Site was selected. With respect to groundwater, results of the assessment were not available in June 2013 but were presented at Open House #5, to which this individual was invited. The details of the groundwater assessment are provided in Volume III of this EASR.

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Response to Event	Issues/ Concerns Raised	Action
					Concerned about socio-economic impacts and property value.	The socio-economic impact assessment was summarized in the EASR Volume I and addressed in detail in TSD #5. Taggart Miller presented information about the Property Value Protection Plan at Open House #4 and it is also discussed in Section 15.0 of EASR Volume I.
					Recommended moving or discontinuing the project.	Taggart Miller's opportunity assessment for this proposal was provided in Supporting Document #1 to the TOR. The Boundary Road Site was identified as the preferred Site as described in Section 7.0 of the EASR Volume I.
Appendix I-6-3a	Appendix J-6-3a	Individual 6	November 22, 2013	Post Notice of OH#5	Inquired about the EPA, OWRA and EA approvals processes.	A response was provided. The approach/methodology used for the EA, including the EA/EPA process flow chart are provided in Section 2.0 of the EASR Volume I.
					Requested a set of documents presented at Open House #5.	
Appendix I-6-3b	Appendix J-6-3b	Individual 6	November 25, 2013	Post Notice of OH#5	Noted some confusion regarding the approvals process as presented in the Open House #4 materials.	The approach/methodology used for the EA, including the EA/EPA process flow chart are provided in Section 2.0 of the EASR Volume I.
					Requested a copy of the approved TOR.	A response was provided. Direction was provided to the project website where the approved TOR could be retrieved.

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Response to Event	Issues/ Concerns Raised	Action
Appendix I-6-3c	Appendix J-6-3c	Individual 6	November 26, 2013	Post Notice of OH#5	Requested a hard copy of the approved TOR.	A response was provided. Arranged for delivery of a CD to the individual.
Appendix I-6-3d		Individual 6	November 26, 2013	Post Notice of OH#5	Appreciated the response to the previous comment.	Noted.
Appendix I-6-3e	Appendix J-6-3e	Individual 6	December 1, 2013	Post Notice of OH#5	Requested a copy of the "approved TOR", rather than the proposed TOR.	A response was provided. Noted that the CD provided and the project website contained the same content and represents the final approved amended TOR. The terminology "proposed" within the title of the documents is consistent with MOE practice.
Appendix I-6-3f		Individual 6	December 3, 2013	Post Notice of OH#5	Appreciated the response to the previous comment.	Noted.
Appendix I-6-4a	Appendix J-6-4a	Individual 8	November 24, 2013	Post Notice of OH#5	Requested information regarding seismic considerations and liner design.	A response was provided. Seismic considerations, the leachate containment measures and the groundwater impact assessment are summarized in the EASR Volume I and addressed in detail in Volume III.

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Response to Event	Issues/ Concerns Raised	Action
Appendix I-6-4b		Individual 8	December 12, 2013	Post Notice of OH#5	Appreciated the response to the previous comment.	Seismic considerations, the leachate containment measures and the groundwater impact assessment are summarized in the EASR Volume I and addressed in detail in Volume III. The proposed leachate containment does not consider the use of charcoal.
					Noted the difficulty of planning for seismic events.	
					Recommended the use of charcoal in the landfill liner.	
Appendix I-6-5a		Individual 6	November 25, 2013	Post Notice of OH#5	Provided information regarding an airborne survey.	Noted.
					Appreciated the response to a previous comment.	The approach/methodology used for the EA, including the EA/EPA process flow chart are provided in Section 2.0 of the EASR Volume I.
					Noted some confusion regarding how the EPA and OWRA studies fit into the EA process.	
Appendix I-6-6a	Appendix J-6-6a	Individual 18	December 18, 2013	Post Notice of OH#5	Inquired about the location of the project.	A response was provided. The location of the CRRRC Site is described in Section 1.4 of the EASR Volume I.
Appendix I-6-7a		Individual 6	December 13, 2013	Post Notice of OH#5	Noted that information regarding bedrock geology provided at Open House #5 was inaccurate.	Seismic considerations and bedrock geology are summarized in the EASR Volume I and addressed in detail in Volume III.

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Response to Event	Issues/ Concerns Raised	Action
Appendix I-6-7b	Appendix J-6-7b	Individual 6	December 14, 2013	Post Notice of OH#5	Provided additional information regarding bedrock geology. Concerned about seismic considerations at the Site.	A response was provided. Seismic considerations and bedrock geology are summarized in the EASR Volume I and addressed in detail in Volume III.
Appendix I-6-7c		Individual 6	December 23, 2013	Post Notice of OH#5	Appreciated the response to the previous comment. Noted disagreement with the interpretation of bedrock geology as presented in the Open House #5 materials.	Seismic considerations and bedrock geology are summarized in the EASR Volume I and addressed in detail in Volume III.
Appendix I-6-8a	Appendix J-6-8ab	Individual 1	December 26, 2013	Post Notice of OH#5	Noted that information regarding bedrock geology provided at Open House #5 was inaccurate.	A response was provided. Bedrock geology and potential for seismic impacts to the CRRRC are summarized in the EASR Volume I and addressed in detail in Volume III.
Appendix I-6-8b		Individual 1	December 30, 2013	Post Notice of OH#5	Noted that information regarding bedrock geology and seismic considerations provided at Open House #5 was inaccurate.	
Appendix I-6-8c		Individual 1	January 13, 2014	Post Notice of OH#5	Noted that information regarding bedrock geology and seismic considerations provided at Open House #5 was inaccurate.	Bedrock geology and potential for seismic impacts to the CRRRC are summarized in the EASR Volume I and addressed in detail in Volume III.

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Response to Event	Issues/ Concerns Raised	Action
Appendix I-6-9a		Individual 24	January 14, 2014	Post Notice of OH#5	Requested two printed copies of the draft and final EA.	Two CD's will be provided and the individual was reminded of publically accessible locations to review the printed version of the EA.
Appendix I-6-9b	Appendix J-6-9b	Individual 24	April 4, 2014	Post Notice of OH#5	Reminded of request for two printed copies of the draft and final EA.	A response was provided. Two CD's will be provided and the individual was reminded of publically accessible locations to review the printed version of the EA.
Appendix I-6-10a		Individual 22	January 14, 2014	Post Notice of OH#5	Requested three printed copies of the draft and final EA.	Three printed copies of the EA will be provided to the CRCCPE.
Appendix I-6-10b	Appendix J-6-10b	Individual 22	April 11, 2014	Post Notice of OH#5	Reminder of request for three printed copies of the draft and final EA.	A response was provided via Councilor Blais' office. Three printed copies of the EA will be provided to the CRCCPE.
Appendix I-6-11a	Appendix J-6-11a	Individual 23	January 14, 2014	Post Notice of OH#5	Requested an English copy of the EA.	A response was provided. A CD of the EA will be provided.
Appendix I-6-12a	Appendix J-6-12a	Individual 20	March 5, 2014	Post Notice of OH#5	Requested CD copies of the EA in English and French.	A response was provided. A CD of the EA will be provided.
Appendix I-6-13a		Individual 21	March 12, 2014	Post Notice of OH#5	Noted they did not want the CRRRC located in the Township of Russell	The Boundary Road Site was identified as the preferred Site as described in Section 7.0 of the EASR Volume I.

Location of Original Comment	Location of Project Team Response	Commenter Identifier	Date Received	Response to Event	Issues/ Concerns Raised	Action
Appendix I-6-14a	Appendix J-6-14a	Individual 26	May 13, 2014	Post Notice of OH#5	Requested printed copies of the EA.	A response was provided, a printed copy of the draft EA will be provided.
Appendix I-6-15a	Appendix J-6-15a	Individual 25	June 1, 2014	Post Notice of OH#5	Requested an updated on the status of the project, the preferred location for the CRRRC and where to find more information.	A response was provided which indicated the draft EA was just released, the Boundary Road Site was identified as preferred in February 2013 and the CRRRC website is kept up to date.

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: November 21, 2013 11:00 AM
To: Howard C. Williamson; Edmond, Trish
Subject: Fwd: Fifth Open House for Capital Region Resource Recovery Centre/ Cinquième journée portes ouvertes dans le cadre d'une évaluation environnementale du Centre de récupération des ressources de la région de la capitale

Begin forwarded message:

From:
Subject: RE: Fifth Open House for Capital Region Resource Recovery Centre/ Cinquième journée portes ouvertes dans le cadre d'une évaluation environnementale du Centre de récupération des ressources de la région de la capitale
Date: November 21, 2013 at 10:55:45 AM EST
To: Hubert Bourque <hjbourque@crrrc.ca>

Dear Ms. Bourque:

Thank you for sending this email to me. I will be in attendance on the 5th.

From: Hubert Bourque [hjbourque@crrrc.ca]
Sent: November-21-13 8:13 AM
To:
Subject: Fifth Open House for Capital Region Resource Recovery Centre/ Cinquième journée portes ouvertes dans le cadre d'une évaluation environnementale du Centre de récupération des ressources de la région de la capitale

SVP faites défiler vers le bas pour la version française.

Taggart Miller Environmental Services (Taggart Miller) is undertaking an environmental assessment (EA) under the *Ontario Environmental Assessment Act* for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC).
The environmental assessment is being carried out according to the approved amended terms of reference. A copy of the approved amended terms of reference is available at the project website: www.CRRRC.ca.
Members of the public, agencies and other interested persons are encouraged to actively participate in the planning of this undertaking by attending consultation opportunities or contacting staff directly with information, comments or questions.
Open House #5 will present the preferred site development concept; the assessment of environmental effects associated with the project together with proposed mitigation measures, monitoring and contingency measures; the results of the leachate treatment, haul route and cumulative impact assessments; an outline of the proposed EA/EPA document package, and an overview of the proposed schedule for submissions and the Ministry decision making process. Participants at this Open House will be informed of the plans regarding distribution of the draft EA for review.
Open House # 5

Thursday, December 5, 2013
4:00 to 9:00 pm

Carlsbad Springs Community Centre
6020 Piperville Road (Eighth Line), Ottawa

Public participation by local residents and other interested parties is an important part of the environmental assessment process. In addition to participating in these events, you are invited to submit your comments or be added to our project mailing list via the project website www.CRRRC.ca, by mail, or fax to the address/number provided below.

Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

Taggart Miller Environmental Services (Taggart Miller) effectue une évaluation environnementale (EE) en vertu de la *Loi sur les évaluations environnementales* de l'Ontario pour un projet proposé de gestion intégrée des déchets qui portera le nom de Centre de récupération des ressources de la région de la capitale (CRRRC). L'évaluation environnementale est exécutée conformément au cadre de référence modifié et approuvé. Une copie du cadre de référence approuvé après modification est disponible sur le site Web du projet : www.CRRRC.ca.
Les membres du public, les organismes et autres personnes intéressées sont invités à participer activement à la planification de cet engagement en se présentant aux rencontres de consultation ou en communiquant directement avec le personnel pour leur faire part de renseignements, de commentaires ou de questions.
La cinquième journée portes ouvertes présentera le concept d'aménagement du site privilégié; l'évaluation des effets environnementaux associés au projet, ensemble avec les mesures d'atténuation proposées, les mesures de contrôle et de contingence; les résultats de l'évaluation du traitement des lixiviats, la route de transport et de l'évaluation des impacts cumulatifs; un aperçu de l'ensemble de la documentation proposée sur l'EE et la LPE et un survol du calendrier proposé pour les soumissions et le processus de prise de décisions du ministère. Les participants à cette journée portes ouvertes seront avisés des intentions concernant la distribution de l'EE préliminaire aux fins d'examen;

Cinquième journée portes ouvertes
Le jeudi 5 décembre 2013
De 16 h à 21 h

Centre communautaire de Carlsbad Springs
6020, chemin Piperville (Eighth Line), Ottawa

La participation publique des résidents locaux et d'autres parties intéressées représente un volet important du processus d'évaluation environnementale. Nous vous invitons non seulement à participer à cette rencontre, mais aussi à nous faire part de vos commentaires et à vous inscrire à notre liste de diffusion en passant par le

site Web du projet, www.CRRRC.ca, par la poste ou par télécopieur à l'adresse et au numéro qui figurent ci-dessous.

M. Hubert Bourque, Directeur de projet
Taggart Miller Environmental Services
225, rue Metcalfe, bureau 708
Ottawa, Ontario K2P 1P9
Téléphone : 613-454-5580
Télécopieur : 613-454-5581

Courriel : hjbourque@crrrc.ca

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: November 21, 2013 9:52 PM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Fifth Open House for Capital Region Resource Recovery Centre/ Cinquième journée portes ouvertes dans le cadre d'une évaluation environnementale du Centre de récupération des ressources de la région de la capitale

-Sent from my iPhone

Begin forwarded message:

From:
Date: November 21, 2013 at 11:48:51 AM EST
To: "'Hubert Bourque'" <hjbourque@crrrc.ca>
Subject: RE: Fifth Open House for Capital Region Resource Recovery Centre/ Cinquième journée portes ouvertes dans le cadre d'une évaluation environnementale du Centre de récupération des ressources de la région de la capitale

I understand that you have to say you are looking for comments but really prefer not to get any. Otherwise you would specifically addressed the comments I have previously provided on many occasions. For example, how will you address the socio economic impact this project will have? Nobody wants to live by a dump or have to drive by it and nothing you can do can fix this. The value of my property has gone down since your announcement to pursue a dump in the area and I hold the Taggart Family and Miller personally responsible. My comment is the same as it has been all along. We do not need a dump in this region, nothing you say you can do will protect the environment and the various receptors I have previously identified. This project is bad publicity for Taggart and Miller and all of their associated companies, so please stop this project!!!

From: Hubert Bourque [mailto:hjbourque@crrrc.ca]
Sent: November-21-13 8:14 AM
To:
Subject: Fifth Open House for Capital Region Resource Recovery Centre/ Cinquième journée portes ouvertes dans le cadre d'une évaluation environnementale du Centre de récupération des ressources de la région de la capitale

SVP faites défiler vers le bas pour la version française.

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Thursday, December 5, 2013

4:00 to 9:00 pm

Carlsbad Springs Community Centre
6020 Piperville Road (Eighth Line), Ottawa

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Mr. Hubert Bourque, Project Manager

Taggart Miller Environmental Services

c/o 225 Metcalfe Street, Suite 708

Ottawa, Ontario K2P 1P9

Tel: 613-454-5580

Fax: 613-454-5581

Email: hjbourque@crrrc.ca

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Les membres du public, les organismes et autres personnes intéressées sont invités à participer activement à la planification de cet engagement en se présentant aux rencontres de consultation ou en communiquant directement avec le personnel pour leur faire part de renseignements, de commentaires ou de questions.

La cinquième journée portes ouvertes présentera le concept d'aménagement du site privilégié; l'évaluation des effets environnementaux associés au projet, ensemble avec les mesures d'atténuation proposées, les mesures de contrôle et de contingence; les résultats de l'évaluation du traitement des lixiviats, la route de transport et de l'évaluation des impacts cumulatifs; un aperçu de l'ensemble de la documentation proposée sur l'EE et la LPE et un survol du calendrier proposé pour les soumissions et le processus de prise de décisions du ministère. Les participants à cette journée portes ouvertes seront avisés des intentions concernant la distribution de l'EE préliminaire aux fins d'examen;

Cinquième journée portes ouvertes

Le jeudi 5 décembre 2013

De 16 h à 21 hDe 16 h à 21 h

Centre communautaire de Carlsbad Springs
6020, chemin Piperville (Eighth Line), Ottawa

La participation publique des résidents locaux et d'autres parties intéressées représente un volet important du processus d'évaluation environnementale. Nous vous invitons non seulement à participer à cette rencontre, mais aussi à nous faire part de vos commentaires et à vous inscrire à notre liste de diffusion en passant par le site Web du projet, www.CRRRC.ca, par la poste ou par télécopieur à l'adresse et au numéro qui figurent ci-dessous.

M. Hubert Bourque, Directeur de projet

Taggart Miller Environmental Services

225, rue Metcalfe, bureau 708

Ottawa, Ontario K2P 1P9

Téléphone : 613-454-5580

Télécopieur : 613-454-5581

Courriel : hjbourque@crrrc.ca

Z-XVU0-4841-Y553-V8364W993V7V">
>

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: November 22, 2013 7:58 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: EPA question etc

Begin forwarded message:

From:
Subject: EPA question etc
Date: November 22, 2013 at 7:36:57 AM EST
To: psmolkin@golder.com, Hubert Bourque <hjbourque@crrrc.ca>
Cc: ian.parrott@ontario.ca, Crack_Grant-MPP <gcrack.mpp@liberal.ola.org>

Good morning,

I was looking at a flow chart for the EA process for your crrrc landfill proposal and I noticed the EPA and OWRA studies are grouped separately from the EA studies. Is there a separate TOR for these studies? Public consultation for such TOR? If not, where are the parameters for these studies defined? I want to familiarize myself with what ought to be included in the EPA and OWRA.

Also, it looks like the draft and final versions of your EA are scheduled to be provided concurrently. Wouldn't it make sense to provide the draft earlier than the final, thus creating an opportunity to make use of feed-back from the GRT and public consultation? After all, as we saw with the TOR for the EA, response to the draft document can result in important improvements (for example, finding a whole new location for the project...).

Lastly, at your earliest convenience, please provide me with a complete set of the documents being presented at your Open House on Dec 5, including references to any supporting studies and documents. I am interested in whether you are including the state of the art data from the aerial MNDM ground water flow survey conducted in eastern Ontario this fall (2013). This is by far the most comprehensive and current data set on the region's structural geology and should fill in many of the blanks in our knowledge of ground water dynamics locally, including for your site where aquifers at different depths may move in different directions. Having a more precise understanding of these features is obviously paramount to devising any credible description of the risks associated with putting a large, unlined landfill on a sandy site.

Thanks,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: November 25, 2013 6:40 PM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: EPA question etc

-Sent from my iPhone

Begin forwarded message:

> **From:**
> **Date:** November 25, 2013 at 5:51:44 PM EST
> **To:** Hubert Bourque <hjbourque@crrrc.ca>
> **Cc:** Paul Smolkin <psmolkin@golder.com>, ian.parrott@ontario.ca, Crack_Grant-MPP <gcrack.mpp@liberal.ola.org>
> **Subject: Re: EPA question etc**
>
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>
> http://crrrc.ca/_documents/Open-House-Number-Four-Display-Boards.pdf
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Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
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Email: hjbourque@crrrc.ca

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Thanks,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: November 26, 2013 9:55 AM
To: Doug Thomson; Smolkin, Paul
Cc: Edmond, Trish; Howard C. Williamson
Subject: Fwd: EPA question etc

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From:
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Date: November 26, 2013 at 9:40:41 AM EST
To: Hubert Bourque <hjbourque@crrrc.ca>
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We will arrange for delivery of a CD to you.

Regards,

Hubert Bourque, P.Eng.
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Sent: December 1, 2013 6:51 PM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: EPA question etc

Begin forwarded message:

From:
Subject: Re: EPA question etc
Date: December 1, 2013 at 6:33:24 PM EST
To: Hubert Bourque <hjbourque@crrrc.ca>
Cc: Paul Smolkin <psmolkin@golder.com>, ian.parrott@ontario.ca, Crack_Grant-MPP <gcrack.mpp@liberal.ola.org>

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Sent: December 3, 2013 7:31 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson; Smolkin, Paul
Subject: Fwd: EPA question etc

Begin forwarded message:

From:
Subject: Re: EPA question etc
Date: December 3, 2013 at 7:14:02 AM EST
To: Hubert Bourque <hjbourque@crrrc.ca>
Cc: Paul Smolkin <psmolkin@golder.com>, ian.parrott@ontario.ca, Crack_Grant-MPP <gcrack.mpp@liberal.ola.org>

ok - thanks for the clarification.

On 2 December 2013 13:21, Hubert Bourque <hjbourque@crrrc.ca> wrote:
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Sent: November 24, 2013 5:44 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Meeting on Dec. 5th, 2013, Carlsbad Springs

-Sent from my iPhone

Begin forwarded message:

From:
Date: November 24, 2013 at 2:58:38 AM EST
To: <hjbourque@crrrc.ca>
Subject: Meeting on Dec. 5th, 2013, Carlsbad Springs

Dear Mr. Bourque,
Thank you for the notice and update in relation to the proposed recycling facility.
An overview of the perceptions and comments that I understand still need addressing are:
1) The substrate in this area (sand/clay) , being near a fault line, is particularly vulnerable in terms of the statistical increase in number and severity of earthquakes, over the last few decades. Therefore any design, should incorporate technology to ensure safety, in the event of an earthquake.
2) The longevity of plastic liner films is usually only a few decades. The first barrier of clay then, should be increased in size and peppered with charcoal to ensure greater filtration of pathogens and organic solvents. Please see historical use of charcoal impregnated, porcelain filters used in portable water filters- Manufactured by Berkey. (can be seen at www.radioliberty.com)
I appreciate that you folks are trying to keep long term safety in mind, and are making efforts to communicate this with the neighbors in this region. And I sense that you take a personal interest in people's well being.
Take good counsel and care,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: December 12, 2013 11:07 PM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Meeting on Dec. 5th, 2013, Carlsbad Springs

-Sent from my iPhone

Begin forwarded message:

From:
Date: December 12, 2013 at 9:48:12 PM EST
To: "Hubert Bourque" <hjbourque@crrrc.ca>
Subject: Re: Meeting on Dec. 5th, 2013, Carlsbad Springs

Thank you for your timely and courteous response.
Your engineer cited the effects of an eastern Ottawa river earthquake, in the drastic changes of substrate layers. Very difficult to plan for. But can always be cleaned up / readdressed after an event, as well.
I still like the cheap addition of charcoal, that doubles as a deodorizer too. And sure soaks up organic hazardous compounds.
All of the best to you and yours,

From: Hubert Bourque
Sent: Thursday, December 12, 2013 9:25 AM
To:
Subject: Re: Meeting on Dec. 5th, 2013, Carlsbad Springs

Hello

Thank you for your message and comments. We were hoping to see you at Open House #5 on December 5 and discuss your comments with you in person. A copy of the material presented at Open House #5 can be found on the project website: www.crrrc.ca in the "what's new" section. The following specifically answers your comments and questions:

1) We are fully aware of the potential for seismic events in Eastern Ontario and have involved both internal and external experts to evaluate the location of nearby faults, the potential for movement of the faults and the potential for ground shaking related to seismic events. Based on their recommendations the Site facilities (buildings and landfill) have been or will be designed to withstand the appropriate required seismic conditions. Panel 15 from the recent open house highlights the studies completed.
2) Based on the assessment work completed, the landfill on the Site will not require a plastic liner to protect neighbouring groundwater. Our investigations have confirmed that the Site and surrounding area is underlain by an extensive clay deposit, and modelling results show that groundwater quality within the silty layer found within the silty clay deposit about 4.5 to 6 metres below ground surface and the till and bedrock found about 30 metres below ground surface will be protected by the naturally occurring silty clay underneath the proposed landfill. It has been predicted that the naturally occurring silty clay is of

sufficient thickness and properties to ensure the Site remains in compliance with provincial drinking water requirements (which are protective of human health). The bottom of the landfill itself will mostly be below the upper surficial silty sand layer, and to ensure long term groundwater protection at this location we have proposed a man-made clay liner (a geosynthetic clay liner) around the perimeter of the landfill. Since they are made of natural clay, these man-made clay liners do not break down like plastic liners may over time, but they do need to be installed carefully and their performance monitored in the future. The modelling results show that this geosynthetic clay liner will ensure the groundwater beneath the Site and surrounding areas will remain in compliance with provincial drinking water requirements. Based on the analysis completed, there is no need to use charcoal to remove any of the leachate that may be transmitted through the naturally occurring silty clay. The leachate will be removed from the landfill on an ongoing basis for treatment.

Thank you,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Nov 24, 2013, at 2:58 AM, wrote:

Dear Mr. Bourque,
Thank you for the notice and update in relation to the proposed recycling facility.
An overview of the perceptions and comments that I understand still need addressing are:
1) The substrate in this area (sand/clay) , being near a fault line, is particularly vulnerable in terms of the statistical increase in number and severity of earthquakes, over the last few decades. Therefore any design, should incorporate technology to ensure safety, in the event of an earthquake.
2) The longevity of plastic liner films is usually only a few decades. The first barrier of clay then, should be increased in size and peppered with charcoal to ensure greater filtration of pathogens and organic solvents. Please see historical use of charcoal impregnated, porcelain filters used in portable water filters- Manufactured by Berkey. (can be seen at www.radioliberty.com)
I appreciate that you folks are trying to keep long term safety in mind, and are making efforts to communicate this with the neighbors in this region. And I sense that you take a personal interest in people's well being.
Take good counsel and care,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: November 25, 2013 12:51 PM
To: Howard C. Williamson; Edmond, Trish; Doug Thomson
Subject: Fwd: the aerial survey
Attachments: Airborne Groundwater Survey.pdf; ATT00001.htm

Begin forwarded message:

From:
Subject: Fwd: the aerial survey
Date: November 25, 2013 at 12:09:19 PM EST
To: Hubert Bourque <hjbourque@crrrc.ca>, psmolkin@golder.com, Crack_Grant-MPP <gcrack.mpp@liberal.ola.org>, ian.parrott@ontario.ca

Hi Hubert,

Here is the information I have about the airborne survey - very exciting stuff!! Thanks for replying to my letter - I had received conflicting information about the relative timing of the release of the draft EA report and the Final - I appreciate your clarifying remarks.

I am still a little hazy on how the EPA and OWRA studies are part of the EA yet dealt with somewhat separately. This makes it very difficult (from my perspective at least) to know exactly which concerns are being addressed at what time and under which group of studies - but perhaps that has more to do with the way this entire assessment is structured and not your execution of it.

regards,

Municipalité de RUSSELL Township

REPORT TO COUNCIL CL 5-2013 DATE: 07 Oct 2013
RAPPORT AU CONSEIL

AIRBORNE GEOPHYSICAL GROUNDWATER STUDY
ÉTUDE GÉOPHYSIQUE AÉROPORTÉE DES EAUX SOUTERRAINES

SUBJECT

Notice that Ontario Geological Survey (OGS) will conduct an Airborne Geophysical Groundwater Study between October 1 and December 31, 2013.

SUJET

Notice that Ontario Geological Survey (OGS) will conduct an Airborne Geophysical Groundwater Study between October 1 and December 31, 2013.

RECOMMENDATION

That Council acknowledges receipt of information report CL 5-2013 dated October 7, 2013.

RECOMMANDATION

Que le conseil accuse réception du rapport CL 5-2013 daté du 7 octobre 2013.

FINANCIAL IMPLICATION

N/A

IMPLICATIONS FINANCIÈRES

S/O

BUSINESS PLAN

N/A

PLAN D'AFFAIRES

S/O

COMMUNICATION PLAN

A public notice is posted on the Township's website.

PLAN DE COMMUNICATION

Un avis public est affiché sur le site web de la municipalité.

Submitted By: Joanne Camiré Laflamme

Approved By:

Joanne Camire Laflamme	**Clerk**	Approved - 30 Sep 2013
Jean Leduc	**Chief Administrative Officer/directeur général**	Approved - 30 Sep 2013
Claudette Landry	**Treasurer-Ex. Dir. Admin Serv. /Trésorière-dir. ex. serv. admin**	Approved - 04 Oct 2013

PROJECT DESCRIPTION DU PROJET

HISTORY, REFERENCE AND SUPPORT INFORMATION

The Clerk's Department received a notice on September 16, 2013 advising that Goldak Airborne Surveys have been contracted by the Ontario Ministry of Northern Development and Mines to provide an airborne geophysical groundwater survey of an area west, south and east of Ottawa which is in the vicinity or includes the Township of Russell (refer to email, letter and map attached).

The Clerk's Department acknowledged receipt of the information and same was circulated to the Township of Russell Police Services Board members, the Russell County OPP Inspector and Council members. Further information was also obtained from the Ministry of Development & Mines with respect to the type of data collected and purpose of the data. This public notice is posted on the Township's website (see attached).

OTHER OPTION(S) TO THE RECOMMENDATION

There are no alternative considerations.

ATTACHMENT(S)

1) Email dated September 16, 2013 received from Goldak Airborne Surveys;
2) Letter from Goldak Airborne Surveys;
3) Eastern Ontario Proposed Flight Path Map; and
4) Public Notice from the Ontario Ministry of Northern Development and Mines.

HISTORIQUE, RÉFÉRENCES ET INFORMATION DE SUPPORT

Le service du greffe a reçu un avis le 16 septembre 2013 l'informant que Goldak Airborne Surveys furent embauchés par le ministère du Développement du Nord et des mines de l'Ontario afin de fournir une étude géophysique aéroportée des eaux souterraines d'une zone à l'ouest, au sud et à l'est d'Ottawa, qui est dans le voisinage ou comprend la municipalité de Russell (voir courriel, lettre et carte ci-joints).

Le service du greffe a accusé réception de l'information et l'a distribué aux membres de la Commission des services policiers, à l'inspecteur de la PPO du comté de Russell et aux membres du conseil. Nous avons également obtenu de plus amples informations du ministère du Développement et des mines de l'Ontario en ce qui concerne le type de données à recueillir et l'objet des données. Cet avis est affiché sur le site Web de la municipalité (voir ci-joint).

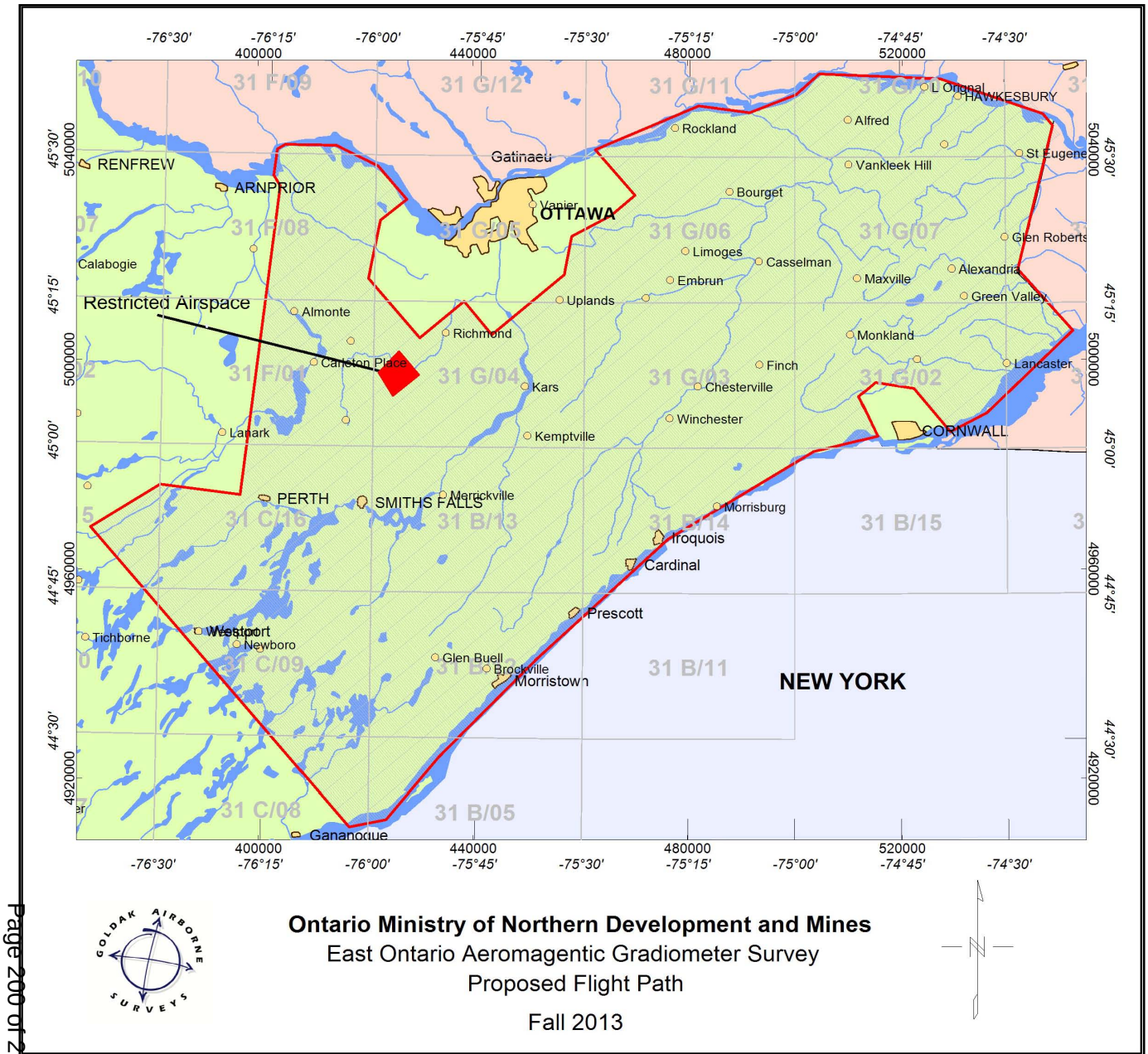
AUTRES OPTION(S) À LA RECOMMANDATION

Il n'y a pas de considérations alternatives.

PIÈCE(S) JOINTE(S)

1) Courriel daté du 16 septembre reçu de Goldak Airborne Surveys;
2) Lettre de Goldak Airborne Surveys;
3) Carte du parcours du vol proposé pour l'est ontarien; et
4) Avis public du Ministère du Nord et des mines de l'Ontario.

From: Denys LeBrun Sent: Monday, September 16, 2013 1:49 PM To: Camir\u\u\u


-76°30'
-76°15'
-76°00'
-75°45'
-75°30'
-75°15'
-75°00'
-74°45'
-74°30'
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44°45'
44°30'
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4920000
31 F/09
31 G/12
31 G/11
31 G/10
31 F/08
31 G/05
31 G/06
31 G/07
31 F/01
31 G/04
31 G/03
31 G/02
31 C/16
31 B/13
31 B/14
31 B/15
31 C/09
31 B/12
31 B/11
31 C/08
31 B/05
RENFREW
ARNPRIOR
Calabogie
Restricted Airspace
Gatineau
OTTAWA
Vanier
Rockland
Alfred
L Orignal
HAWKESBURY
St Eugene
Vankleek Hill
Bourget
Glen Roberts
Limoges
Casselman
Alexandria
Embrun
Maxville
Green Valley
Uplands
Almonte
Richmond
Monkland
Carleton Place
Finch
Lancaster
Kars
Chesterville
Winchester
CORNWALL
Lanark
Kemptville
PERTH
SMITHS FALLS
Merrickville
Morrisburg
Iroquois
Cardinal
Prescott
Tichborne
Westport
Newboro
Glen Buell
Brockville
Morristown
NEW YORK
Gananoque
GOLDAK AIRBORNE SURVEYS
Ontario Ministry of Northern Development and Mines
East Ontario Aeromagentic Gradiometer Survey
Proposed Flight Path
Fall 2013

To Whom It May Concern:

We have been contracted by the Ontario Ministry of Northern Development and Mines to provide an airborne survey of an area west, south and east of Ottawa which is in the vicinity or includes your community.

In our submission of our "Work Zone Plan" to Transport Canada we are required to contact you to inform you of the work that we will be undertaking and to receive confirmation from you that you have received the following information:

We will be flying a twin engined Piper Navajo aircraft equipped with survey equipment and two pilots at an altitude of 200 metres above the highest obstruction in your community.

We will be flying a grid pattern with flight lines 400m apart in a Northwest – Southeast direction and 4000m apart in a Northeast – Southwest direction so the number and frequency of passes and noise impact to your community will be minimal.

The survey will be conducted between Oct. 1 and Dec. 31, 2013.

Please pass this information on to any municipalities and police forces within your jurisdiction.

If you have any further questions you can contact any of the persons listed below.

Denys LeBrun Operations Manager Goldak Airborne Surveys Saskatoon Sask 306-249-4474	Ben Goldak President Goldak Airborne Surveys Saskatoon, Sask. 306-249-4474	Bill Heath Data Acquisition Goldak Airborne Surveys Saskatoon, Sask. 306-249-4474

Ontario

ONTARIO GEOLOGICAL SURVEY PUBLIC NOTICE
AIRBORNE GEOPHYSICAL GROUNDWATER STUDY

The Ontario Geological Survey (OGS) is a provincial government organization that documents the geology of Ontario and communicates this information to the public. Data collected by the OGS is key to understanding the earth beneath our feet and addressing public policy priorities such as economic development, land-use planning, municipal planning, and public health and safety.

Throughout fall 2013 the OGS will be administering an airborne survey in Eastern Ontario to collect geoscience data to study Ontario's groundwater.

OBJECTIVES OF THIS SURVEY

- This survey will help the OGS better understand the structural bedrock geology that controls where groundwater reserves are located in Eastern Ontario, and how the groundwater moves along the structures.

- This valuable data is collected as a public service and will be used by the City of Ottawa, conservation authorities across Eastern Ontario, consultants, other government ministries, universities and other stakeholder groups who are working in the region to better understand regional groundwater aquifers and to provide safe and sustainable use of groundwater to their respective communities.

DATA PUBLICATION

The information will be publically available in hard copy maps and digital data format.

To learn more, or to subscribe for publication release notices, please visit: http://www.mndm.gov.on.ca/en/mines-and-minerals-article-categories/ontario-geological-survey-publications-release-notices.

CONTACT

Jack Parker, Senior Manager
Earth Resources & Geoscience Mapping Section | Ontario Geological Survey
Ontario Ministry of Northern Development and Mines
T: 705-670-5976
E: jack.parker@ontario.ca

Edmond, Trish

From: Smolkin, Paul
Sent: January 24, 2014 10:49 AM
To: Edmond, Trish
Subject: FW: open house #5 "faulty" presentation board

Paul Smolkin (P. Eng.) | Principal | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: [+1] (613) 592 9600 | **F:** [+1] (613) 592 9601 | **E:** Paul_Smolkin@golder.com | **www.golder.com**

From:
Sent: December 13, 2013 12:44 PM
To: Smolkin, Paul; ian.parrott@ontario.ca; Ian M. Taggart; Crack_Grant-MPP
Subject: open house #5 "faulty" presentation board

Good afternoon,

I am following up on our brief discussion Dec 5 regarding the content depicted in text and diagram on your bedrock geology open house board. Your claim that apparently there are no faults showing "major" offsetting of the bedrock layers within "several KM" of the Taggart Miller landfill proposal site is:

a) false
b) not supported by the diagram on the same board as the statement
c) all of the above (bingo!)

I am *just* getting started on this but have a looksee at this report (interesting for many reasons) which clearly shows offset geological layers (by more than a hundred feet, which I assume constitutes "major" in your lingo) located approximately 2km East of the subject property. Note also which faults are interpreted as having moved AFTER the Ordovician. The data set for the linked report does not cover the area north and west of your property where if memory serves there are other faults (also offset), so I'll be sending more fun reading your way. BTW, the diagrams in this report look fairly similar to the ones you used - did you "borrow" them? I don't recall seeing credit given to these authors but maybe I overlooked something.

I must mention how disappointed I am to see inaccurate information recklessly presented to the public at a Taggart Miller Open House - this does NOT constitute "meaningful consultation", and every time this happens, we are more convinced your haphazard dump plans have no place in the future of our community.

http://bcpg.geoscienceworld.org/content/59/1/7.abstract

http://crrrc.ca/_documents/CRRRC-Open-House-5-Display-Boards-pages-12-to-19.pdf

regards,

Edmond, Trish

Subject: FW: Draft reponse to for your review

From:
Sent: December 14, 2013 8:52 AM
To: Smolkin, Paul; ian.parrott@ontario.ca; Ian M. Taggart; Crack_Grant-MPP
Subject: Re: open house #5 "faulty" presentation board

here's the whole report - turns out the link I sent doesn't get you everything.

Mr Crack, the topic of this report is of significant interest for our area, proposed dump notwithstanding.

Mr Taggart, your site is smack-dab in a re-activated fault zone with displaced rock layers all around and treacherously unstable soil - it is too high-risk for the landfill you propose. There is no need to push forward here when lower risk alternatives exist.

Thanks,

On 13 December 2013 12:43, wrote:
Good afternoon,

I am following up on our brief discussion Dec 5 regarding the content depicted in text and diagram on your bedrock geology open house board. Your claim that apparently there are no faults showing "major" offsetting of the bedrock layers within "several KM" of the Taggart Miller landfill proposal site is:

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http://bcpg.geoscienceworld.org/content/59/1/7.abstract

http://crrrc.ca/_documents/CRRRC-Open-House-5-Display-Boards-pages-12-to-19.pdf

regards,

Edmond, Trish

Subject: FW: open house #5 "faulty" presentation board

From:
Sent: December 23, 2013 6:50 PM
To: Smolkin, Paul
Cc: ian.parrott@ontario.ca; Ian M. Taggart; Crack_Grant-MPP; Hubert Bourque (hjbourque@crrrc.ca)
Subject: Re: open house #5 "faulty" presentation board

Thanks for getting back to me, Mr Smolkin.

The Dix&Jolicoeur paper does far more than make general statements about faults in Eastern Ontario. It clearly identifies (- using the same data set to which your people refer, according to your comments to me above -) the presence of off-set faults MUCH closer to your project site than the main Gloucester Fault (the portion of it near the village of Russell). I learned a lot from that paper, including the importance of the neatly defined bentonite layer which J&D used to determine the off-sets in the cores they studied. It is impossible for me to guess what regional geological wisdom you bring to the question (are there off-set faults near Taggart-Miller's proposed landfill site?) that refutes the evidence J&D have convincingly put forward (there ARE offset faults near the Taggart Miller proposed landfill site).

I have passed this debate forward to people with advanced degrees in this subject. Your statement - that **there are no** significant (and/or?) off-set faults closer to the proposed landfill site than the Gloucester Fault near Russell - is not defended by the information you provided in the open house (because the data set you use **does not go all the way around** the project site), and also happens to be untrue according to the analysis done on that data by Dix&Jolicouer. Alice Wilson's extensive publications on structural geology in our region, and more recently Dave Williams' work, also contradict your statement.

Merry Christmas and please include ALL the relevant faults in your description & analysis of the site & surroundings (or else robustly refute Wilson, Williams, Dix & Jolicouer),

On 23 December 2013 16:48, Smolkin, Paul <Paul_Smolkin@golder.com> wrote:

The paper by Dix and Jolicoeur uses the some of the same subsurface information that we have used in our assessment and interpretation of the geology, that which comes from the publically available Oil, Gas & Salt Resources Library. The north-south cross-section location shown in the Dix and Jolicoeur paper is similar to the one we prepared and presented at the Groundwater Workshop in June 2013 and at the recent OH#5, since it is drawn through the same hole locations; however, the interpretation in the Dix and Jolicoeur paper does not have the benefit of all the other information we have compiled and used in our interpretation of the geological conditions. The Dix and Jolicoeur paper confirms that the regional slope of the bedrock is gradual and from north to south; that there is no major fault in the area other than the

Gloucester fault; and that (as we presented at the Groundwater Workshop) it is well known that minor faults exist in the bedrock in eastern Ontario with vertical offsets on the scale of a few metres to 10's of metres. All of this will be presented in the EA Study report and supporting documents.

Paul

Paul Smolkin (P. Eng.) | Principal | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: [+1] (613) 592 9600 | **F:** [+1] (613) 592 9601 | **E:** Paul_Smolkin@golder.com | **www.golder.com**

From:
Sent: December 14, 2013 8:52 AM
To: Smolkin, Paul; ian.parrott@ontario.ca; Ian M. Taggart; Crack_Grant-MPP
Subject: Re: open house #5 "faulty" presentation board

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Mr Taggart, your site is smack-dab in a re-activated fault zone with displaced rock layers all around and treacherously unstable soil - it is too high-risk for the landfill you propose. There is no need to push forward here when lower risk alternatives exist.

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I must mention how disappointed I am to see inaccurate information recklessly presented to the public at a Taggart Miller Open House - this does NOT constitute "meaningful consultation", and every time this happens, we are more convinced your haphazard dump plans have no place in the future of our community.

http://bcpg.geoscienceworld.org/content/59/1/7.abstract

http://crrrc.ca/_documents/CRRRC-Open-House-5-Display-Boards-pages-12-to-19.pdf

regards,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: December 26, 2013 3:23 PM
To: Howard C. Williamson; Edmond, Trish
Cc: Ian M. Taggart; ptaggart@taggart.ca Paul; Doug Thomson
Subject: Fwd: Information Gaps
Attachments: LETTER TO PAUL SMOLKIN, DECEMBER 27, 2013.pdf; ATT00001.htm

-Sent from my iPhone

Begin forwarded message:

> **From:**
> **Date:** December 26, 2013 at 3:10:49 PM EST
> **To:** jparkes@taggart.ca, Hubert Bourque <hjbourque@crrrc.ca>
> **Subject: Information Gaps**
>
> Gentlemen,
>
> I had originally sent this to Paul Smolkin with copies to Ian Taggart, Nigel Guilford, Grant Crack and the minister. The one sent to Ian bounced, so I tried Paul Taggart, to whom I had forgotten to send the original. That one bounced, too.
>
> Following is the original package that was sent, complete with my attached letter. Please advise Ian and Paul Taggart.
>
> Thank you.
>
> *Paul,*
>
> *Attached is a letter addressed to you and copied to Ian Taggart, Nigel Guilford, Grant Crack and the minister. It focus on your not presenting the entire geological picture. A lot more can be written and may yet need to be.*
>
> *The attached letter is non-NIMBY, because I am not NIMBY, and is based on considerable experience in addressing waste disposal, both from a consultant's perspective and that of a regulator. I, and many others of us, in geographical areas being affected by, or considered for, landfills have quite a lot of experience and come at proposed landfills from a substantial knowledge base.*
>
> *Please do not dismiss this lightly.*
>
> *Sincerely,*

Mr. Paul Smolkin
Principal
Golder Associates Limited
32 Steacie Drive
Kanata, ON K2K 2A9

December 26, 2013

SUBJECT: Misrepresentations and Questionable Claims About Faults With Respect to the Proposed Boundary Road Landfill

Paul,

I am sorry to have to write this letter, but feel compelled to do so. According to one of your boards on display December 5, 2013 at the most recent open house (Figure 1), there are no faults between the proposed Boundary Road landfill site and where you have chosen to place the Gloucester Fault (really the Russell-Rigaud Fault) in Russell. A paper written by Dix and Jolicoeur, published in 2011 in the Canadian Bulletin of Petroleum Geology, contains a map showing a traverse extending from north of Hwy 417 southwards towards the Village of Russell. That traverse crosses at least three faults (Figure 2), and is similar to the traverse line you showed at the open house (Figure 1).

Why did you not reference that paper and admit in your display boards that faults have been interpreted, justifiably, in close proximity to the site? This is at least the second time that you have been caught failing to reveal information on faults very close to the proposed Boundary Road landfill. The first was OGS Open file Report 5770 by D.A. Williams that was released in 1991 and cited by me in a letter sent to the minister in September of this year. Moreover, I am unaware of you having ever indicated that the proposed site is located within the approximately 600 km-long Ottawa-Bonnechere Graben, a major regional fault zone with which seismicity is spatially related.

In a recent letter to one of my colleagues you did acknowledge faulting, but only after she challenged you. Nevertheless you claimed the displacements along those faults are too small and that you have information that Dix and Jolicoeur did not have, both of which enable you to claim the faulting is not a potential threat to the proposed landfill.

Look at Figures 3 and 4 of this letter. Figure 3 is a direct reproduction from the Dix and Jolicoeur paper as is Figure 4, but the latter has had the approximate amounts of

vertical displacement[1] added. Displacements of approximately 10 to 50 m are shown and are significant. Both figures also show that the contact between the Quaternary sediments and the Carlsbad Formation bedrock is displaced. That is an absolutely crucial characteristic, if true, although Dix and Jolicoeur (2013, p. 17) admitted that they could not be certain about faulting in the Quaternary. Nevertheless, because of implications to site safety information on possible Quaternary displacements should have been, and still needs to be, revealed. I'll save any discussion on earthquakes and fault displacements for another letter, if necessary.

What amount of displacement is needed to characterize a fault as a potential threat? Must it be exclusively dip separation or do horizontal and oblique offsets also figure in this? Is there is a critical value, above which a fault would be considered major and a possible threat? Do you really have information on faulting south of the site above and beyond that used by Dix and Jolicoeur? It would be nice to have answers to those questions, Paul.

In closing I repeat that this is not the type of letter that I wanted to write to you. Despite the geologically unfavorable properties of the Boundary Road site (as well as the North Russell site) I would much rather be able to support you and state that Golder Associates has been candid in its geological assessment. However, as noted, you have not been completely forthcoming to people of this community. They and the residents of any other community in which you are working to justify the location of a landfill deserve to be given complete and reliable information that is in no way misleading. The aforementioned omissions, and who knows how many more there may be, are inexcusable in that they present a misleading picture. As true professional scientists you must provide all information, both favorable and unfavorable. Everyone has the right to know as much as is possible to know in order to assess the feasibility of continuing with the venture, e.g. Taggart-Miller Environmental Services, or in deciding whether or not the landfill might or might not be beneficial to the people and the community.

Sincerely,

cc: Jim Bradley, MOE
Ian Taggart

Grant Crack MPP
Nigel Guilford

[1] Actually dip separation because only the two-dimensional kinematics is shown.

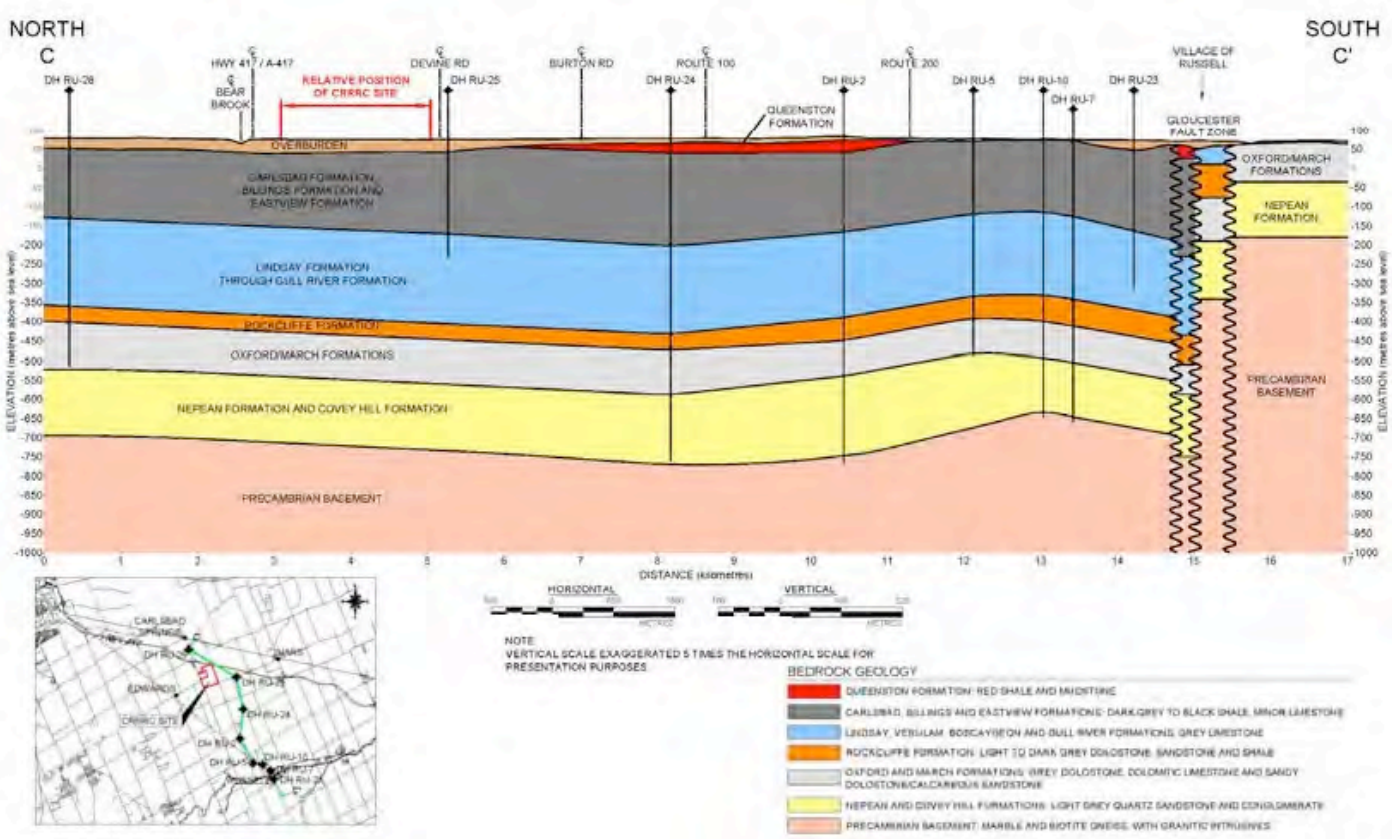

Figure 1 Cross section prepared by Golder Associates for the December 5, 2013 open house in Carlsbad Springs. The cross section line (the green line in the inset) is segmented and trends in a generally southeast direction, from just northwest of the proposed landfill site on Boundary and Devine Roads (red polygon seen in the inset), towards Russell. Entire figure is from Golder Associates, 2013, p. 15. No faults are shown except at the right-hand side of the figure.

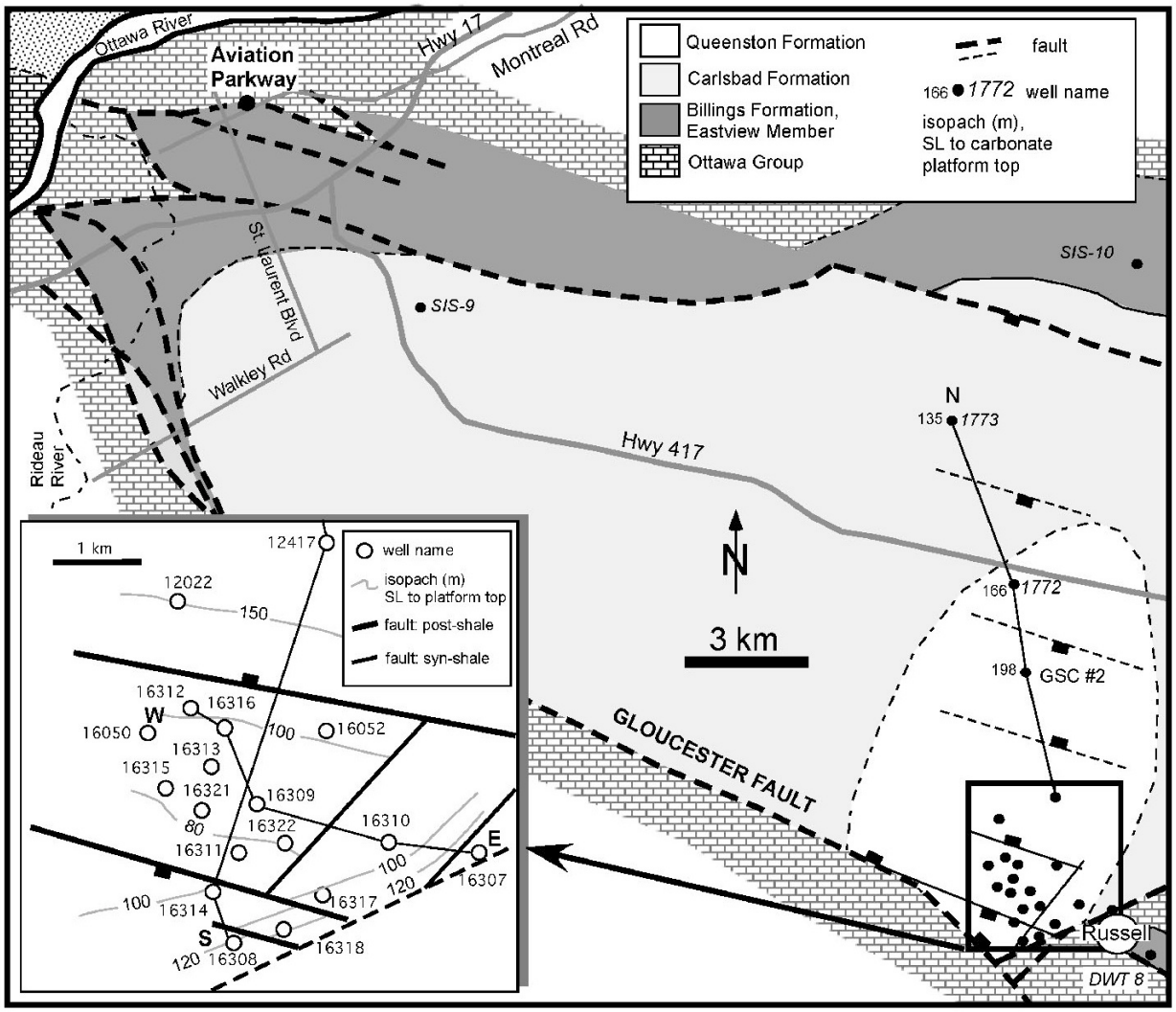

Figure 2 Generalized geological map of a portion of the Ottawa Embayment, within which is located the proposed Boundary Rd. landfill site. Note that the traverse extending in a SSE direction from north of Hwy 417 towards Russell crosses three faults north of the black-bordered white square, which contradicts the interpretation made by Golder Associates and shown in Figure 1 of there being no faults in that area.

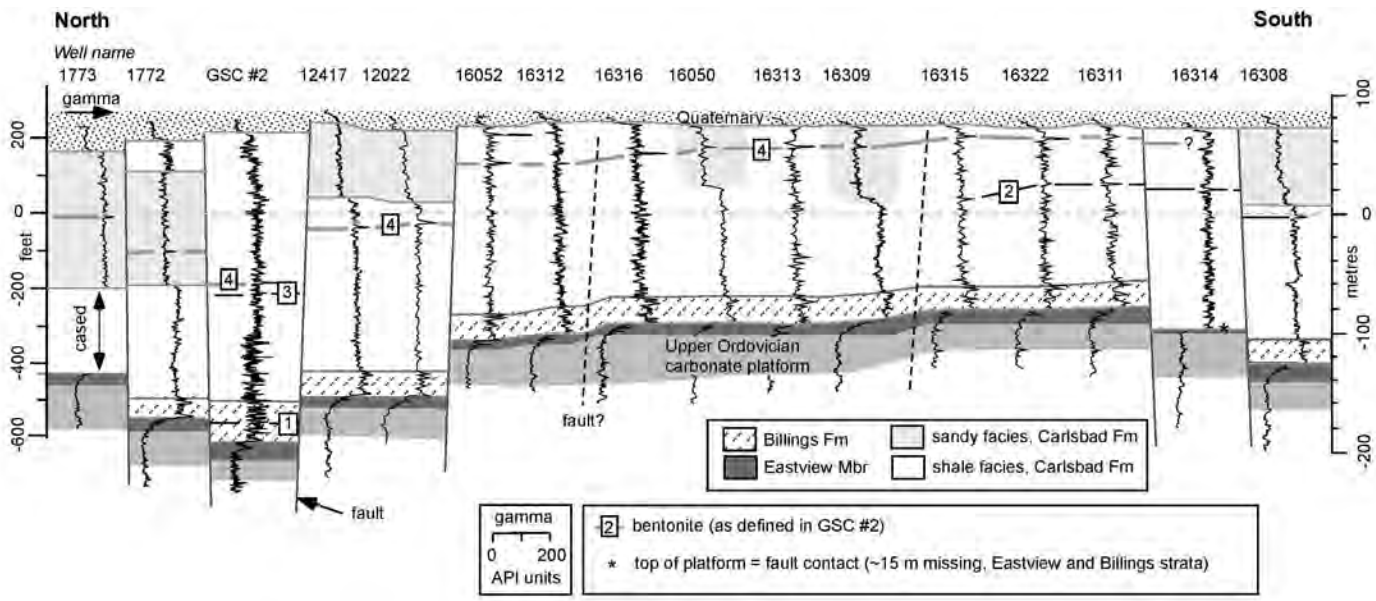

Figure 3 North-south cross section from Dix and Jolicoeur (2011, Figure 12). The upper bedrock surface is nearly horizontal or slopes gently northwards, but the most striking aspect is that the interpreted faults in the northern half are all shown to have displaced the contact between the Upper Ordovician Carlsbad Formation and the overlying Quaternary.

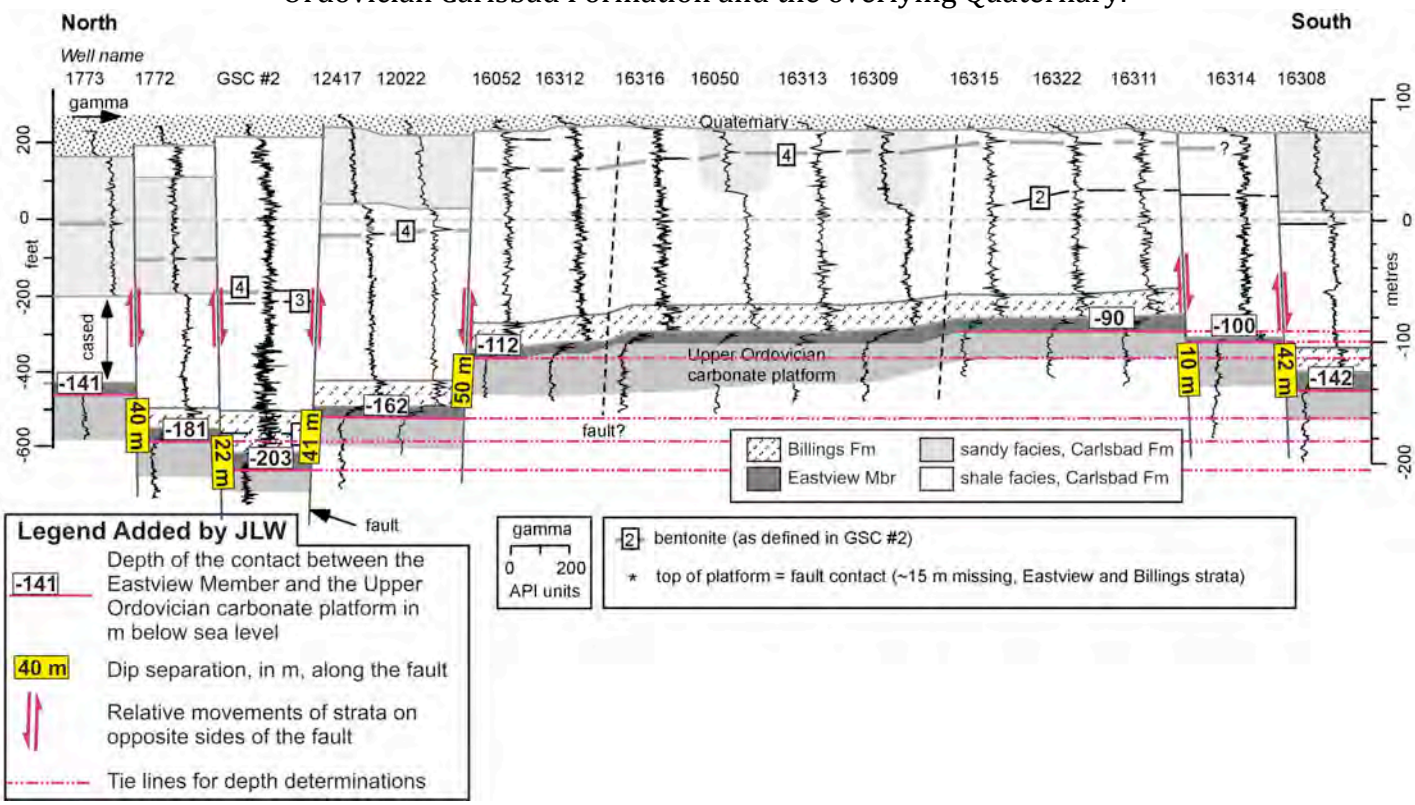

Figure 4 Same as the cross section in Figure 3, but with approximate amounts of vertical displacement (dip separation) and legend having been added.

Edmond, Trish

From: Smolkin, Paul
Sent: December 30, 2013 9:44 AM
To: Edmond, Trish
Subject: FW: Misrepresentations and Questionable Claims About Conditions at the Proposed Boundary Road Landfill Site
Attachments: LETTER #3 TO PAUL SMOLKIN, DECEMBER 30, 2013.pdf

Another one

Paul Smolkin (P. Eng.) | Principal | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: [+1] (613) 592 9600 | **F:** [+1] (613) 592 9601 | **E:** Paul_Smolkin@golder.com | **www.golder.com**

From:
Sent: December 30, 2013 9:41 AM
To: Smolkin, Paul
Cc: nigel.guilford@millergroup.ca; minister.moe@ontario.ca; Crack_Grant-MPP; itaggart@taggartconstruction.com
Subject: Misrepresentations and Questionable Claims About Conditions at the Proposed Boundary Road Landfill Site

Paul,

Attached is a second letter on the topic of misrepresentations of, and gaps in, information. All information, including uncertainties, must be presented to your clients, whether or not they want to know about it, to MOE and to the people of the community in which you are evaluating a site for a landfill.

This would be an appropriate time to make a good New Year's Resolution about TOTAL DISCLOSURE of all information to the aforementioned parties.

Sincerely,

Mr. Paul Smolkin
Principal
Golder Associates Limited
32 Steacie Drive
Kanata, ON K2K 2A9

December 30, 2013

SUBJECT: The Effects of your Misrepresentations and Questionable Claims About Faults With Respect to the Proposed Boundary Road Landfill

Paul,

It is necessary to continue exposing the inaccuracies in your reporting of geological conditions germane to the Boundary Road site. On page 15 of your Open House 5 Display Boards, beneath the misleading cross section (see Figure 1), it is stated that:

- "*No major faulting apparent beneath the CRRRC site*."
- "*Large prehistoric earthquakes that are reported to have affected clay deposits in specific areas east of Ottawa have not disturbed the clay deposit that underlies the CRRRC Site*."
- "*Probability of future fault movement to occur that would have an effect at or near surface is negligible, and of no engineering significance for development of the CRRRC Site*."

Taking the highlighted points in order, how can you make the statement about no major faulting beneath the site when you must know that the site is located **within** the major fault zone known as the Ottawa-Bonnechère Graben? That is just unconscionable, but to the best of my knowledge you have never admitted to the graben being there in the context of the proposed Boundary Road landfill. You certainly did not note that in the last display boards.

As for the absence of deformed clays beneath the site despite major prehistoric earthquakes having affected clay deposits, etc., assuming that this is not another misrepresentation, it would be very easy to miss evidence of liquefaction induced by a sudden strong shocking of unconsolidated sediments (see Figures 2 and 3). Admittedly boreholes were drilled on the site, specifically for the currently proposed landfill, but it is not clear to me to what depth they were drilled. Even putting that aside you do not have continuous exposure of those layers of Leda clay

down to bedrock, you only have the little bit in each of the cores. Because of the potentially adverse ramifications of a landfill it is necessary to investigate the site far more thoroughly than can be done with boreholes alone in order to pronounce, with unequivocal evidence, that the site is suitable for a landfill. Relying solely on boreholes engenders a real likelihood of missing structures that are there (see Figures 2 and 3). You must either trench down into the clay or run a series of seismic profiles across it in order to be absolutely certain that there is no seismically-induced deformation of the clay. A seismic investigation would, however, be tricky as you can imagine so trenching, all the way to bedrock, or seismic topography would be essential. This is not an academic research project, but is one that may adversely affect the livelihoods of many people in the immediate and more distant areas.

Regarding your last statement what evidence do you have, besides the questionable information to which I have already alluded, for such an emphatic conclusion?

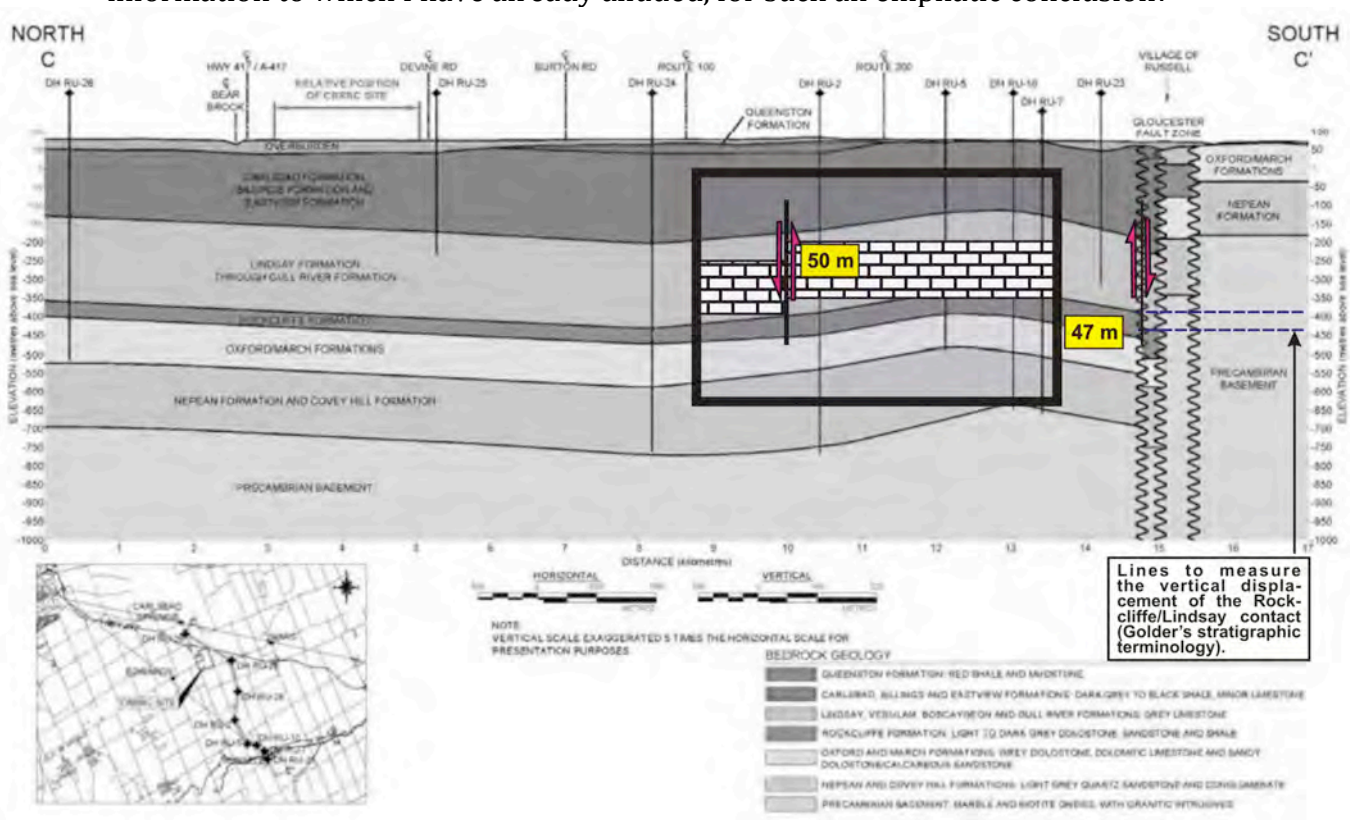

Figure 1 Schematic drawing of a limestone unit (brickwork pattern) displaced 50 m along an arbitrarily located fault in the black rectangular block superimposed on the cross section prepared by Golder Associates for the December 5, 2013 open house in Carlsbad Springs. The purpose is to show that a 50 m vertical displacement, actually determined along a fault by Dix and Jolicoeur (2011), is significant at the scale of the cross section. Furthermore it exceeds the 47 m displacement along one of the faults (wiggly lines) acknowledged by Golder Associates in the original figure, discussed in the letter to you dated December 26, 2013.

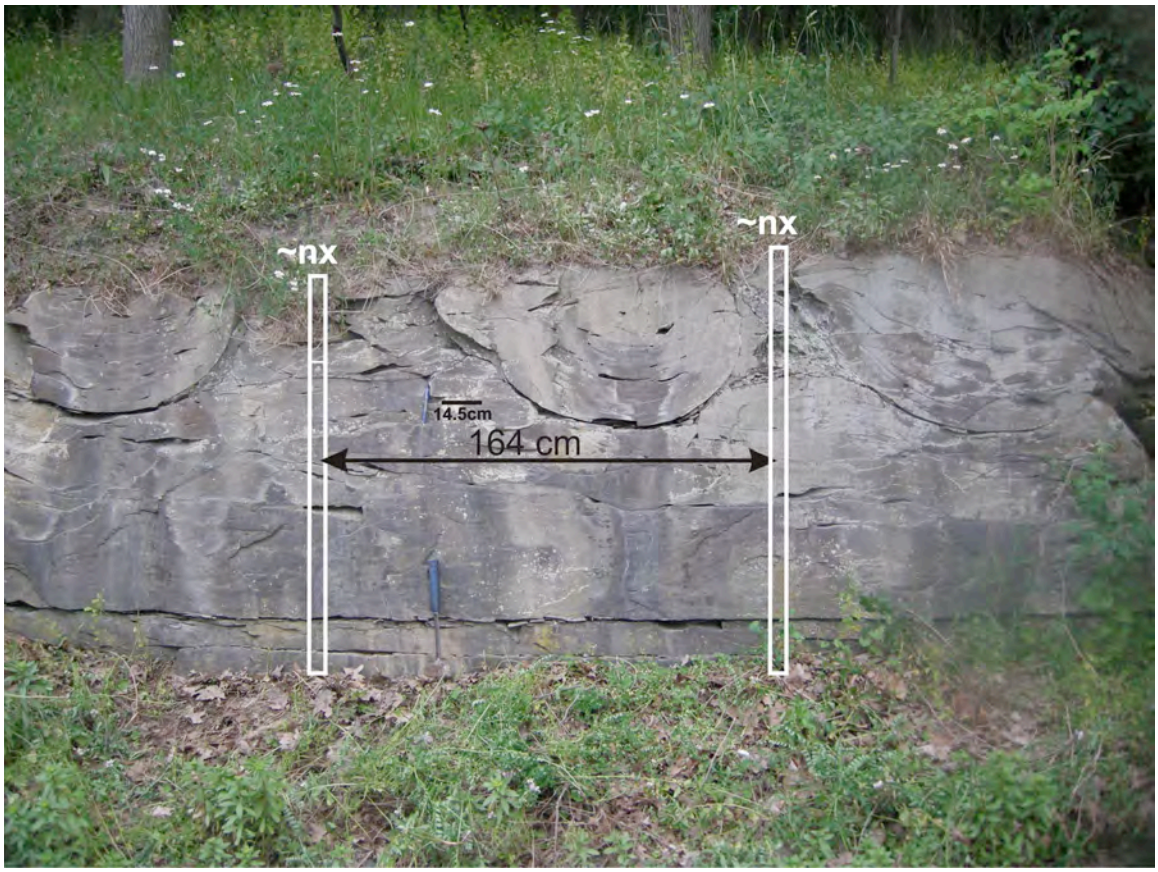

Figure 2 Ball and pillow structures in the Upper Devonian Ithaca Formation near Ithaca, New York. They were produced by a major earthquake that occurred while the rock was still unconsolidated sediment, some 400 million years ago. Other evidence of that, or another, major earthquake was seen on other, nearby exposures within the same rock unit, but there were also many sections between this exposure and others in which no layers were disturbed at all.

The two white vertical columns show how easy it would be to miss the convolutions altogether by relying solely on n_x boreholes, spaced 1.64 m apart thereby allowing the geologist to infer that there was no disturbance of the unconsolidated sediment, when in fact there was.

Figure 3 A hand-dug trench exposing three thin silt dikes cutting horizontally layered sand in Ferland-et-Boilleau, Québec. The dikes resulted from liquefaction consequent upon the 1988, m_b=5.9, MMI VIII Saguenay earthquake that shook much of eastern North America. The 14 cm long pen points north. Drilling on either side of the three dikes, or where the pen is located, would result in them not being seen and the geologist inferring, once again incorrectly, that the area had not been affected by an earthquake.

You must reveal all information and, at the very least, make allowances for the inadequacies of some techniques that you used to present an incomplete picture of the geological setting. Uncertainties must be included.

Sincerely,

cc: Jim Bradley, MOE
Ian Taggart

Grant Crack MPP
Nigel Guilford

Edmond, Trish

Subject: FW: Taggart Miller CRRRC EA: Response to December 26 and 30, 2013 Letters from

Attachments: LETTER TO PAUL SMOLKIN, JANUARY 13, 2014 - Reply to his January 13 e-mail.doc

From:
Sent: January 13, 2014 9:49 PM
To: Smolkin, Paul
Cc: nigel.guilford@millergroup.ca; minister.moe@ontario.ca; Crack_Grant-MPP (gcrack.mpp@liberal.ola.org); itaggart@taggartconstruction.com
Subject: Re: Taggart Miller CRRRC EA: Response to December 26 and 30, 2013 Letters from Joe Wallach

Paul,

My reply to your e-mail is attached.

I really don't like writing letters such as the previous ones or the one that is attached. However, you really should stop trying to fool the people. You do not succeed.

On Mon, Jan 13, 2014 at 8:09 AM, Smolkin, Paul <Paul_Smolkin@golder.com> wrote:

Thanks for your letters of December 26 and 30, 2013 regarding interpretation of geology, faults and potential disturbance of the clay deposit in the area of the Boundary Road site. The information that was presented on this topic at the December 5 Open House was a high level overview of the findings and our main conclusions. More detailed information on our interpretation of the geological conditions was provided at the Groundwater Workshop in June 2013. Our complete interpretation and conclusions, based on published information and our own work, and considering the interpretation in the Dix and Jolicoeur paper, will be provided in the EA Study Report and supporting documents.

Sincerely,

Paul

Paul Smolkin (P. Eng.) | Principal | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: [+1] (613) 592 9600 | **F:** [+1] (613) 592 9601 | **E:** Paul_Smolkin@golder.com | **www.golder.com**

Mr. Paul Smolkin
Principal
Golder Associates Limited
32 Steacie Drive
Kanata, ON K2K 2A9

January 13, 2014

SUBJECT: REPLY TO YOUR E-MAIL MESSAGE OF JANUARY 13, 2014

Paul,

I am pleasantly surprised that you replied. Nevertheless you have raised more issues. I have no idea what you mean by *high level overview* or *main conclusions*. What I do understand, however, is that use of those italicized words is nothing more than obfuscation.

When you go before a community, **any community, anywhere,** the people in that community have the right to get the **entire picture**. You have the obligation to present it, **at each and every meeting that you convene,** whether or not that pleases your clients! You MUST divulge all information and reveal all of your conclusions. You did not do that and your attempt to disguise that with terms like "high level overview" and "main conclusions" has been recognized and is now exposed. Moreover, the following quote is written on page 15 of the pdf file created for the December 5th open house: "*Regionally there is no apparent major vertical offset of bedrock formations within several kilometres of the CRRRC Site.*" Now how do you explain that! That is an unambiguous declaration. You stated emphatically that there are no major vertical offsets. I guess 50 m is not major to you, but it surely is to me.

Strike-slip faults with dominantly horizontal slip have been mapped in the Ottawa-Bonnechère Graben and there is at least one published paper on the subject. Could those faults not contribute to the seismic hazard and seismic risk of the area or is it only faults with pure dip-slip displacements that should be of concern? **That is a rhetorical question**.

At the June 22, 2013 workshop you did present more geological information than at the December 5, 2013 workshop. At least some of it, however, resulted from my criticizing your not having identified a possible fault that parallels Boundary Road near the Boundary Road site. You noted that the locations of some of the wells were poor, therefore you tossed all information aside. This is not an academic term paper or a Ph.D. dissertation. It is a study for a landfill and it is incumbent on you to look for every fault that has been documented or interpreted by any geologist(s) anywhere near the proposed

site. If it is not there then good for you and your client. If it is there you must identify all of the fault's characteristics including an honest assessment of the age of last movement.

At some point in that workshop you did show a cross section, but the only fault on it is the Gloucester Fault, as seen in the cross section on page 15 of the pdf file from the December open house. None of the faults by Dix and Jolicoeur (2011) is there, so why do you think that I believe you would present that information (completely and honestly) in the EA?

Finally, in the workshop, I also raised the issue of a fault that crosses Hwy 417, not too far east of the site. Trish just dismissed it, but that is entirely consistent with the complaint in my previous letters about Golder ignoring faults.

TMES and Golder Associates are very lucky that the Minister is assessing this and not geoscientists who really understand the geological issues. No self-respecting geoscientist would ever recommend the Boundary Road site for a landfill or for anything else, except perhaps a bird and flower sanctuary or a place to fly model airplanes. I conclude by stating, once again, that I cannot guarantee disaster if the application for a landfill at the Boundary Road site is approved, but I would not want to be the person authorizing it.

Sincerely,

cc: Jim Bradley, MOE
Ian Taggart

Grant Crack MPP
Nigel Guilford

From:
Sent: December 30, 2013 9:41 AM
To: Smolkin, Paul
Cc: nigel.guilford@millergroup.ca; minister.moe@ontario.ca; Crack_Grant-MPP; itaggart@taggartconstruction.com
Subject: Misrepresentations and Questionable Claims About Conditions at the Proposed Boundary Road Landfill Site

Paul,

Attached is a second letter on the topic of misrepresentations of, and gaps in, information. All information, including uncertainties, must be presented to your clients, whether or not they want to know about it, to MOE and to the people of the community in which you are evaluating a site for a landfill.

This would be an appropriate time to make a good New Year's Resolution about TOTAL DISCLOSURE of all information to the aforementioned parties.

Sincerely,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: January 14, 2014 11:34 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Request for a printed copies of the EA

Begin forwarded message:

From:
Subject: Request for a printed copies of the EA
Date: January 14, 2014 at 11:24:39 AM EST
To: "hjbourque@crrrc.ca" <hjbourque@crrrc.ca>
Cc: "stephen.blais1@ottawa.ca" <stephen.blais1@ottawa.ca>, "gcrack.mpp@liberal.ola.org" <gcrack.mpp@liberal.ola.org>
Reply-To:

Dear Mr Bourque,

I would like to request two **printed** copies of the DRAFT AND of the FINAL EA Reports as soon as they are available. I am only a small player and member of the CRCCPE organization, a concerned citizen and an active resident in the community of Carlsbad Springs. I have heard that the complete EA document is rather large and I don't have a printer that can print that large a document. It is harder and harder for me to read large documents on the computer. My needs are for printed versions.
One copy will be for me and the other copy will be shared among members of my family.

As you are aware, the Carlsbad Springs Community Centre, where you intend to place one copy of the report for public review, is not staffed, so I will not have ready access to the facilities where I could spend time reviewing and providing input on the report.

CRCCPE is a Not For Profit Organization, which has over 150 members from the local communities where the CRRRC is proposed to be situated. I have a keen interest in THOROUGHLY reviewing this project and printed copies of your documents are essential for this task.

Upon confirmation of my email, I will send you my home address.

Thank You.

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: April 4, 2014 8:15 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Request for a printed copies of the EA

Begin forwarded message:

From:
Subject: Fw: Request for a printed copies of the EA
Date: April 4, 2014 at 7:51:07 AM EDT
To: "hjbourque@crrrc.ca" <hjbourque@crrrc.ca>
Cc: "gcrack.mpp@liberal.ola.org" <gcrack.mpp@liberal.ola.org>
Reply-To:

I sent this email in January and still no reply!
I have given you three months. You cannot even **confirm a simple email request**???

Pleas send me two printed copies of the DRAFT and of the FINAL EA reports as soon as they are available.

----- Forwarded Message -----
From:
To: "hjbourque@crrrc.ca" <hjbourque@crrrc.ca>
Cc: "stephen.blais1@ottawa.ca" <stephen.blais1@ottawa.ca>; "gcrack.mpp@liberal.ola.org" <gcrack.mpp@liberal.ola.org>
Sent: Tuesday, January 14, 2014 11:24:39 AM
Subject: Request for a printed copies of the EA

Dear Mr Bourque,

I would like to request two **printed** copies of the DRAFT AND of the FINAL EA Reports as soon as they are available. I am only a small player and member of the CRCCPE organization, a concerned citizen and an active resident in the community of Carlsbad Springs. I have heard that the complete EA document is rather large and I don't have a printer that can print that large a document. It is harder and harder for me to read large documents on the computer. My needs are for printed versions.
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Upon confirmation of my email, I will send you my home address.

Thank You.

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: January 14, 2014 10:43 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: Request for copies of the EA

Begin forwarded message:

From:
Subject: Request for copies of the EA
Date: January 14, 2014 at 9:44:12 AM EST
To: "hjbourque@crrrc.ca" <hjbourque@crrrc.ca>
Cc: "gcrack.mpp@liberal.ola.org" <gcrack.mpp@liberal.ola.org>, "Blais, Stephen" <Stephen.Blais1@ottawa.ca>

Mr Bourque,

I would like to request three printed copies of the DRAFT AND FINAL EA Reports as soon as they are available. Our Team (CRCCPE) has retained technical experts through the generous support of the City of Ottawa and it is mandatory that we provide these experts with printed copies of your documents.

As you are aware, the Carlsbad Springs Community Centre where you intend to place one copy of the report for public review is not staffed, so neither we nor our experts have ready access to the facilities where we could spend time reviewing and providing input on the report.

CRCCPE is a Not For Profit Organization, which has over 150 members from the local communities where the CRRRC is proposed to be situated. We have a keen interest in THOROUGHLY reviewing this project and printed copies of your documents are essential for this task.

Thank You.

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: April 11, 2014 7:14 PM
To: Edmond, Trish; Howard C. Williamson
Cc: Doug Thomson
Subject: Fwd: Request for copies of the EA

-Sent from my iPhone

Begin forwarded message:

From:
Date: April 11, 2014 at 7:04:12 PM EDT
To: "hjbourque@crrrc.ca" <hjbourque@crrrc.ca>
Cc: "gcrack.mpp@liberal.ola.org" <gcrack.mpp@liberal.ola.org>, "Blais, Stephen" <Stephen.Blais1@ottawa.ca>
Subject: Re: Request for copies of the EA

Mr Bourque,

I don't believe I received a response to my original enquiry.
Can you please advise if it will be possible to provide three printed copies so we can provide to our experts for review.

Thank You.

From:
Date: Tuesday, 14 January, 2014 10:44 AM
To: "hjbourque@crrrc.ca" <hjbourque@crrrc.ca>
Cc: "gcrack.mpp@liberal.ola.org" <gcrack.mpp@liberal.ola.org>, "Blais, Stephen" <Stephen.Blais1@ottawa.ca>
Subject: Request for copies of the EA

Mr Bourque,

I would like to request three printed copies of the DRAFT AND FINAL EA Reports as soon as they are available. Our Team (CRCCPE) has retained technical experts through the generous support of the City of Ottawa and it is mandatory that we provide these experts with printed copies of your documents.

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CRCCPE is a Not For Profit Organization, which has over 150 members from the local communities where the CRRRC is proposed to be situated. We have a keen interest in THOROUGHLY reviewing this project and printed copies of your documents are essential for this task.

Thank You.

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: January 14, 2014 12:21 PM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd: EA final draft hard copy

Begin forwarded message:

From:
Subject: EA final draft hard copy
Date: January 14, 2014 at 12:11:11 PM EST
To: "hjbourque@crrrc.ca" <hjbourque@crrrc.ca>

Mr. Bourque

Could you please provide me with a copy of the EA for the boundary Road site when it becomes available. English version please. I am a concerned local neighbour.Please find herein my mailing address.

thank-you,

Sent from my iPad

Edmond, Trish

Subject: FW: CRRRC Environmental Assessment Report

-Sent from my iPhone

Begin forwarded message:

From:
Date: March 5, 2014 at 8:18:42 AM EST
To: Hubert Bourque <hjbourque@crrrc.ca>
Cc: "Grant Crack (MPP)" <gcrack.mpp@liberal.ola.org>, "ian.parrott@ontario.ca" <ian.parrott@ontario.ca>, "jbradley.mpp.co@liberal.ola.org" <jbradley.mpp.co@liberal.ola.org>, "mmeilleur.mpp.co@liberal.ola.org" <mmeilleur.mpp.co@liberal.ola.org>
Subject: CRRRC Environmental Assessment Report

Good morning Hubert,

I would like to request CD copies of the upcoming CRRRC Environmental Assessment Report in both French and English. My understanding is that TMES promised the MOE **that all future reports on this project would be made available in both official languages, if the Terms of Reference were approved**! So far you have provided all of the subsequent Open House and Groundwater Workshop materials in both languages.

There is a rumour circulating **that only the Executive Summary of the CRRRC Environmental Assessment Report will be translated into French.** This would be unacceptable to the concerned citizens of Ottawa and eastern Ontario that need to read and understand the details of this work in their official language of choice.

We are concerned about the safety and health of the environment that we live in and the legacy that we will leave for future generations!

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: March 12, 2014 7:26 AM
To: Howard C. Williamson; Edmond, Trish
Cc: Doug Thomson
Subject: Fwd:

-Sent from my iPhone

Begin forwarded message:

> **From:**
> **Date:** March 12, 2014 at 5:59:34 AM EDT
> **To:** hjbourque@crrrc.ca
>
> No dump in Russell please !!!!

Edmond, Trish

Subject: CRRRC Environmental Assessment

On May 13, 2014, at 1:09 PM, wrote:

Hello Mr. Bourque.

Please send me a printed (paper) copy of the EA that I understand has now been completed for your project. I need a paper copy, please don't send a CD because my computer can't read them or print large files, and I am disabled to not be capable of reviewing extensive on-line documents.

Thank you.

Edmond, Trish

Subject: Dump update

From:
Date: June 1, 2014 at 9:52:20 PM EDT
To: hjbourque@crrrc.ca
Subject: Dump update

Hello,

I was just wondering if there have been any updates on the proposed location of the CRRRC. What stage is the project in? Has a site been chosen yet? What is the best website to watch for updates? www.CRRRC.ca?

I look forward to hearing from you.

Thank you,

APPENDIX J

Summary of Comment Responses Provided Outside Consultation Events

Appendix J-1

Comment Responses Before Commencement of Environmental Assessment

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: January 21, 2013 11:29 AM
To:
Subject: Re: La Permission d'Evaluer Les Carottes / Permission to Study the Core

Good morning

1) At the Boundary Road Site there is an experienced civil engineering technologist who records notes and logs soil and rock samples in the field. These samples are returned to the office several times a week where a geotechnical engineer and geologist review the samples and field notes, verify descriptions and schedule lab testing as appropriate.

2) Detailed borehole logs are being kept by Golder Associates and will be part of the geology, hydrogeological and geotechnical report for the site. If there are particular matters of concern to you in that regard please advise.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-01-21, at 8:00 AM, wrote:

Le 21 janvier 2013

M. Hubert Bourque
Gérant de Projet
Les Services Environnementaux Taggart Miller
225, rue Metcalfe
Bureau 708
Ottawa, ON K2P 1P9

M. Bourque

Nous avons observé les camions et les foreurs de Marathon Drilling sur le site #2, qui se situe à l'angle de Chemins Boundary et Devine. Alors ledit situation me mène à poser les deux questions suivantes: 1) Dans ce groupe y'a t-il au moins un géologue? 2) Pourrais j'obtenir la permission d'évaluer, dans la proche avenir, le(s) carottes moi-même?

Je tiens à vous remercier pour votre réponse dans les meilleurs délais

Cordialement,

January 21, 2013

Mr Hubert Bourque
Project Director
Taggart Miller Environmental Services
225 Metcalfe Street
Suite 208
Ottawa, ON K2P 1P9

Dear Mr. Bourque

There are trucks and drillers from Marathon Drilling at your second site, which is located at the intersection of Boundary and Devine Roads. That, therefore, leads to the two following questions: 1) is there a geologist among them and 2) would you allow me to evaluate the core(s) fairly soon?

Thank you very much for your prompt answer to this request.

Sincerely,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: January 22, 2013 12:27 PM
To:
Subject: Re: Thanks

Hi

1) We haven't encountered any gas in the clay.

2) The bedrock surface was encountered at depths ranging from about 37 to 40 metres at the three locations completed and consists of interbedded limestone and shale.

The information from the drilling activities at the Boundary Road Site will be summarized and presented at the next open house.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-01-21, at 4:24 PM, wrote:

Hubert,

Thanks for replying to my query.

I do have some questions:

1) Have the drillers encountered any gas so far in the clay. If so, what kind and at what depth(s)?

2) How deep have they drilled and have they hit any bedrock yet? If they have, can you please find out what the rock type is under the leda clay.

Thanks,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: January 28, 2013 9:47 AM
To:
Subject: Re: crrrc question

Hello

Currently, we are scheduled to complete comparative assessments of the two sites and publicly announce the preferred site within the next month.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-01-27, at 10:02 PM, wrote:

Hello,

Assuming the projects tracks to the proponents latest estimated timeline, and that it proceeds, when would the choice of site location (north Russell vs. Boundary road) be finalized and announced publicly ?

Thank you,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: January 24, 2014 11:43 AM
To: Edmond, Trish
Subject: Fwd: crrrc question

Begin forwarded message:

From: Hubert Bourque <hjbourque@crrrc.ca>
Subject: Re: crrrc question
Date: February 1, 2013 at 3:18:49 PM EST
To:

EA approval is unlikely before the end of this year. Other approvals are required thereafter. It is unlikely that construction would begin before 2015.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-01-30, at 7:37 PM, wrote:

Thank you for the reply,

Assuming the project tracks to the proponents latest estimated timeline, what would be left to do following the announcement of the preferred site before a final site decision might reached and construction might commence ?

Broadly speaking, I understand there would then be an EA, a public review thereof, a ministerial review of options, and then a final ministerial approval which could take until August 2013 or so to reach. I am interested in understanding when reasonable certainty might be reached (based on precedent or otherwise) wrt a final site

location, and also when construction might commence. Any insights that could be provided there would be appreciated.

Thank you again,

On Mon, Jan 28, 2013 at 9:46 AM, Hubert Bourque <hjbourque@crrrc.ca> wrote:
Hello

Currently, we are scheduled to complete comparative assessments of the two sites and publicly announce the preferred site within the next month.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-01-27, at 10:02 PM, wrote:

Hello,

Assuming the projects tracks to the proponents latest estimated timeline, and that it proceeds, when would the choice of site location (north Russell vs. Boundary road) be finalized and announced publicly ?

Thank you,

Appendix J-2

Comment Responses Following the Notice of Open House #3

Edmond, Trish

Subject: FW: North Russell Rd

>>> Hubert Bourque <hjbourque@crrrc.ca> 08/02/2013 8:57:36 AM >>>

Taggart Miller does not need two sites for the integrated waste management facility; the site not used will likely be sold, however the timing of that has not been decided. The timing of any sale will of course depend on interest and market conditions.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-02-07, at 2:40 PM, wrote:

I just noticed your announcement that the Boundary Road site as the preferred site. However, the announcement does not state that the North Russell site will be sold. Can you please confirm the timing regarding your intention to sell the Russell site? Selling our house will remain difficult until the uncertainty over the future use of the North Russell site is resolved.

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: February 11, 2013 5:20 PM
To:
Subject: Re: North Russell Rd

it is unlikely that the Russell site will be retained until the end of the approval process for the Boundary Rd site, however I cannot give you a definitive timeline for its sale. That will inevitably be a function of third party interest in the site and general market conditions.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

From:
Subject: Re: North Russell Rd
Date: 8 February, 2013 11:20:24 AM EST
To: Hubert Bourque <hjbourque@crrrc.ca>

Henri, will you be keeping the Russell Road site until the approval process is finished for the Boundary Road location? Can you provide me any info regarding the timing of the sale of the Russell Site. I would appreciate a real answer regarding the timing so we can plan are lives?

On 2013-02-08, at 8:57 AM, Hubert Bourque <hjbourque@crrrc.ca> wrote:

Taggart Miller does not need two sites for the integrated waste management facility; the site not used will likely be sold, however the timing of that has not

been decided. The timing of any sale will of course depend on interest and market conditions.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-02-07, at 2:40 PM,
wrote:

I just noticed your announcement that the Boundary Road site as the preferred site. However, the announcement does not state that the North Russell site will be sold. Can you please confirm the timing regarding your intention to sell the Russell site? Selling our house will remain difficult until the uncertainty over the future use of the North Russell site is resolved.

From: Hubert Bourque
To: Ryan, Jason (ENE)
Cc:
Subject: Re: unanswered consultation question
Date: February 26, 2013 4:18:34 PM

Good afternoon Jason,

If we determine that the site is unapproveable by the MOE, it would be dropped from further consideration. I understand this is what Mr. McArthur communicated to

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-02-26, at 10:52 AM, wrote:

> Good morning,
>
> I participated in the Open House consultation last night in Carlsbad Springs, sponsored by Taggart Miller regarding their proposed CRRRC landfill project.
>
> While I was disappointed that certain topics were omitted from the presentation panels, it was still informative and staff generally attempted to answer my questions - with one notable exception:
>
> Blair MacArthur (Miller) refused to answer the following question when I posed it:
>
> "Under what circumstances would this site be dropped from contention?"
>
> Now, please bear in mind that in the ToR for this EA phase which the MOE recently approved, the provision exists for EXACTLY what I asked - section 8 states that should EA studies discover unsuitable aspects to the "preferred" site, it could be dropped from contention. I was asking for definitions of such conditions, but what I got was:
>
> "I don't need to tell you that."
>
> I replied that since we were standing in the middle of a public

consultation event, I very much thought he should answer the question, but Blair refused, and then added that they hadn't even thought about it yet.

This is entirely unsatisfactory. Since section 8 is in the approved ToR, this exact issue has been considered. I reiterate: I would like a precise description of the conditions under which the Boundary Rd site would be removed from contention.

Not impressed,

From: Hubert Bourque
To:
Subject: CRRRC Public Meeting #3
Date: March 25, 2013 12:35:41 PM

Howard Williamson passed your email onto me for a response. Thank you for your questions.

A traffic study report as outlined in the Terms of Reference for the project will be completed during 2013 after the preferred site development concept is determined. Details of the methodology for the traffic assessment can be found in Appendix C-2.9 of the main Terms of Reference document. As was presented at Open House #3 on February 25, it is envisioned that the main haul route to the Boundary Road Site will be Highway 417 exiting to Boundary Road and accessing the site from Boundary or Frontier Roads. We do not envisage the use of Sand Road to access the site. Note that Taggart Miller can designate the route(s) by which the haulers can access the site.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

---------- Forwarded message ----------
From: >
Date: Tue, Feb 26, 2013 at 10:47 AM
Subject: CRRRC Public Meeting #3
To: "howard@williamsonconsulting.ca" <howard@williamsonconsulting.ca>

Hello,

After attending the meeting last night at the Carlsbad Community Center, the follow concerns have come to mind.

1. Traffic will inevitably be affected locally by the increased truck traffic to the site.

    a. How is this being addressed?

    b. As a resident on Sand Road. How is truck traffic going to be eliminated from this road?

c. Sand Road is low traffic and has been proven to not withstand the current traffic well. What steps would be taken to minimize car traffic on this road??

Yours truly,

From: Jeff Parkes
To: Thomson, Douglas R.
Cc: Smolkin, Paul; Edmond, Trish; Nigel.Guilford@millergroup.ca
Subject: FW: Boundary Road Landfill Proposal
Date: March 18, 2013 12:22:48 PM

fyi

From: Jeff Parkes [mailto:jparkes@taggart.ca]
Sent: March-18-13 12:07 PM
To:
Cc: 'Giguère, Joshua'; 'stephanie.brown@ottawa.ca'
Subject: RE: Boundary Road Landfill Proposal

Dear

Thank you for your enquiry. We are currently carrying out subsurface investigations at our site on Boundary Road, the findings of which will determine the liner design requirements for the proposed landfill. These investigations will also determine the direction of groundwater flow in the area of the site; this will be the direction that any release of leachate would move if such a release were to occur. The thick clay deposit at the site offers natural protection against unanticipated leachate migration, which is one of the advantages of the site. The MOE will require us (Taggart-Miller) to have extensive groundwater monitoring on the site to detect and react to any unanticipated leachate migration before there is any off-site migration. In terms of what is in the leachate, there is a considerable amount of information available from other sites, and a set of characteristics of the leachate that can be used in predictive modeling of landfill performance is set out in the Ontario Landfill Standards. We are planning a groundwater workshop in June, with a leading expert on this subject, which will further address the types of questions that you have raised.

We do believe that our innovative project will set a "gold standard" for commercial waste handling and waste recycling.

Thank you for your interest in our project.

Jeff Parkes
V.P. Development

TAGGART REALTY MANAGEMENT
225 Metcalfe Street, Suite 708
Ottawa, ON K2P 1P9

T: (613) 234-7000 Ext. 235
F: (613) 526-7947
www.taggart.ca

From: Giguère, Joshua
Sent: March 08, 2013 12:05 PM
To:
Cc: 'Parkes Jeff'; Brown, Stephanie
Subject: FW: Boundary Road Landfill Proposal

Hello

Where the CRRRC is a Taggart-Miller project and remains in the hands of the Province, I will refer your questions to Jeff Parkes of Taggart-Miller (I have cc'd him in this response). Taggart-Miller would be best suited to respond to your queries.

I would also refer you to the CRRRC website (link below) which may have some of the answers that you are looking for.

http://www.crrrc.ca/

Please do not hesitate to contact me again on this or any other issue.

Yours very truly,

Joshua Giguère
Special Assistant
Office of Councillor Stephen Blais
613-580-2489

From: Schulz, Luc
Sent: February 28, 2013 2:25 PM
To:
Cc: Giguère, Joshua
Subject: RE: Boundary Road Landfill Proposal

My apologies, I forgot to cc Josh on the previous message.

Luc

From: Schulz, Luc
Sent: February 28, 2013 2:20 PM
To:
Subject: RE: Boundary Road Landfill Proposal

Dear

Thank you for raising these concerns with us. Stephanie will be back at the office next Monday, but my colleague Josh, whom I have cc'd on this message, will be able to address your questions with regards to this issue.

Should you have any further questions or concerns with which we can be of assistance, please do

not hesitate to contact us.

Regards,

Luc Schulz

Luc Schulz
Special Assistant | Adjoint spécial
Office of Stephen Blais | Cabinet de Stephen Blais
Councillor for Cumberland Ward (19)
Conseiller pour le quartier Cumberland (19)
City of Ottawa | Ville d'Ottawa
613.580.2424 x12169
luc.schulz@ottawa.ca

From:
Sent: February 28, 2013 1:19 PM
To: Schulz, Luc
Subject: Fw: Boundary Road Landfill Proposal

Dear Luc, I received and error message from this message and was advised to forward it to you.

From:
Sent: Thursday, February 28, 2013 1:03 PM
To: Brown, Stephanie
Subject: Boundary Road Landfill Proposal

Dear Ms. Brown, could you bring this to the attention of Councilor Blais?
We recently had a public information session, hosted by Taggart Group of Companies, related to the proposed Boundary Road Landfill proposal.
The concerns that people voiced repeatedly were:
1) we question that any containment apparatus liner could last forever, especially with an unknown soup of chemicals/ chemical reactions.
2) Once a leak does take place; how can it be repaired, given the ever increasing weight above? How could reactions of untold compounds be curtailed, once released? Obviously contaminating numerous unknown directions in ground water.
3) What are the potential health effects of unknown reactions, of unknown compounds?
4) As the Nation's Capital, why not set the gold standard for about 85% -100% recycling and energy recuperation (natural gas) + incinerated/ processing of any potential problem chemicals/ substances? Similar to what Guelph attempted to do.
Thank you for your time and consideration,

Edmond, Trish

Subject: FW: CRRRC Task 3 Deadlines

From: Hubert Bourque [mailto:hjbourque@crrrc.ca]
Sent: March 14, 2013 7:27 PM
To:
Subject: CRRRC Task 3 Deadlines

Dear

Howard Williamson forwarded your questions of March 4, 2013 and asked me to respond.

The Task 3 work will commence after Task 2 is completed, i.e., after the preferred site development concept has been decided. It is currently anticipated that Task 2 will be completed around May 2013. The preferred concept will be the basis for the impact assessments in Task 3.

The land use component assessment work will likely be completed in the fall of 2013, and the results subsequently presented both at an Open House and in the draft EA study report, which will be made available for public review as described in Section 9.3 of the TOR. In view of the amount of work yet to be done, we cannot at this time advise when the draft EA report will be available

The visual assessment work will also likely be completed in the fall of 2013, and the results made available to the public as described above for the land use component. It is anticipated that we may be able to provide some preliminary visualization work for Open House #4 in the spring of 2013. The photographs of the site to be used as the existing view of the site will be without the vegetation cover on the trees, which represents the conditions under which the site would be most visible from external vantage points (regardless of snow cover).

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

From:
Date: Mon, Mar 4, 2013 at 5:58 PM
Subject: CRRRC Task 3 Deadlines
To: CRRRC Williamson <howard@williamsonconsulting.ca>

HW
We met Feb. 25 at Carlsbad Springs.
Please let me know the estimated dates of completion of
Task 3 -- Land Use
Task 3 -- Visual
(CRRRC TOR (2012) Appendix C-2.5 "Land Use & Socio-Economic Work Plan -- Boundary Road Site" (pages 4-5))
and how this information will be published, in print or on line. For example,
when will the VNS photos to be prepared for Task 3 be made public? (The point is not mentioned in the TOR but I take it there must be two sets, with and without snow cover.)

With thanks,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: May 6, 2013 8:24 AM
To:
Subject: Re: North Russell Road

Hi ,

It's highly unlikely we will return to the Russell site, however the timing of an announcement in that regard is not yet clear. We expect that will sometime this year.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-05-03, at 7:36 AM, wrote:

Hello Hubert, can you please provide me with an update on your plans for the Russell site for the recovery centre. We are the only one's who did not oppose your project and we desperately need this info in order to plan our future. I would appreciate a response.

With the release of options on Liam's land, is the Russell site permanently off? If so, when will this be announced?

How long until we have some certainty over the future of the Russell Rd Site?

Is the "Pit" property currently on the market or are you waiting until a final decision is made on the Boundary Road site?

When is a final decision from Ont Environment expected on the Boundary Rd site?

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: May 6, 2013 10:03 AM
To:
Subject: Re: North Russell Road

Hi

Its hard to be definitive right now. We may be able to update the situation shortly and if so I will of course let you know.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-05-06, at 8:25 AM, wrote:

Anything more definite that I can share with prospective buyers?

>>> Hubert Bourque <hjbourque@crrrc.ca> 2013-05-06 8:23 AM >>>
Hi

It's highly unlikely we will return to the Russell site, however the timing of an announcement in that regard is not yet clear. We expect that will sometime this year.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9

Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-05-03, at 7:36 AM, wrote:

Hello Hubert, can you please provide me with an update on your plans for the Russell site for the recovery centre. We are the only one's who did not oppose your project and we desperately need this info in order to plan our future. I would appreciate a response.

With the release of options on Liam's land, is the Russell site permanently off? If so, when will this be announced?

How long until we have some certainty over the future of the Russell Rd Site?

Is the "Pit" property currently on the market or are you waiting until a final decision is made on the Boundary Road site?

When is a final decision from Ont Environment expected on the Boundary Rd site?

Appendix J-3

Comment Responses Following the Notice of Open House #4

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: May 22, 2013 5:52 PM
To:
Subject: Re: Fourth Open House for Capital Region Resource Recovery Centre/ Quatrième Journée portes ouvertes pour le Centre de récupération des ressources de la région de la capitale

Dear

We are presenting *alternative development concepts* for the **Boundary Road Site only**, as the Russell Site is no longer under consideration. We are looking for public input on these concepts at the open house.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-05-22, at 9:53 AM, wrote:

Dear Mr. Bourque,

Your definition of "alternative site development concepts" is unclear. Does "alternative" refer to the second site (your team has used the term that way in the past)? Or does it refer to alternative uses at the first site?

Your statement that you will present and obtain public input is also unclear. Are you presenting existing public input? Or are you asking for public input? To what uses would such responses be put?

Regards,

on May 21, 2013, **Hubert Bourque** <hjbourque@crrrc.ca> wrote:
SVP faites défiler vers le bas pour la version française.

Taggart Miller Environmental Services (Taggart Miller) is undertaking an environmental assessment (EA) under the Ontario Environmental Assessment Act for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC). The project site is located east of Boundary Road and south of Highway 417 in the City of Ottawa near an existing industrial park.

Prior to approving in December 2012, the Minister of the Environment amended the Terms of Reference for the CRRRC. A copy of the approved amended Terms of Reference is available at the project website:

www.crrrc.ca

The environmental assessment is being carried out following the approved amended Terms of Reference.

Members of the public, agencies and other interested persons are encouraged to actively participate in the planning of this undertaking by attending consultation opportunities or contacting staff directly with information, comments or questions. The primary purpose of the Fourth Open House is to present and obtain comments from the public on alternative site development concepts and to provide an update on assessment work related to the geology, hydrogeology & geotechnical, socio-economic (visual component) and traffic disciplines at the Boundary Road Site.

Open House # 4

Wednesday June 5, 2013
4:00 to 9:00 pm

Carlsbad Community Centre
6020 Eighth Line (Piperville) Road, Ottawa

Public participation by local residents and other interested parties is an important part of the environmental assessment process. In addition to participating in these events, you are invited to submit your comments or be added to our project mailing list via the project website www.crrrc.ca, by mail, or fax to the address/number provided below.

Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581

Email: hjbourque@crrrc.ca

Taggart Miller Environmental Services (Taggart Miller) effectue une évaluation environnementale (EE) en vertu de la Loi sur les évaluations environnementales de l'Ontario pour la proposition d'un projet de gestion intégrée des déchets qui portera le nom de Centre de récupération des ressources de la région de la capitale (CRRRC). Le site du projet se situe à l'est du chemin Boundary et au sud de l'autoroute 417 dans la Ville d'Ottawa près d'un parc industriel existant.

Avant de donner son approbation en décembre 2012, le ministre de l'Environnement a modifié le mandat auquel est assujetti le CRRRC. Une copie du mandat approuvé après modification est disponible sur le site Web du projet.

www.crrrc.ca

L'évaluation environnementale est exécutée conformément au mandat modifié approuvé.

Les citoyens, les organismes et autres personnes intéressées sont invités à participer activement à la planification de cette entreprise en se présentant aux rencontres de consultation ou en communiquant directement avec le personnel pour lui faire part de renseignements, de commentaires ou de questions. La quatrième Journée portes ouvertes vise principalement à présenter et à obtenir des commentaires du public au sujet des autres concepts d'aménagement du site et faire le point sur les travaux d'évaluation portant sur les domaines géologique, hydrogéologique et géotechnique, socio-économique (composante visuelle) et de la circulation au site du chemin Boundary.

Journée portes ouvertes n° 4

Le mercredi 5 juin 2013
De 16 h à 21 h

Centre communautaire Carlsbad Springs
6020, chemin Eighth Line (Piperville), Ottawa

La participation publique des résidents de la localité et d'autres parties intéressées représente un volet important du processus d'évaluation environnementale. Nous vous invitons non seulement à participer à cette rencontre, mais aussi à nous transmettre vos commentaires et à vous inscrire à notre liste de diffusion par la voie du site Web du projet, www.crrrc.ca, par la poste ou par télécopieur à l'adresse et au numéro qui figurent ci-dessous.

M. Hubert Bourque, directeur de projet

a/s Taggart Miller Environmental Services
225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
Téléphone : 613-454-5580
Télécopieur : 613-454-5581

Courriel: hjbourque@crrrc.ca

Cliquer Unsubscribe **pour ne pas recevoir ces messages à l'avenir**

Appendix J-4

Comment Responses Following the Notice of Workshop #2

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: June 13, 2013 1:42 PM
To:
Subject: Re: Taggart Miller Groundwater Workshop—June 22/Atelier sur l'eau souterraine de Taggart Miller – Le 22 juin

Bonjour

Oui, nous allons avoir des services en français à l'atelier. La traduction des présentations en français sera fournie sur demande. Les documents de l'atelier seront également affichés en français sur le site du projet.

Salutations,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-06-12, at 11:02 PM, wrote:

Bonjour M Bourque,

Avez vous des compétences françaises lors de cet atelier? Quels sont les services prévus pour les participants francophones?

From: hjbourque@crrrc.ca
Date: Wed, 12 Jun 2013 13:58:43 -0700
Subject: Taggart Miller Groundwater Workshop—June 22/Atelier sur l'eau souterraine de Taggart Miller – Le 22 juin
To:

SVP faites défiler vers le bas pour la version française.
Taggart Miller encourages the community to become involved in the environmental assessment process. As a result of comments received from the community at past open houses, Taggart Miller has organized a groundwater workshop that will take place on Saturday June 22 in Carlsbad Springs at the community centre. The workshop will discuss groundwater in general, groundwater in the area of the Boundary Road Site proposed for the CRRRC project, and groundwater protection.

If you would like to participate in this half day groundwater workshop on Saturday June 22, please respond via email to Hubert Bourque indicating whether you would prefer a morning or afternoon session.
Please note that advance registration is required to attend the workshop. Further information on the workshop will be provided in advance to registrants.

Sincerely,
Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

Taggart Miller invite les membres de la communauté à participer au processus d'évaluation environnementale. À la suite des commentaires reçus de la part des membres de la communauté lors des séances portes ouvertes précédentes, Taggart Miller a organisé un atelier sur l'eau souterraine qui aura lieu le samedi 22 juin au Centre communautaire de Carlsbad Springs. L'atelier portera sur l'eau souterraine en général, l'eau souterraine dans la zone du site du chemin Boundary tel que proposé dans le cadre du projet du Centre de récupération des ressources de la région de la capitale (CRRRC) et sur la protection de l'eau souterraine.
Si vous souhaitez participer à cet atelier d'une demi-journée sur l'eau souterraine qui aura lieu le samedi 22 juin, veuillez répondre par courriel à Hubert Bourque.
Veuillez noter que pour participer à l'atelier, il faut d'abord s'y inscrire. De plus amples renseignements sur l'atelier seront communiqués aux inscrits avant la tenue de l'atelier.

Je vous prie d'accepter mes salutations distinguées,
Hubert Bourque, directeur de projet
Taggart Miller Environmental Services
a/s 225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
Téléphone : 613-454-5580
Télécopieur : 613-454-5581
Courriel : hjbourque@crrrc.ca

Edmond, Trish

From: Edmond, Trish
Sent: July 22, 2013 3:03 PM
To:
Cc: Howard C. Williamson (howard@williamsonconsulting.ca)
Subject: FW: Maloney email

Hello

Sorry for the delay in getting back to you. With various people on holiday this took longer than planned to prepare. For ease of response I have copied your original questions and comments below and then provided a response to each one. I hope this helps.

I gather the June 22 Groundwater Workshop never got around to discussing the Richmond Landfill (the first topic you added to the whiteboard.) Is a continuation meeting planned, to complete discussion (with Prof. Rowe)?
At this time a meeting to discuss the Richmond Landfill with Dr. Kerry Rowe is not planned.

The 47-page brochure for the Groundwater Workshop looks as if no professional cartographers contributed to its production.
Plans, figures and drawings presented at the groundwater workshop were prepared by AutoCAD or GIS professionals. When we prepare information for workshop presentations and open houses we use base maps available from various sources, and sometimes we remove some of the details on plans, figures and drawings to ensure the focus is on the intended area of discussion. When these same plans, figures and drawings are presented in reports, all of the relevant reference material is provided.

P.11 "Geological Setting of the Site" is dated solely to the GSC in 2001. Discussion June 22 confirmed that Golder compiled this map in 2012-13 from data published in 1992.

> No key for this map explains the symbols (d, zz, numerals.)
>
> The many watercourses shown on this map do not distinguish between those that usually contain water (e.g. the Bear Brook main course and the artificial ponds on the Greyhawk golf course) and dug ditches that hold water only during runoff.

As explained during the workshop, the 2001 date is our license date that allows us to reproduce the information. The actual data on the extent of various subsurface material types comes from the published Geological Survey of Canada map 1507A, dated 1982. This map, as prepared by the Geological Survey of Canada, is not meant to distinguish between watercourse types and presents information available in 1982. By using this map we wanted to highlight the surficial geology at the Boundary Road Site and not overwhelm people with technical terminology and hence we opted to remove the legend. It has been copied below for your reference.

SURFICIAL GEOLOGY

1a	TILL, PLAIN WITH LOCAL RELIEF <5m
1b	TILL, DRUMLINIZED
1c	TILL, HUMMOCKY TO ROLLING WITH LOCAL RELIEF 5 TO 10 m
2	ICE CONTACT STRATIFIED DRIFT: GRAVEL & SAND
3	OFFSHORE MARINE DEPOSITS: CLAY, SILTY CLAY & SILT
3_g	OFFSHORE MARINE DEPOSITS: CLAY, SILTY CLAY & SILT (GULLIES & RAVINES)
3a	OFFSHORE MARINE DEPOSITS: CLAY & SILT UNDERLYING EROSIONAL TERRACES
3a_g	OFFSHORE MARINE DEPOSITS: CLAY & SILT UNDERLYING EROSIONAL TERRACES (GULLIES & RAVINES)
4	DELTAIC AND ESTUARY DEPOSITS: MEDIUM TO FINE GRAINED SAND
4_g	DELTAIC AND ESTUARY DEPOSITS: MEDIUM TO FINE GRAINED SAND (GULLIES & RAVINES)
5a	NEARSHORE SEDIMENTS: GRAVEL, SAND & BOULDERS
5b	NEARSHORE SEDIMENTS: FINE TO MEDIUM GRAINED SAND
6a	ALLUVIAL DEPOSITS: SILTY SAND, SILT, SAND & CLAY
6a_g	ALLUVIAL DEPOSITS: SILTY SAND, SILT, SAND & CLAY (GULLIES & RAVINES)
6b	ALLUVIAL DEPOSITS: MEDIUM GRAINED STRATIFIED SAND WITH SOME SILT
6b_g	ALLUVIAL DEPOSITS: MEDIUM GRAINED STRATIFIED SAND WITH SOME SILT (GULLIES & RAVINES)
7	ORGANIC DEPOSITS: MUCK & PEAT
d	DUNE
d_g	DUNE (GULLIES & RAVINES)
l	LANDSLIDE AREA
l_g	LANDSLIDE AREA (GULLIES & RAVINES)
r1	BEDROCK: INTRUSIVE & METAMORPHIC
r2	BEDROCK: LIMESTONE, DOLOMITE, SANDSTONE & LOCAL SHALE
r2_g	BEDROCK: LIMESTONE, DOLOMITE, SANDSTONE & LOCAL SHALE (GULLIES & RAVINES)
zz	WATER

P. 13 "Geological Setting of the Site . . . Bedrock" has no key, thus does not tell readers the dotted lines indicate notional faults and the data source is undated. This is relevant so far as most of the watercourses shown north of Russell Rd. are nowadays boggy zones with no measurable water flow except during spates (runoff.)
As explained during the workshop, this map shows faults interpreted by D.A. Williams, Ontario Geological Survey, Paleozoic Geology of the Ottawa-St. Lawrence Lowland, Southern Ontario 1991. The dashed lines show fault locations. This basemap is from the Ontario Ministry of Natural Resources dated 2010 and revised in 2011. It shows both permanent and intermittent surface water bodies.

P.14 "GSS . . . Cross-Section" sources are undated.
As explained during the workshop, this cross section was developed using borehole information from the drilling at the Boundary Road Site, Golder borehole drilling at other sites in the area, South East City boreholes, Ministry of Transportation Ontario boreholes from 417 interchanges, deep holes reported by the Ontario Geological Survey and Ministry of the Environment water well records with accuracy code 5 and below (i.e., less than 300 m location error). The dates on each of these sources are variable and numerous. The drilling at the Boundary Road Site occurred between November 2012 and March 2013.

In p..21 "GSS . . . Interpreted Regional Bedrock Geology" the legend (key) is erroneous for "water well locations."
The June 22 meeting was told the map shows for these locations only those wells that reach bedrock. City of Gloucester archives should still contain full details of all Carlsbad Springs wells (inventoried during planning for the Trickle System in the 1990s.)

The specific purpose of the map is to show the interpreted bedrock geology, therefore any wells that do not reach the bedrock and therefore do not provide information on the position of the bedrock surface or describe the type of bedrock encountered are not useful for this purpose. Any wells that reach bedrock contained in the City of Gloucester archives related to the Trickle Feed System inventory must also be reported in the Ministry of Environment water well record database; knowing that the Carlsbad Springs area is underlain by a thick clay deposit and that most wells used prior to the trickle feed system were shallow dug wells in the soil, the inventory is not expected to provide useful information to assist in interpretation of bedrock geology. Golder also indicated that we did not report on wells with more than 300 m location error as reported in the database.

> This map is described as "Final Draft" and is undated.
> This map was prepared by Golder Associates in June 2013, it is final draft until it is finalized in the Environmental Assessment report.
>
> The topological source appears erroneous in at least two respects in the quadrant north of Russell Rd. and east of Boundary Rd.
> The data used to prepare this map has been fully quality checked and it represents the top of the bedrock surface. If you have information to support any errors, we would appreciate receiving and reviewing it, if you can share the information with us.
>
> The course of the Bear Brook is wholly omitted from Boundary Road eastward (although the topo. map on p. 13 shows the Bear Brook fully and accurately.)
> Bear Brook is present on Slide 21 east of Boundary Road although some of the branches appear to be omitted. The basemap used to derive surface water provided on Slide 21 is from the Ontario Ministry of Natural Resources data 2010 and it includes permanent and intermittent water bodies.
>
> The p.21 map shows an isolated pond north of Russell Rd. and east of Boundary Rd. This was a natural slough shown on many old maps which disappeared a decade ago. It is correctly absent from the maps on p.13 and p. 38. The pond's presence on p. 21 must be an error in either the source map or its attributed date (here given as 2010).
> The basemap used to derive surface water provided on Slide 21 is from the Ontario Ministry of Natural Resources data 2010 and it includes permanent and intermittent water bodies. The basemap used to derive surface water provided on Slides 13 and 38 is dated 2010 and revised in 2011.

Pp.29-31 "Hydrogeology" (4 maps) have no key, thus fail to define contour lines and numbers (blue) and point numbers (black.) The source is given as MNR/Golder and all are undated.
As described during the workshop, the black points are monitoring well locations, the blue numbers are groundwater elevations and the blue lines are groundwater contours. The groundwater data presented on these four slides is from May 2013 as noted on the slides. The basemap is from the Ontario Ministry of Natural Resources, 2010 (revised 2011).

P.37 cites "residents and businesses in the immediate vicinity of the site" without defining "immediate vicinity."
Immediate vicinity in this case is about 500 metres around the Boundary Road Site boundary.

If you have further questions as you review the material, I would be happy to try and answer them.

Regards,

Trish Edmond (M.E.Sc., P.Eng.) | Associate, Geoenvironmental Engineer | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 x 3246 | **F:** +1 (613) 592 9601 | **C:** +1 (613) 799 1960 | **E:** Trish_Edmond@golder.com |
www.golder.com

Work Safe, Home Safe

-----Original Message-----
From:
Sent: July 3, 2013 1:36 PM
To: Edmond, Trish
Cc:
Subject: Re: Maloney email

TE
Please excuse my blushes concerning staff names . . .

I gather the June 22 Groundwater Workshop never got around to discussing the Richmond Landfill (the first topic you added to the whiteboard.) Is a continuation meeting planned, to complete discussion (with Prof. Rowe)?

The 47-page brochure for the Groundwater Workshop looks as if no professional cartographers contributed to its production. Notable points:

P.11 "Geological Setting of the Site" is dated solely to the GSC in 2001. Discussion June 22 confirmed that Golder compiled this map in 2012-13 from data published in 1992.

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The many watercourses shown on this map do not distinguish between those that usually contain water (e.g. the Bear Brook main course and the artificial ponds on the Greyhawk golf course) and dug ditches that hold water only during runoff.

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Pp.29-31 "Hydrogeology" (4 maps) have no key, thus fail to define contour lines and numbers (blue) and point numbers (black.) The source is given as MNR/Golder and all are undated.

P.37 cites "residents and businesses in the immediate vicinity of the site" without defining "immediate vicinity."

Good luck,

----- Original Message -----
From: "Edmond. Trish" <Trish Edmond@golder.com>
To:
Sent: Monday, 24 June, 2013 10:49 AM
Subject: FW: Maloney email

Hello

Patricia Maloney is not involved in the CRRRC project. I am Patricia (Trish) Edmond and I was present at the workshop on Saturday. If you would like to discuss errors or send information you can provide it to this email address.

Regards,

Trish Edmond (M.E.Sc., P.Eng.) | Associate, Geoenvironmental Engineer |
Golder Associates Ltd.
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: +1 (613) 592 9600 x 3246 | F: +1 (613) 592 9601 | C: +1 (613) 799 1960 |
E: Trish_Edmond@golder.com | www.golder.com

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: October 1, 2013 6:31 AM
To:
Subject: Re: Carlsbad dump

Thank you for your note.

We are progressing with the impact assessment of the proposed CRRRC at the Boundary Rd location. To receive approval, we will have to demonstrate it will not have offsite adverse impacts in accordance with MOE requirements. Your house is well-removed from the site. I am very confident the facility, if built, will have no impacts on your property, any more so than the existing industrial uses at this location. We would welcome the opportunity to discuss your concerns with you in more detail at our next open house.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On 2013-09-26, at 5:43 PM, wrote:

Hi Taggart-Miller.

My name is I live at I'm approximately km from the dump site proposal. I just bought this house. I love the area. I grew up around here. I just want to say I would like it if you guys could try to locate your dump somewhere else. I know you guys are a business and want to make money and grow as a business. I think this community has some of nicest people in Canada, and I honestly think the dump would hurt that. That's why I bought the house, And I don't think the dump in Carlsbad is the best place for it.

Appendix J-5

Comment Responses Following Newsletter Distribution

Edmond, Trish

Subject: FW: You have received a new voicemail message

From: Hubert Bourque [mailto:hjbourque@crrrc.ca]
Sent: November 27, 2013 9:18 AM
To: Doug Thomson
Cc: Howard C. Williamson; Edmond, Trish; Nigel G. H. Guilford; Jeff Parkes
Subject: Re: You have received a new voicemail message

I called yesterday to let him know that the PVPP conditions are yet to be finalized but without making any commitments that usual practice is that properties that are in part within the 5 Km zone are included.

HB

From: Hubert Bourque [mailto:hjbourque@crrrc.ca]
Sent: Tuesday, November 26, 2013 2:00 PM
To: Thomson, Douglas R.
Cc: Howard C. Williamson; Trish Edmond
Subject: Fwd: You have received a new voicemail message

Hello Mr. Bourque. calling. I'm following up on the discussions we had on Novermber 7 regarding my property at regarding the property value protection for my property. I sent you an email with the details of my property. I've not received a reply to my email. I want to confirm that you have received all the details and want to know where we stand. Thank you. You can reach me at

Begin forwarded message:

From:
Subject: You have received a new voicemail message
Date: November 26, 2013 at 1:23:59 PM EST
To: hjbourque@mac.com
Reply-To: donotreply@vonage.com

Date: Nov 26 2013 01:23:58 PM
From:
To : Hubert Bourque (16134545580)

Appendix J-6

Comment Responses Following the Notice of Open House #5

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: November 25, 2013 11:28 AM
To:
Cc: Smolkin, Paul; ian.parrott@ontario.ca; Crack_Grant-MPP
Subject: Re: EPA question etc

Good morning

The preparation and approval of a TOR is part of the EA process. There is not a TOR required for EPA and/or OWRA approvals; they are other Ministry of Environment approvals required for the CRRRC project to proceed, and applications for these approvals will be submitted after EA approval is received, as described in Section 8.5.1 of the approved TOR. The work plans presented in Appendix C-2 of the approved TOR describe the studies to be completed at the Boundary Road site for both EA and EPA/OWRA purposes; an outline of the documents relevant to the EPA and OWRA applications is described in Section 8.4 of the approved TOR.

As described in Section 9.3 of the approved TOR, the EA will first be made available for public and agency review in draft form; there will be a seven week period to comment on the draft report. Comments received on the draft report will be considered by Taggart Miller in relation to the final EA.

At the upcoming Open House, the results of the assessment of potential effects from the proposed CRRRC project will be displayed. The material will be at the Open House on December 5th, and will then be posted on the project website.

We are not familiar with the very recent MNDM work that you refer to, and would appreciate if you would provide us with more specific information, i.e., the document title or a link to where it can be found, so we can ensure that we have the same document to which you are referring.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Nov 22, 2013, at 7:36 AM, wrote:

Good morning,

I was looking at a flow chart for the EA process for your crrrc landfill proposal and I noticed the EPA and OWRA studies are grouped separately from the EA studies. Is there a separate TOR for these studies? Public consultation for such TOR? If not, where are the parameters for these studies defined? I want to familiarize myself with what ought to be included in the EPA and OWRA.

Also, it looks like the draft and final versions of your EA are scheduled to be provided concurrently. Wouldn't it make sense to provide the draft earlier than the final, thus creating an opportunity to make use of feed-back

from the GRT and public consultation? After all, as we saw with the TOR for the EA, response to the draft document can result in important improvements (for example, finding a whole new location for the project...).

Lastly, at your earliest convenience, please provide me with a complete set of the documents being presented at your Open House on Dec 5, including references to any supporting studies and documents. I am interested in whether you are including the state of the art data from the aerial MNDM ground water flow survey conducted in eastern Ontario this fall (2013). This is by far the most comprehensive and current data set on the region's structural geology and should fill in many of the blanks in our knowledge of ground water dynamics locally, including for your site where aquifers at different depths may move in different directions. Having a more precise understanding of these features is obviously paramount to devising any credible description of the risks associated with putting a large, unlined landfill on a sandy site.

Thanks,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: November 26, 2013 8:38 AM
To:
Cc: Smolkin, Paul; ian.parrott@ontario.ca; Crack_Grant-MPP
Subject: Re: EPA question etc

Good morning

The amended and approved Terms of Reference are posted on our website at http://crrrc.ca/whatsnew.htm under the heading:

> **January 3, 2013 - Amended and approved terms of reference for Environmental Assessment of the Proposed Capital Region Resource Recovery Centre**

Let me know if you any trouble accessing it.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Nov 25, 2013, at 5:51 PM, wrote:

Thanks again for the reply. Please find the flow chart from your website linked below. It is the source of my confusion regarding the relative timing of the draft and final versions of the EA report - they appear to be concurrent on this diagram. Also, the EPA and OWRA studies are completed after the "main" EA studies - or so it would appear. The way they are streamed off separately in this diagram made me wonder if they have their own terms of reference.

I understand the references you made to the approved TOR. I do not possess a complete copy of the final, approved version of the TOR. Could you please mail one to me:

Thanks,

http://crrrc.ca/_documents/Open-House-Number-Four-Display-Boards.pdf

On 25 November 2013 11:28, Hubert Bourque <hjbourque@crrrc.ca> wrote:
Good morning

The preparation and approval of a TOR is part of the EA process. There is not a TOR required for EPA and/or OWRA approvals; they are other Ministry of Environment approvals required for the CRRRC project to proceed, and applications for these approvals will be submitted after EA approval is received, as described in Section 8.5.1 of the approved TOR. The work plans presented in Appendix C-2 of the approved TOR describe the studies to be completed at the Boundary Road site for both EA and EPA/OWRA purposes; an outline of the documents relevant to the EPA and OWRA applications is described in Section 8.4 of the approved TOR.

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We are not familiar with the very recent MNDM work that you refer to, and would appreciate if you would provide us with more specific information, i.e., the document title or a link to where it can be found, so we can ensure that we have the same document to which you are referring.

Regards,

Hubert Bourque, P.Eng.
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Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: November 26, 2013 10:11 AM
To:
Cc: Smolkin, Paul; ian.parrott@ontario.ca; Crack_Grant-MPP
Subject: Re: EPA question etc

Hi

We will arrange for delivery of a CD to you.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Nov 26, 2013, at 9:40 AM, wrote:

Thank you, Mr. Bourque. I am familiar with your website. It would be very helpful to me to have a "hard copy" - can that be arranged?

Thanks,

On 26 November 2013 08:37, Hubert Bourque <hjbourque@crrrc.ca> wrote:
Good morning

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I was looking at a flow chart for the EA process for your crrrc landfill proposal and I noticed the EPA and OWRA studies are grouped separately from the EA studies. Is there a separate TOR for these studies? Public consultation for such TOR? If not, where are the parameters for these studies defined? I want to familiarize myself with what ought to be included in the EPA and OWRA.

Also, it looks like the draft and final versions of your EA are scheduled to be provided concurrently. Wouldn't it make sense to provide the draft earlier than the final, thus creating an opportunity to make use of feed-back from the GRT and public consultation? After all, as we saw with the TOR for the EA, response to the draft document can result in important improvements (for example, finding a whole new location for the project...).

Lastly, at your earliest convenience, please provide me with a complete set of the documents being presented at your Open House on Dec 5, including references to any supporting studies and documents. I am interested in whether you are including the state of the art data from the aerial MNDM ground water flow survey conducted in eastern Ontario this fall (2013). This is by far the most comprehensive and current data set on the region's structural geology and should fill in many of the blanks in our knowledge of ground water dynamics locally, including for your site where aquifers at different depths may move in different directions. Having a more precise understanding of these features is obviously paramount to devising any credible description of the risks associated with putting a large, unlined landfill on a sandy site.

Thanks,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: December 2, 2013 1:21 PM
To:
Cc: Smolkin, Paul; ian.parrott@ontario.ca; Crack_Grant-MPP
Subject: Re: EPA question etc

Hi

The files on the CD that we sent you is are identical to the files on our website and they represent the final approved amended Terms of Reference. The terminology "proposed" within the title of the documents is consistent with MOE practice for the title of an approved Terms of Reference.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Dec 1, 2013, at 6:33 PM, wrote:

Mr Bourque,

Thanks for sending me a CD. Unfortunately, it is the PROPOSED Terms of Reference for the EA for your landfill project. I already have a copy of the proposed version - I requested the FINAL version, the version as approved by the Ministry. I keep seeing references to "the approved TOR", but I don't have a copy of this approved TOR. I would greatly appreciate it if you could send me the complete, final TOR documents, in French and English if possible.

Regards,

On 26 November 2013 11:29, wrote:
Thanks - that's great.

On 26 November 2013 10:11, Hubert Bourque <hjbourque@crrrc.ca> wrote:
Hi

We will arrange for delivery of a CD to you.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Nov 26, 2013, at 9:40 AM, wrote:

Thank you, Mr. Bourque. I am familiar with your website. It would be very helpful to me to have a "hard copy" - can that be arranged?

Thanks,

On 26 November 2013 08:37, Hubert Bourque <hjbourque@crrrc.ca> wrote:
Good morning

The amended and approved Terms of Reference are posted on our website
at http://crrrc.ca/whatsnew.htm under the heading:

January 3, 2013 - Amended and approved terms of reference for Environmental Assessment of the Proposed Capital Region Resource Recovery Centre

Let me know if you any trouble accessing it.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Nov 25, 2013, at 5:51 PM, wrote:

Thanks again for the reply. Please find the flow chart from your website linked below. It is the source of my confusion regarding the relative timing of the draft and final versions of the EA report - they appear to be concurrent on this diagram. Also, the EPA and OWRA studies are completed after the "main" EA studies - or so it would appear. The way they are streamed off separately in this diagram made me wonder if they have their own terms of reference.

I understand the references you made to the approved TOR. I do not possess a complete copy of the final, approved version of the TOR. Could you please mail one to me:

Thanks,

http://crrrc.ca/_documents/Open-House-Number-Four-Display-Boards.pdf

On 25 November 2013 11:28, Hubert Bourque <hjbourque@crrrc.ca> wrote:
Good morning

The preparation and approval of a TOR is part of the EA process. There is not a TOR required for EPA and/or OWRA approvals; they are other Ministry of Environment approvals required for the CRRRC project to proceed, and applications for these approvals will be submitted after EA approval is received, as described in Section 8.5.1 of the approved TOR. The work plans presented in Appendix C-2 of the approved TOR describe the studies to be completed at the Boundary Road site for both EA and EPA/OWRA purposes; an outline of the documents relevant to the EPA and OWRA applications is described in Section 8.4 of the approved TOR.

As described in Section 9.3 of the approved TOR, the EA will first be made available for public and agency review in draft form; there will be a seven week period to comment on the draft report. Comments received on the draft report will be considered by Taggart Miller in relation to the final EA.

At the upcoming Open House, the results of the assessment of potential effects from the proposed CRRRC project will be displayed. The material will be at the Open House on December 5th, and will then be posted on the project website.

We are not familiar with the very recent MNDM work that you refer to, and would appreciate if you would provide us with more specific information, i.e., the document title or a link to where it can be found, so we can ensure that we have the same document to which you are referring.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581

Email: hjbourque@crrrc.ca

On Nov 22, 2013, at 7:36 AM, wrote:

Good morning,

I was looking at a flow chart for the EA process for your crrrc landfill proposal and I noticed the EPA and OWRA studies are grouped separately from the EA studies. Is there a separate TOR for these studies? Public consultation for such TOR? If not, where are the parameters for these studies defined? I want to familiarize myself with what ought to be included in the EPA and OWRA.

Also, it looks like the draft and final versions of your EA are scheduled to be provided concurrently. Wouldn't it make sense to provide the draft earlier than the final, thus creating an opportunity to make use of feed-back from the GRT and public consultation? After all, as we saw with the TOR for the EA, response to the draft document can result in important improvements (for example, finding a whole new location for the project...).

Lastly, at your earliest convenience, please provide me with a complete set of the documents being presented at your Open House on Dec 5, including references to any supporting studies and documents. I am interested in whether you are including the state of the art data from the aerial MNDM ground water flow survey conducted in eastern Ontario this fall (2013). This is by far the most comprehensive and current data set on the region's structural geology and should fill in many of the blanks in our knowledge of ground water dynamics locally, including for your site where aquifers at different depths may move in different directions. Having a more precise understanding of these features is obviously paramount to devising any credible description of the risks associated with putting a large, unlined landfill on a sandy site.

Thanks,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: December 12, 2013 9:25 AM
To:
Subject: Re: Meeting on Dec. 5th, 2013, Carlsbad Springs

Hello

Thank you for your message and comments. We were hoping to see you at Open House #5 on December 5 and discuss your comments with you in person. A copy of the material presented at Open House #5 can be found on the project website: www.crrrc.ca in the "what's new" section. The following specifically answers your comments and questions:

1) We are fully aware of the potential for seismic events in Eastern Ontario and have involved both internal and external experts to evaluate the location of nearby faults, the potential for movement of the faults and the potential for ground shaking related to seismic events. Based on their recommendations the Site facilities (buildings and landfill) have been or will be designed to withstand the appropriate required seismic conditions. Panel 15 from the recent open house highlights the studies completed.
2) Based on the assessment work completed, the landfill on the Site will not require a plastic liner to protect neighbouring groundwater. Our investigations have confirmed that the Site and surrounding area is underlain by an extensive clay deposit, and modelling results show that groundwater quality within the silty layer found within the silty clay deposit about 4.5 to 6 metres below ground surface and the till and bedrock found about 30 metres below ground surface will be protected by the naturally occurring silty clay underneath the proposed landfill. It has been predicted that the naturally occurring silty clay is of sufficient thickness and properties to ensure the Site remains in compliance with provincial drinking water requirements (which are protective of human health). The bottom of the landfill itself will mostly be below the upper surficial silty sand layer, and to ensure long term groundwater protection at this location we have proposed a man-made clay liner (a geosynthetic clay liner) around the perimeter of the landfill. Since they are made of natural clay, these man-made clay liners do not break down like plastic liners may over time, but they do need to be installed carefully and their performance monitored in the future. The modelling results show that this geosynthetic clay liner will ensure the groundwater beneath the Site and surrounding areas will remain in compliance with provincial drinking water requirements. Based on the analysis completed, there is no need to use charcoal to remove any of the leachate that may be transmitted through the naturally occurring silty clay. The leachate will be removed from the landfill on an ongoing basis for treatment.

Thank you,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Nov 24, 2013, at 2:58 AM, wrote:

Dear Mr. Bourque,
Thank you for the notice and update in relation to the proposed recycling facility.
An overview of the perceptions and comments that I understand still need addressing are:
1) The substrate in this area (sand/clay) , being near a fault line, is particularly vulnerable in terms of the statistical increase in number and severity of earthquakes, over the last few decades. Therefore any design, should incorporate technology to ensure safety, in the event of an earthquake.

2) The longevity of plastic liner films is usually only a few decades. The first barrier of clay then, should be increased in size and peppered with charcoal to ensure greater filtration of pathogens and organic solvents. Please see historical use of charcoal impregnated, porcelain filters used in portable water filters- Manufactured by Berkey. (can be seen at www.radioliberty.com)

I appreciate that you folks are trying to keep long term safety in mind, and are making efforts to communicate this with the neighbors in this region. And I sense that you take a personal interest in people's well being.

Take good counsel and care,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: December 19, 2013 2:06 PM
To:
Subject: CRRRC Boundary Road site

Further to your call, a map showing the location of our project may be found at:

http://crrrc.ca/_documents/Radius5km_May28_2013.jpg

Detailed information on the project may also be found at crrrc.ca.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

Edmond, Trish

From: Smolkin, Paul
Sent: December 23, 2013 4:49 PM
To: ian.parrott@ontario.ca; Ian M. Taggart; Crack_Grant-MPP
Cc: Hubert Bourque (hjbourque@crrrc.ca)
Subject: RE: open house #5 "faulty" presentation board

The paper by Dix and Jolicoeur uses the some of the same subsurface information that we have used in our assessment and interpretation of the geology, that which comes from the publically available Oil, Gas & Salt Resources Library. The north-south cross-section location shown in the Dix and Jolicoeur paper is similar to the one we prepared and presented at the Groundwater Workshop in June 2013 and at the recent OH#5, since it is drawn through the same hole locations; however, the interpretation in the Dix and Jolicoeur paper does not have the benefit of all the other information we have compiled and used in our interpretation of the geological conditions. The Dix and Jolicoeur paper confirms that the regional slope of the bedrock is gradual and from north to south; that there is no major fault in the area other than the Gloucester fault; and that (as we presented at the Groundwater Workshop) it is well known that minor faults exist in the bedrock in eastern Ontario with vertical offsets on the scale of a few metres to 10's of metres. All of this will be presented in the EA Study report and supporting documents.

Paul

Paul Smolkin (P. Eng.) | Principal | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: [+1] (613) 592 9600 | **F:** [+1] (613) 592 9601 | **E:** Paul_Smolkin@golder.com | **www.golder.com**

From:
Sent: December 14, 2013 8:52 AM
To: Smolkin, Paul; ian.parrott@ontario.ca; Ian M. Taggart; Crack_Grant-MPP
Subject: Re: open house #5 "faulty" presentation board

here's the whole report - turns out the link I sent doesn't get you everything.

Mr Crack, the topic of this report is of significant interest for our area, proposed dump notwithstanding.

Mr Taggart, your site is smack-dab in a re-activated fault zone with displaced rock layers all around and treacherously unstable soil - it is too high-risk for the landfill you propose. There is no need to push forward here when lower risk alternatives exist.

Thanks,

On 13 December 2013 12:43, wrote:
Good afternoon,

I am following up on our brief discussion Dec 5 regarding the content depicted in text and diagram on your bedrock geology open house board. Your claim that apparently there are no faults showing "major" offsetting of the bedrock layers within "several KM" of the Taggart Miller landfill proposal site is:

a) false
b) not supported by the diagram on the same board as the statement
c) all of the above (bingo!)

I am *just* getting started on this but have a looksee at this report (interesting for many reasons) which clearly shows offset geological layers (by more than a hundred feet, which I assume constitutes "major" in your lingo) located approximately 2km East of the subject property. Note also which faults are interpreted as having moved AFTER the Ordovician. The data set for the linked report does not cover the area north and west of your property where if memory serves there are other faults (also offset), so I'll be sending more fun reading your way. BTW, the diagrams in this report look fairly similar to the ones you used - did you "borrow" them? I don't recall seeing credit given to these authors but maybe I overlooked something.

I must mention how disappointed I am to see inaccurate information recklessly presented to the public at a Taggart Miller Open House - this does NOT constitute "meaningful consultation", and every time this happens, we are more convinced your haphazard dump plans have no place in the future of our community.

http://bcpg.geoscienceworld.org/content/59/1/7.abstract

http://crrrc.ca/_documents/CRRRC-Open-House-5-Display-Boards-pages-12-to-19.pdf

regards,

Edmond, Trish

From: Smolkin, Paul
Sent: January 13, 2014 8:10 AM
To:
Cc: nigel.guilford@millergroup.ca; minister.moe@ontario.ca; Crack_Grant-MPP (gcrack.mpp@liberal.ola.org); itaggart@taggartconstruction.com
Subject: Taggart Miller CRRRC EA: Response to December 26 and 30, 2013 Letters from

Thanks for your letters of December 26 and 30, 2013 regarding interpretation of geology, faults and potential disturbance of the clay deposit in the area of the Boundary Road site. The information that was presented on this topic at the December 5 Open House was a high level overview of the findings and our main conclusions. More detailed information on our interpretation of the geological conditions was provided at the Groundwater Workshop in June 2013. Our complete interpretation and conclusions, based on published information and our own work, and considering the interpretation in the Dix and Jolicoeur paper, will be provided in the EA Study Report and supporting documents.

Sincerely,

Paul

Paul Smolkin (P. Eng.) | Principal | **Golder Associates Ltd.**
32 Steacie Drive, Kanata, Ontario, Canada K2K 2A9
T: [+1] (613) 592 9600 | **F:** [+1] (613) 592 9601 | **E:** Paul_Smolkin@golder.com | **www.golder.com**

From:
Sent: December 30, 2013 9:41 AM
To: Smolkin, Paul
Cc: nigel.guilford@millergroup.ca; minister.moe@ontario.ca; Crack_Grant-MPP; itaggart@taggartconstruction.com
Subject: Misrepresentations and Questionable Claims About Conditions at the Proposed Boundary Road Landfill Site

Paul,

Attached is a second letter on the topic of misrepresentations of, and gaps in, information. All information, including uncertainties, must be presented to your clients, whether or not they want to know about it, to MOE and to the people of the community in which you are evaluating a site for a landfill.

This would be an appropriate time to make a good New Year's Resolution about TOTAL DISCLOSURE of all information to the aforementioned parties.

Sincerely,

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: May 7, 2014 2:10 PM
To:
Cc: gcrack.mpp@liberal.ola.org; stephen.blais1@ottawa.ca
Subject: Re: Request for a printed copies of the EA

Hello ,

Thank you for your e-mails. As we are doing for other members of the public who request personal copies of the document, we will provide you with two CD copies of the draft and final EA for the CRRRC project when it becomes available. Printed copies of the documents will be available for review on the premises at the Taggart Miller office in Ottawa as well as the Ottawa District Ministry of the Environment office. These locations and some additional ones where printed copies will be available for review are listed below. The EA will also be available electronically on the project website at www.crrrc.ca.

Taggart Miller Environmental Services 225 Metcalfe Street, Suite 708 Ottawa, Ontario	Carlsbad Springs Community Centre 6020 Piperville Road Carlsbad Springs, Ontario
Township of Russell Public Library 1053 Concession Street Russell, Ontario	City of Ottawa Public Library, Blackburn Hamlet Branch 199 Glen Park Drive Ottawa, Ontario
Ministry of the Environment Ottawa District Office 2430 Don Reid Drive Ottawa, Ontario	

Further, we will be providing three hard copies of the draft and final EA for the CRRRC project to the Capital Region Citizens Coalition for the Protection of the Environment.

Kind regards,

Hubert Bourque
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Apr 4, 2014, at 7:51 AM, > wrote:

I sent this email in January and still no reply!
I have given you three months. You cannot even **confirm a simple email request**???

Here is my postal address:

Pleas send me two printed copies of the DRAFT and of the FINAL EA reports as soon as they are available.

----- Forwarded Message -----
From:
To: "hjbourque@crrrc.ca" <hjbourque@crrrc.ca>
Cc: "stephen.blais1@ottawa.ca" <stephen.blais1@ottawa.ca>; "gcrack.mpp@liberal.ola.org" <gcrack.mpp@liberal.ola.org>
Sent: Tuesday, January 14, 2014 11:24:39 AM
Subject: Request for a printed copies of the EA

Dear Mr Bourque,

I would like to request two **printed** copies of the DRAFT AND of the FINAL EA Reports as soon as they are available. I am only a small player and member of the CRCCPE organization, a concerned citizen and an active resident in the community of Carlsbad Springs. I have heard that the complete EA document is rather large and I don't have a printer that can print that large a document. It is harder and harder for me to read large documents on the computer. My needs are for printed versions.
One copy will be for me and the other copy will be shared among members of my family.

As you are aware, the Carlsbad Springs Community Centre, where you intend to place one copy of the report for public review, is not staffed, so I will not have ready access to the facilities where I could spend time reviewing and providing input on the report.

CRCCPE is a Not For Profit Organization, which has over 150 members from the local communities where the CRRRC is proposed to be situated. I have a keen interest in THOROUGHLY reviewing this project and printed copies of your documents are essential for this task.

Upon confirmation of my email, I will send you my home address.

Thank You.

Edmond, Trish

Subject: FW: Request for copies of the EA

> Original Message
>From: Blais, Stephen
>Sent: Tuesday, April 15, 2014 3:09 PM
>To: Parkes Jeff
>Subject: Re: Request for copies of the EA
>
>
>Sure.
>
>Stephen Blais
>Councillor, Cumberland Ward
>stephen.blais@ottawa.ca
>
>www.stephenblais.ca
>
>
>
>
>
>
>On 2014-04-15, 2:39 PM, "Parkes Jeff" <jparkes@taggart.ca> wrote:
>
>>How about telling her we'll send you three copies and you will
>>distribute them.?
>>
>>Jeff
>>
>>Sent from my BlackBerry 10 smartphone on the TELUS network.
>> Original Message
>>From: Blais, Stephen
>>Sent: Tuesday, April 15, 2014 2:06 PM
>>To: Parkes Jeff
>>Subject: Re: Request for copies of the EA
>>
>>
>>You can¹t print off a few copies for them?
>>
>>
>>Stephen Blais
>>Councillor, Cumberland Ward
>>stephen.blais@ottawa.ca
>>
>>www.stephenblais.ca
>>
>>
>>
>>
>>
>>
>>On 2014-04-15, 1:08 PM, "Parkes Jeff" <jparkes@taggart.ca> wrote:
>>
>>>The draft EA is being finalized shortly and we will provide CD's to
>>>anyone requesting a copy.
>>>

>>>Jeff
>>>
>>>Sent from my BlackBerry 10 smartphone on the TELUS network.
>>>From: Blais, Stephen
>>>Sent: Saturday, April 12, 2014 11:51 AM
>>>To: Parkes Jeff
>>>Cc:
>>>Subject: Fw: Request for copies of the EA
>>>
>>>
>>>Jeff:
>>>
>>>Can we get this taken care of?
>>>
>>>Thanks!
>>>SB
>>>
>>>
>>>Sent from my BlackBerry 10 smartphone on the TELUS network.
>>>From:
>>>Sent: Friday, April 11, 2014 7:04 PM
>>>To: hjbourque@crrrc.ca
>>>Cc: gcrack.mpp@liberal.ola.org; Blais, Stephen
>>>Subject: Re: Request for copies of the EA
>>>
>>>
>>>Mr Bourque,
>>>
>>>I don't believe I received a response to my original enquiry.
>>>Can you please advise if it will be possible to provide three printed
>>>copies so we can provide to our experts for review.
>>>
>>>Thank You.
>>>
>>>
>>>
>>>
>>>
>>>
>>>From:
>>>Date: Tuesday, 14 January, 2014 10:44 AM
>>>To: "hjbourque@crrrc.ca<mailto:hjbourque@crrrc.ca>"
>>><hjbourque@crrrc.ca<mailto:hjbourque@crrrc.ca>>
>>>Cc: "gcrack.mpp@liberal.ola.org<mailto:gcrack.mpp@liberal.ola.org>"
>>><gcrack.mpp@liberal.ola.org<mailto:gcrack.mpp@liberal.ola.org>>,
>>>"Blais, Stephen"
>>><Stephen.Blais1@ottawa.ca<mailto:Stephen.Blais1@ottawa.ca>>
>>>Subject: Request for copies of the EA
>>>
>>>Mr Bourque,
>>>
>>>I would like to request three printed copies of the DRAFT AND FINAL
>>>EA Reports as soon as they are available. Our Team (CRCCPE) has
>>>retained technical experts through the generous support of the City
>>>of Ottawa and it is mandatory that we provide these experts with
>>>printed copies of your documents.
>>>
>>>As you are aware, the Carlsbad Springs Community Centre where you
>>>intend to place one copy of the report for public review is not
>>>staffed, so neither we nor our experts have ready access to the
>>>facilities where we could spend time reviewing and providing input on the report.

>>>
>>>CRCCPE is a Not For Profit Organization, which has over 150 members from
>>>the local communities where the CRRRC is proposed to be situated. We
>>>have a keen interest in THOROUGHLY reviewing this project and printed
>>>copies of your documents are essential for this task.
>>>
>>>Thank You.
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>>>
>>>This e-mail originates from the City of Ottawa e-mail system. Any
>>>distribution, use or copying of this e-mail or the information it
>>>contains by other than the intended recipient(s) is unauthorized. If
>>>you are not the intended recipient, please notify me at the telephone
>>>number shown above or by return e-mail and delete this communication
>>>and any copy immediately. Thank you.
>>>
>>>Le présent courriel a été expédié par le système de courriels de la
>>>Ville d'Ottawa. Toute distribution, utilisation ou reproduction du
>>>courriel ou des renseignements qui s'y trouvent par une personne
>>>autre que son destinataire prévu est interdite. Si vous avez reçu le
>>>message par erreur, veuillez m'en aviser par téléphone (au numéro
>>>précité) ou par courriel, puis supprimer sans délai la version
>>>originale de la communication ainsi que toutes ses copies. Je vous
>>>remercie de votre collaboration.
>>>
>>
>>
>>This e-mail originates from the City of Ottawa e-mail system. Any
>>distribution, use or copying of this e-mail or the information it
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>>
>>
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>

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>Si vous avez reçu le message par erreur, veuillez m'en aviser par
>téléphone (au numéro précité) ou par courriel, puis supprimer sans
>délai la version originale de la communication ainsi que toutes ses
>copies. Je vous remercie de votre collaboration.
>
>
>

This e-mail originates from the City of Ottawa e-mail system. Any distribution, use or copying of this e-mail or the information it contains by other than the intended recipient(s) is unauthorized.
If you are not the intended recipient, please notify me at the telephone number shown above or by return e-mail and delete this communication and any copy immediately. Thank you.

Le présent courriel a été expédié par le système de courriels de la Ville d'Ottawa. Toute distribution, utilisation ou reproduction du courriel ou des renseignements qui s'y trouvent par une personne autre que son destinataire prévu est interdite.
Si vous avez reçu le message par erreur, veuillez m'en aviser par téléphone (au numéro précité) ou par courriel, puis supprimer sans délai la version originale de la communication ainsi que toutes ses copies. Je vous remercie de votre collaboration.

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: May 7, 2014 2:15 PM
To:
Subject: Re: EA final draft hard copy

Hello ,

Thank you for your e-mail. We will provide you with an English CD copy of the draft EA for the CRRRC project when it becomes available.

Kind regards,

Hubert Bourque
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Jan 14, 2014, at 12:11 PM, wrote:

Mr. Bourque

Could you please provide me with a copy of the EA for the boundary Road site when it becomes available. English version please. I am a concerned local neighbour.Please find herein my mailing address.

thank-you,

Sent from my iPad

Edmond, Trish

From: Hubert Bourque <hjbourque@crrrc.ca>
Sent: May 7, 2014 2:12 PM
To:
Cc: Grant Crack (MPP); ian.parrott@ontario.ca; jbradley.mpp.co@liberal.ola.org; mmeilleur.mpp.co@liberal.ola.org
Subject: Re: CRRRC Environmental Assessment Report

Hello ,

Thank you for your e-mail. We will provide you with a CD copy of the draft EA in English and French for the CRRRC project when it becomes available.

Kind regards,

Hubert Bourque
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Mar 5, 2014, at 8:18 AM, wrote:

Good morning Hubert,

I would like to request CD copies of the upcoming CRRRC Environmental Assessment Report in both French and English. My understanding is that TMES promised the MOE **that all future reports on this project would be made available in both official languages, if the Terms of Reference were approved**! So far you have provided all of the subsequent Open House and Groundwater Workshop materials in both languages.

There is a rumour circulating **that only the Executive Summary of the CRRRC Environmental Assessment Report will be translated into French.** This would be unacceptable to the concerned citizens of Ottawa and eastern Ontario that need to read and understand the details of this work in their official language of choice.

We are concerned about the safety and health of the environment that we live in and the legacy that we will leave for future generations!

President
Citizens' Environmental Stewardship Association - East of Ottawa

Edmond, Trish

Subject: Re: CRRRC Environmental Assessment

From: Hubert Bourque [mailto:hjbourque@crrrc.ca]
Sent: May 26, 2014 8:17 AM
To:
Subject: Re: CRRRC Environmental Assessment

,

The draft EA is not yet complete but when it is we will be pleased to send you a printed copy of the document package.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On May 13, 2014, at 1:09 PM, wrote:

Hello Mr. Bourque.

Please send me a printed (paper) copy of the EA that I understand has now been completed for your project. I need a paper copy, please don't send a CD because my computer can't read them or print large files, and I am disabled to not be capable of reviewing extensive on-line documents.

Thank you.

Edmond, Trish

Subject: Re: Dump update
Attachments: Draft EA and OH # 6 Ad.pdf; ATT00001.htm

From: Hubert Bourque [mailto:hjbourque@crrrc.ca]
Sent: June 12, 2014 8:47 AM
To:
Subject: Re: Dump update

Hi ,

As of June 11 Taggart Miller has announced the availability of the draft Environmental Assessment (EA) for public review. The attached advertisement provides the details. In February 2013 the Boundary Road Site was identified as the preferred site for the CRRRC and the EA was completed on this site. Our project website is the best place to watch for updates: www.crrrc.ca. Further, if you wish to be on our e-mailing list just respond to this e-mail and we will add your name for project updates as they occur.

Regards,

Hubert Bourque
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

APPENDIX K

Summary of Comments on Draft EA

Appendix K-1

Comment Received from the Public

Table K-1: Summary of Comments from Public on Draft EA

Location of Original Comment/Response (if provided)	Commenter Identifier	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
Appendix K-1-1	Individual 10	June 10, 2014	Taggart, get out of town and take your garbage with you!!!	No written response issued.	No change to EA.
Appendix K-1-2	Individual 12	June 10, 2014	Is the draft EA up on the CRRRC website? I don't see anything newer than Dec, 2013.	The draft EA went on the CRRRC website in the early morning on June 11, 2014.	No change to EA.
Appendix K-1-3	Individual 6	June 10, 2014	Merci	No written response issued.	No change to EA.
Appendix K-1-4	Individual 20	June 10, 2014	Received Taggart Miller's notification that the CRRRC Environmental Assessment Reports have been submitted today. The notification says: "Le rapport principal de l'ébauche d'évaluation environnementale - Volume 1 et son résumé seront également disponibles en français." Why is only volume one of these reports available in French?	Please review the draft EA. It has not been submitted; it is being made available for public review prior to being submitted. The main EA report is in both English and French, as we committed in the Terms of Reference. If you have any questions or comments after reviewing the draft, please let me know.	No change to EA.
		June 10, 2014	Vol 1 of 6 large volumes is translated into French! How is that helpful to our Francophone neighbours that deserve to review the report in their language of choice?	Volume 1 is the main EA report and summarizes all of the relevant information. The other documents are technical appendices and consultation records. The submission deals almost entirely with the Boundary Road site as you will see when you review it, as the Russell site is no longer under active consideration.	No change to EA.
		June 11, 2014	Can we now assure the concerned citizens of Russell Township that Taggart Miller has abandoned all plans to put a waste landfill at the North Russell Quarry site, or do you still consider it as an option for the future?	Assuming the EA for the Boundary Road site is approved, Taggart Miller has no plans for the North Russell site and intends to dispose of the site when market conditions are favorable.	No change to EA.
		June 12, 2014	What are your plans for the North Russell Site if the Boundary Rd. Site is not approved by the MOE?	While the EA permits Taggart Miller to revisit the North Russell site in this circumstance, Taggart Miller has no plans to do so should the EA for the Boundary Road site not be approved.	No change to EA.
		June 20, 2014	Thank you Mr. Bourque. We will see you at Open House #6!	No written response issued.	No change to EA.
Appendix K-1-5	Individual 25	June 10, 2014	Just finishes watching the video that you have prepared. I want to know why is it that you are showing all this diversion taking place, since we all know that less than 12% of the waste going to go to this location will actually be recycled. And why did you not include a picture of what this site will look like in 5 years after it is opened and all we can see from the highway will be a mountain of garbage, rats and birds all around the area you should be ashamed	We are in fact projecting diversion rates of between 43 and 57 per cent at the CRRRC. Re visibility, please review the visual assessment in the draft EA or come to our upcoming open house. You will see that the facility can be effectively screened to minimize any visual impact.	No change to EA.
Appendix K-1-6	Individual 26	June 12, 2014	Many difficulties trying to view Draft EA. Most items load but do not display.	We are not receiving any other comments about difficulties in displaying the reports. I just tried downloading a number to be sure and they all downloaded and displayed properly. I suggest you check your security settings on your computer and ensure that you have the updated Adobe software for viewing.	No change to EA. As commented by the MOECC, EA documents loaded on the website will be screened to ensure they all download correctly.
		June 18, 2014	Thanks	No written response issued.	No change to EA.
Appendix K-1-7	Individual 23	June 13, 2014	Is this draft the only time we have to comment? Will we have the same time to comment on the final version? The local impacted residents are wondering why we would comment now…the final version could be significantly different. Please advise. Also, the last email I sent you in early January took you over 5 months to respond…..a response within a week would be more appropriate.	There is a 7 week review period on the final EA, once submitted. We do not anticipate that the final EA will be materially different from the draft, however that will depend on the comments received on the draft.	No change to EA.

<table>
<tr><th>Location of Original Comment/Response (if provided)</th><th>Commenter Identifier</th><th>Date Received</th><th>Issues/ Concerns Raised</th><th>Response</th><th>How Comments were Considered by Project Team</th></tr>
<tr>
<td>Appendix K-1-8</td>
<td>Bishops Mills Natural History Centre</td>
<td>June 25, 2014</td>
<td>As you may realize, as a scientist with a museum background, I find many of these environmental assessments prepared by industry and government hard to understand, in part because of their failure to integrate the findings into a cohesive picture, and in large part because of their consistent neglect of the standard sources of knowledge about biota and natural history: museum collections and the scientific literature.

I notice that no peer-reviewed, or other, scientific literature is cited in the assessment, and that that no searches of museum collections, nor of provincial databases of occurrence, are referenced. Even my recent publication of the first record of a species of vascular plant for eastern Ontario from the site (Schueler 2014, which was published in part to give Taggart Miller the opportunity to say they'd minimize the chances of this potentially invasive species spreading), isn't mentioned.

Since so much of these environmental assessments (EA's) focus on detecting Species at Risk (SAR), the finding of which would argue against the proposed project, a scientific approach to the EA would require that opponents of the project perform the search for SAR, since the proponent has no motive for finding these rare or elusive creatures.

In fact, the CRCCPE has undertaken some investigation of the biota, to the extent that it is observable from the periphery of the site, and has asked me to be involved, and since my primary expertise is in herpetology, I'll just deal with the herpetofauna section in my further review.

I have appended the unedited output of herp records from my database to this review. You'll see that in just about 10 hours of work on 4 dates, on the periphery of the site, we found the same 5 common amphibians that your observers found, plus the expectedly most common SAR: the "Western" Chorus Frog, and the Snapping Turtle. This suggests a bias on the part of your observers, since the Chorus Frog's call can be heard for 500 metres, we had previously published an account of finding Chorus Frogs just south of the site (Karstad, et al., 2012), and inquiry would have advised you that a peer-reviewed account of this population is now in press (Seburn, et al., 2014).

I think the failure to find Milk Snakes is due to their non-occurrence in the area (Schueler 2007), and I think that the Salamanders expected in the area (Ambystoma laterale and associated hybrids) would only be found by sampling ponds for larvae, since the adults are inconspicuous. Any assessment of the herpetofauna of an Ontario site should request records of previous observations and specimens from the Ontario Reptile and Amphibian Atlas Program.[1]

I'll say also that it's disappointing to see Mollusca completely neglected: we are presently studying a sample of drifted shells washed out of the site by Shaw Creek, and will publicize the results as they become available.

I know it must be hard working on a project with such defective premises. It can be suggested that the only worthwhile outcome of such an enterprise is the use of proponents' resources to document the conditions on the site before</td>
<td>No written response issued.

The EA did include a list of databases that were used, and a long list of scientific literature which was reviewed, in the biology assessment. Not all of these data sources and references were transferred to Volume I, the EASR, but all are included in TSD 4. Museum collections were not considered in the assessment, as the assessment is based on the potential effects of the Project on the current conditions on the Site.

The level of desktop and field data collection completed by Taggart Miller's consultants for the CRRRC EA meets or exceeds the requirements of the MNRF for similar types of development projects. Field surveys and data review were completed in accordance with the procedures and methods outlined in the approved TOR, and as per discussions with MNRF for specific SAR. All species observed were recorded and considered in the effects assessment. Some of the species identified by the commenter were simply not found during any of the several field surveys. All field surveys were conducted by senior biology field technicians with a minimum of 16 years of experience.

The following field surveys were completed on the Site:

Table 1: Summary of Natural Environment Field Surveys
<table>
<tr><th>Year</th><th>Date</th><th>Type of Survey</th></tr>
<tr><td rowspan="4">2012</td><td>Sept 20, Oct 1</td><td>Ecological Land Classification and vegetation survey</td></tr>
<tr><td>Sept 20</td><td>Mammal area search/visual encounter survey</td></tr>
<tr><td>Sept 20</td><td>Aquatic (fish and fish habitat) survey at DD1, DD2 and Simpson Drain</td></tr>
<tr><td>Oct 11</td><td>Benthic survey at DD2 and Simpson Drain</td></tr>
<tr><td rowspan="6">2013</td><td>Apr 21, May 22, June 20</td><td>Nocturnal amphibian survey</td></tr>
<tr><td>Apr 21</td><td>Salamander habitat assessment and egg mass survey</td></tr>
<tr><td>Apr 21, June 6, June 20, June 26, Aug 29, Sept 13, Sept 20, Sept 21, Oct 15</td><td>Herpetile area search/visual encounter survey</td></tr>
<tr><td>Apr 21</td><td>Mammal area search/visual encounter survey</td></tr>
<tr><td>Apr 21</td><td>Snake emergence survey</td></tr>
<tr><td>Apr 21, May 22, June 20</td><td>Owl and crepuscular/nocturnal breeding bird survey</td></tr>
</table></td>
<td>No change to EA.</td>
</tr>
</table>

Location of Original Comment/Response (if provided)	Commenter Identifier	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
			permission to proceed is denied. Perhaps these suggestions will allow the final environmental assessment to be more complete and scholarly, despite the overall implausibility of the project.	Apr 21 — Raptor nesting survey Apr 21, June 6, June 26, July 13, Aug 29, Sept 13, Sept 20, Sept 21 — Ecological Land Classification and vegetation survey May 16 — Aquatic (fish habitat) survey DD1, DD2, and Simpson Drain. June 6, June 26 — Breeding bird and marsh bird playback survey June 14 — Mobilization of bat detectors BAT1 and BAT2 June 14 — Bat habitat survey June 14, June 26, Aug 29, Sept 13, Sept 20, Sept 21, Oct 15 — Area search/visual encounter survey for all wildlife, including butterflies and dragonflies July 3 — Mobilization of bat detector BAT3 July 13 — Demobilization of bat detectors Aug 26 — Fish habitat mapping at DD1, DD2 and Simpson Drain Sept 6 — Fish community inventory survey at DD1, DD2 and Simpson Drain Sept 13 — Fish habitat mapping at DD3 Sept 20 — Fish community survey at DD3 Oct 15 — Benthic survey at DD3 Oct 18 — Benthic survey at off-Site reference stations (B7 and B8 on Figure 2)	
Appendix K-1-9	Individual 1	June 26, 2014	Comment to Taggart Miller: Without going into detail I just want you to know that the draft EA available for downloading from your website is very poorly organized. For example: there is an important section 8.5 which must be an integral part of the main geological report, yet it is not. It appears separately. Autrement dit il faut que cette partie soit incorporé dans le rapport, non a part. Please have that report re-organized. As you and the direction at Golder Associates must know that form of presentation, i.e. dispersing relevant information rather than concentrating it, is extremely frustrating to the reviewer and may lead many to just "throw in the towel" and not devote their attention to the EA that it, the EA, deserves. As concerned citizens you should want an honest and effective review from the regulators and the community. The final EA must be organized to facilitate review, meaning that all parts of any component are together in a single volume. By way of illustration the entire geological presentation, including all illustrations, tables and text MUST be in the same volume. The same applies to each and every other component that	The main Environmental Assessment Study Report (EASR) and the Geology, Hydrogeology and Geotechnical Report (Volume III) have been organized in a manner similar to other approved EA's and hydrogeology reports supporting waste EA's and waste management applications in the province of Ontario. The organization and format is not unique to the CRRRC project. Components of geology and hydrogeology within the main EASR are summaries of the full details provided in the Geology, Hydrogeology and Geotechnical Report. There is no geology or hydrogeology content within the EASR that is not in the Geology, Hydrogeology and Geotechnical Report (Volume III). We encourage you to read the Geology, Hydrogeology and Geotechnical Report (Volume III) fully as we anticipate this is likely where your interest lies.	No change to EA.

Location of Original Comment/Response (if provided)	Commenter Identifier	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
			makes up the mountainous document. Comment to Ms. Garcia-Wright (MOE): This is being sent to you in order that you may see that I have addressed the proponent directly. Now let's see what good it does. Proponents have an obligation to submit an EA report, but I am not aware that MOE has any requirements regarding organization of the report. As a person who has lots of experience reading and evaluating similar reports I could provide you with requirements, free of charge. Those requirements would oblige Taggart-Miller Environmental Services (TMES) to submit an EA that facilitates review by MOE staff, your Government Review Team (GRT) and concerned people. The reason for my not submitting any now is because you have, thus far, ignored my recommendations. My recommendations are not from a NIMBY perspective because I am NOT NIMBY. They would apply to anyone wishing to develop a landfill anywhere in Ontario. I realize that TMES would have to dictate to Golder that the report must be reorganized, which would take additional time. If, however, you really do care about protecting the environment, then you would require a reorganization of that report for the official submission. To see how the draft report is organized go to: http://www.crrrc.ca/whatsnew.htm Il faudrait, également, que le rapport entier soit soumis en français aussi bien qu'en anglais. The entire report must be bilingual.		
Appendix K-1-10	Individual 20	June 25, 2014	Images and partial articles were provided by this individual at Open House #6 in relation to his review of the draft EA. 1. The first attachment is the recent airborne geophysical magnetic survey map of the basement Precambrian geology in the area prepared by the OGS and published. 2. The second map is the seismic site class map of the Ottawa area prepared by the GSC. 3. The 3rd reference is about the big earthquake that this area could experience. 4. The 4th reference is the paper from Brooks about the dating of large historic earthquakes that caused landsliding in the Quyon area, with the new information being that this occurred as recent as ~1,000 years ago. It builds on the work done east of the City by the GSC about the large historic quakes around 4500 and 7000 years ago.	No written response issued. 1. The preliminary airborne total field magnetic survey was reviewed. The magnetic trends shown are consistent with the northeast-southwest structural trend of the Grenville age Precambrian basement that underlies the area. The Gloucester Fault is also indicated by offset magnetic patterns in the basement structure that approximately coincide with the known position of this structure. 2. During the EA, site specific VSP testing was completed, the results of which show the Boundary Road Site to be Class E. This agrees with the GSC seismic site class map. 3. Taggart Miller used M6 to M7 earthquakes in assessment of the CRRRC, so this reference does not add any new considerations for the assessment. 4. The Brooks paper was reviewed. The location is over 100 km from the CRRRC Site and does not affect the relevant conclusions of this part of the assessment.	2. A reference to the seismic site class map of the Ottawa area was added to the EASR and it includes a statement that the map agrees with the results of Site specific testing.

Location of Original Comment/Response (if provided)	Commenter Identifier	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
Appendix K-1-11	Individual 9	June 24, 2014	Ms. Zappone: Based on your knowledge of prior applications for EA review, can you characterize how precise factual summaries are expected (by MoE officials) to be? This question is prompted by the Draft EA document published this month by the Miller-Taggart consortium promoting the CRRRC near Ottawa -- specifically how it describes on p 255-6 (para. 13.2.4) "the area of the site" viz. "Mainly properties/facilities/ yard areas… Some existing residences fronting on Boundary Road." 1. This description does not describe "the area of the site" but merely the roads round the site, possibly even just one side of these roads. By contrast, only a dozen pages away in the Draft EA the area of the site is (for the proposed Property Value Protection Plan, p.268) described as a circle of radius 5 km. i.e. including the villages of Carlsbad Springs and Edwards. The Draft EA was obviously written by many hands but it constitutes a single document submitted by a single commercial entity: only no editor has attempted to co-ordinate the various components of the EA so that they fit together. The same vague phrases, e.g. "the area of the site" are used to mean different things on different pages. Do MoE officials normally expect applicants to be consistent in these respects, or does the MoE usually accept documents as ambiguous and imprecise as this? 2. It takes less than one man-hour to make an exact inventory of the geography actually described in para. 13.2.4. The peripheral roads of the dump site contain 13 business premises and 12 residences (3 already bought by M-T for demolition in 2015). The Draft EA provides no such numbers. Readers cannot know whether the drafter of this paragraph never bothered to count the businesses and residences, or had the figures before him and could not be bothered to put them before local residents and MoE examiners. Readers are equally unaware why para. 13.2.4 omits the most obvious single business establishment directly opposite the dump site, a Petro-Canada gas station, also the only food vendor currently open for business adjacent to the site. (The paragraph specifies a gas bar with three gas pumps -- which means the Luso Garage, not Petro-Canada which has four double-sided pumps, i.e. countable as either 4 or 8.) Readers who know the geography cannot know why so much was left out. Readers who do not know the geography cannot know that so much was left out. Is this normal for planning documents placed before the MoE?	No written response issued. 1. In the context of Section 13.2.4 of Volume I of the main EA, the "area of the Site" being discussed is the Site-vicinity, which is described in Section 2.3 as 500 metres around the Site. The proposed Property Value Protection Plan area is described as a 5 kilometre radius as noted. The description of these areas is for entirely different purposes. 2. Taggart Miller did inventory all land within the Site-vicinity regarding land usage. Residential land use was quantified in Section 8.4.1 of the draft EA. Within 500 metres of the Site there are 9 residences recorded, not including the residences owned by Taggart Miller that would be removed as a result of developing the property. The general nature of businesses in the Site-vicinity was provided.	1. Section 13.2.4 of Volume I, 1st paragraph term "area of the Site" changed to Site-vicinity to avoid confusion.

Location of Original Comment/Response (if provided)	Commenter Identifier	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
Appendix K-1-12	Sue Langlois, President CRCCPE	July 31, 2014	The Capital Region Citizens Coalition for the Protection of the Environment (CRCCPE) actively represents the concerned residents of Carlsbad Springs, Edwards and Vars, the unwilling host community for the proposed CRRRC landfill and diversion project. Since the announcement that the Boundary Road site was being considered for the private landfill project, CRCCPE has stated dissatisfaction with the planning, consultation, and lack of due diligence displayed by Taggart--Miller. The draft Terms of Reference (TOR) did not mention the Boundary Road site, but the final version of the Terms included it as an unlikely alternative to a North Russell property. At this point a draft EA report focusing exclusively on the Boundary Rd property has been put forward. Given the past experience on this project and the enormous deviation in content, between the draft and final TOR documents, CRCCPE will reserve our detailed review and analysis for the final EA, once all information has been included. In general, CRCCPE notes that Taggart--Miller has not referenced ALL published technical information on topics including biology, geology and engineering which are pertinent to properly assessing the foreseeable environmental impacts of the proposed CRRRC project at the Boundary Road location. The fact that Taggart-- Miller has not made use of all the relevant studies of the property available from the City of Ottawa's own planning department, such as the GEOCON report for example, highlights the concerning lack of rigour with which they are approaching the risk assessment of this project. Taggart--Miller informed the public that the draft EA report would require review between January and March 2014 and CRCCPE retained experts for that task in that time frame. The unexplained delay of the draft EA review period until high summer conflicts with the scheduled field work of several technical reviewers. Nonetheless, two of CRCCPE's technical experts have provided comment on this draft EA to Taggart--Miller, independently noting the lack of thoroughness. That Taggart--Miller's biologists failed to report beavers and other large fauna inhabiting the site is especially revealing. As recognized in the NCC's recently adopted Greenbelt plan, the proposed landfill site is a key wildlife corridor between protected green areas. The site is also the headwaters for Shaw's creek, the main artery through the protected Cumberland Forest and associated habitats. Of additional concern is the downplayed likely impact on local agriculture, the watershed, and ground water, as stated by another CRCCPE technical] reviewer: "There are issues with the reliability and calibration of the groundwater flow model used, which by Taggart--Miller's own admission is not up to par." Geologists reviewing the draft EA mention: "The report is missing published relevant information on past seismic events (> M6.1, Brookes, 2013), that according to the National Building Code of Canada are to be used to design structures with an earthquake ground motion having a 2% in 50 years probability of exceedance (return period of 1 in 2475 yrs). We also note a continued refusal to recognize and study local faults in the immediate area that could activate future seismic events at a much closer distance to the site. One of these faults is clearly evident on the east--west cross--section Golder Associates prepared for the site and showed at Open Houses #5 and #6."	No written response issued. A draft Terms of Reference was never issued for the CRRRC project. The Terms of Reference never referred to the Boundary Road Site as an "unlikely alternative" to the North Russell Road Site. References identified by others have been considered in other comment responses above. In a few cases, additional material that has been identified could be noted as appropriate in the EA. With respect to the GEOCON report, Taggart Miller is aware of this report and requested this report from the City of Ottawa. We were told that the City does not have a copy. In any event the geotechnical assessments outlined within the TOR and completed as part of the EA were extensive to ensure that the assessment completed now contains current and more complete information than could ever be gained from review of the now 25 year old GEOCON preliminary work and report. Beaver activity is discussed in Section 8.7.6 of Volume I of the draft EA and further details are provided in TSD 4. Potential for impact to wildlife corridors and Shaw's Creek were considered by the discipline experts and described in Section 11.5.2. Taggart Miller is uncertain what is meant about the reliability and calibration of the groundwater flow model. As already noted, references identified by others have been considered in other comment responses above. A response regarding the Brooks paper is provided above. Local faults were considered and studied as part of the assessment and described in Section 11.3.1 of Volume I of the EASR.	No change to EA.

Location of Original Comment/Response (if provided)	Commenter Identifier	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
			In numerous ways, Taggart—Miller fails to demonstrate the precautionary principle in their design. The resultant proposal lacks industry standard containment elements like a dual landfill liner system, instead suggesting an old--fashioned hole in the ground full of trash. Unlike Taggart--Miller, progressive waste management operators in the immediate CRRRC area are creating large diversion facilities WITHOUT building new landfills because the Ottawa region has ample waste disposal capacity to last a reasonable, multi—decadal planning window. Impacted residents have found the proponents to be evasive and lacking in good faith throughout this EA process and remain staunchly opposed to this destructive mega- project. We ask the Minister of the Environment to reject this EA and the flawed CRRRC project.	Regulatory preference in Ontario is to use natural materials as liners when they are available, as is the case at the Boundary Road Site. The opportunity for a new and innovative integrated facility to help improve IC&I waste diversion in the Capital Region and Eastern Ontario was analyzed in the approved TOR.	

Edmond, Trish

From: "
Subject: RE: Open House #6 for Capital Region Resource Recovery Centre/Sixième journée portes ouvertes au Centre de récupération des ressources de la région de la Capitale
Date: June 10, 2014 at 4:06:28 PM GMT-4
To: "'Hubert Bourque'" <hjbourque@crrrc.ca>, <ian.taggart@taggart.com>

Taggart, get out of our town and take your garbage with you!!!

From: Hubert Bourque [mailto:hjbourque@crrrc.ca]
Sent: June-10-14 4:01 PM
To:
Subject: Open House #6 for Capital Region Resource Recovery Centre/Sixième journée portes ouvertes au Centre de récupération des ressources de la région de la Capitale

SVP faites défiler vers le bas pour la version française.

Taggart Miller Environmental Services (Taggart Miller) has completed the draft environmental assessment for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC), to be located near the Boundary Road/Highway 417 interchange. Taggart Miller is now making its draft environmental assessment available for public comment prior to finalization and submission of the final environmental assessment to the Ministry of the Environment.

Public participation by local residents and other interested parties is an important part of the environmental assessment process. You may review the draft environmental assessment on the project website (www.crrrc.ca) or during normal business hours at the following locations:

Taggart Miller Environmental Services Taggart Realty 225 Metcalfe Street, Suite 708 Ottawa, Ontario	Carlsbad Springs Community Centre 6020 Piperville Road Carlsbad Springs, Ontario (call for access)
Township of Russell Public Library 1053 Concession Street Russell, Ontario	City of Ottawa Public Library, Blackburn Hamlet Branch 199 Glen Park Drive Ottawa, Ontario
Ministry of the Environment Ottawa District Office 2430 Don Reid Drive Ottawa, Ontario	

Comments on the draft environmental assessment should be provided in writing to Taggart Miller by **July 31, 2014**. All comments should be submitted to:

Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

Open House #6 will present an overview of the draft EA.

Open House # 6

Wednesday, June 25, 2014
4:00 to 9:00 pm
Carlsbad Springs Community Centre
6020 Piperville Road (Eighth Line), Ottawa

You are receiving this message a because you signed up for the mailing list at at one of our Open Houses or at crrrc.ca. You may click here to Unsubscribe.

Taggart Miller Environmental Services (Taggart Miller) a terminé l'ébauche de l'évaluation environnementale pour une proposition de projet de gestion intégrée des déchets connu sous le nom de Centre de récupération des ressources de la région de la capitale (CRRRC). Ce centre sera situé près de l'échangeur du chemin Boundary et de l'autoroute 417. Taggart Miller met maintenant l'ébauche de son évaluation environnementale à la disposition du public afin que ce dernier puisse le commenter avant l'achèvement et la présentation de la version définitive au ministère de l'Environnement.

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Taggart Miller Environmental Services Taggart Realty 225, rue Metcalfe, bureau 708 Ottawa (Ontario)	Centre communautaire de Carlsbad Springs 6020, chemin Piperville Carlsbad Springs (Ontario) (appelez pour obtenir l'accès)
Bibliothèque publique du canton de Russell 1053, rue Concession Russell (Ontario)	Bibliothèque publique d'Ottawa, succursale de Blackburn Hamlet 199, promenade Glen Park Ottawa (Ontario)
Ministère de l'Environnement Bureau de district d'Ottawa 2430, promenade Don Reid Ottawa (Ontario)	

Le rapport principal de l'ébauche d'évaluation environnementale - Volume 1 et son résumé seront également disponibles en français.

Vous devez fournir vos commentaires sur l'ébauche de l'évaluation environnementale par écrit à Taggart Miller d'ici le **31 juillet 2014**. Tous les commentaires doivent être envoyés à la personne suivante :

M. Hubert Bourque, directeur de projet
Taggart Miller Environmental Services
a/s 225, rue Metcalfe, bureau 708
Ottawa (Ontario) K2P 1P9
Téléphone : 6134545580
Télécopieur : 6134545581
Courriel : hjbourque@crrrc.ca

Au cours de la sixième journée porte ouverte, nous présenterons un aperçu de l'ébauche de l'EE.

Sixième journée portes ouvertes

Mercredi 25 juin 2014
De 16 h à 21 h
Centre communautaire de Carlsbad Springs
6020, chemin Piperville (chemin Eighth Line), Ottawa

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Edmond, Trish

From: Hubert Bourque [mailto:hjbourque@crrrc.ca]
Sent: June 12, 2014 10:15 AM
To:
Subject: Re: Open House #6 for Capital Region Resource Recovery Centre/Sixième journée portes ouvertes au Centre de récupération des ressources de la région de la Capitale

The draft EA went on the CRRRC website in the early morning on June 11, 2014.

Regards,

Hubert Bourque
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Jun 10, 2014, at 4:11 PM, wrote:

Is the draft EA up on the CRRRC website? I don't see anything newer than Dec, 2013.

on Jun 10, 2014, **Hubert Bourque** <hjbourque@crrrc.ca> wrote:

SVP faites défiler vers le bas pour la version française.

Taggart Miller Environmental Services (Taggart Miller) has completed the draft environmental assessment for a proposed integrated waste management project to be known as the Capital Region Resource Recovery Centre (CRRRC), to be located near the Boundary Road/Highway 417 interchange. Taggart Miller is now making its draft environmental assessment available for public comment prior to finalization and submission of the final environmental assessment to the Ministry of the Environment.

Public participation by local residents and other interested parties is an important part of the environmental assessment process. You may review the draft environmental assessment on the project website (www.crrrc.ca) or during normal business hours at the following locations:

Taggart Miller Environmental Services	Carlsbad Springs Community Centre

Taggart Realty 225 Metcalfe Street, Suite 708 Ottawa, Ontario	6020 Piperville Road Carlsbad Springs, Ontario (call for access)
Township of Russell Public Library 1053 Concession Street Russell, Ontario	City of Ottawa Public Library, Blackburn Hamlet Branch 199 Glen Park Drive Ottawa, Ontario
Ministry of the Environment Ottawa District Office 2430 Don Reid Drive Ottawa, Ontario	

Comments on the draft environmental assessment should be provided in writing to Taggart Miller by **July 31, 2014**. All comments should be submitted to:

Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

Open House #6 will present an overview of the draft EA.

Open House # 6

Wednesday, June 25, 2014
4:00 to 9:00 pm
Carlsbad Springs Community Centre
6020 Piperville Road (Eighth Line), Ottawa

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Téléphone : 6134545580
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Mercredi 25 juin 2014
De 16 h à 21 h
Centre communautaire de Carlsbad Springs
6020, chemin Piperville (chemin Eighth Line), Ottawa

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Edmond, Trish

From:
Subject: Re: Open House #6 for Capital Region Resource Recovery Centre/Sixième journée portes ouvertes au Centre de récupération des ressources de la région de la Capitale
Date: June 10, 2014 at 4:14:53 PM GMT-4
To: Hubert Bourque <hjbourque@crrrc.ca>

merci

2014-06-10 16:01 GMT-04:00 Hubert Bourque <hjbourque@crrrc.ca>:
SVP faites défiler vers le bas pour la version française.

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Ministry of the Environment
Ottawa District Office
2430 Don Reid Drive
Ottawa, Ontario

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Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
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Email: hjbourque@crrrc.ca

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Wednesday, June 25, 2014
4:00 to 9:00 pm

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Edmond, Trish

Subject: CRRRC Environmental Assessment Reports

From:
Subject: RE: CRRRC Environmental Assessment Reports
Date: June 20, 2014 at 9:44:45 AM GMT-4
To: Hubert Bourque <hjbourque@crrrc.ca>
Cc: "Lorna Zappone (MOE CRRRC Project)" <lorna.zappone@ontario.ca>, "Grant Crack (MPP)" <gcrack.mpp@liberal.ola.org>

Thank you Mr. Bourque. We will see you at Open House #6!

Subject: Re: CRRRC Environmental Assessment Reports
From: hjbourque@crrrc.ca
Date: Fri, 20 Jun 2014 09:24:46 -0400
CC: lorna.zappone@ontario.ca; gcrack.mpp@liberal.ola.org
To:

While the EA permits Taggart Miller to revisit the North Russell site in those circumstance, Taggart Miller have no plans to do so should the EA for the Boundary Road site not be approved.

Regards,

Hubert Bourque
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Jun 12, 2014, at 3:15 PM, wrote:

Mr. Bourque

What are your plans for the North Russell Site if the Boundary Rd. Site is not approved by the MOE?

Sent from Samsung tablet

-------- Original message --------
From Hubert Bourque <hjbourque@crrrc.ca>
Date: 06-12-2014 8:55 AM (GMT-05:00)
To
Cc "Lorna Zappone (MOE CRRRC Project)" <lorna.zappone@ontario.ca>,"Grant Crack (MPP)" <gcrack.mpp@liberal.ola.org>
Subject Re: CRRRC Environmental Assessment Reports

Resending as previous messages were returned by the server.

Assuming the EA for the Boundary Road site is approved, Taggart Miller has no plans for the North Russell site and intends to dispose of the site when market conditions are favorable.

Regards,

Hubert Bourque
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Jun 11, 2014, at 10:08 AM, wrote:

> Mr. Bourque
>
> Can we now assure the concerned citizens of Russell Township that Taggart Miller has abandoned all plans to put a waste landfill at the North Russell Quarry site, or do you still consider it as an option for the future?

Subject: Re: CRRRC Environmental Assessment Reports
From: hjbourque@crrrc.ca
Date: Wed, 11 Jun 2014 09:49:55 -0400
CC: lorna.zappone@ontario.ca; gcrack.mpp@liberal.ola.org
To:

Volume 1 is the main EA report and summarizes all of the relevant information. The other documents are technical appendices and consultation records.

The submission deals almost entirely with the Boundary Road site as you will see when you review it, as the Russell site is no longer under active consideration.

Regards,

Hubert Bourque
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Jun 10, 2014, at 10:32 PM,
wrote:

> Mr. Bourque
>
> Vol 1 of 6 large volumes is translated into French!
>
> How is that helpful to our Francophone neighbours that deserve to review the report in their language of choice?

> Subject: Re: CRRRC Environmental Assessment Reports
> From: hjbourque@crrrc.ca
> Date: Tue, 10 Jun 2014 19:53:42 -0400
> CC: lorna.zappone@ontario.ca; gcrack.mpp@liberal.ola.org
> To:

Please review the draft EA. It has not been submitted; it is being made available for public review prior to being submitted.
The main EA report is in both English and French, as we committed in the Terms of Reference. If you have any questions or comments after reviewing the draft, please let me know.

Regards,

Hubert Bourque
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Jun 10, 2014, at 4:36 PM,
wrote:

> Received Taggart Miller's notification that the CRRRC Environmental Assessment Reports have been submitted today.
>
> The notification says: "Le rapport principal de l'ébauche d'évaluation environnementale - Volume 1 et son résumé seront également disponibles en français."
>
> Why is only volume one of the these reports available in French?

Edmond, Trish

-----Original Message-----
From: Hubert Bourque [mailto:hjbourque@crrrc.ca]
Sent: June 10, 2014 7:56 PM
To:
Subject: Re: dump site in Carlsbad Springs

we are in fact projecting diversion rates of between 43 and 57 per cent at the CRRRC.

Re visibility, please review the visual assessment in the draft EA or come to our upcoming open house. You will see that the facility can be effectively screened to minimize any visual impact.

Regards,

Hubert Bourque.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Jun 10, 2014, at 7:01 PM, wrote:

> Hi
>
> Just finishes watching the video that you have prepared. I want to know why is it that you are showing all this diversion taking place, since we all know taht less than 12% of the waste going to go to this location will actually be recycled. And why did you not include a picture of what this site will look like in5 years after it is opened and all we can see from the highway will be a mountain of garbage, rats and birds all around the area
>
> you should be ashamed
>
>

Edmond, Trish

Subject: Many difficulties trying to view Draft EA

From:
Subject: RE: Many difficulties trying to view Draft EA
Date: June 18, 2014 at 10:59:11 AM GMT-4
To: Hubert Bourque <hjbourque@crrrc.ca>

Thanks Hubert

From: Hubert Bourque [mailto:hjbourque@crrrc.ca]
Sent: Wednesday, June 18, 2014 10:58 AM
To:
Subject: Re: Many difficulties trying to view Draft EA

Hello ,

We are not receiving any other comments about difficulties in displaying the reports. I just tried downloading a number to be sure and they all downloaded and displayed properly. I suggest you check your security settings on your computer and ensure that you have the updated Adobe software for viewing.

Regards,

Hubert Bourque
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Jun 12, 2014, at 3:36 PM, wrote:

Most items load but do not display.

Edmond, Trish

Subject: timeline

-----Original Message-----
From: Hubert Bourque [mailto:hjbourque@crrrc.ca]
Sent: June 16, 2014 11:41 AM
To:
Subject: Re: timeline

,

There is a 7 week review period on the final EA, once submitted.
We do not anticipate that the final EA will be materially different from the draft, however that will depend on the comments received on the draft.

Please let me know if you have further questions.

Regards,

Hubert Bourque
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Jun 13, 2014, at 4:55 PM, wrote:

> Mr. Bourque,
>
> Is this draft the only time we have to comment? Will we have the same time to comment on the final version?
>
> The local impacted residents are wondering why we would comment now…the final version could be significantly different. Please advise.
>
> Also, the last email I sent you in early January took you over 5 months to respond…..a response within a week would be more appropriate.
>
> Regards,
>
>

Edmond, Trish

Subject: review of Ecosystem Setting section of the Taggart Miller Environmental Services draft environmental assessment for the proposed Capital Region Resource Recovery Centre (CRRRC).
Attachments: ecosystem_review.pdf; ATT00001.htm

From: Fred Schueler <bckcdb@istar.ca>
Date: June 25, 2014 at 5:58:07 PM EDT
To: Hubert Bourque <hjbourque@crrrc.ca>
Subject: review of Ecosystem Setting section of the Taggart Miller Environmental Services draft environmental assessment for the proposed Capital Region Resource Recovery Centre (CRRRC).

Dear Mr Bourque:

Attached find my review of this document. I hope you find this useful in progressing with the assessment of the Boundary Road site.

sincerely,

Frederick W. Schueler, Ph.D.
Research Curator

Frederick W. Schueler & Aleta Karstad
Daily Paintings - http://karstaddailypaintings.blogspot.com/
Vulnerable Watersheds - http://vulnerablewaters.blogspot.ca/
study our books - http://pinicola.ca/books/index.htm
RR#2 Bishops Mills, Ontario, Canada K0G 1T0
on the Smiths Falls Limestone Plain 44* 52'N 75* 42'W
(613)258-3107 <bckcdb at istar.ca> http://pinicola.ca/

BISHOPS MILLS
NATURAL HISTORY CENTRE

6 St Lawrence St.
Bishops Mills,
RR#2 Oxford Station,
Ontario K0G 1T0
http://pinicola.ca

25 June 2014

Mr. Hubert Bourque, Project Manager
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
<hjbourque@crrrc.ca>

Dear Mr Bourque:

I've been asked by the Capital Region Citizens Coalition for the Protection of the Environment (CRCCPE) to comment on the Ecosystem Setting section of the Taggart Miller Environmental Services draft environmental assessment for the proposed Capital Region Resource Recovery Centre (CRRRC).

As you may realize, as a scientist with a museum background, I find many of these environmental assessments prepared by industry and government hard to understand, in part because of their failure to integrate the findings into a cohesive picture, and in large part because of their consistent neglect of the standard sources of knowledge about biota and natural history: museum collections and the scientific literature.

I notice that no peer-reviewed, or other, scientific literature is cited in the assessment, and that that no searches of museum collections, nor of provincial databases of occurrence, are referenced. Even my recent publication of the first record of a species of vascular plant for eastern Ontario from the site (Schueler 2014, which was published in part to give Taggart Miller the opportunity to say they'd minimize the chances of this potentially invasive species spreading), isn't mentioned.

Since so much of these environmental assessments (EA's) focus on detecting Species at Risk (SAR), the finding of which would argue against the proposed project, a scientific approach to the EA would require that opponents of the project perform the search for SAR, since the proponent has no motive for finding these rare or elusive creatures.

In fact, the CRCCPE has undertaken some investigation of the biota, to the extent that it is observable from the periphery of the site, and has asked me to be involved, and since my primary expertise is in herpetology, I'll just deal with the herpetofauna section in my further review.

I have appended the unedited output of herp records from my database to this review. You'll see that in just about 10 hours of work on 4 dates, on the periphery of the site, we found the same 5 common amphibians that your observers found, plus the expectedly most common SAR: the "Western" Chorus Frog, and the Snapping Turtle.

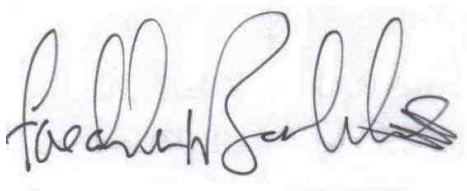
This suggests a bias on the part of your observers, since the Chorus Frog's call can be heard for 500 metres, we had previously published an account of finding Chorus Frogs just south of the site (Karstad, *et al.*, 2012), and inquiry would have advised you that a peer-reviewed account of this population is now in press (Seburn, *et al.*, 2014).

I think the failure to find Milk Snakes is due to their non-occurrence in the area (Schueler 2007), and I think that the Salamanders expected in the area (*Ambystoma laterale* and associated hybrids) would only be found by sampling ponds for larvae, since the adults are inconspicuous. Any assessment of the herpetofauna of an Ontario site should request records of previous observations and specimens from the Ontario Reptile and Amphibian Atlas Program.[1]

I'll say also that it's disappointing to see Mollusca completely neglected: we are presently studying a sample of drifted shells washed out of the site by Shaw Creek, and will publicize the results as they become available.

I know it must be hard working on a project with such defective premises. It can be suggested that the only worthwhile outcome of such an enterprise is the use of proponents' resources to document the conditions on the site before permission to proceed is denied. Perhaps these suggestions will allow the final environmental assessment to be more complete and scholarly, despite the overall implausibility of the project.

sincerely,



Frederick W. Schueler, Ph.D.
Research Curator

Literature Cited

Karstad, Aleta, Frederick W. Schueler, & Candice Vetter. 2012. **Island of Biodiversity: A natural history of the North Russell Red Shale Hill.** Library of One Thing and Another, Bishops Mills, Ontario. paperback, 94 pages. http://www.lulu.com/shop/aleta-karstad-and-frederick-w-schueler-and-candice-vetter/island-of-biodiversity/paperback/product-20231924.html

Schueler Frederick W. 2007, **"Concerns have been raised about the effect a proposed renovation and addition to the Garage at the Ministry of Transportation (Ontario) Patrol Yard in Kanata would have on Milk Snakes (*Lampropeltis triangulum*) which are suspected to occur there..."** Unpublished report to the Ontario Realty Corporation, 6 August 2007. 6 pp.

Schueler, Frederick W. 2014. **Trifolium fragiferum *(Strawberry Clover): new to eastern Ontario***. Trail & Landscape 48 (2):68-70.

1 http://www.ontarionature.org/protect/species/herpetofaunal_atlas.php

Seburn, David C., Kari Gunson, and Frederick W. Schueler. 2014 (in press). ***Apparent widespread decline of the Chorus Frog (*Pseudacris maculata*) in eastern Ottawa.*** Canadian Field-Naturalist 12?(0):000-000.

Field notes of Frederick W. Schueler - filtered by RTOD(ACOS(COS(DTOR(LATITUDE-45.34045))* COS(DTOR(LONGITUDE—75.43140)*COS(DTOR(45.34045)))))* 111.2<=2 .AND.CLASS="aH"

---

23 March 2012

Canada: Ontario: Ottawa-Carleton Region: **Highway 417/Co Road 41, 2.7 km SSE Carlsbad Springs**. (25m waypoint), 31G/6, 45.34675N 75.44415W TIME: 2211:37. AIR TEMP: 13, overcast. HABITAT: roadside wetland. OBSERVER: Frederick W. Schueler, Aleta Karstad Schueler. FWS12Mar232211/a, *Pseudacris crucifer* (Spring Peeper) (herp). index3 call, heard, driveby. WAYPT/085, chorus some distance SE of intersection. - listened carefully all along Highway 417 E of Ottawa without hearing any driveby-audible calling.

---

27 August 2013

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moved 1.19 km SSE.
Canada: Ontario: Prescott & Russell County: Russell: **Horticare, Entrepreneur Cres., 3.9 km SSE Carlsbad Sp'gs**. (100m site), 45.33707N 75.43764W TIME: 1015-. AIR TEMP: 23, light overcast, calm. HABITAT: ditch-surrounded gravel parkinglot on clay in brushy open parkland. OBSERVER: Frederick W. Schueler, Aleta Karstad Schueler. FWS13Aug271015/e, *Pseudacris crucifer* (Spring Peeper) (herp). present call, heard. sporadic calling thruout visit.

moved 0.11 km E.
Entrepreneur Crescent, 3.9 km SSE Carlsbad Springs. (150m ditch), 45.33721N 75.43622W TIME: 1514-1700. AIR TEMP: 28, cloudy, hazy, Beaufort gentle breeze. HABITAT: shallow clay ditch in brushy Aspen/White Birch parkland, water 27 C. OBSERVER: Frederick W. Schueler, Owen Clarkin, Aleta Karstad Schueler. 2013/176/b, *Pseudacris crucifer* (Spring Peeper) (herp). present call, heard. irregular bouts of calling.

(same location) 2013/176/d, *Hyla versicolor* (Tetraploid Gray Treefrog) (herp). 1 call, heard. a single call.

(same location) 2013/176/e, *Rana pipiens* (Leopard Frog) (herp). 1 juvenile, seen. ca 30 mm SVL, green, on bank of ditch. A brown one seen poorly.

(same location) 2013/176/i, *Rana clamitans* (Green Frog) (herp). several larva,

dipnetted, specimen. by dipnet, in formalin.

moved 0.33 km SSW.
Co Road 41(Boundary Rd), 4.2 km SSE Carlsbad Springs. (25m waypoint), 45.33432N 75.43737W TIME: 1718. AIR TEMP: 27, sunny, Beaufort light air. HABITAT: Typha-dominated roadside ditch/lawn/brushy woods. OBSERVER: Frederick W. Schueler. 2013/175a/c, *Chelydra serpentina* (Snapping Turtle) (herp). 1 adult, DOR, seen. WAYPT/041, posterior shell hindlegs & tail, medium size. . . . long dead & dried out on edge of road. *Typha latifolia* (Broad-leaved Cattail) - one head here. Typha regrown from having been mowed down.

moved 0.13 km SSE.
Co Road 41(Boundary Rd), 4.3 km SSE Carlsbad Springs. (25m waypoint), 45.33321N 75.43689W TIME: 1721. AIR TEMP: 27, sunny, Beaufort light air. HABITAT: lawn-mowed roadside ditch/lawn/brushy woods. 2013/175a/d, *Bufo americanus* (American Toad) (herp). 1 juvenile, DOR, seen. WAYPT/042, ca 30 mm SVL, dried out but fairly fresh.

moved 1.39 km ENE.
Frontier Road, 4.5 km SE Carlsbad Springs. (25m waypoint), 45.33817N 75.42053W TIME: 1809. AIR TEMP: 26, sunny, Beaufort light air. HABITAT: grassy rdside/Aspen-Rhamnus frangula brushy woods/tilled Soy-field. 2013/176a/b, *Rana sylvatica* (Wood Frog) (herp). 1 adult, seen. WAYPT/053, ca 30 mm, in roadside grass. - first metamorphosed *Lithobates* seen here today.

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27 April 2014

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moved 0.40 km NNW.
Canada: Ontario: Ottawa-Carleton Region: **Frontier Rd/Shaws Creek, 4.1 km SE Carlsbad Springs**. (25m waypoint), 45.34150N 75.42233W TIME: 1927. AIR TEMP: 10, light overcast, calm. HABITAT: flowing brownwater ditch in clay from brushy woods to tilled fields. OBSERVER: Frederick W. Schueler, Aleta Karstad Schueler, Laurie McCannell. 2014/063/b, *Pseudacris crucifer* (Spring Peeper) (herp). index2 call, heard. onset of calling by small chorus.

moved 1.08 km S.
Devine Road, 5.0 km SE Carlsbad Springs. (25m waypoint), 45.33188N 75.42012W TIME: 2004-2008. AIR TEMP: 10, light overcast, calm. HABITAT: roadside Beaver-influenced White Birch/Typha wetland. OBSERVER: Frederick W. Schueler, Aleta Karstad Schueler. 2014/063/da, *Pseudacris crucifer* (Spring Peeper) (herp). index3 call, heard. WAYPT/151, chorus with some trills N of road, loud Traffic noise.

moved 2.2 km NW.
2.9 km SSE Carlsbad Springs. (25m waypoint), 45.34612N 75.44022W TIME: 2017-2047. AIR TEMP: 9, light overcast, calm. HABITAT: communication tower's gravel pad in swampy/brushy woods near areas of bulldozed gr. 2014/063/ea, *Pseudacris crucifer* (Spring Peeper) (herp). index3 call, heard. WAYPT/152, chorus with some trills, ld.

Highway 417 noise.

(same location) 2014/063/ec, *Rana sylvatica* (Wood Frog) (herp). index1 call, heard. few calling, first at 20h31, loud Highway 417 noise.

(same location) 2014/063/ed, *Bufo americanus* (American Toad) (herp). index1 call, heard. few calling, first at 20h32, loud Highway 417 noise.

moved 1.06 km SSE.
E end Enterprise Lane, 3.9 km SSE Carlsbad Springs. (25m waypoint), 45.33696N 75.43627W TIME: 2053-2055. AIR TEMP: 8, light overcast, calm. HABITAT: drained ditch/disturbed ground/Red Maple brushy area. OBSERVER: Frederick W. Schueler, Aleta Karstad Schueler, Laurie McCannell. FWS14Apr272053/a, *Pseudacris crucifer* (Spring Peeper) (herp). index3 call, heard. big chorus N of site, loud Highway 417 noise.

moved 0.19 km WSW.
Boundary/Enterprise rds, 3.9 km SSE Carlsbad Springs. (25m waypoint), 45.33653N 75.43856W TIME: 2056-2058. AIR TEMP: 8, light overcast, calm. HABITAT: swampy/brushy woods near arterial road. OBSERVER: Frederick W. Schueler, Aleta Karstad Schueler. FWS14Apr272056/a, *Pseudacris crucifer* (Spring Peeper) (herp). index3 call, heard. WAYPT/153, chorus W of site, loud Highway 417 noise.

moved 1.5 km ESE.
Devine Road, 5.0 km SE Carlsbad Springs. (25m waypoint), 45.33188N 75.42012W TIME: 2103-2107. AIR TEMP: 8, light overcast, calm. HABITAT: roadside Beaver-influenced White Birch/Typha wetland. FWS14Apr272103/a, *Pseudacris crucifer* (Spring Peeper) (herp). index3 call, heard. big chorus N of road, highway noise.

(same location) FWS14Apr272103/b, *Rana sylvatica* (Wood Frog) (herp). index1 call, heard. few calling over wide angle N of road, highway noise.

(same location) FWS14Apr272103/c, *Rana pipiens* (Leopard Frog) (herp). 1 call, heard. 1 call from N of road, highway noise.

moved 0.32 km NNE.
W of Frontier Road, 4.9 km SE Carlsbad Springs. (25m waypoint), 45.33461N 75.41885W TIME: 2109. AIR TEMP: 8, light overcast, calm. HABITAT: grassy flat field with ditches. FWS14Apr272109/a, *Pseudacris 'brown-maculata'* (Great Lakes-St Lawrence Chorus Frog) (herp). index1 call, heard. WAYPT/154, few calling nearby in ditches of aircraft field. There's loud Highway 417 noise. The only area of open ground around is this aircraft area, so it makes sense that this species would be only here.

(same location) FWS14Apr272109/b, *Rana sylvatica* (Wood Frog) (herp). index1-2 call, heard. few calling, loud Highway 417 noise.

(same location) FWS14Apr272109/c, *Bufo americanus* (American Toad) (herp). index?

call, heard. distant calling, loud Highway 417 noise.

(same location) FWS14Apr272109/d, *Pseudacris crucifer* (Spring Peeper) (herp). index3 call, heard. surrounding chorus, loud Highway 417 noise.

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19 June 2014

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moved 0.81 km NNW.
: : : **Frontier Road, 4.1 km SE Carlsbad Springs**. (25m waypoint), 45.34148N 75.42226W TIME: 2313-2319. AIR TEMP: 14, clear, breezy. HABITAT: grassy/marshy area. OBSERVER: Frederick W. Schueler, Aleta Karstad Schueler. 2014/150/j, *Pseudacris crucifer* (Spring Peeper) (herp). index1 call, heard. WAYPT/425, a widely separated few calling in field W of road. - with a moderate number of trills. As ever in these parts - loud highway noise.

moved 1.09 km S.
Devine Road, 5.0 km SE Carlsbad Springs. (25m waypoint), 45.33170N 75.42102W TIME: 2322-2326. AIR TEMP: 14, clear, breezy. HABITAT: roadside Beaver-influenced White Birch/Typha wetland. 2014/150/ka, *Pseudacris crucifer* (Spring Peeper) (herp). index1 call, heard. WAYPT/427, widely separated few calling N of road. Airplane & loud highway noise.

(same location) 2014/150/kb, *Bufo americanus* (American Toad) (herp). 1 call, heard. 1 call from NE of site, airplane & loud highway noise.

Edmond, Trish

Subject: Re: Draft EA Report

From: Hubert Bourque [mailto:hjbourque@crrrc.ca]
Sent: July 11, 2014 9:24 AM
To:
Cc: Lorna Zappone (MOE CRRRC Project); Agatha.garciawright@ontario.ca
Subject: Re: Draft EA Report

Hello ,

The main Environmental Assessment Study Report (EASR) and the Geology, Hydrogeology and Geotechnical Report (Volume III) have been organized in a manner similar to other EA's and hydrogeology reports supporting waste EA's and waste applications in the province of Ontario. The organization and format is not unique to the CRRRC project. Components of geology and hydrogeology within the main EASR are summaries of the full details provided in the Geology, Hydrogeology and Geotechnical Report. There is no geology or hydrogeology content within the EASR that is not in the Geology, Hydrogeology and Geotechnical Report (Volume III). We encourage you to read the Geology, Hydrogeology and Geotechnical Report (Volume III) fully as we anticipate this is likely where your interest lies.

Regards,

Hubert Bourque, P.Eng.
Project Manager/Directeur de projet
Taggart Miller Environmental Services
c/o 225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9
Tel: 613-454-5580
Fax: 613-454-5581
Email: hjbourque@crrrc.ca

On Jun 26, 2014, at 9:22 AM, wrote:

M. Bourque,

Without going into detail I just want you to know that the draft EA available for downloading from your website is very poorly organized. For example: there is an important section 8.5 which must be an integral part of the main geological report, yet it is not. It appears separately. *Autrement dit il faut que cette partie soit incorporé dans le rapport, non a part*. Please have that report re-organized.

As you and the direction at Golder Associates must know that form of presentation, i.e. dispersing relevant information rather than concentrating it, is extremely frustrating to the reviewer and may lead many to just "throw in the towel" and not devote their attention to the EA that it, the EA, deserves. As concerned citizens

you should want an honest and effective review from the regulators and the community.

The final EA must be organized to facilitate review, meaning that **all parts of any component are together** in a single volume. By way of illustration the entire geological presentation, including all illustrations, tables and text MUST be in the same volume. The same applies to each and every other component that makes up the mountainous document (See attached photo).

Ms Garcia-Wright,

This is being sent to you in order that you may see that I have addressed the proponent directly. Now let's see what good it does. Proponents have an obligation to submit an EA report, but I am not aware that MOE has any requirements regarding organization of the report. As a person who has lots of experience reading and evaluating similar reports I could provide you with requirements, free of charge. Those requirements would oblige Taggart-Miller Environmental Services (TMES) to submit an EA that facilitates review by MOE staff, your Government Review Team (GRT) and concerned people. The reason for my not submitting any now is because you have, thus far, ignored my recommendations. My recommendations are not from a NIMBY perspective because I am NOT NIMBY. They would apply to anyone wishing to develop a landfill anywhere in Ontario.

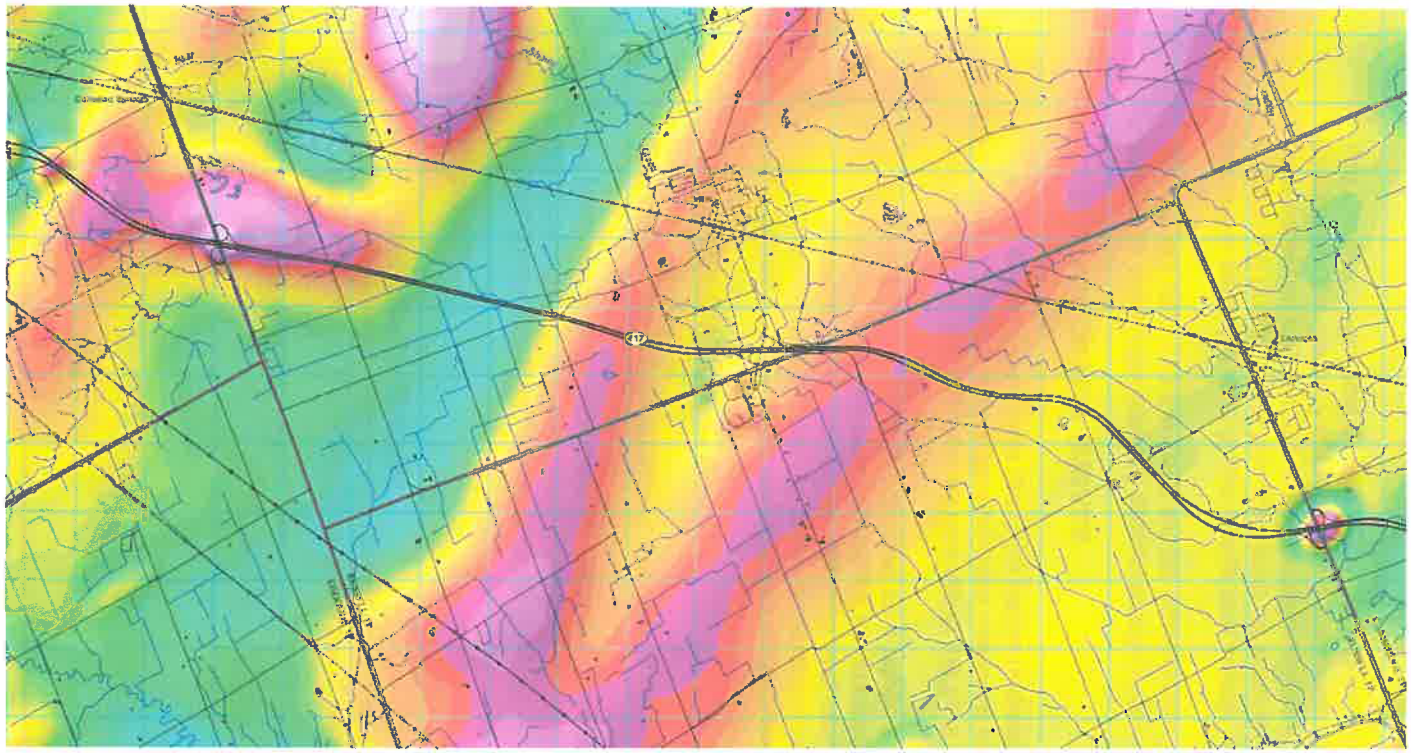
I realize that TMES would have to dictate to Golder that the report must be reorganized, which would take additional time. If, however, you really do care about protecting the environment, then you would require a reorganization of that report for the official submission. To see how the draft report is organized go to: http://www.crrrc.ca/whatsnew.htm

Il faudrait, également, que le rapport entier soit soumis en français aussi bien qu'en anglais. The entire report must be bilingual.

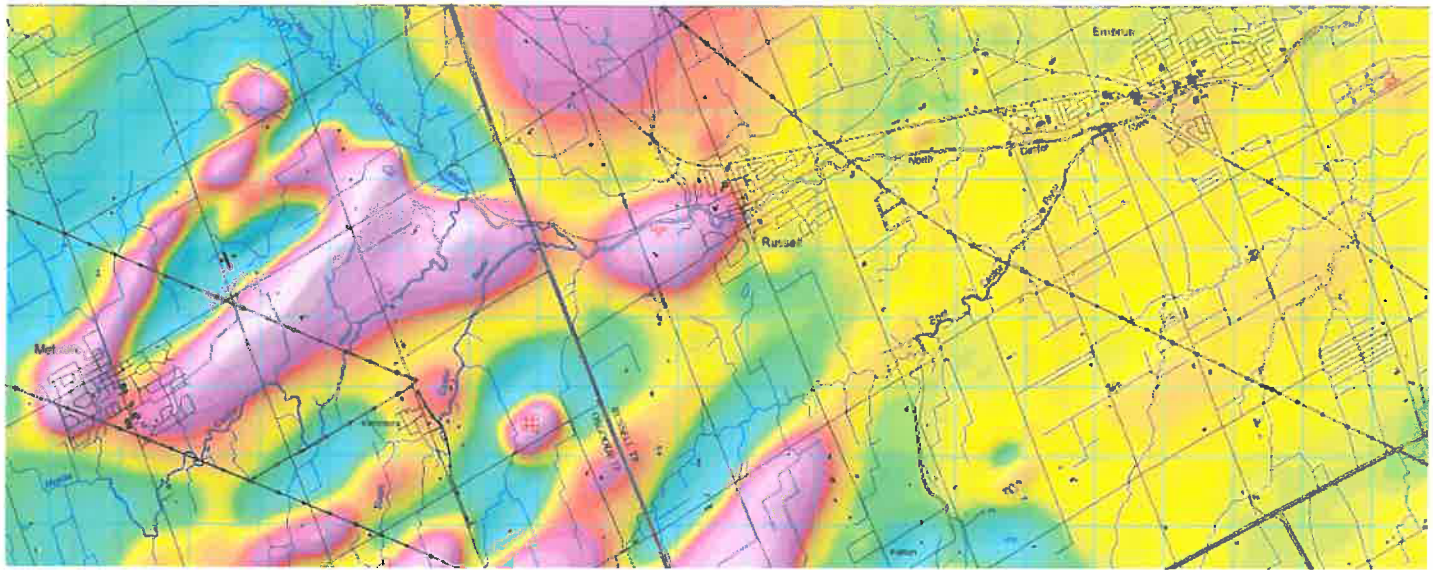
Sincerely,

<Draft EA report.JPG>

Ontario Geological Survey - Airborne Magnetic Survey - Eastern Ontario Area 2014 First vertical derivative of the magnetic field grid

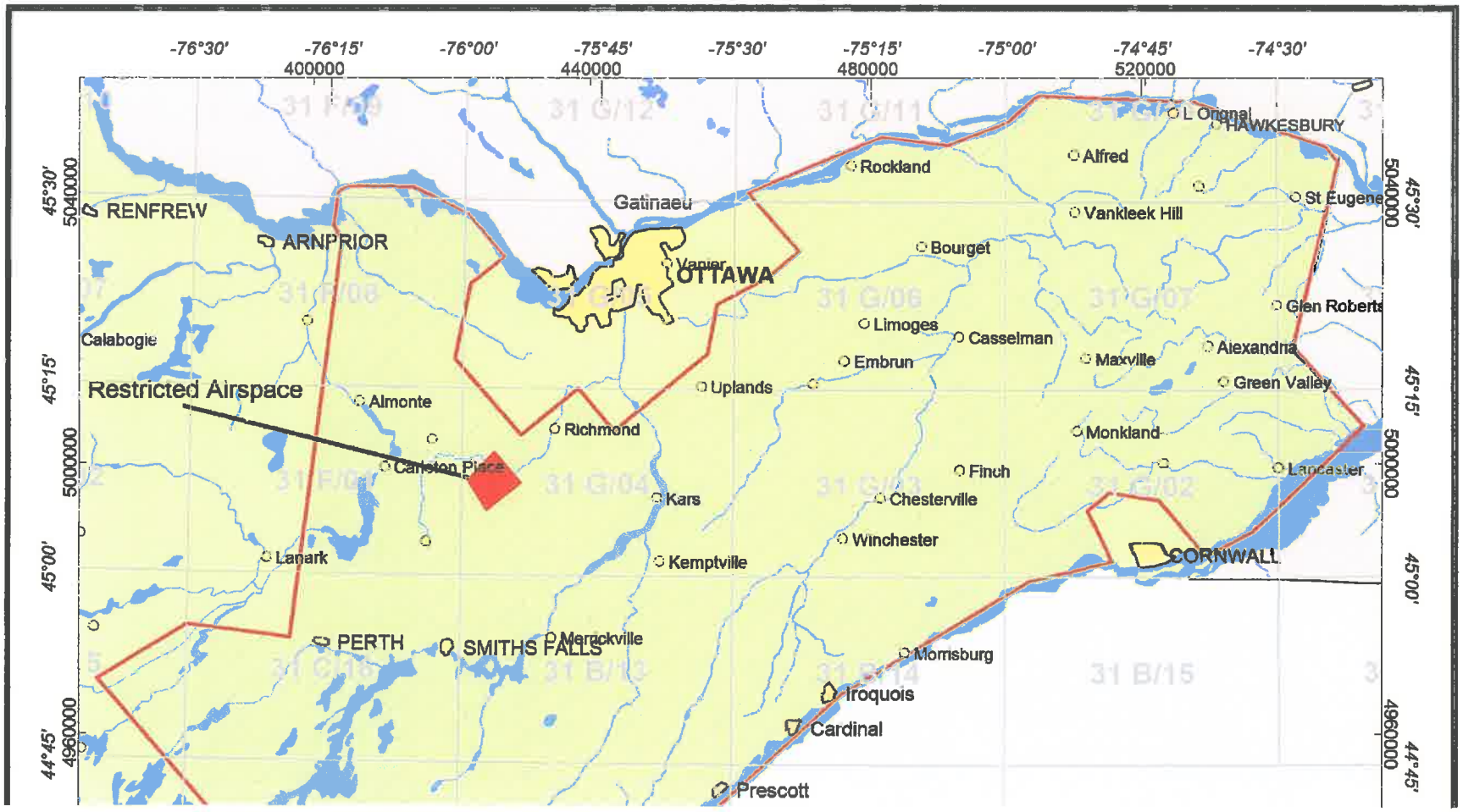


Map 82 625



Map 82 628

2014/06/25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-76°15'
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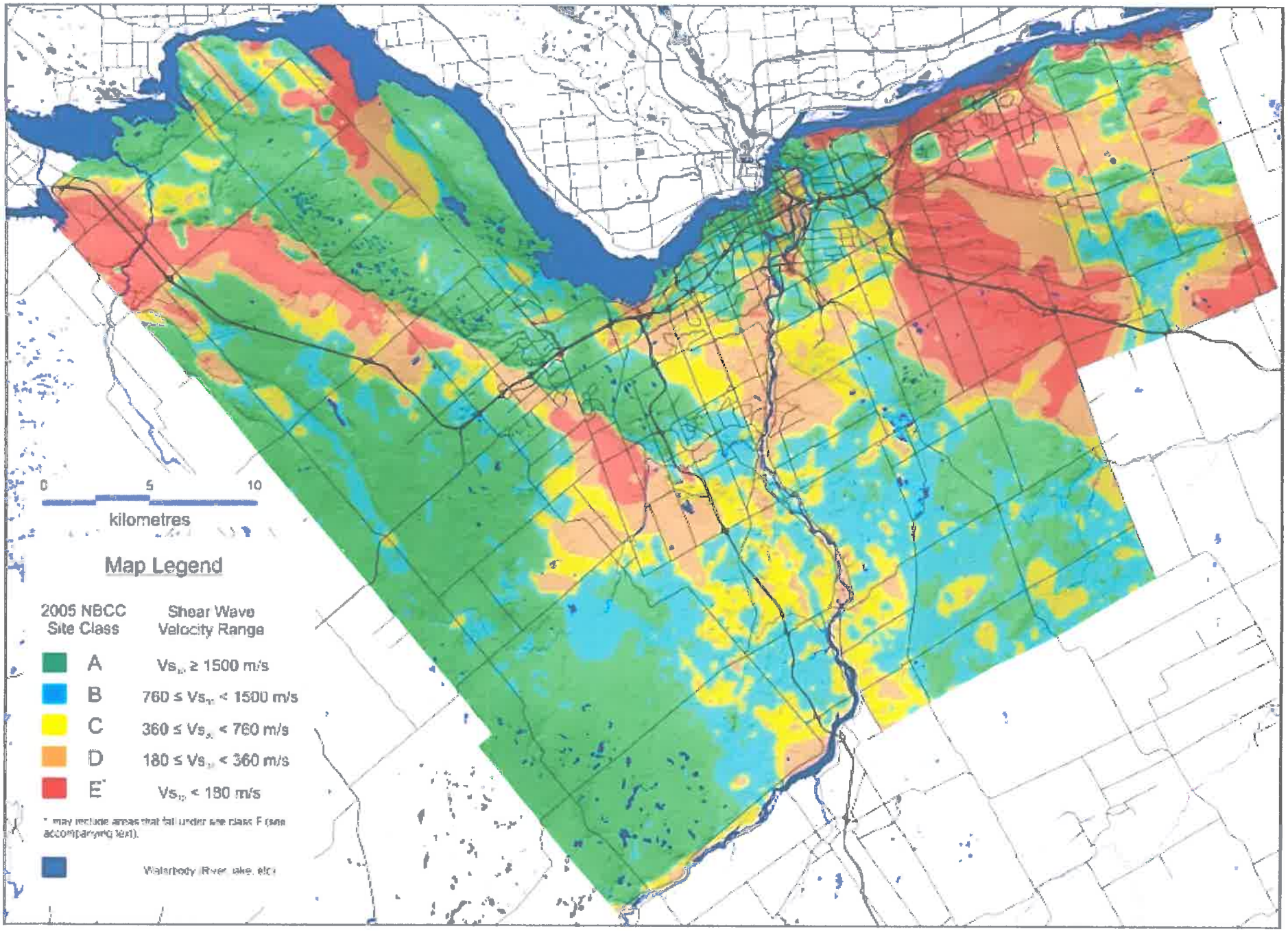
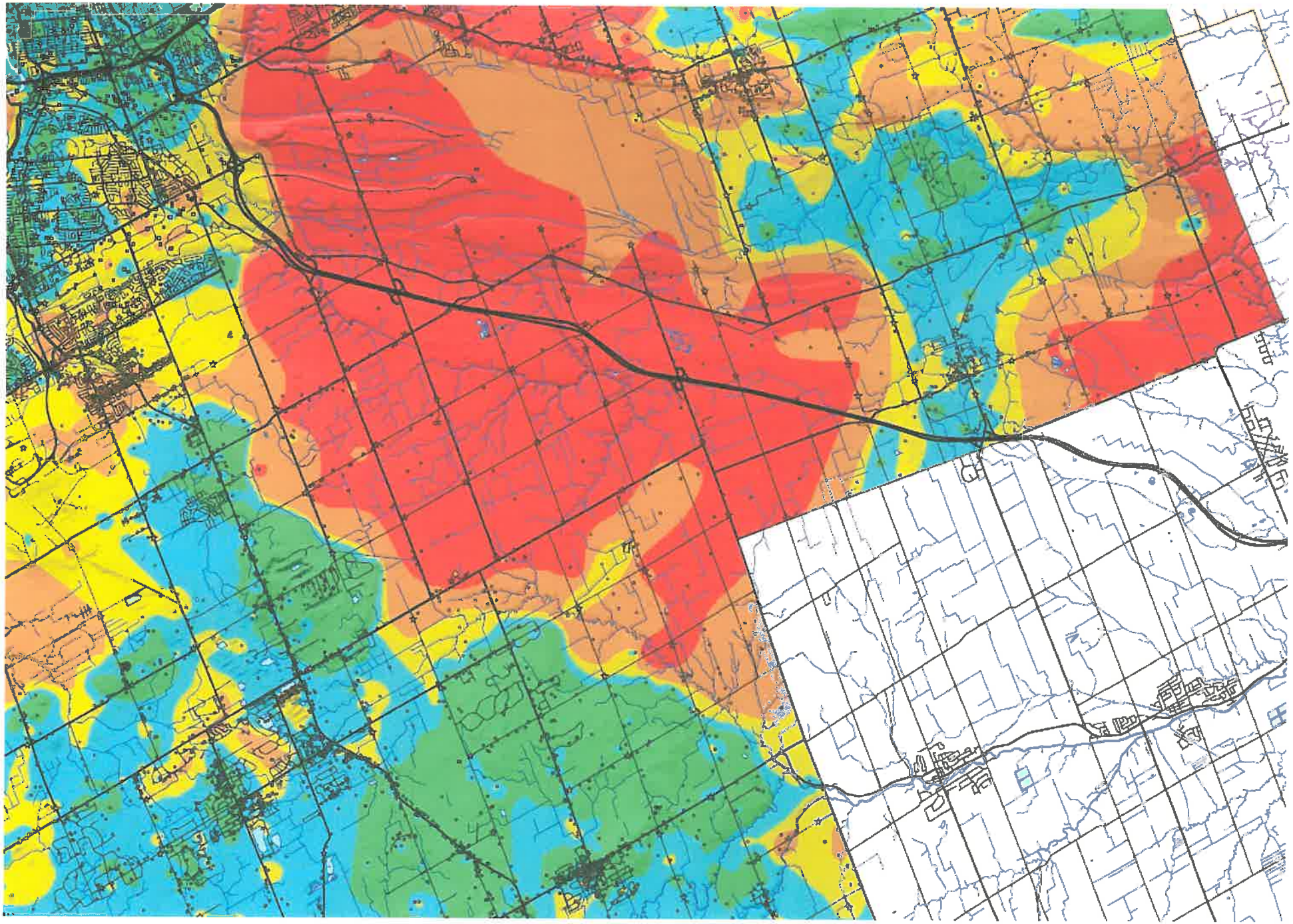
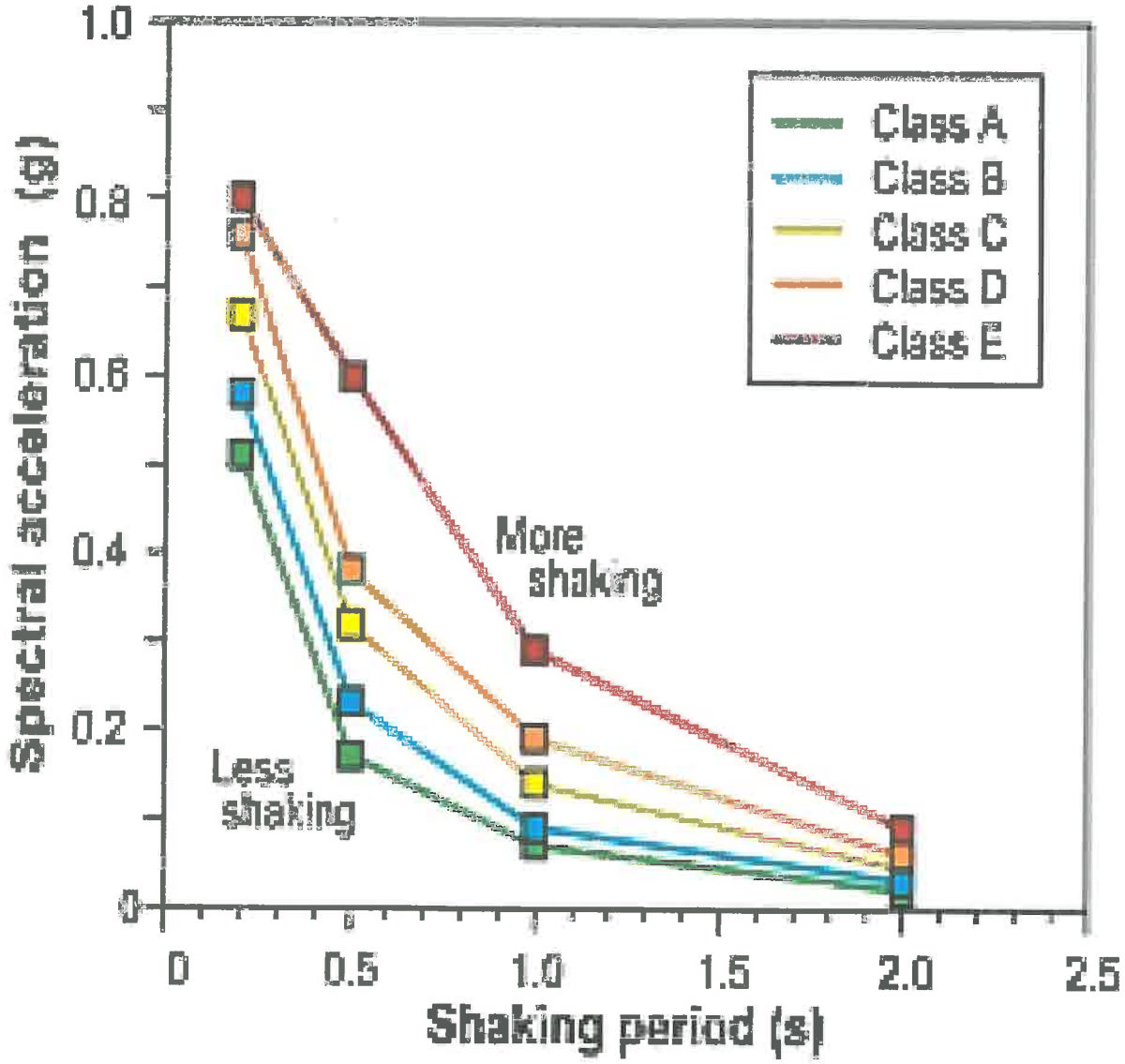
RENFREW
ARNPRIOR
Gatineau
OTTAWA
Vanier
Rockland
Alfred
L Orignal
HAWKESBURY
St Eugene
Vankleek Hill
Bourget
Glen Roberts
Limoges
Casselman
Alexandria
Embrun
Maxville
Green Valley
Calabogie
Restricted Airspace
Almonte
Uplands
Richmond
Monkland
Carleton Place
Finch
Lancaster
Kars
Chesterville
Winchester
CORNWALL
Lanark
Kemptville
PERTH
SMITHS FALLS
Merrickville
Morrisburg
Iroquois
Cardinal
Prescott


0
5
10
kilometres
Map Legend
2005 NBCC Site Class
Shear Wave Velocity Range
A
$Vs_{30} \geq 1500$ m/s
B
$760 \leq Vs_{30} < 1500$ m/s
C
$360 \leq Vs_{30} < 760$ m/s
D
$180 \leq Vs_{30} < 360$ m/s
E*
$Vs_{30} < 180$ m/s
* may include areas that fall under site class F (see accompanying text).
Waterbody (River, lake, etc)

2014/06/RX




1.0
0.8
0.6
0.4
0.2
0
Spectral accelaration (g)
0
0.5
1.0
1.5
2.0
2.5
Shaking period (s)
Class A
Class B
Class C
Class D
Class E
More shaking
Less shaking

Ottawa - Gatineau Seismic Site Classification Map From Combined Geological/Geophysical Data By *Geological Survey of Canada* and *Carleton University*

GSC people: Hunter, J.A., Crow, H.L., Brooks, G.R., Pyne, M., Lamontagne, M., Pugin, A.J.-M., Pullan, S.E.,Cartwright, T., Douma, M., Burns, R.A., Good, R.L., Oliver, J.

Carleton University people: Motazedian, D., Khaheshi-Banab, K., Caron, R., Dion, K., Dixon, L., Duxbury, A., Folahan, I., Jones, A., Kolaj, M., Landriault, A., Muir, D., Plastow, K., Ter-Emmanuil, V.

GSC OFR 7067 (2012) Map can be downloaded for free from GeoPub (http://geopub.nrcan.gc.ca/).

The influence of local geological materials on seismically -induced ground motions is recognized in the 2010 National Building Code of Canada (NBCC 2010; NRC, 2010) which introduced seismic site classifications to characterize site conditions based on the average stiffness of the upper 30 m of the ground surface (Finn and Wightman, 2003). Five of the six seismic site classes defined in NBCC2010 correspond approximately to: hard rock (class A), rock (class B), soft rock or very dense soil (class C), stiff soil (class D) and soft soil (class E); the sixth site, class (F), is discussed below. The classes are defined in terms of shear wave velocity for classes A-E (Table 4.1.8.4.A in NRC, 2010; see also the map legend), though standard penetration resistance or undrained shear strength can be used instead for classes C, D and E For building design, NBCC2010 provides amplification factors (Tables 4.1.8.4B and 4.1.8.4C in NRC, 2010) for each site class in order to compute the spectral accelerations of the design ground motion at a specific site. The amplification factors are functions of ground motion intensity, and take non-linear effects into account.

Site class F, the sixth NBCC seismic site class, defines a special case of soil conditions, including liquefiable soils, quick and highly sensitive clays, >3 m of peat, >8 m of highly plastic clays and >30 m of soft to medium stiff clays (Table 4.1.8.4.A in NRC, 2010). At a class F site, site-specific geotechnical evaluation is required to assess amplification of the firm-ground seismic hazard values.

The map of seismic site classes for the cities of Ottawa and Gatineau presented here was compiled jointly by staff of the Earth Sciences Department of Carleton University and the Geological Survey of Canada. The map depicts the spatial distribution of class A to E site conditions within the municipal boundaries of the two cities and demonstrates the application of geophysical techniques for compiling seismic classification maps. Where measurements were made in the field by the GSC, the site classes were defined by using the travel-time averaged shear wave velocity over the upper 30 m of the ground. It should be noted that it is possible that class F site conditions may be found within the areas mapped as C through E, as Vs30 alone does not allow class F conditions to be identified. Similarly, some areas mapped as classes A and B may instead be class C if more than 3 m of soil underlies the bottom of a spread footing or mat foundation (see Commentary J, item 100 in NRC, 2006).

The map was compiled using subsurface geological data obtained from borehole records and measurements of shear wave velocities using shallow geophysical techniques. The borehole data consist of 21,800 water well and engineering records that were compiled from the Urban Geology of Canada's National Capital area, Geological Survey of Canada (Belanger, 1998), and from the Ontario Ministry of Environment water well database. Based on our interpretation of the borehole unit descriptors, the borehole records were classified into three generalized stratigraphic units which have distinct shear wave velocity (Vs) characteristics. These three units (from surface downwards) are: (1) deglacial/post-glacial deposits (consisting of glaciomarine, deltaic, and fluvial deposits);

(2) glacial deposits (till, diamicton and glaciofluvial deposits); and
(3) bedrock. The interpretation of the borehole stratigraphy considered the surficial geology mapped nearby, the vertical ordering of the deposits, proximally-located boreholes and/or geophysical data, and knowledge of the general stratigraphy of the Ottawa area.
The resulting borehole database provides the thicknesses of deglacial/post-glacial deposits and glacial units (units 1 and 2), and the depths to the two seismic impedance boundaries (top of glacial sediments and bedrock surface). Bedrock at a given location was classified into Paleozoic and Precambrian rock types and further subdivided into lithologies using local geology maps (Carson, 1982; Belanger, 1998).

The generalized stratigraphic units of the waterwell and engineering logs, from surface down to and including bedrock, were converted into unique time-averaged Vs profiles using average observed Vs refraction velocities for glacial deposits and bedrock types and functions that relate average Vs to depth for the deglacial/post-glacial deposits (Hunter et al., 2010, see also Hunter et al., 2007; Motazedian and Hunter, 2008; Benjumea et al., 2008; Motazedian et al. 2011). These velocity-depth functions and refraction velocities are based on direct measurements of shear wave velocities at 750 surface reflection/refraction shear wave survey locations, 25 line-km of landstreamer shear wave reflection profiling (see Pugin et al., 2007), and nine downhole shear wave velocity surveys. Each of these Vs profiles was then used to determine the travel-time-averaged Vs for the upper 30 m of the ground surface (Vs30) allowing an NBCC seismic site class to be assigned to each borehole and geophysical site. To supplement the borehole data within Gatineau, fundamental site period was measured at 61 point locations using a Tromino® microseismograph and the horizontal to vertical spectral ratio method of Nakamura (1989). The fundamental site period data were converted to estimates of soft soil thickness using an empirical equation derived from reflection/refraction seismic site data collected in the greater Ottawa-Gatineau region.

The 21,800 determinations of Vs30 were contoured using a "natural neighbors" interpolation technique. The final mapped boundaries between site classes were edited to respect borehole and surface geophysics data points as well as known surficial geological boundaries. The boundaries between site classes are subject to uncertainty in position, especially where few data points occur. To reflect the uncertainty in the contouring, the variability in data density, and to show the complexity of local geology, data points are displayed on the map and keyed by a symbol for the data type and by the colour of the associated seismic site class. In some areas where data density is high, these seismic site classification boundaries are accurate to within a few hundred meters. In other areas, where data are sparse, the uncertainty in the mapped boundary might be 2 km or larger.

All five of the NBCC seismic site classes A to E are present within the cities of Ottawa and Gatineau. In particular, the map reveals that class D and E areas are present beneath the urban and suburban parts of the city, mainly due to the presence of thick deposits of 'soft' glaciomarine sediments (or Leda clay). In some places Leda clay reaches thicknesses up to 100 m, infilling buried bedrock valleys. Locally, the transitions from classes A to E can occur over distances of less than 500 m (e.g. Motazedian and Hunter, 2008), reflecting the steeply-sloped margins of the buried valleys.

Relationship between Site Class and Amplification

The 2010 NBCC provides tables of amplification factors (Tables 4.1.8.4.B and 4.1.8.4.C, NRC, 2010) which modify the firm-ground spectrum (shaking with a 1:2475 year return period) to the design ground motion spectrum. The current factors indicate that the expected level of ground shaking increases up to four times between classes A to E due to the decreasing soil stiffness, and suggest that soft soils (D and E) will experience greater shaking during an earthquake than stiffer soils or bedrock. The amplification factors, when used for building design, do take frequency content into account even though shaking frequency is no considered in the definition of site class.

It is recognized that the NBCC amplification factors have some limitations, may have considerable uncertainty (for details see Finn and Wightman, 2003), and may not take into account the complexity of local site effects (Boore, 2004; CFEM, 2006; Benjumea et al., 2008). For example, seismic shaking can be amplified or attenuated by factors that may act in combination with the geological materials immediately underlying a site. These include: shear wave velocity and/or density contrasts between rock and overlying soil layers (impedance contrast amplification); internal reflection of seismic energy within a soil layer (resonance amplification); focusing or defocusing caused by topography or by subsurface geometry (buried bedrock topography effects); basin-edge effects (e.g. Cassidy and Rogers, 2004); and generation of Rayleigh and Love waves across the surface of a sediment-filled basin (basin effects).

There is a strong need to measure seismic shaking on soils in the Ottawa and Gatineau areas in order to assess the amplification factors of the NBCC and to better understand ground motion response. To date, only limited such measurements have been conducted, as reported by Al-Khoubbi and Adams (2004), Adams (2007), and Hunter et al., (2010).

This seismic site classification map is presented as one element of a regional framework for further assessment of seismic hazards in the Ottawa-Gatineau area, and as a guide for the local geotechnical engineering community as to the general distribution of seismic site conditions across the two cities. The data on the map, however, show regional trends and are neither suitable, nor are intended, for building design. This map does not replace the need for site-specific geotechnical studies, as required by the 2010 NBCC, Ontario's 2006 Building Code, and Québec's 2008 Building Code.

The authors gratefully acknowledge financial support from the Geological Survey of Canada, Natural Resources Canada, through the Eastern Canada Geohazards Assessment Project, Reducing Risk from Natural Hazards Program, and from an NSERC Discovery Grant, the Ontario Research and Development Challenge Fund (ORDCF) awarded to D. Motazedian. As well, we would like to acknowledge and recognize technical support received from the Portable Observatories for Lithospheric Analysis and Research Investigating Seismicity (POLARIS). Editorial review comments by Dr. John Adams and Dr. John Cassidy of GSC, as well as Dr. Gail Atkinson, University of Western Ontario and Michael Snow, P. Eng., of Golder Associates, were very helpful. The co-operation of the staff from the cities of Ottawa and Gatineau is greatly appreciated and was critical in the data collected for this map.

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Issue of trench excavation to investigate post quake effects.

Ottawa at risk for big earthquake

Destruction could be far worse than in Christchurch, New Zealand

CBC News

Posted: Dec 28, 2011 8:27 AM ET

The city of Ottawa is at risk for a big earthquake, experts say. The Val-des-Bois quake that shook the capital in 2010 caused this land collapse in Notre Dame de la Salette, Que. (CBC)

Seismologists and structural engineers say the city of Ottawa is at risk for a big earthquake.

The Val-des-Bois quake that shook the capital last year reminded people that Ottawa sits in an earthquake zone. And there is a chance it could one day produce a destructive quake far worse than February's deadly magnitude-6.3 tremor in Christchurch, New Zealand.

Claude Blais was at the pharmacy in Gracefield, Que., when last year's quake hit.

"All the lights broke down, and all the shelves emptied themselves. It was just horrible," Blais said. "You kind of think it's the end of the world."

It wasn't like that in Ottawa. That's the difference between being close to the epicentre of a 5.2 earthquake, and being 65 kilometres away.

An expert examines a land collapse that occurred in Notre Dame de la Salette, Que., one day after the Val-des-Bois quake that shook the Ottawa area. (CBC)

Even a small quake can be damaging, but seismologists say the Ottawa region is capable of something much bigger.

"We can certainly imagine something stronger could happen," seismologist John Adams of Natural Resources Canada said. "And we think there's a possibility of a magnitude seven in the Ottawa or St. Lawrence Valley."

What Ottawa did wrong

Thousands of office workers in downtown Ottawa did the wrong thing during last year's earthquake. Read here how they should have reacted, and how the city is trying to get it right.

That kind of earthquake close to the capital would be a doomsday scenario. But something like this year's quake in Christchurch is much more likely.

"What we would worry about is the magnitude 6.2 or 6.3, 30 or 40 kilometres away," Adams said. "That would be bad enough in Ottawa without going into the worst, worst case.

"We would probably see building collapses among older brick buildings in particular, and a lot of infrastructure would be damaged."

Frustrating efforts to prepare for such a disaster, the movements of tectonic plates near Ottawa are a mystery and can't be tracked. The mid-continental faults that underlie the region give few clues as to when they might shift again.

That means it could be in the next few minutes, or it could be millennia.

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A massive sensitive clay landslide, Quyon Valley, southwestern Quebec, Canada, and evidence for a paleoearthquake triggering mechanism

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ABSTRACT

A landslide debris field covering ~31 km², the presence of large sediment blocks up to hundreds of meters long, and the exposure of deposits of a single landslide along the incised course of the Quyon River are evidence of a massive failure of sensitive Champlain Sea glaciomarine sediments along the lower Quyon Valley, southwestern Quebec, Canada. Seventeen radiocarbon ages indicate that the failure occurred between 980 and 1060 cal yr BP. Twenty-four additional radiocarbon ages reveal that nine landslides within a 65-km belt in the Quyon–Ottawa area also occurred at approximately this time. In combination, the contemporaneous occurrence of ten landslides between 980 and 1060 cal yr BP, the setting or morphology of five of the other failures, and the close proximity of two of the failures to the Quyon Valley landslide provide circumstantial evidence of a paleoearthquake-triggering mechanism. The paleoearthquake is estimated to be M_w ~6.1 or larger, with the epicenter within the West Quebec Seismic Zone. A common earthquake-triggering mechanism for the three largest landslides in eastern Canada suggests a close link between massive failures of sensitive glaciomarine sediments and the regional seismicity.

Introduction

Large areas of the St. Lawrence Lowlands, eastern Canada, are underlain by silty clay and clayey silt glaciomarine sediments that accumulated within saline to brackish water of the Champlain, Goldthwait and Laflamme seas during deglaciation (Occhietti, 1989). These deposits are often geotechnically sensitive and can experience rapid failure that generates large (>1 ha) earth flows and earth spreads (e.g., Mitchell and Markell, 1974; Mollard, 1977). Many hundreds of sensitive 'clay' landslides have been mapped in the region (e.g., Chagnon, 1968; P.B. Fransham et al., 1976). The ages of some individual and groups of failures are reported in the literature (e.g., Eden, 1967; Lasalle and Chagnon, 1968; Karrow, 1972; Desjardins, 1980; Rissman et al., 1985; Quilliam and Allard, 1989; Filion et al., 1991; Dionne, 1998; Aylsworth et al., 2000; Dionne et al., 2004; Cauchon-Voyer et al., 2011; Locat, 2011), but the majority of the landslides are of unknown age. Determining the age of prehistoric sensitive clay landslides can provide insights into triggering events (e.g., Aylsworth et al., 2000). As demonstrated by Adams (1981), numerous landslides triggered contemporaneously within a relatively confined area can be due to moderate to large earthquakes.

Wilson (1924) mapped a large-scale landslide area along the lower Quyon Valley, southwestern Quebec (Figs. 1 and 2) that he described as a depression, ~12.8 km (8 mi) long and 0.8–4.8 km (0.5–3 mi) wide, "possessing a most irregular hummocky surface". He suggested that it originated from "landslide movements". This area appears on soil, landslide and surficial geology maps published in the 1960s and 1970s and is delineated by landslide map-unit polygons that represent landslide features, but do not differentiate closely-spaced, but separate, landslide source areas and deposits (Lajoie, 1962; Richard, 1976; Fransham et al., 1976b). The area is mentioned briefly or shown diagrammatically in papers as either the largest, or one of the largest, landslide areas in the Ottawa Valley (see Richard, 1974; F.P. Fransham et al., 1976a; Fransham and Gadd, 1977). Aylsworth et al. (1997) described the area as a "massive complex of coalescing and overlapping landslide deposits". They report a radiocarbon age of 1180 ± 60 ^{14}C yr BP (Beta-90879; sample 8 in Supplementary Table 1) collected from within the village of Quyon and suggested that the majority of the landslide deposits predate this age. A recent regional surficial geology map by St.-Onge (2009) shows seven separate landslide polygons along the lower Quyon Valley that partly cover the larger landslide area depicted on earlier maps. Although none of these sources provides a detailed account, it can be inferred that the area experienced large-scale landslide activity, apparently as multiple failures, which presumably are of significantly different age. Also, a failure of unknown scale and specific origin occurred within the area in the late Holocene.

Recent research investigating the age of sensitive clay landslides in the lower Ottawa Valley elucidates the landslide activity within the lower Quyon Valley. As presented in this paper, the lower Quyon Valley is the source of one of the largest subaerial failures in glaciomarine sediments in eastern Canada and is a comparatively young feature. The age of the "Quyon Valley landslide" relative to other nearby failures in the

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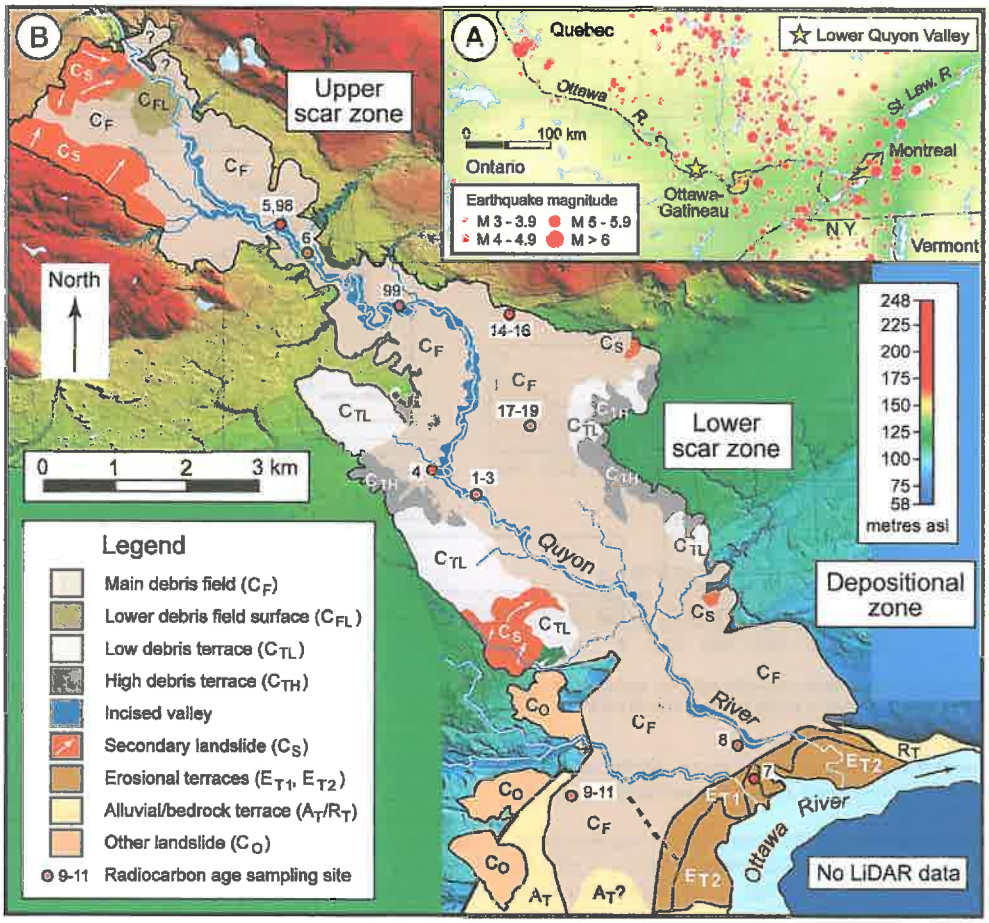

Figure 2. A) Map showing significant historical seismicity within the West Quebec Seismic Zone of eastern Canada (courtesy of the Canadian Hazard Information Service, Natural Resources Canada). B) Map depicting the interpreted geomorphologic features of the Quyon Valley landslide and other relevant features, as explained in the text. The arrows within the larger secondary landslide areas (C_S) are inferred flow directions. The surrounding shaded relief map is identical to that shown in Fig. 1B (LiDAR DEM, © Government of Quebec).

Methods

Landslide deposits were examined at over 50 natural exposures along the incised course of the Quyon River and several tributaries during June 2011 and June–July 2012. Twelve radiocarbon-dated macrofossils were collected from exposed landslide debris or by coring organic layers buried beneath landslide deposits using a commercial drill rig. Where possible, the outer rings of logs or small branches with preserved bark were dated to obtain radiocarbon ages likely to closely approximate the age of the landslide. These ages were supplemented with six radiocarbon-dated terrestrial macrofossils sub-sampled from vibracores recovered from post-event wetlands formed within depressions on the landslide surface. Twenty-four additional published and unpublished radiocarbon ages, which relate to other landslides in the Ottawa–Quyon area, are used in this paper. These were collected by similar methods. All radiocarbon ages were calibrated to calendar years (before AD 1950) using Calib 6.1 (Stuiver and Reimer, 1993) and the calibration dataset of Reimer et al. (2009).

The shaded-relief digital elevation model (DEM) used in this study (Fig. 1B) was derived from LiDAR data obtained from the Quebec Ministère des Ressources Naturelles. The LiDAR survey was carried out on October 16, 2009, and has minimum planimetric and height precision of 0.15 m and 0.25 m, respectively. The thematic map depicting the Quyon Valley landslide area (Fig. 2B) was compiled based on ground-truthing of the study area and interpretation of the DEM. The topographic profiles depicted in Figures 3 and 4 were extrapolated from the DEM using Global Mapper v.14.

Source and depositional areas

The source area of the Quyon Valley landslide is delineated by an elongated and irregularly-shaped scar extending ~11.5 km along the lower Quyon Valley. The area consists of distinct upper and lower scar zones, separated by a narrow, ~300 m wide, constriction (Figs. 1B and 2B). The upper zone is ~4.8 km long and up to 2.1 km wide, while the larger, lower zone is ~6.8 km long and up to 4.5 km wide. The combined area of the lower (~20 km^2) and upper (~8 km^2) scar zones is ~28 km^2. The depth from the inferred original surface of the Champlain Sea deposits to the scar floor ranges from 18 to 45 m (Fig. 3). The constriction may reflect the proximity of subsurface bedrock in combination with a localized change in lithology of the Champlain Sea deposits, as sand and gravel, ~35 m high, and a bedrock outcrop are exposed on the east side of the river directly below the constriction.

The depositional area is blanketed by landslide debris splaying ~2.6 km from the mouth of the scar, across an alluvial terrace, to at least the edge of the Ottawa River channel (Figs. 1B and 2B). The debris forms an elevated, hummocky surface that rises locally up to ~12 m above the inferred terrace plain (Fig. 3G). Two levels of erosional terraces truncate the southern edge of the depositional area and step down towards the Ottawa River (surfaces E_{T1} and E_{T2} in profile E–F;

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the narrow constriction separating the upper and lower scar zones. A distinct step separates level 2 and 3 that ranges from 4 to 10 m high (profile C–D; Fig. 4).

Exposures along the incised courses of the Quyon River and several tributaries within both scar zones occur primarily within deposits of the main debris field (C_F surface; Fig. 2B). The exposures reveal large, tilted to quasi-horizontal, and vertically displaced slabs of intact Champlain Sea clay-silt, sand and, less commonly, sand and gravel deposits (Fig. 5). Buried organic materials and deformed or tilted organic layers can be found occasionally at the contact between or within slabs. No stratigraphic evidence of superimposed landslide deposits of different ages was found within the main debris field; all of the exposures contained deposits of a single landslide. These exposures reveal that level 2 in the longitudinal profile is a locally elevated area of the main debris field extending through the lower scar zone and is part of the same deposit underlying level 3. In the upper scar zone, a horizontal mat of detrital organic matter, several tens of centimeters thick and underlying clay, was encountered at the modern river level near sample sites 5–98 (Fig. 2B). This is thought to be part of the pre-failure incised valley bottom and is the only location where such a surface was observed in the landslide source area.

Surface characteristics of the main debris field (C_F surface) also are consistent with a single landslide deposit. The C_F surface is paired along both sides of the river (Figs. 3 and 4). Also, the surface of the debris field lacks features indicative of multiple, coalesced failures occurring at different times, for example, in the upper scar zone there are no large, distinct landslide lobes that originate from obviously different source areas and are separated by distinct medial ridges, levees or overridden margins (see Fig. 6). Overall, the scale and continuity of the main debris field (C_F surface), the presence of large debris blocks, and the thick deposits of a single landslide exposed along the Quyon River are consistent with a massive failure of Champlain Sea sediments within the upper and lower scar zones.

Other features of note in the Quyon Valley landslide area are the low and high debris terraces within the lower scar zone (C_{TL} and C_{TH}; Fig. 2B). The low C_{TL} terrace is stepped 3 to 7 m above the main debris field (C_F surface), while the higher C_{TH} terrace is situated 12 to 25 m above the C_F surface (or 6 to 10 below the level of the Champlain Sea plain; Fig. 3E). There are a number of secondary landslides within both the upper and lower scar zones (C_S in Figs. 2B and 3A). Finally, a distinct low area (~0.4 km^2) occurs within the C_F surface of the upper scar zone (C_{FL} surface in Figs. 2B and 3A) that may be a landslide scar, or possibly is a remnant of a scar that pre-dates the C_F surface.

Age of the massive landslide

The nineteen AMS radiocarbon ages collected from the lower Quyon Valley landslide area are listed in Supplementary Table 1, including the date (sample 8) reported by Aylsworth et al. (1997). Seventeen of these are relevant to the age of the massive failure along the lower Quyon Valley. Of these, dated samples 1–4 and 5–6 are derived from logs recovered from exposures along the incised course of the Quyon River within the lower and upper scar zones, respectively (Figs. 2B and 7). Within the depositional zone, sample 7 is from one of several buried logs encountered in an excavation on the E_{T2} erosional terrace (Fig. 2B). Sample 8 is from a buried organic layer, 5 to 10 mm thick, at the interface between oxidized sand and an overlying mudflow deposit, 2–3 m thick, exposed within a clay–sand pit excavated into a large debris block within the village of Quyon (Fig. 2B). Samples 9 to 11 were collected from core that penetrated a pre-landslide vegetation layer underlying the western fringe of the depositional area. Dated samples 1 to 11 all represent maximum ages for the landslide. Six dated samples (12 to 17) were sub-sampled from vibracores extracted from two wetlands (three samples for each site) within the lower scar zone (Fig. 2B). These represent minimum ages for the landslide.

The calibrated 2σ age ranges of the 17 radiocarbon ages are plotted in Figure 8. Notable is the general similarity of ten of the eleven maximum ages, which are indistinguishable statistically within the 2σ age range. The age of sample 4 is slightly older, but is not inconsistent with these ages (Fig. 8). Five of the six minimum ages from the wetlands are considerably younger than the maximum ages, but the upper age range of sample 13 is within 10 yr of the youngest maximum age (sample 9; Supplementary Table 1). This minimum age provides a reasonable bracketing of the older maximum ages. The similarity of ten of the maximum ages and the oldest minimum age is consistent with the dated materials representing a common event within the two scar zones and across the depositional area. It is thus interpreted that the main debris field (C_F surface) in the upper and lower scar zones is the product of failures that coalesced during a single, massive landslide and flowed into the depositional area. Based on the specific overlap of the age ranges of samples 2, 3, 5, 8 and 9 (Fig. 8), the massive

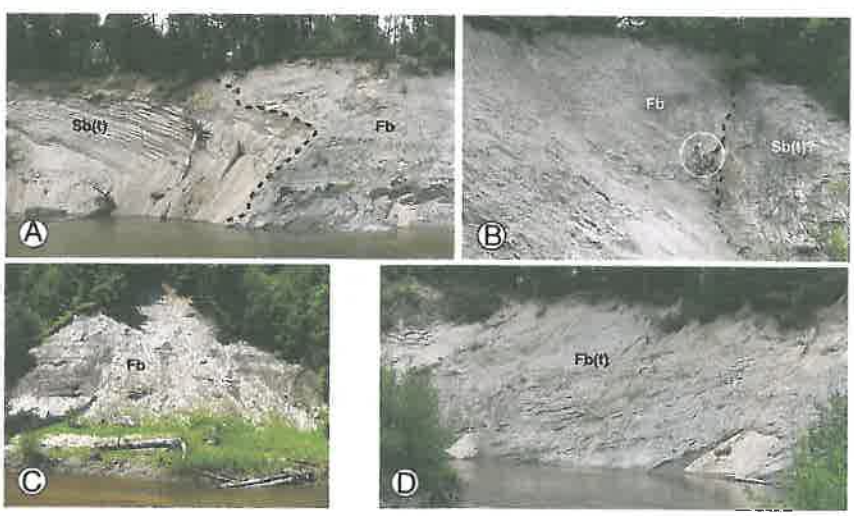

Figure 5. Photographs of landslide debris exposed along the Quyon River beneath the main debris field (C_F surface). Note, the large slabs of intact Champlain Sea sediments that extend from the river surface to the top of the banks in two of the four exposures. The exposures in A) and D) are located in the lower scar zone, while B) and C) are in the upper scar zone. Dashed lines mark the approximate location of the contact between sediment slabs. Note, the circled person for scale in B). Facies coding: Sb(t)—sand, bedded (tilted) and Fb(t)—fine sediments (silt, clay), bedded (tilted).

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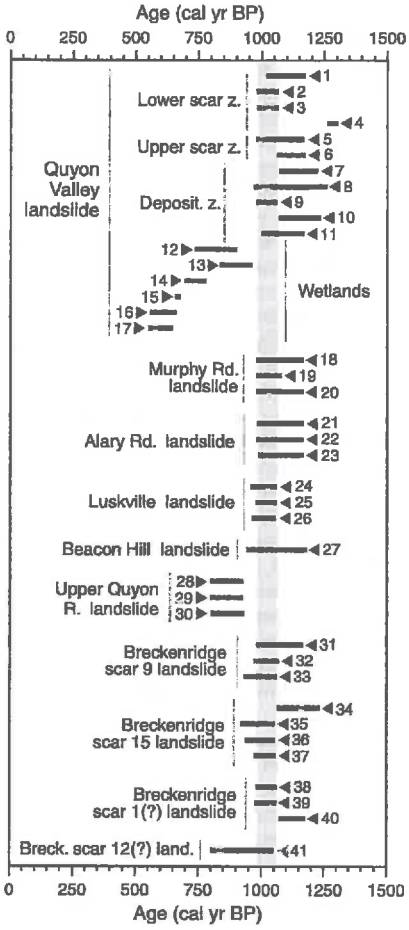

Figure 8. Plot of calibrated 2σ radiocarbon age ranges related to the age of the Quyon Valley landslide and nine other landslides in the Quyon–Ottawa area. Age ranges with left-pointing triangles represent maximum ages for a given landslide, while those with right-pointing triangles signify minimum ages. A gray-shaded bar marks the 980 to 1060 cal yr BP age range mentioned in the text. Refer to Figs. 2B and 9 for sample site and landslide locations.

over a relatively short period of time of hours or days because of the lack of features consistent with landslides of differing age. Some of the comparatively small-scale, secondary failures (C_S; Fig. 2B) along the margins of both the upper and lower scar zones, may have occurred in the later stages of the failure as the scar slopes and the main debris field began stabilizing.

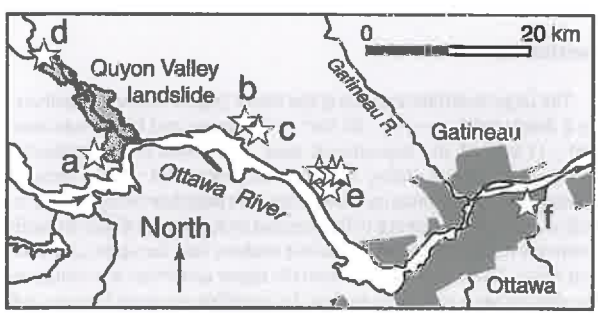

Figure 9. Map of the Ottawa Valley showing the locations of the Quyon Valley landslide (shaded polygon) and other landslides (white stars) mentioned in the text (a—Murphy Road, b—Alary Road, c—Luskville, d—upper Quyon River, e—Breckenridge Valley and f—Beacon Hill).

Based on the main debris field (C_F surface) exclusively, the failure involved ~20 km^2 of the source area. This area is a minimum, however, because some of the secondary failures (C_S; Fig. 2B) clearly have overridden the C_F surface, but these areas (~2.8 km^2) are not included in the C_F surface area. Also, it is possible that some of the low and high terrace surfaces (C_{TL} and C_{TH} terraces) are contemporary with the C_F surface. Estimating the volume of the Quyon Valley landslide is complicated because of the unknown pre-failure morphology of the lower Quyon Valley. Based on the entire source area topography, the volume of sediment removed from the lower and upper scar zones is ~450 Mm^3 and ~150 Mm^3, respectively, for a combined ~600 Mm^3. This volume, however, is an order-of-magnitude estimate because a significant portion of the volume may have been removed by older landslides.

Debris exiting the lower scar zone flowed onto and across the alluvial terrace underlying the depositional area and probably into and across the Ottawa River channel. The presence of the E_{T1} and E_{T2} erosional terraces that truncate the depositional area adjacent to the Ottawa River (Fig. 2B) suggests that the landslide impounded the river. The identification of correlating landslide deposits along the Ottawa River opposite Quyon or discovery of similarly-aged lacustrine deposits upstream, would confirm this interpretation. The ~11 km^2 size of the depositional area seems undersized relative to the ~20 km^2 area of the C_F surface in the upper and lower scar zones. A portion of the debris undoubtedly has been reworked by the Ottawa River, but some probably flowed down the Ottawa River channel, analogous to the large AD 1663 landslide at St. Jean Vianney, Quebec (~23 km^2; Potvin et al., 2001), traveling down the Saguenay River (see Dionne, 1972). Although no subaerial or subaqueous deposits have yet been reported along the Ottawa River downstream of Quyon, an investigation of the river sub-bottom could confirm the downstream extension of the deposits and provide further insights into the scale of the failure.

The coincidental occurrence of the Quyon Valley landslide with nine other failures in the Ottawa–Quyon area at ~1020 cal yr BP provides compelling circumstantial evidence for a common triggering mechanism. Mechanisms usually attributed to multiple, synchronous landslides are severe rainstorms and earthquakes (Keefer, 1984; Crozier, 1997; Keefer, 2002; Jibson, 2009). Fluvial erosion that steepens and heightens slopes in combination with saturation of a weathered crust is considered the most common trigger of sensitive clay landslides (Lebuis et al., 1983; Torrance, 2012). Available evidence, however, is not supportive of multiple, large (>1 ha), sensitive clay landslides being triggered by a severe rainstorm. Gauthier and Hutchinson (2012) examined historical precipitation records for five large landslides in the St. Lawrence Lowlands–Ottawa Valley, and found that none were triggered by severe rainfall events. In July 1996, a severe rainstorm caused widespread flooding and significant bank and valley side erosion in the Saguenay–Lac St. Jean area, Quebec (see Milton and Bourque, 1997; Brooks and Lawrence, 1999, 2000). Over a thousand small (<1 ha), shallow failures (up to 8 m deep) were triggered on slopes underlain by fine-grained, glaciomarine sediment (Perret et al., 1997, 1998), but there were no large-scale, retrogressive failures. While highly sensitive clay deposits and large landslide scars are present in the area affected by this storm, the small failures and bank erosion that happened were predominately in areas where the glaciomarine fine-grained sediments have low sensitivity (D. Perret, personal communication, 2012). This specific example demonstrates that the triggering of large sensitive clay landslides is complex, reflects site specific characteristics, and is not dependent simply on the occurrence of a severe rainstorm.

Many historic failures in sensitive sediments in eastern Canada occur in April to May (see Lebuis et al., 1983) indicating that wet spring conditions following a winter of high snow accumulation warrant consideration as a mechanism. While numerous large landslides have occurred

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Nine other landslides within a 65-km-long corridor extending from Quyon to Ottawa, have ages within the range 980 to 1060 cal yr BP of the Quyon Valley landslide. The contemporaneous age of these 10 failures provides circumstantial evidence that the landslides were triggered by a paleoearthquake. A minimum estimate for the paleoearthquake is M_w ~6.1, based on an empirical landslide area–earthquake magnitude relationship. The epicenter of the paleoearthquake may have been within the southern band of the WQSZ, but this is poorly constrained.

The Quyon Valley landslide is one of the three largest failures reported to have occurred in sensitive glaciomarine sediments in eastern Canada. Such massive landslides represent a major, localized, secondary seismic hazard in the areas of the Ottawa Valley–St. Lawrence Lowlands that are underlain by sensitive glaciomarine sediments.

Supplementary data to this article can be found online at http://dx.doi.org/10.1016/j.yqres.2013.07.008.

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Edmond, Trish

Subject: Carlsbad Springs dump application (CRRRC)

-----Original Message-----
From:
Sent: June 24, 2014 5:03 PM
To: Zappone, Lorna (ENE)
Subject: Carlsbad Springs dump application (CRRRC)

Dear Ms. Zappone:

Based on your knowledge of prior applications for EA review, can you characterize how precise factual summaries are expected (by MoE officials) to be?

This question is prompted by the Draft EA document published this month by the Miller-Taggart consortium promoting the CRRRC near Ottawa -- specifically how it describes on p 255-6 (para. 13.2.4) "the area of the site"
viz. "Mainly properties/facilities/ yard areas . . .
Some existing residences fronting on Boundary Road."

1. This description does not describe "the area of the site" but merely the roads round the site, possibly even just one side of these roads. By contrast, only a dozen pages away in the Draft EA the area of the site is (for the proposed Property Value Protection Plan, p.268) described as a circle of radius 5 km. i.e. including the villages of Carlsbad Springs and Edwards.

The Draft EA was obviously written by many hands but it constitutes a single document submitted by a single commercial entity: only no editor has attempted to co-ordinate the various components of the EA so
that they fit together. The same vague phrases, e.g. "the
area of the site" are used to mean different things on different pages.

Do MoE officials normally expect applicants to be consistent in these respects, or does the MoE usually accept documents as ambiguous and imprecise as this?

2. It takes less than one man-hour to make an exact inventory of the geography actually described in para. 13.2.4. The peripheral roads of the dump site contain 13 business premises and 12 residences
(3 already bought by M-T for demolition in 2015).

The Draft EA provides no such numbers. Readers cannot know whether the drafter of this paragraph never bothered to count the businesses and residences, or had the figures before him and could not be bothered to put them before local residents and MoE examiners. Readers are equally unaware why para. 13.2.4 omits the most obvious single business establishment directly opposite the dump site, a Petro-Canada gas station, also the only food vendor currently open for business adjacent to the site. (The paragraph specifies a gas bar with three gas pumps
-- which means the Luso Garage, not Petro-Canada which has four double-sided pumps, i.e. countable as either 4 or 8.)

Readers who know the geography cannot know why so much was left out. Readers who do not know the geography cannot know that so much was left out.
Is this normal for planning documents placed before the MoE?

With thanks,

CRCCPE
Capital Region Citizens Coalition for the Protection of the Environment

July 31, 2014

Mr. Hubert Bourque
Project Manager,
Taggart Miller Environmental Services
225 Metcalfe Street, Suite 708
Ottawa, Ontario K2P 1P9

CRCCPE response to the DRAFT EA report

Sent via e-mail to hjbourque@crrrc.ca

Mr. Bourque,

The Capital Region Citizens Coalition for the Protection of the Environment (CRCCPE) actively represents the concerned residents of Carlsbad Springs, Edwards and Vars, the unwilling host community for the proposed CRRRC landfill and diversion project. Since the announcement that the Boundary Road site was being considered for the private landfill project, CRCCPE has stated dissatisfaction with the planning, consultation, and lack of due diligence displayed by Taggart-Miller. The draft Terms of Reference (TOR) did not mention the Boundary Road site, but the final version of the Terms included it as an unlikely alternative to a North Russell property. At this point a draft EA report focussing exclusively on the Boundary Rd property has been put forward. Given the past experience on this project and the enormous deviation in content between the draft and final TOR documents, CRCCPE will reserve our detailed review and analysis for the final EA, once all information has been included.

In general, CRCCPE notes that Taggart-Miller has not referenced ALL published technical information on topics including biology, geology and engineering which are pertinent to properly assessing the foreseeable environmental impacts of the proposed CRRRC project at the Boundary Road location. The fact that Taggart-Miller has not made use of all the relevant studies of the property available from the City of Ottawa's own planning department, such as the GEOCON report for example, highlights the concerning lack of rigour with which they are approaching the risk assessment of this project.

Taggart-Miller informed the public that the draft EA report would require review between January and March 2014 and CRCCPE retained experts for that task in that time frame. The unexplained delay of the draft EA review period until high summer conflicts with the scheduled field work of several technical reviewers. Nonetheless, two of CRCCPE's technical experts have provided comment on this draft EA to Taggart-Miller, independently noting the lack of thoroughness. That Taggart-Miller's biologists failed to report beavers and other large fauna inhabiting the site is especially revealing. As recognized in the NCC's recently adopted Greenbelt plan, the proposed landfill site is a key wildlife corridor between protected green areas. The site is also the headwaters for Shaw's creek, the main artery through the protected Cumberland Forest and associated habitats. Of additional concern is the downplayed likely impact on local agriculture, the watershed, and ground water, as stated by another CRCCPE technical

reviewer: “There are issues with the reliability and calibration of the groundwater flow model used, which by Taggart-Miller’s own admission is not up to par.”

Geologists reviewing the draft EA mention: “The report is missing published relevant information on past seismic events (> M6.1, Brookes, 2013), that according to the National Building Code of Canada are to be used to design structures with an earthquake ground motion having a 2% in 50 years probability of exceedance (return period of 1 in 2475 yrs). We also note a continued refusal to recognize and study local faults in the immediate area that could activate future seismic events at a much closer distance to the site. One of these faults is clearly evident on the east-west cross-section Golder Associates prepared for the site and showed at Open Houses #5 and #6."

In numerous ways, Taggart-Miller fails to demonstrate the precautionary principle in their design. The resultant proposal lacks industry standard containment elements like a dual landfill liner system, instead suggesting an old-fashioned hole in the ground full of trash. Unlike Taggart-Miller, progressive waste management operators in the immediate CRRRC area are creating large diversion facilities WITHOUT building new landfills because the Ottawa region has ample waste disposal capacity to last a reasonable, multi-decadal planning window. Impacted residents have found the proponents to be evasive and lacking in good faith throughout this EA process and remain staunchly opposed to this destructive mega-project. We ask the Minister of the Environment to reject this EA and the flawed CRRRC project.

Sincerely,

Sue Langlois
President, CRCCPE

Appendix K-2

Comment Received from the GRT

Table K-2: Summary of Comments from GRT on Draft EA

Commenter	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
Katherina Kirzati Heritage Planner MTCS	June 26, 2014	This report forms part of the Environmental Assessment package and is identified as Technical Support Document #7 - Cultural Heritage Evaluation Report. The report lists five properties within a 250 m radius that were identified as having potential for cultural heritage value or interest. These properties are: 5384 Boundary Road 5409 Boundary Road 5507 Boundary Road 5508 Boundary Road 1129 Blackcreek Road In its analysis, the report indicates: Each of the five properties were evaluated independently. None of the properties were found to demonstrate cultural heritage value or interest under Ontario Heritage Act Regulation 9/06, and therefore not eligible for designation under Part IV of the Ontario Heritage Act. This finding was confirmed by the City of Ottawa. Based on these findings, there are no cultural heritage resources in the vicinity of the Boundary Road Site proposed for CRRRC. The ministry accepts the report, noting that it, and its recommendations, are considered part of the EA decision making process. The ministry suggests that a copy be provided to the local municipality and its Municipal Heritage Committee for their records. The report should also be available, upon request, to local heritage organizations with an interest in the project.	Acknowledged. The draft EA report, including TSD #7, was provided to the City of Ottawa. The EA report will be made available to local heritage organizations on request.	No change to EA.
City of Ottawa	July 31, 2014	**Prioritize Diversion Over Landfill** The proposed integrated waste management facility is intended to service the Industrial, Commercial and Institutional (IC&I) sector and the Construction and Demolition (C&D) sector, which are both regulated by the Province and known to have relatively low diversion rates. The City encourages Taggart Miller to foster waste diversion activities for these sectors as a primary goal, and landfill disposal as a secondary measure. Further, diversion goals at the facility should be regularly reviewed and updated to maximize diversion opportunities, reflect changes in diversion technologies and markets that arise over the life of the proposed facility. Finally, the total allowable annual tonnage tipped at the proposed new landfill should decrease in accordance with rising diversion rates for IC&I and C&D waste.	Waste diversion is a primary emphasis of the proposed CRRRC. Taggart Miller is making a significant investment in the diversion components of the CRRRC and this innovative facility will be the first of its kind in Ontario. Miller Waste is one of the most experienced waste diversion facility operators in Canada. As such, Mille regularly reviews diversion opportunities and advancements. The facility impact assessment has been based on receipt of 450,000 tonnes per year of waste/soil. There is no principled or logical basis to reduce allowable tonnage at the landfill as the diversion performance of the CRRRC improves over time.	No change to EA.
		Service Area for Proposed Facility It is noted in the draft EA that the proposed facility would primarily service the IC&I and C&D sectors in Ottawa and portions of eastern Ontario. It is the City's expectation that the service area for all waste diversion and disposal facilities at the site will be restricted to the City of Ottawa and the surrounding region, as identified in the draft EA, and that waste and contaminated soils originating outside of the identified service area will not be accepted at the site for processing and/or disposal.	Acknowledged. Approval of the EA will have this legal effect.	No change to EA.
		Air Quality and Noise Proponent conducted noise study, groundwater study (drilling 25 wells) – why not an air quality study? Ottawa air quality should be different. P. 56, use local data – there is very limited air quality data representative of this rural eastern Ontario location. Establish your own monitoring location.	Background air quality is required by the MOECC in modelling assessments of new or changing facilities. The MOECC has stringent requirements regarding the quality and quantity of data that needs to be available in order to use it as a background source to assess potential impacts of a project. As such, background air quality was determined form the closest existing MOECC monitoring stations. Taggart Miller considered establishing a meteorological station at the Site, however any data collected from the station would not be admissible for use in the model as it would lack in sufficient quantity. As detailed in Section 8.4.2 of the EA, Taggart Miller also evaluated an existing meteorological station at the Site but found that data from this station was of insufficient quality and quantity.	No change to EA.

<table>
<tr><th>Commenter</th><th>Date Received</th><th>Issues/ Concerns Raised</th><th>Response</th><th>How Comments were Considered by Project Team</th></tr>
<tr><td></td><td></td><td>Please provide the distance from the site boundary to the off site receptor in Table 8.4.1-3 (p.54).</td><td>The distance from the Site boundary to the off-Site receptors listed in Table 8.4.1-3 is as follows:
<table>
<tr><th>Receptor</th><th>Distance (m)</th></tr>
<tr><td>POR01</td><td>100</td></tr>
<tr><td>POR02</td><td>420</td></tr>
<tr><td>POR03</td><td>45</td></tr>
<tr><td>POR04</td><td>120</td></tr>
<tr><td>POR05</td><td>160</td></tr>
<tr><td>POR06</td><td>245</td></tr>
<tr><td>POR07</td><td>310</td></tr>
<tr><td>POR08</td><td>340</td></tr>
<tr><td>POR09</td><td>475</td></tr>
<tr><td>POR10</td><td>855</td></tr>
</table></td><td>No change to EA.</td></tr>
<tr><td></td><td></td><td>Figure 8.4.1-1 – All noise monitoring is focused near Hwy 417 or immediately adjacent to the site boundary. This would generate background noise levels significantly higher than residences along Frontier Road and Blackcreek Road – add a noise monitoring location on the quiet side of the landfill near these residents.</td><td>The assessed points of reception (PORs) are within 500 m from the Site boundary. Residences to the north along Boundary Road (close to Hwy 417) have been included for the assessment of off-site haul route traffic noise as the primary haul route is along Boundary Road from Hwy 417. Noise monitoring location #3 is on the “quiet side” of the CRRRC and approximately 2km from highway 417, and is representative of background noise levels away from Highway 417. At POR03, the predicted noise levels from landfill and ancillary operations comply with MOECC guidelines. Residences along Frontier Road south of Devine Road, which are further away from the Site, would experience lower sound levels and so will comply with MOECC guidelines.</td><td>No change to EA.</td></tr>
<tr><td></td><td></td><td>Fig. 8.4-1-1 does not show the residents along Blackcreek Road which are approximately the same distance as POR10 but on the quiet side of the landfill away from the highway. Add a measuring location which properly describes the noise levels away from the highway near the nine residences along Blackcreek Road.</td><td>The closest POR on Blackcreek Road is approximately 760 m from the Site boundary. As noted above, PORs within 500 m are included in the assessment as well as PORs located close to the off-Site haul route (Boundary Road). POR03 is approximately 500 m closer to the Site boundary in the same direction (southwest) and the predicted noise levels are below the established noise level limits. Any PORs located beyond POR03, i.e., residences along Blackcreek Road, will have lower noise levels.</td><td>No change to EA.</td></tr>
<tr><td></td><td></td><td>Methane and other VOC’s monitoring should be included. Methane should be included in the Air Quality monitoring program.</td><td>The monitoring program is focused on air quality in relation to the indicator compounds used in the air quality assessment that were predicted to occur at other than de minimus levels in relation to their respective criteria. The trace VOC compounds that may be present in the landfill gas emissions evaluated in response to MOE comments were assessed and predicted to be well below their MOE POI limit using conservative estimates that included the decomposition of the organic-containing materials in the landfill. Additionally, unlike a typical landfill, at the proposed CRRRC the organic containing materials will be removed from the waste stream for processing.</td><td>No change to EA.</td></tr>
<tr><td></td><td></td><td>The proponent states “four sensitive receptors have been identified within the Site….on Figure 2.3-1.” Twenty one POR are shown on this figure. Which is correct?</td><td>The text is correct and Figure 2.3-1 was inaccurate.</td><td>Figure 2.3-1 in Volume I has been updated.</td></tr>
</table>

Commenter	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
		The GHG's from leachate tankers hauling to ROPEC are not considered in the emissions summary. This should be included as a site impact. P. 168: odour modelling results should be depicted in a contour drawing in odour units on an aerial photo of the affected area.	Acknowledged. Predictions showed that provincial standards would be met at the nearest off-Site receptor, therefore modelled odour concentrations further off-Site were not depicted visually.	This GHG emission source has been included in the emission summary in Section 11.2.2.2 of Volume I and Section 5 of TSD #3. No change to EA.
		Hydrogeology and Geotechnical In subsection 2.4, reference is made to performing a laboratory oedometer consolidation tests on soil samples to determine consolidation characteristics of the soils. Please indicate what test methodology was followed in performing this test. Subsection 2.7.2 discusses using Slug Testing to determine hydraulic conductivity based on Bouwer and Rice Method. Please discuss any methods used to correct for the high percentage of clay in the soil profile.	The consolidation testing was carried out in general accordance with ASTM D2435. The slug tests carried out in the monitoring wells as part of the hydrogeological assessment for the CRRRC Site were completed to provide information on the in-situ horizontal hydraulic conductivity of the overburden and bedrock adjacent to the monitoring well intervals. Within the surficial silty sand layer, there was no correction required in the slug test analysis for clay content. Groundwater flow within this layer is considered to be primarily horizontal. As such, the Bouwer and Rice Method provides a reasonable estimate of the hydraulic conductivity of this material. Slug tests were not completed within the thick unweathered silty clay deposit at the Site. Within this material, the groundwater movement is primarily in the vertical direction; as such slug tests estimating the horizontal hydraulic conductivity are of limited value. Instead, laboratory permeability testing on three undisturbed Shelby tube samples was conducted to provide information on the vertical hydraulic conductivity of this material. The results of the laboratory testing are provided in Section 7.2.3 of Volume III. For the analysis of the slug tests for the silty layer within the upper part of the unweathered silty clay deposit, it was assumed that the silty layer would contribute/receive the bulk of the water during the rising/falling-head tests. As a result, during the analysis of the slug test data, the screened interval was assumed to correspond to the thickness of the silty layer (i.e., the portions of unweathered silty clay adjacent to the monitoring interval were disregarded). This has the effect of increasing the estimated hydraulic conductivity by more accurately representing the zone contributing water to the monitoring interval, resulting in a more representative estimate of the horizontal hydraulic conductivity of the silty layer. The glacial till material underlying the unweathered silty clay deposit at the site has a relatively low clay content (i.e., less than 15 percent clay sized particles). As such, the slug test analysis method used is considered to provide a reasonable estimate of the horizontal hydraulic conductivity of this material.	No change to EA. No change to EA.

Commenter	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
		The map information in Figure 9.1 as discussed in subsection 9.3 should be extended to the south to include the proposed site in the map.	Figure 9.1 comes from a paper by Brooks et. al., 2013 as noted under the reference section of the figure. Taggart Miller did not produce the figure and cannot extend its limits. Note that the location of the proposed CRRRC Site is accurately (to scale) shown on the Figure.	No change to EA.
		The Slope Stability Figures 11-1 to 11-3 should be provided at a larger scale to improve readability.	Acknowledged.	Figures 11-1 to 11-3 have been updated in Volume III.
		When the report is finalized and submitted for Site Plan Approval, the report must be signed and sealed by the engineer of record. In its current form, the report can be received as a preliminary investigation of the subject site.	Acknowledged.	
		Land Use Section 8.8.1 Land Use (p. 102) "There are currently no Official Plan Amendments, Zoning By-law Amendments or Draft Plans of Subdivision active in this immediate area. There is one application for a site plan in the vicinity of the Site. The application is for a Long Combination Vehicle Truck Transport De-Coupling facility at the southeast corner of the Boundary Road and Highway 417 interchange and the site is identified as 5341 Boundary Road. This development is commercial/industrial in nature, which is consistent with the immediate surrounding area." In this paragraph it should also note a previous approved zoning amendment for 5592, 5606 and 5630 Boundary Rd. and 9460 Mitch Owens Road. Lands rezoned from Rural Commercial to Rural General Industrial.	Acknowledged.	The previous zoning amendment has been noted in Section 8.8.1 of Volume I and Section 3.2 of TSD #5.
		Section 11.6.1 Land Use (p.210) **City of Ottawa Official Plan (OP), By-law 2003-203**: The City completed a five-year review in 2013 of its OP (City of Ottawa, 2013g). As a result of this review, Official Plan Amendment #150 was adopted by Council in December 2013 and is **"currently awaiting Ministerial Approval" with under appeal to the Ontario Municipal Board.**	Acknowledged.	The text in Section 11.6.1 of Volume I and Section 4.1.4 of TSD #5 were amended to include that the plan is under appeal to the Ontario Municipal Board.
		The five-year review of the OP in 2013, included a **Land Evaluation and Area Review for Agriculture** areas. A draft report of the Lands Evaluation and Area Review was issued in 2012, which identified various calculation options for mapping agriculture parcels and areas throughout rural Ottawa, and did not include the Site as an Agricultural area. It should be noted that this document has no status.	Acknowledged.	Section 11.6.1 of Volume I and Section 4.1.4 of TSD #5 were amended to note that the Lands Evaluation and Area Review report has no status.
		Leachate 230,000 m3/year = 5,750 tanker loads of leachate delivered annually to ROPEC or 22 loads per day over a standard 5 day work week. The greenhouse gas generated by this trucking operation was not considered in the Atmosphere – Air Quality Environmental Component.	Acknowledged.	This GHG emission source has been included in the emission summary in Section 11.2.2.2 of Volume I and Section 5 of TSD #3.
		Since leachate must be pumped immediately – where will it be stored if, for example, 75mm of rain are forecast? What is the maximum design head on the leachate liner? What is the storage volume of the collection system?	The storage of leachate is discussed in Section 4.3.2 of Appendix I of Volume IV Design & Operations Report. The equalization tank has the capacity to hold 1,520 cubic metres and the leachate storage pond/tank(s) can hold approximately 44,000 cubic metres of leachate (an estimated two months' worth) when necessary. With two months of storage capacity, 75 millimetres of rain can be accommodated. This does not include the temporary storage available within the leachate collection system, if it was required to utilize it in the short term.	No change to EA.

Commenter	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
		The groundwater monitoring program should include on-site and off-site monitoring including private wells within 3 kilometres of the landfill.	The Site must meet the Reasonable Use Guideline at the property boundary. Private wells located within the Site-vicinity (500 metres) will however be sampled one time before operation of the CRRRC as requested by the MOECC, if permission to access is made available by the owner.	The monitoring program in Section 14.1.2.1 of Volume I, Section 13.2.1 of Volume III and Section 7.1 in Volume IV has been modified to include private wells within 500 metres of the Site one time in advance of CRRRC operations commencing, as requested by MOECC.
		Leachate Treatment System Treatment system must be designed as a batch treatment process. Once samples have been collected from the final pond to determine compliance, no further leachate can be added to the pond prior to discharge at ROPEC. May require two post treatment ponds to support a batch treatment process.	Acknowledged.	The design of the final leachate holding pond has been modified to accommodate this requirement and the EA has been updated.
		On-site vehicle maintenance Requires an oil/water separator, proper maintenance and maintenance records. If this water discharges to a septic tank, it can be brought to ROPEC as restricted waste with a valid approval code.	Acknowledged. An oil-water separator will be provided at the maintenance building.	Information on oil-water separators has been added to Section 10.11 of Volume I and Section 5.4 of Volume IV.
		Storm pond/Ditches All stormwater run-off entering a ditch or municipal drain is required to meet the City of Ottawa's Storm Limits.	Acknowledged. It should be noted that the existing surface water quality within these ditches was found to exceed City storm sewer limits for phenols and BOD on one occasion. However, most of the existing conditions data show the surface water at the Site is in compliance with the City of Ottawa storm sewer limits. The proposed undertaking is predicted to have no impact on existing surface water quality.	No change to EA.
		Stormceptors to manage run-off from the parking lot for oil and fuel.	There is likely insufficient grade at the Site for stormceptors but it is proposed to use reversed sloped outlet pipes that would serve the same purpose.	Section 10.11 of Volume I, Section 5.4 of Volume IV and Section 5.2 of Volume IV Appendix A have been updated to include this information.
		Tire Wash Station Will require a solids interceptor. Is this water contained or will it run straight to the storm ponds?	The need for a solids interceptor is acknowledged. It is envisioned that the tire wash station will be a recirculating system. At times water will be added to the system and at other times there will be excess water. When there is excess water it could be used for other on-site purposes (including irrigation) or could be directed to the stormwater management ponds after it has been through the solids interceptor.	Section 10.11 of Volume I and Section 5.4 of Volume IV have been updated to include this information.
		Miscellaneous Need to meet a TKN limit of 100mg/L. Need proper sampling ports – raw leachate (not mixed with other waste streams), treated leachate, liquid stream from organics processing facility (prior to mixing with other waste streams). Leachate water is to be brought on its own to ROPEC. Any storm water that needs to be trucked to ROPEC cannot be mixed with the final effluent of the leachate treatment system. Contingency plan will be required if liquid waste does not meet By-law limits and cannot be brought to ROPEC for further treatment. Discharge Agreement for Leachate will have monitoring requirements in addition to the provincial requirements already identified in the report. Hours of access for Regulated Waste is 8:00 a.m. to 3:30 p.m. Monday to Friday, excluding statutory holidays.	All of these miscellaneous comments are acknowledged.	No change to EA.

Commenter	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
		Natural Environment, Natural Systems Some of the following comments will be more appropriate for the planning application submission and supporting studies. In the meantime, the following comments should provide some feedback to improve your report and to prepare your Environmental Impact Statements (EIS). Page references below relate to Volume 1 of the draft EA. P. 93, notes three area sensitive species. What are implications of identifying significant wildlife habitat (SWH)? Please follow up with SWH Criteria (Appendix of MNR's Significant Wildlife Habitat – Technical Guide).	The Environmental Assessment for this project was conducted in accordance with standard processes under the approved Terms of Reference. A detailed assessment of Significant Wildlife Habitat (SWH) is linked to the development requirements of the City. However, we have undertaken an assessment of SWH using the Draft SWH Ecoregion Criteria Schedule as requested by the City. Because it could not be confirmed whether the three woodland area sensitive bird species observed on the Site were breeding, the habitat would not be considered SWH using the Draft SWH criteria. In addition, based on our assessment of habitat in the region there are other more representative and larger area sensitive features elsewhere. Considering all natural features and functions present in the study area, the only potential SWH that has been identified on the Site is an area of suitable woodland amphibian breeding habitat in the southeastern corner of the Site and an area in the southwestern corner of the Site. Based on our assessment of habitat in the region, the habitat on the Site is not the largest concentration of woodland amphibian breeding habitat in the region, and there are other examples in the area. In addition, the outcome of the effects assessment concluded that the regional population of amphibians will not be adversely affected by removal of this habitat. During construction, mitigation measures will be implemented to protect individuals, including, but not limited to, restricting disturbance during the breeding season. No other SWH were identified on the site using the Draft SWH criteria. The details of the assessment using the Draft SWH criteria will be presented in the City planning/permitting documents, as required.	A commitment to consider the SWH during the City planning and permitting process has been added to Section 15.0 of Volume I of the EA.
		P. 93, three active Barn swallows nests discovered in north eastern corner of site. This scenario will require Endangered Species Act registration and mitigation plan when the planning application is submitted.	Acknowledged. This requirement is described in Section 11.5.1 of Volume I of the EA. The activity will be registered with the MNRF under the Endangered Species Act prior to submitting the planning application.	A commitment to receive authorization from the MNRF under the Endangered Species Act prior to submitting the planning application has been added to Section 15.0 of Volume I of the EA.
		Little brown myotis was recorded four times (pg 94). Your report suggests that the subject property is not significant habitat for endangered species and the MNR agrees with your interpretation. Please provide MNR's confirmation in writing.	The e-mail confirmation received from MNR regarding little brown myotis has been provided to the City.	No change to EA
		Do your findings identify significant wildlife habitat for herpetofauns? Please compare your findings with SWH Criteria (Appendix of Significant Wildlife Habitat – Technical Guide).	Please see the response above regarding the assessment of habitat using the Draft SWH Ecoregion Criteria Schedule.	A commitment to consider the SWH during the City planning and permitting process has been added to Section 15.0 of Volume I of the EA.
		4 out of the 5 surface water features had fish. These will require DFO self-assessment and a CA review. As well, fish sampling should be conducted in snow melt/early spring season (freshet).	There are 4 surface water features on the site, 3 of which contained fish as observed during field surveys. As described in Section 1.7 of Volume I, the South Nation Conservation Authority is responsible for issuing permits for any construction in or alternation of water courses under *The Conservation Authorities Act*. Approval from South Nation Conservation will be required to implement the Site development plan. If, at the time of permitting, South Nation Conservation requires a DFO self-assessment	No change to EA.

Commenter	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
			or request for review, it will be done at that time. Given that the drainage features on the site are warmwater, the fish in these systems would be spawning in spring, and would not be found in the on-site drainage features. If additional data regarding the fish community is deemed necessary, it should be collected during the summer, which coincides with the MNRF restricted period.	
		Migratory Bird Nests (p.202): on the basis of new and improved information from Environment Canada regarding the migratory bird breeding season, we recommend that there be no vegetation clearing between April 15 and August 15 unless a qualified biologist has checked for nests first.	Acknowledged.	A commitment of no vegetation clearing between April 15 and August 15 unless a qualified biologist has checked for nests first has been added to Section 15.0 of Volume I of the EA.
		We disagree with statements (p. 203) regarding fish habitat. If fish were found in drain DD1 and this drain is scheduled for removal, how can it be concluded that this "will not result in direct loss of fish habitat on Site"? Please clarify.	The portion of DD1 that will be removed is a channel in an agricultural field that was dry during all field surveys. There is no direct channel upstream of the site, and it appears to only convey surface runoff from the site during limited periods.	No change to EA.
		What are the mitigation measures for direct fish habitat loss in DD3? Although fish will be "salvaged and relocated", this does not compensate for fish habitat loss.	DD3 does not meet the criteria for fish habitat under the *Fisheries Act*, and therefore compensation is not required under that Act.	
		Please provide the source of information for "NCC has hypothesized the existence of a wildlife movement corridor from Cumberland Forest through the Vars Forest..." (p. 204).	The approximate location of the wildlife corridor was noted in the following source: National Capital Commission. 2013. Canada's Capital Greenbelt Master Plan. URL: http://www.ncc-ccn.gc.ca/sites/default/files/pubs/gbmp-en_jan2014.pdf . We discussed the findings of the assessment (Section 11.5.2) with NCC and they are in agreement with our analysis. Follow up with the NCC on November 18, 2014 indicated that they were satisfied that their interests were addressed with the studies completed as part of the EA.	
		Alteration of surface water regime will require Conservation Authority permit. We recommend consulting with the local CA prior to submitting your planning application (p. 206).	South Nation Conservation Authority has been consulted and any necessary permits will be obtained as described in Section 1.7 of Volume I.	
		Increase Erosion section (p. 206): setbacks were noted for the Simpson Drain, however, little was described to mitigate erosion on the other drains/watercourses. Please elaborate.	DD1, DD2 and DD3 are being removed as part of the project. Sediment control structures will be put in place at the downstream end of the site for these features to prevent downstream off-site sedimentation.	
		Section *Alteration of Surface Water Regime* (p.206): "increasing the deposition of fines in habitats", is that supposed to mean deposits of fine sediment in aquatic habitats? Please clarify.	This is correct.	
		P. 207, describes, "The three on-Site surface water discharge points meet…". Have these three discharge points been discussed earlier in the report? If so, where and please indicate their locations on a map.	The existing drainage at the Site is described in Section 8.6.2 and the discharge points are shown on Figure 8.6.2-1.	A sentence has been added to Section 11.5.2 of Volume I of the EA to clarify the location of the discharge points.
		The entire section "Alternation of Surface Water Regime" requires further attention (pg 206 & 207). The section begins by acknowledging potential impacts on downstream sections of aquatic systems but does not present their reasoning in a sequence to justify or substantiate their conclusion of flow regime changes not being ecologically important. Please clarify and elaborate.	Because the flow regimes of the drainage features will not be changing to a great extent, any changes to downstream aquatic habitat are also anticipated to be minor. In addition, it was considered that because any downstream change in aquatic habitat was within a relatively small geographic extent, and the magnitude of any changes is low, the overall importance of the change to the ecology was also low.	The section "Alternation of Surface Water Regime" in Section 11.5.2 of Volume I of the EA has been updated to improve its clarity.

Commenter	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
		P. 208: how are nuisance wildlife populations going to be controlled? If poisoning is an anticipated method of control, please describe and assess any potential implications of poison entering the food chain and possibly, the aquatic habitats and water regime.	As per Volume IV, Section 6.1.6-4, because the working area of the landfill will be compacted and covered daily, nuisance wildlife populations should be minimized. In addition, much of the organic component of the waste should be diverted. If required, vermin will be controlled at the landfill or diversion facilities by trapping or a pest management company (which could include other species control or poison). Pest management control companies which use poison do so under strict regulatory control.	No change to EA.
		Is there an active beaver using the beaver dam that is planned for dismantling? If so, what is anticipated to happen to the beaver and to prevent its return? Has a beaver deceiver been considered?	The beaver dam in question is located along a municipal drain. During a pre-consultation meeting with the City in the spring of 2013 the City Drainage Superintendent was alerted to the presence of the beaver dam. It is the City's responsibility to determine how and when to remove the dam and how to prevent its return. A beaver deceiver may be useful.	No change to EA.
		Are there any discharge or recharge areas identified on-site? Given that much of the subject property demonstrates recharge properties (p. 76), what are the anticipated impacts of removing DD1, DD2, and DD3 on the groundwater regime and any potential discharge areas off-site?	Based on the monthly and daily groundwater elevation data collected to date, vertical gradients at the Site are typically either downward (recharge conditions) or absent between the surficial silty sand, the silty layer, silty clay, glacial till and upper bedrock formations at most monitoring locations. As the soils at the Site generally consist of low permeability materials that provide very limited recharge, there is no anticipated impact of removing DD1, DD2 and DD3 on the groundwater regime. Under the existing conditions, DD3 does not have an outlet. Post-development the outlet of DD1 and DD2 will be maintained, however the means of how the water will get there will change to be via the constructed drainage features. Stormwater management ponds will be designed such that the rate of surface water leaving the Site will be controlled and the hydrologic regime post-construction will meet the pre-construction conditions. There will be a small potential decrease in the total volume of streamflow at the outlet of DD2, however any change to discharge off-Site is not ecologically important. There will be a small potential increase in the total volume of streamflow at the outlet of DD1.	No change to EA.
		Public Health As noted above, the groundwater monitoring program should include on-site and off-site monitoring, including the monitoring of private wells within 3 kilometres of the landfill.	The Site must meet the Reasonable Use Guideline at the property boundary. Private wells located within the Site-vicinity (500 metres) will however be sampled one time before operation of the CRRRC as requested by the MOECC, if permission to access is made available by the owner.	The monitoring program in Section 14.1.2.1 of Volume I, Section 13.2.1 of Volume III and Section 7.1 in Volume IV has been modified to include private wells within 500 metres of the Site sampled one time before operation of the CRRRC commences, if access is provided.
		Ottawa Public Health would like to be informed when complaints regarding significant noise, odour and air quality are received.	Acknowledged.	The Complaints Procedure outlined in Section 6.1.6 of Volume IV of the EA has been amended to include this request.
		Transportation Figure 2.1 Weekday Peak AM & PM Hour Traffic Count: please include Source of traffic counts in the Legend.	As described in Section 2.0, the traffic counts at the 417 eastbound and westbound ramps were obtained from MTO, the counts at Boundary Road and Mitch Owens Road were obtained from the City of Ottawa, and the Taggart Miller consulting team conducted the counts at Boundary Road and Devine Road.	Figure 2.1 of TSD 9 has been amended to include the requested information.

Commenter	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
		Please provide Weekday Peak AM & PM Hour Background Traffic and Total Traffic for 2017, similar to Figures 4.2 and 4.3 (2017 is the horizon year at build-out).	Taggart Miller will provide this information for the City TIS report when City approvals are pursued.	No change to EA.
		The ROW protection for Boundary Road is 30m per the City's OP, so 15m from the centreline of existing pavement to the property line. Ensure that the road widening is conveyed to the City.	Acknowledged.	No change to EA.
		Please note that the proposed roadway modifications will require the delegated authority approval of the manager of Development Review, Suburban Services.	Acknowledged.	No change to EA.
		Socio Economic Noteworthy is intersection at Boundary and Hwy 417 is subject to study involving 400 series interchanges which will form part of the Employment Lands study. The selection process for consultant is underway and the study is expected late 2015. The result of this study may inform or recommend changes to Official Plan with respect to land use at interchanges.	Acknowledged.	No change to EA.
		Surface Water/ Stormwater Drainage and conveyance of surface water on the site as well as the quality of surface water discharging from the site is very critical to protecting the natural environment. As a result, proposed stormwater management quality and quantity controls as well as potential erosion resulting in the downstream surface water receivers must be reviewed in detail by all regulatory agencies, such as the South Nation Conservation Authority, Ministry of the Environment, Municipal Drainage Superintendent and City of Ottawa staff.	Acknowledged. The draft and final documents will be circulated to these agencies and all approvals required for this project have been discussed in Section 1.7 of Volume I.	No change to EA.
		The proponent is proposing to alter drainage boundaries for three municipal drains within the property, which would necessitate revisions to the Municipal Drain Engineering Reports under the Drainage Act. The proponent is advised to consult with the Municipal Drainage Superintendent to confirm all requirements under the Drainage Act.	Acknowledged. Taggart Miller and its consulting team have met with and had several discussions with the Municipal Drainage Superintendent. These consultation activities are documented in Volume I, Section 3.6.6.	No change to EA.
		In the event of a spill, the proponent must demonstrate mitigation methods to manage and remediate contaminated stormwater on the site in order to protect the natural environment.	Acknowledged. As noted in Volume IV, Section 6.1.14 an Environmental Emergency and Contingency (E2C) Plan, specifically prepared for the Site, will be developed and provided to the local office of the MOECC for their information and comment, and a copy retained in a central location on the Site and will be accessible to all staff at all times.	No change to EA.
		It appears that the proponent's analysis of potential environmental impacts was based solely on the 2006 WEPP document – "Water Quality in Ottawa's Rivers and Streams". This document does not contain sample results; only a very simplified characterization. It is suggested that the proponent complete their analysis based on the actual data collected by WEPP from 2008 to the present in order to assess the potential impacts of the discharge.	WEPP data from 2008 to present for the Bear Brook Creek were obtained from the City. The concentrations of key water quality indicators (phosphorus, E. coli, copper and zinc) were compared to the provincial water quality objectives and the Canadian Water Quality Guidelines.	Section 8.6.1 of Volume I and Section 3.3.2 of Volume IV, Appendix A of the EA were amended to reference the 2008 to present data from WEPP.
		General Comments The proponent must develop a comprehensive program to ensure that there are no future groundwater and surface water impacts on and around the site.	Acknowledged. Taggart Miller believe the program described in the EA will ensure that groundwater and surface water are fully protected.	No change to EA.
		All MOE and Sewer Use orders and issues of non-compliance identified should be reported to the Mayor, east end Councillors and General Manager of Environmental Services within 24 hours of identification.	Acknowledged.	This requirement has been added to the leachate contingency measures and trigger mechanisms described in Section 8.3 of Volume IV of the EA.

Commenter	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
		An annual report should be provided to the same group that ensures there are no environmental impacts resulting from the operations at the facility.	Acknowledged.	No change to EA.
		In addition, the proponent should report all odour, litter, noise and traffic complaints received by the proponent or forwarded to the proponent by other parties to the General Manager of Environmental Services and the east-end Councillors within 24 hours of receipt.	Acknowledged.	This requirement has been added to the complaints procedure described in Section 6.1.7 of Volume IV of the EA.
		The report should include how and when the problem was addressed. A summary of all complaints and how they were resolved must be prepared and issued with the agenda for the Public Liaison Committee meeting.	This is part of the complaints procedure described in Section 6.1.7 of Volume IV.	No change to EA.
		Ensure local Conservation Authority is consulted with respect to water quality and quantity issues in the Surface water plan.	Acknowledge. South Nation Conservation has been and will continue to be consulted.	No change to EA.
Mathieu Leblanc, Environmental Planner SNC	August 7, 2014	SNC maps do show that the property in question contains watercourses. Most have been identified in the report: - A tributary of the Regimbald Municipal Drain (Class F), identified as DD1 in the report, crosses the north eastern corner of the lot and has been recognized as fish habitat in the report. - The Simpson Municipal Drain (Class F) crosses the property west to east and has been recognized as fish habitat in the report. - A tributary of Shaw's Creek, identified as DD2 in the report, also crosses the property west to east (south of the Simpson Drain) and is not considered direct fish habitat in the report. - A man made ditch, identified as DD3 in the report, on the western edge of the property is not identified as fish habitat in the report. The report also mentions that DD3 seems to have a "tenuous connection" to DD2 during high water. *Comment 1: Further to the list above, SNC's maps show a north-south tributary of Regimbald Municipal Drain in the northwestern corner of the property and a connection between DD2 and DD3. The report; however, seems to have the tributary stopping at the property line and does not show the connection between DD2 and DD3. This should be revised and/or clarified*	Taggart Miller's consultant is aware of the mapping showing the north-south tributary and the connection between DD2 and DD3. During Site investigation and multiple Site visits the north-south tributary was never found on-Site or near the Site boundary and hence was excluded from figures produced, which show water features on the Site. DD3 is a constructed feature containing water that may possibly have a tenuous connection with DD2 during periods of high water, such as following a storm event or spring freshet. During Site investigation and multiple Site visits this connection never had water. Under Section 28 of the Conservation Authorities Act, a watercourse is defined as "an identifiable depression in the ground in which a flow of water regularly or continuously occurs". Since this was not the observed case this was removed from the figures prepared for the CRRRC.	No change to EA.
		It is the obligation of SNC to implement Ontario Regulation 170/06, Development, Interference with Wetlands and Alterations to Shorelines and Watercourses, developed under Section 28 of the Conservation Authorities Act. *Comment 2: The regulation limit at the subject location has been determined as the top of bank of the above identified watercourses. Any development and/or site alteration (e.g. filling, culvert installation, outlet connections, etc.) proposed within the regulated area may require a permit from SNC and restrictions may apply.*	Acknowledged.	No change to EA.
		Comment 3: Note that under Section 28 of the Conservation Authorities Act, a watercourse is defined as "an identifiable depression in the ground in which a flow of water regularly or continuously occurs".	Acknowledged.	No change to EA.
		It is our understanding that the proposed development consist of facility and administrative buildings, outdoor diversion areas, roads, parking and stormwater management ponds. Further, the report mentions Alternative Site Development Concept A as the most favoured option.	Acknowledged.	No change to EA.

Commenter	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
		Comment 4: From the Conservation Authority's point of view, Concept A would be preferred as the Simpson Municipal Drain would only be bordered by the landfill on one side instead of two.	Acknowledged.	
		The report mentions a perimeter berm surrounding the landfill area. The said berm shall have a height of 3 to 3.5 metres, a top width of either 35 metres (Volume 1 p. xxi) or 36 metres (Volume 1 p. xxiv) and 7H:1V sideslopes.	Volume 1 p. xxi describes the conceptual design, while Volume 1 p. xxiv describes the proposed design, which is why there is a slight difference in the top width of the berm. The top width of the berm is 36 metres. The top width of the berm is also stated as 36 metres in Appendix I (Landfill Design and Operations Report) of Volume IV Design and Operations Report.	
		Comment 5: The height and top width should be confirmed as much as possible, since this will affect the total width of the berm and thus the setback between the berm and the watercourse.	Acknowledged. See above.	No change to EA.
		Comment 6: By looking at Figure 10-2 (Volume 1), it is somewhat difficult to accurately identify the proposed setback between the toe of the berm and the top of bank of the Simpson Municipal Drain. Would it be possible to confirm this distance? In general, SNC recommends a 30 metre "no touch" setback from the top of bank to protect potential fish habitat. Further, is anything being proposed within this setback (e.g. access road, path, drainage swales, etc.)? If so, this should be clearly identified on the submitted plans.	From discussion with the City Drainage Superintendent, Taggart Miller understands that a minimum 15 m setback is required along one side of a municipal drain for infrequent access for drain maintenance. The Site layout has provided more than this setback (25 m on the south side and 20 m on the north side) from the centerline of the drain and will adequately provide protection of potential fish habitat. More detailed layout of the area adjoining the Simpson Drain is provided in Volume IV Appendix A, Dwg. No.C- 01.	No change to EA.
		As per Section 13 - Volume 3, it is our understanding that the ongoing surface water monitoring program will be done 3 times a year (spring, summer and fall) at 4 locations as shown on Figure 13-1. *Comment 7: Will this information be available to the general public and/or public agencies? If so, how will this be made available?*	An annual report which would contain surface water monitoring results will be prepared and submitted to the MOECC for review and comment. The local Ottawa MOECC office will have a copy of the report and the CRRRC will have a copy of the report that can be accessed by the public for review if desired. The Public Liason Committee will have a copy. If public agencies wish to receive a copy of the annual they can make that request to the CRRRC. MOECC has requested that a 4th (large rainfall event) monitoring session be added to the surface water monitoring program.	Section 14.1.3 of Volume I, Sections 13.1 and 13.3.2 of Volume III, and Section 7.2 of Volume IV have been changed to include a 4th annual monitoring session, during heavy rainfall event.
		Section 13 also speaks of the ongoing groundwater monitoring which will take place 4 times a year (spring, summer, fall and winter) at existing and proposed well locations as shown on Figure 13-1. *Comment 8: Again, will this information be available to the general public and/or public agencies? If so, how will this be available?*	See response above.	No change to EA.
		Both monitoring programs have been developed to "generally adhere" to the Landfill Standards (MOE, 1998b, revised January 2012) including the list of parameters to be analysed (Tables 13-3 & 13-5). *Comment 9: Please clarify what "generally adhere" means in this situation.*	The monitoring programs in the draft EA adhere to the Landfill Standards with the exception that no winter surface water monitoring program was proposed due to our harsh winters and freezing constraint. MOECC has requested that a large rainfall event session be added.	Section 14.1.3 of Volume I, Sections 13.1 and 13.3.2 of Volume III, and Section 7.2 of Volume IV have been changed to include a 4th annual monitoring session, associated with a heavy rainfall event.

Commenter	Date Received	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
		It is anticipated that some changes will occur to the three sub-catchment areas; however, the overall catchment area of the site shall remain the same. *Comment 10: As changes to the sub-catchment areas are anticipated, the engineers reports for the impacted municipal drains (i.e. Regimbald, Simpson and William-Johnston) should be reviewed and updated if needed.* *Comment 11: A separate Sedimentation and Erosion Control (SEC) Plan should be submitted. The SEC Plan should include:* *i. Who is responsible to install, inspect, maintain and remove the control measures?* *ii. An inspection Schedule to indicate specifically when the inspections are to be completed (i.e. daily).* *iii. Indicate the locations of all control measures with their corresponding OPSD number and as well as their detail.* *iv. Indicate that it is to be considered a "Living Document" which may be modified in the event the control measures are insufficient.*	Acknowledged. When City approvals are pursued the engineers' reports will be reviewed and updated as required as described in Section 1.7 of Volume I. A detailed Sediment and Erosion Control Plan would be prepared as part of the City of Ottawa Site Plan Approval Process and in support of any permit applications to the SNC for "Alterations to Watercourses". It will include all of these details.	No change to EA. A commitment to provide the Sediment and Erosion Control Plan has been added to Section 15.0 of Volume I of the EA.
Sylvain Vallée, Catholic School Board Central East	August 18, 2014	<u>Comment was provided in French. This is a translation.</u> Despite this draft, the CECCE remains concerned about the negative effects (odors, dust, environmental impacts, etc.) of the project on the welfare of its students from the Catholic St. William Elementary School in the village of Vars. CECCE retains the original position of the October 15, 2012 (see attached letter) with respect to the location of the CRRRC.	The concerns of the CECCE are understood. As indicated in the response to the CECCE at the TOR stage, atmospheric emissions from the proposed facility were assessed against strict MOECC standards as described in the Atmospheric work plans. MOECC standards are predicted to be met at the property boundary and/or nearest receptor. As the École élémentaire catholique Saint-Guillaume is located approximately 5.5 kilometres from the CRRRC Site, there would be no adverse air quality impacts from the CRRRC at the school.	No change to EA.

Appendix K-3

Comment Received from the MOECC

Table K-3: Summary of Comments from GRT on Draft EA

Commenter	Date Received (Dated)	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
Frank Crossley, Hydrogeologist, Technical Support Section, Eastern Region	September 5, 2014 (July 24, 2014)	The consultants do not propose to install an engineered liner at the proposed landfill site. The consultants state that the native materials are low permeable materials, thus a liner is not necessary. In general, I concur with this variance however conditional on the phasing sequence being changed from its current configuration from east to west to the operation working from west to east. The reason for this is if problems arise, there is a greater buffer between the waste and the hydraulically downgradient boundary to allow remedial activities, such as a liner, to be undertaken.	Altering the phasing sequence created site development and operational concerns. Instead, to provide enhanced off-Site groundwater protection downgradient (east) of the proposed landfill, the perimeter collection trench system in the surficial silty sand layer proposed in the draft EA as a contingency measure will be installed as a component of the design along the east side of the landfill. The trench system will be installed approximately 115 m inside the east property line. This design component will provide both leachate detection and a secondary containment system continuously along the east side of the landfill.	Changes have been made to Section 10.8 of Volume I, Section 10.8 of Volume III and Section 5.11 and Appendix I, Volume IV of the EA.
		The landfill site is to have a leachate collection system. The leachate is to be pre-treated onsite. Excess leachate, above the pre-treatment system capabilities, is to be directed to a lined pond (estimate two months capacity) for holding until it can be pre-treated. Groundwater monitoring is undertaken around the pond for leak detection. The pre-treatment effluent has to meet the City of Ottawa's sewer use bylaws.	Acknowledged.	No change to EA.
		The consultants conducted a modelling exercise that shows the leachate impacts will be primarily restricted to onsite. While the inputs into the models are representative, models are a predictive tool but a groundwater monitoring program is required to support the findings in the models.	Acknowledged. A groundwater monitoring program is proposed.	No change to EA.
		The proposed leachate monitoring program is: - Frequency - three times per year (spring, summer and fall). - Location - prior to pre-treatment. - Parameters - Column 2, Schedule 5 in the spring and summer and Column 1, Schedule 5 in the fall. This is acceptable along with the inclusion of: manganese; TKN; potassium and hardness in the Column 2 parameter list and hardness in the Column 1 parameter list. - In addition, a complete volatile organic compound scan along with 1,4-dioxane is required from within the leachate collection system at a frequency of one time per year.	Acknowledged.	The monitoring program has been changed in Section 14.1.2 of Volume I, Section 13.2 of Volume III and Section 7.1 of Volume IV of the EA to include the additional parameters suggested.
		The proposed groundwater monitoring program for the northern portion of the site (facilities) is designed primarily to determine leaks and/or spills. This is acceptable.	Acknowledged.	No change to EA.
		The proposed groundwater monitoring program for the southern portion of the site (landfill site) is: - Frequency - three times per year (spring, summer and fall). This is acceptable. - Locations primarily at the site boundary. Additional interior monitoring wells are required. - Parameters are Column 1 or Column 2 from Schedule 5. This is acceptable along with the inclusion of: manganese; TKN; potassium and hardness in the Column 2 parameter list and hardness in the Column 1 parameter list. - In addition, a complete volatile organic compound scan along with 1,4-dioxane is required from the leachate characterization monitoring well(s) at a frequency of one time per year.	Acknowledged. The draft EA did not propose leachate characterization monitoring wells, but rather proposed sampling and analysis of the leachate collected for pre-treatment. In order to characterize the leachate within the landfill prior to collection, leachate characterization monitoring wells will be installed adjacent to selected leachate collection manholes. Additional interior monitoring wells are not required given the proposed east to west landfill phasing.	The monitoring program in Section 14.1.2 of Volume I, Section 13.4 of Volume III and Section 7.1 of Volume IV of the EA has been changed to include leachate characterization monitoring well locations.
		The groundwater monitoring program should be commenced one year prior to operations at the facility to obtain baseline groundwater conditions.	Acknowledged.	The monitoring program has been changed in the EA to reflect the program will commence one year prior to operations at the facility.

Commenter	Date Received (Dated)	Issues/ Concerns Raised	Response	How Comments were Considered by Project Team
		The water wells within 500 metres of the site should be sampled (one water quality sampling event), upon consent from the homeowner, along with a survey. This should be undertaken prior to operations at the facility commencing to obtain baseline water quality results.	Acknowledged.	The monitoring program has been changed in Section 14.1.2.1 of Volume I, Section 13.2.1 of Volume III and Section 7.1 in Volume IV to reflect the program will include sampling water wells within 500 metres of the Site one time prior to commencing operations at the facility if access is granted.
		The consultants indicate that Guideline B-7 applies to the landfill site only, this is incorrect as Guideline B-7 should be applied to the whole site.	Acknowledged.	The EA has been amended to indicate that Guideline B-7 applies to the whole Site.
		The number of groundwater trigger parameters are limited. Additional trigger parameters are required.	Acknowledged.	Additional trigger parameters have been described in Section 13.8.1 of Volume III in the EA.
		The proposed groundwater trigger mechanism is acceptable however additional compliance monitoring wells are required as the current spacing in between the compliance monitoring wells is too large.	Acknowledged.	Additional monitoring wells have been added to the monitoring program in Section 14.1.2 of Volume I, Sections 13.2.1 and 13.9.2 of Volume III and Section 7.1 of Volume IV in the EA to reduce the spacing between monitoring locations along the east side of the landfill.
		The proposed potential contingency measures are feasible and can easily be implemented.	Acknowledged.	No change to EA.
		The proposed final cover meets the minimum thickness requirements and is to be a permeable material. The permeable cover will allow infiltration which in turn will generate leachate. Since there is a leachate collection system, this is acceptable and will reduce the longevity of the contaminated lifespan of the landfill. The final cover should be applied sequentially as the area is closed. A low permeable cover (soil or engineered) could be applied as a contingency measure (to reduce leachate generation).	Acknowledged.	No change to EA.
Youssouf Kalogo, P.Eng. Senior Wastewater Engineer, Environmental Approvals Branch	September 5, 2014 (July 16, 2014)	On Page 157 of the report, it is indicated that the SWM system will consist of site grading, ditching and culvert leading to five linear stormwater ponds or pairs of ponds; one of the ponds will receive stormwater drainage to provide water for firefighting purposes. However, Figure 10-1 shows 7 ponds including 2 for firefighting purposes.	There are two sets of pond “pairs” (ponds that have two cells). Considering that a pair of ponds is one linear pond, then there are five as described. The pond for firefighting purposes happens to be one of the pond “pairs”.	In the EA, the naming convention for the ponds, which is outlined in Appendix A of Volume IV, has been added to Figure 10-1 in Volume I for clarity.
		It is my opinion that there may be a lot of truck traffic at the CRRRC. However, it is unclear whether the SWM system will include Oil & Grit Separators.	Oil water separators will be used in the vehicle maintenance garage and reversed slope outlet pipes will be used for stormwater management ponds that receive drainage from vehicle parking areas. It is envisioned that the tire wash station will be a recirculating system; at times water will be added to the system and at other times there will be excess water. When there is excess water it could be used for other on-site purposes (including irrigation) or could be directed to the stormwater management ponds after it has been through the solids interceptor.	Information on oil-water separators, reversed slope outlet pipes and solids interceptor has been added to the EA.

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		It appears from Figure 10-1 that two of the ponds will be surrounding the landfill area. It is unclear how the ponds will the protected from leachate infiltration.	The landfill is to be surrounded, above ground, by a perimeter berm which is 36 metres wide at the top. The base of the landfill is situated primarily on or within native silty clay, or on a thin remaining layer of surficial silty sand underlain by native silty clay. In addition, a geosynthetic clay liner (GCL) hydraulic barrier is proposed for the sideslope liner system to prevent leachate from entering the surficial silty sand/weathered crust zone or overlying perimeter berm fill; a leachate detection and secondary collection system is also proposed along the east side. The combination of these natural and engineered containment features within the landfill protect the two ponds from potential leachate effects.	No change to EA.
		The report is silent on how the surplus wastewater from organics processing will be handled and where the effluent will be discharged.	The treatment of excess wastewater (i.e., liquor) from the organics processing facility is discussed in Sections 6.3.3 and 10.9 of the EA.	No change to EA.
		The number of employees for the proposed CRRRC has not been provided nor has the quantity of wastewater that could be generated by the workers been quantified and the fate of the wastewater been documented.	Section 11.6.2 states that during the operation phase, the CRRRC is expected to generate approximately 198,000 person-hours of employment per year, which represents approximately 80 – 100 full-time equivalent positions over the thirty year life of the CRRRC. It is envisioned that wastewater from staff will be managed by an on-Site septic system(s) or stored in a holding tank(s) for subsequent off-Site management. The details of this system will be developed and provided during the City of Ottawa approval processes.	No change to EA.
Dale Gable, P.Eng., Senior Review Engineer – Team 1, Approval Services Section , Environmental Approvals Branch	September 5, 2014 (July 17, 2014)	1) The report and/or supporting documentation references the Landfill Standard Guidance Document. It should be noted that the document has been updated. The current version is January 2012.	Noted. The bracket reference for the Landfill Standards within the text uses 1998 (the date that the document was originally written). The reference itself says, “Last updated: January 2012.”	No change to EA.
		2) As the base of the landfill site is proposed to be a natural attenuation landfill, input from the ministry's Technical Support Section - Groundwater is very important in the assessment of the landfill design. The ministry's Eastern Region Technical Support Section will need to comment on whether the TM has adequately shown that they understand the groundwater flow regime at the Site.	Noted. The Eastern Region Technical Support Section groundwater reviewer has commented on the draft EA.	No change to EA.
		3) TM should include a discussion on the anticipated contaminating lifespan for the two options discussed and whether or not there is a preferred option between the two options.	Noted.	A discussion regarding consideration of contaminating lifespan in the comparison of the two alternative Site development concepts has been added to Section 9.4 of the EA.
		4) The final EA report should clearly identify whether the Site is located within a Source Water Protection Area (SWPA). Should the Site be located within a SWPA, TM should include a discussion on whether the draft SWPA plan identifies whether or not the proposed undertaking is considered a drinking water threat that will require TM to manage the threat or whether the type of undertaking is prohibited altogether. TM should be made aware that should the SWPA plan prohibit the type of undertaking, the Ministry will adhere to the plan and not issue an EPA approval for the Site.	The Boundary Road Site is not located within a SWPA as stated in Section 7.1 of Volume III.	Volume I of the EA has been amended to describe that the Boundary Road Site is not located within a SWPA.
		5) An activity to occur at the Site is surplus soil management. The report will have to clearly identify the extent of this activity and include the activity in their overall site assessment. As part of the discussion, it will have to include what is considered uncontaminated soil. The overall site flow chart shown on Figure 10-3 indicates that no soil will be going for final disposal. TM will have to include a discussion on the standard to which soil accepted at the Site will be treated to ensure that this statement is achievable	Description of the surplus soil management, including what is considered uncontaminated soil, is discussed in Section 6.3.1.5 of Volume I and 5.10 of Volume IV Design and Operations Report. Uncontaminated soil will be used as daily cover, for roads, berms, landscaping, etc. Contaminated soil, with the exception of PHC contaminated soil directed to treatment, will be either disposed of within the landfill either as waste or re-used as daily cover.	In the EA, Figure 10-3 of Volume I has been amended to indicate that soil may be sent directly to the landfill for disposal (to account for the contaminated soil received that may be managed within the landfill as waste).

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		6) Section 6.4.2.1 discusses final cover. The assessment and type of final cover will have to be assessed and be completed as per the requirements of Regulation 232/98. The Design and Operations Plan indicates general earth material. This statement is vague and should provide more clarification on the type of soil, permeability and compaction. A discussion on the overall goal of the final cover and site design should be provided.	O. Reg. 232/98 indicates that landfills with a leachate collection system can have permeable covers. Since the leachate is being collected, infiltration will reduce the contaminating lifespan of the landfill.	In the EA, Section 9 of Volume IV Design and Operations Report has been amended to indicate the permeable nature of the final cover and the goal of this type of cover. Additional information has been added about soil types, their characteristics and placement/compaction.
		7) Pg. 123 discusses the potential diversion rate for the site. For the various materials an ultimate target and range for diversion is provided. There does not appear to be a discussion on how the target and range is justified. TM should provide a justification for that range.	Noted.	Additional information on the diversion rates used in the analysis has been added to Section 9.1 of the EA.
		8) Section 4.5 of the Design and Operations Plan indicates that the water table is 0.4 m below ground surface at the Site on average. Section 5.11 indicates that the landfill base will be approximately 1.5 – 2 m below existing ground. Section 11 of Regulation 347 indicates that waste shall be placed sufficiently above or isolated from the maximum water table at the site in such manner that impairment of groundwater in aquifers is prevented and sufficiently distant from sources of potable water supplies so as to prevent contamination of the water, unless adequate provision is made for the collection and treatment of leachate. It is understood that the site design is a site-specific design as permitted by O. Regulation 232/98, however, the final report should indicate clearly whether the proposed leachate collection system and use of the GCL is adequately addressing this requirement in Regulation 347.	The landfill is situated on clay soils where the maximum water table is typically at or near ground surface. The design, as proposed, uses the combination of the natural low permeability silty clay deposit and engineered systems (perimeter hydraulic barrier and leachate collection system) to prevent impairment of the groundwater in both the surficial sand layer and the deep basal till/contact zones. The minor inward groundwater seepage ("hydraulic trap design") will be collected with leachate for treatment.	No change to EA.
		9) On Figure 10-1, a proposed site layout is shown. A stormwater management pond is located in the south-east corner of the Site. There appears to be limited space between the edge of the stormwater management pond and the site boundary. The Design and Operations Plan indicates an interceptor trench could be located between the berm and the stormwater management pond. There is a concern that much of the pond takes up the area of the buffer zone in this area which may limit accessibility in the area to allow the contingency plan to be implemented. A discussion is needed on how a contingency plan will be implemented in this area given the potential lack of space.	Details of the layout of Pond 2 (the pond in the southeast corner of the site) are provided in Drawing No. P2 in the Stormwater Management Report (Appendix A of Volume IV). Drawing No. P2 shows that there is 23 metres width of vegetated buffer between the toe of the slope of the perimeter berm and the main pond. The vegetated buffer is intended to allow runoff into the ponds as sheet flow to assist with removal of total suspended solids. As described previously, a perimeter collector is to be installed along the east side of the landfill as a component of design; this trench will be installed beneath the perimeter berm. If a contingency measure was ever required along the south side of the landfill, there is adequate space between the perimeter berm and that portion of Pond 2 to accommodate an interceptor trench or vertical cut-off barrier (the contingency measures). There is also 16 metres width of vegetated buffer on the east side of Pond 2 with another 14 metres to accommodate the screening berm, all of which could be made available for implementation of contingency measures, if needed.	No change to EA.
		10) On Figure 10-2 in Cross Section B-B', there is a significant step in the base liner in the area of 0+850 to 0+950. This step should be explained.	Details of the subgrade design are provided in the Landfill Design and Operations Report (Appendix I of Volume IV Design and Operations Report). The step in the subgrade is necessary to minimize the initial excavation depth, maintain the minimum as-constructed subgrade slopes of 0.5 percent and, because of the expected settlement of the subgrade (Section 3.6.5, Appendix I, Volume IV), allow for collection of leachate in an increased number of central locations within the landfill. These "flank" areas are on the north and south edges of the waste footprint and are shown in Sections B-B' and C-C' on Figures 4a and 4b, respectively, in Appendix I of Volume IV.	No change to EA.

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		11) Section 10.7 indicates that the soil brought as part of the Surplus Soil Management operation will only be used on-site. The report should discuss the expected soil import requirements at the Site to justify the need for the facility. It is recommended that as part of the EPA application that TM provide and justify the amount and a condition be added to the ECA that limits the Site to that amount of soil.	The need for the facility was discussed in the TOR. Uncontaminated soils (or rock) will be used for a variety of on-site needs such as berms, grade raises, temporary roads and cover material as described in Section 6.3 of Volume I. It is estimated, based on a typical 4:1 waste to cover ratio and 10,170,000 cubic metres of airspace available for waste and daily cover, that 2,034,000 cubic metres of soil could be required over the operational life of the landfill for daily cover alone. Since virtually all of the on-site excavated soil from the landfill footprint will be required for construction of the perimeter berm around the landfill, the soil required for daily cover will have to be mainly imported to the site. A limit on the amount of imported uncontaminated soil brought to a landfill is not typical for landfills and is not proposed for the CRRRC. The PHC impacted soil, however, is proposed to be limited to 25,000 tonnes processed per year (Volume IV).	No change to EA.
		12) Pg. 140 of the Report indicates that it is proposed that the landfill airspace be approved under the EPA in stages. The proponent should confirm that they are asking for approval for the Site to be approved in two stages and the second stage could be denied based on the environmental performance of Stage 1.	Confirmed and understood.	No change to EA.
		13) Pg. 140 indicates that the landfill gas collection system for the landfill will be able to connect to a possible power generation facility. The proponent will have to consider any approvals/processes under the Renewable Energy Approval process, if applicable.	Acknowledged.	No change to EA.
		14) The report indicates that the GCL for the proposed site design will have a service life of greater than 1000 years is considered reasonable. Further discussion to justify that statement is warranted.	Explanation of the assumed greater than 1000 year service life for the GCL is discussed in Section 12.3.6 of Volume III.	No change to EA.
		15) The review and checked boxes in Figures 11.3.2-1 and 11.3.2-2 has not been completed.	Acknowledged. All review and check boxes have been filled in for the final EA.	Review and check boxes have been filled in for all figures in the EA.
		16) Whereas, the proposed monitoring plan is contained within the supporting appendices, it is recommended that the EMP be a stand-alone appendix in the EPA application.	Acknowledged.	No change to EA.
		17) Section 11 .9 provides a description of the traffic impact for the Site. It indicates that the peak time will have 41 trips per hour entering and exiting the Site. What is the average time it takes a truck to enter the site and go through the scales?	Based on Miller's experience at other facilities, it is expected that trucks can pass through the scale in approximately 10 seconds on average (up to 20 seconds if it is a new truck that needs to be entered into the scale computer). Further, there is sufficient queuing capacity for the all 41 trucks during the peak hour along the on-site main access road truck queuing area.	No change to EA.
		18) In general, when considering a new landfill or expanding an existing landfill, TM should consult the document entitled "Landfill Standards: A Guideline to the Regulatory and Approval Requirements for New and Expanding Landfills (MOE June 2012)", specifically Section 6, to identify the assessments that are required to be addressed in the supporting documentation as part of the EPA application should the EA be approved. These include the following: i. Hydrogeological Assessment; ii. Leachate Assessment; iii. Landfill Gas Assessment; iv. Landfill Capacity Assessment; v. Geotechnical Assessment; vi. Noise Assessment; vii. Contaminated Life Expectancy; and viii. Contingency Plans	Acknowledged. The assessments listed are provided in Volumes III and IV.	No change to EA.

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Ross Kircher, Air Quality Analyst, Technical Support Section, Eastern Region	September 5, 2014 (July 18, 2014)	I recommend the emissions inventories and modelling files be amended to include the additional LandGEM contaminants, a negligibility assessment, and additional modelling, if required. (Particularly with respect to benzene and other VOCs).	Acknowledged. A negligibility assessment was completed using the MOE Procedure for Preparing an Emission Summary and Dispersion Modelling Report (see attached Table 1) to this comment. Additional modelling was also completed for contaminants that were found to be above negligibility but not identified as Indicator Compounds (therefore not included in the EA). The additional contaminants were also all found to be below their respective limits as shown in Table 2 attached.	No change to EA.
		I cannot comment on the veracity of the model outputs, as AERMOD inputs and output files have not been provided. I recommend these be submitted to the ministry for review.	AERMOD input and output files have been provided to the Ministry for their review.	No change to EA.
		I recommend any emissions estimates or exhaust flow rates that are assumed based on information "provide by Taggart Engineering" (Appendix A, TSD#3), as well as BIOREM or other sites' emission standards etc., be supported with additional documentation or equipment specifications.	At the present level of design of the equipment and facilities, there are no additional documents or equipment specifications available. It is envisioned that as more detailed design is completed any final equipment selected for the CRRRC will fall within the emission values of the equipment utilized in the assessment of impacts.	No change to EA.
		For completeness, I recommend that cumulative effects be discussed as a sum of both modelled concentrations and background levels, and compared to relevant limits for all contaminants (including those not included in the current submission, ie: benzene). Similarly, I recommend that a comparison be carried out between future build and future no-build cases, where the modelled concentrations are compared to pollutant levels that are expected should the CRRRC not be constructed.	Acknowledged. Table 4-3 in TSD #3 has been prepared to specifically address cumulative effects. Table 4-4 in TSD #3 addresses regulatory compliance at the CRRRC. In SD#1 to the TOR, the project opportunity was described and the need for and purpose of the project was identified, and "alternatives to" were assessed – the proposed CRRRC approach was identified as preferred. Do–nothing ("future no-build") was considered and eliminated in the Alternatives To assessment in the TOR, which was approved by the Minister. In accordance with the approved TOR, further consideration of the air quality associated with a "no-build" scenario is not part of the EA assessments.	The text in TSD #3, Section 4.3 and 4.4 have been amended to better explain air quality cumulative effects.
		I recommend all air quality related information (modelling files, supporting documentation, equipment specifications, background concentration calculations, frequency analysis, etc) be included as additional appendices in TSD#3. Currently LandGEM output is included as part of the D&O report provided by Golder Associates (Volume IV). The LandGEM summary report should be duplicated in TSD#3 for clarity.	AERMOD input and output files have been provided to the Ministry for their review.	The LandGem output has been added to TSD#3 in the EA.
Lance Larkin, Ottawa District Office	September 5, 2014 (June 30, 2014)	While the proponent predicts that they will be in compliance with odour and dust emissions a robust operational and maintenance plan must be implemented to ensure that operational upsets are prevented and to ensure that odour and other air pollution sources will be controlled and emissions from these sources will remain under the regulated limits.	Acknowledged	No change to EA.
		The success of the organics processing component will rely heavily on operational aspects to control odour. The process includes injection of oxygen into the anaerobic compost piles prior to turning the piles. This process should be monitored closely to ensure that no process upsets or releases occur.	Acknowledged	No change to EA.
		Biofilters will be used in the organics processing and contaminated soil treatment cells. This is a proven technology to control odour. Consideration may be given to put the buildings under negative pressure to ensure that there are no releases of odour during entry into the buildings.	As described in Section 10.5, "the organics receiving and storage building, as well as internal and external storage tanks, will be kept under negative pressure to reduce the potential for fugitive odour emissions". Should the storage building for the PHC impacted soil be constructed, consideration at that time will be given to putting it under negative pressure. The odour assessment, which concluded that the facility meets MOECC requirements, did not include the PHC impacted soil building being under negative pressure.	No change to EA.

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		Consideration should be given to potential odour impacts along highway 417 which is frequently used by commuters and tourists to the National Capital. Such consideration may be provided by modelling odour impacts along the 417. The EAB reviewer should verify that virtual receptors were used along the 417 to assess potential impacts.	The MOECC odour guideline is 1 o.u. at sensitive receptors on a 10 minute averaging period for the 99.5th percentile. The highway is not a sensitive receptor, and a 10 minute averaging period would be inappropriate in any event for a motorist passing by the Site on the highway. Further, there are no guidelines applicable for the odour applicable at a non-sensitive receptor such as a highway. In addition, vehicles travelling along the highway should not be considered receptors as they travel at speeds of about 100 kilometres per hour and would be along the area of the CRRRC Site for less than 10 seconds.	No change to EA.
Enoch Tse, P.Eng., Senior Noise Engineer, Environmental Approvals Branch	September 5, 2014 (August 14, 2014)	Vacant Lot Noise Receptors: The EAR indicates that ten (10) points of reception have been identified as the most sensitive in the study. However, no vacant lot receptors have been identified and assessed. Vacant lot noise receptors have to be considered if the vacant lands adjacent to the facility are zoned for future noise sensitive uses.	Acknowledged.	In the EA, TSD #2, Volume IV Appendix B, and Volume I have been amended to identify and assess vacant lot noise receptors.
Lorna Zappone, Special Project Officer, Environmental Approvals Branch	September 5, 2014 (September 4, 2014)	**General** 1) The draft EA should be carefully reviewed to ensure that it has been completed in accordance with the approved Terms of Reference (TOR), the ministry's Code of Practice for Reviewing and Preparing Environmental Assessments in Ontario, January 2014 (Code of Practice: EA), and the *Environmental Assessment Act* (EAA).	Acknowledged. This is described in Section 1.8 of Volume I.	No proposed changes to the EA.
		2) Where appropriate, always cross reference tables, figures, appendices, etc., ensuring accuracy.	Noted.	A quality control check was completed on the entire EA.
		3) Update ministry names, guidelines, provincial policies, etc., as appropriate.	Acknowledged.	Changes were made to EA as appropriate.
		4) As not all project documentation, such a workplans, assessment criteria for the comparative evaluation of the alternative sites, alternative haul routes and leachate treatment options, were provided to the ministry for review it is not possible to determine if the EA has been prepared in accordance with the approved ToR or if all studies undertaken are appropriate, current, accurate, and the data appropriately interpreted.	-	The full TOR, with the exception of Appendix C- North Russell Road workplans, has been included in Appendix A of Volume I of the EA. The TOR contains the relevant approved assessment framework for these items.
		5) It is recommended that the draft EA be reviewed and revised to ensure the EA process is traceable. For instance, the methodology is comprised of three phases; six tasks within phase 1, yet task 4 has been combined with task 3. Also, the description of the existing environment presented between two sections each with a description of the proposed CRRRC can be confusing.	Noted. In the EASR, the task numbering in the methodology section 2.3 was kept consistent with that in the TOR. When the Boundary Road Site was identified as preferred, in accordance with the approved TOR, this component was reduced in scope from a haul route assessment to a traffic impact assessment for the preferred Site development concept, so the results of the impact assessment were presented in Section 11 together with impact assessment results of the other environmental components. The description of the proposed CRRRC and its components in Section 6.0 of Volume I is at a general conceptual level of detail only for the purpose of comparing the two alternative Sites. After the Boundary Road Site was identified in Section 7.0 as the preferred Site for the CRRRC, the description of the existing environment for the Boundary Road Site (Phase 1- task 1) is provided in Section 8.0. In accordance with the methodology in the approved TOR, the next step in the assessment (Phase 1 – task 2) is the identification of the preferred Site development concept	Clarification regarding the traffic assessment has been made to Section 2.3.4 of Volume I of the EA. Further clarification has been added to the introduction of Section 11.0 of Volume I to state that the impact assessment includes both tasks 3 and 4. Additional text has been added and re-arranged within Sections 6.0, 9.0 and 10.0 of the EA to explain the different levels of description of the proposed CRRRC.

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			(or Alternative Method). To carry out task 2, the general information provided in Section 6.0 required an increased level of detail to be able to define the diversion and disposal processes and their operational area requirements, and thereby be able to prepare the two alternative site layouts (Section 9.0). To complete Section 9.0, these two site development concepts were then compared to identify which was preferred.	
		6) As above, it is recommended that the draft EA be reviewed and revised to ensure technical details are presented in a manner easily understood by any person reading the document. For example, a plain language summary provided ahead of technical descriptions about the geotechnical conditions and potential impacts may be helpful.	Noted.	Technical details were reviewed and summaries were put in the EA Volume I at strategic locations to improve understandability of technical details.
		7) The draft EA document posted to the project website should more clearly identify the sections contained in each download file. In addition, two download files (*summary of commitments* and *references and appendix A: ToR*) are damaged making them inaccessible.	Acknowledged. At the time of upload the draft EA documents were checked to ensure all could be downloaded, and they could be in June 2014. Upon receipt of these comments in September the documents were checked again. While the summary of commitments and references file was at that point damaged, Appendix A appeared to download successfully.	The EA will be uploaded to the website using Chapter headings as titles. The EA will be checked by several sources to ensure all files will download.
		8) Ensure the final EA includes a comprehensive evaluation of advantages and disadvantages to the environment for all components of the undertaking, and the alternative methods of carrying out the undertaking. It is recommended this evaluation be set out in tables, in which mitigation measures, net effects and commitments are clearly presented.	Noted. A comprehensive evaluation of the advantages and disadvantages is provided throughout the EA, as follows: ▪ described by component in the comparative evaluation of alternative sites (Section 7, Table 7.3-1); ▪ described for the alternative methods in section 9 (but not by component since the approved approach in the TOR is not by component); ▪ provided in Table 11.10-1 by component in terms of mitigation, net effects and monitoring following the impact assessment for the preferred alternative, and commitments are cross-referenced in the Section 15.0 tables; and, ▪ provided by component as outlined in the TOR for the assessment of leachate treatment alternatives in Table 12.5-1 and text following.	Sections 7.3, 7.4, 9.4 and 12.5 of Volume I of the EA were updated to more succinctly describe the requirements of the TOR and the evaluation of advantages and disadvantages with regard to comparisons.
		9) It should be noted that application forms for Environmental Compliance Approvals under the *Environmental Protection Act* (EPA) and the *Ontario Water Resources Act* (OWRA) included in the draft EA will not be reviewed by the ministry until formal application is made once EAA approval is granted by the Minister of the Environment and Climate Change, with Cabinet concurrence.	Acknowledged. While the material necessary to support the ECA application is contained in the EA package, no application forms were included in the draft EA. Taggart Miller's intention to submit the application forms only after EA approval is stated in Section 1.7.	No change to EA.
		Executive Summary 10) When finalizing the EA ensure details about the review of the draft EA are included.	Acknowledged.	The comments received on the draft EA from the public and the GRT members and the responses to those comments are provided in Appendix K of Volume II Consultation Record. A summary of the comments and their consideration has been provided in Volume I of the EA.
		11) Provide a high-level description of the types of concerns raised during consultation undertaken for the preparation of the EA.	Acknowledged.	A high-level description of the types of concerns raised during consultation has been added to Volume I of the EA.

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		12) Provide details in support of the statement on page xvi about changes in diversion-related provincial goals and policies.	Noted.	This information has been added to the Executive Summary of Volume I of the EA.
		13) It should be made clear that *Alternatives To* the proposed undertaking were considered in the ToR, and the preferred alternative to be brought forward for study in the EA should be identified. Much of this information is repeated in Section 5, and as such may not be needed in the Executive Summary.	Noted.	This information has been amended in the Executive Summary of Volume I of the EA.
		14) On page xx, for a 30 year planning period, it is identified that the needed landfill volumes range from 9.4 to 10.7 million cubic metres, yet landfill design options A and B on page xxi are for 11.5 and 10.5 million cubic metres, respectively. This difference should be noted in the summary, including an explanation for the difference.	Design concepts A and B did not include or account for the site area required for stability berms, stormwater features and geotechnical requirements. Once the area requirements to accommodate these features were subsequently determined and added to the preferred concept A, the capacity of concept A was determined to be 10.17 million cubic metres, which is within the stated range.	No change to EA.
		15) It is unclear why summaries of sections 9 and 10 are not presented in the Executive Summary.	Section 9 is summarized in the Executive Summary on pages xix to xxi of the draft EA Volume I. Section 10 was not summarized in the Executive Summary.	A summary of Section 10 of Volume I was added to the Executive Summary of Volume I in the EA.
		16) Provide additional details related to the prediction about Industrial, Commercial and Institutional and Construction and Demolition waste stream, as referenced on page xix.	Acknowledged.	Additional details about Industrial, Commercial and Institutional and Construction and Demolition waste stream has been added to the Executive Summary of the EA Volume I.
		17) Provide summary details about net effects and monitoring as presented in Section 11.10 (see page xxii).	Acknowledged.	Summary details about net effects and monitoring have been added to the Executive Summary of the EA Volume I.
		18) Identify at a high-level the types of commitments made by TMES (see page xxxvi).	Acknowledged.	A high level summary of the types of commitments have been added to the Executive Summary of the EA Volume I.
		1.0 Introduction 19) Identify the specific EPA/OWRA approvals required for the CRRRC.	Acknowledged.	The specific EPA/OWRA approvals required have been noted in Section 1 of Volume I of the EA.
		20) Provide here or cross-reference where in the EA additional details can be found about other approvals. For example, for what reasons are a letter of concurrence and amendments to the Official Plan and Zoning By-Law [*required*].	Acknowledged.	Additional details regarding other approvals have been added to this section of Volume I of the EA.
		21) Table 1.8-1 should be revised to clarify the ToR requirements in accordance with the EA Act. For example, it should include a description of the purpose of the undertaking not just a description of the undertaking. Also a description of the environment that may be affected and the potential effects on the environment that might reasonably be expected by the undertaking and the alternative methods should be included (see EAA s.6.1(2)(a) and (c)).	Acknowledged.	Table 1.8-1 has been revised as requested.
		2.0 Overview of Methodology 22) It should be made clear the result of the assessment of potential traffic impacts is to determine the preferred haul route (see Figure 2.1-1).	As described in the TOR, if the North Russell Road Site was identified as the preferred Site for the project, then the traffic assessment would have evaluated alternative haul routes (TOR section 8.3.4.2 and Figure 8.3.4.1). If the Boundary Road Site was identified as preferred, then the haul route would be from the Highway 417/Boundary Road interchange and along Boundary Road to the Site (i.e., no alternative haul route assessment to be completed). The Boundary Road Site was selected as preferred.	Sections 2.3.4 and 11.9 of Volume I of the EA have been updated to document why there was not an assessment of alternative haul routes completed for the Boundary Road Site.

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		23) The workplans referenced in this section were not included in the draft EA submission for review.	Noted.	The full TOR, with the exception of Appendix C- North Russell Road workplans, has been included in Appendix A to Volume I of the EA.
		24) It should be identified when the Financial Assurance Report is expected to be completed and submitted to the ministry.	Acknowledged.	The timing for the Financial Assurance Report has been added to Section 2 of Volume I of the EA.
		3.0 Consultation Activities 25) Update ministry names as appropriate.	Acknowledged.	EA contains updated ministry names.
		26) Details about consultation with the Algonquins of Ontario should be presented in chronological order to avoid confusion. This comment also applies to item J in Table 15-1.	Noted.	Section 3.6.7 of Volume I of the EA and item J of Table 15-1 were put in chronological order in the EA.
		27) Identify the purpose of the October 8, 2013 meeting with the Algonquins of Ontario.	Acknowledged.	The purpose of the October 8, 2013 meeting with the Algonquins of Ontario has been added to the EA Volume I.
		28) Where possible provide summary details of the evaluation, mitigation measures, predicted compliance, and future commitments made to address concerns presented in Table 3.7.1-1 and Table 3.7.3-1.	Acknowledged.	The requested details have been added to Tables 3.7.1-1 and 3.7.4-1 of Volume I of the EA.
		29) Provide confirmation that no concerns were raised by attendees at Open House #4.	Noted.	Details regarding concerns raised at Open House #4 have been added to Section 3 of Volume I of the EA.
		30) Provide a summary of concerns raised during the groundwater workshop.	Acknowledged.	A summary of concerns raised during the groundwater workshop have been added to Section 3 of Volume I of the EA.
		31) Table I-1 through 6 should be summarized and included in Section 3, as appropriate.	Acknowledged.	Tables I-1 through 6 have been summarized and included in Section 3.7.6 of Volume I of the EA.
		32) When finalizing the EA ensure sufficient level of detail about the review of the draft EA is presented, including concerns raised and how being addressed and where recorded in the EA.	Acknowledged.	For the draft EA, the comments received from the public and the GRT members and the responses to those comments are provided in Appendix K of Volume II Consultation Record. A summary of the review of the draft EA is provided in Section 3.0 of Volume I.
		6.0 Conceptual Level Description of the Proposed CRRRC 33) Reference to 'further refinements' is confusing. Provide additional detail as appropriate.	Acknowledged.	The wording in the EA has been changed to clarify the site design refinement in question.
		34) Identify reason for providing a conceptual level description of the CRRRC, including relevancy to the EA process in doing so.	As described in Section 6 of Volume I, without at least a preliminary description of the CRRRC activities, and what they would entail from an operation and size perspective, it would not be possible to compare the two alternative Sites and their suitability. However, at this stage in the EA, further details of the final design were not required and hence weren't developed. Further, the TOR did not require the full development of the description of the CRRRC at this stage of the methodology.	Section 6.0 of Volume I of the EA has been revised to further describe why the conceptual level description of the CRRRC was required prior to comparison of the two alternative Sites.
		11.0 Prediction and Assessment of Environmental Effects 35) Table 11.10-1 should include sufficient level of details about monitoring rather than cross-references to another section in the EA.	Acknowledged.	Further details about the monitoring programs have been added to Table 11.10-1 of Volume I of the EA.
		36) Table 11.10-1 does not include the geotechnical monitoring described in Section 14.1.2.2.	Geotechnical monitoring was mentioned in Table 11.10-1; however it did not include all of the details provided in Section 14.1.2.2.	The details of the geotechnical monitoring have been added to Table 11.10-1 of Volume I of the EA.

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		37) The monitoring description for the biology component in Table 11.10-1 appears to be incomplete or the response is unclear.	Acknowledged.	The details of the biology monitoring have been added to Table 11.10-1 of Volume I of the EA.
		38) The methodology identifies the assessment of haul route options and traffic impacts as a separate task (#4), yet this assessment is not presented as such in the report. Revise as appropriate.	In the EASR, the task numbering in the methodology section 2.3 was kept consistent with that in the TOR. When the Boundary Road Site was identified as preferred, in accordance with the approved TOR, this component was simply a traffic impact assessment, so the results were presented in Section 11 together with the impact assessment for the other environmental components. The opening sentence of Section 11.9 states that this assessment is Task 4 of the methodology.	Further clarification has been added to the introduction of Section 11.0 to state that the impact assessment includes both Tasks 3 and 4 of the methodology.
		13.0 Cumulative Impact Assessment 39) Ensure and confirm the cumulative impact assessment has been undertaken in accordance with the commitment made in the ToR and the methodology described at that time.	Acknowledged.	The cumulative impact assessment has been undertaken in accordance with the methodology and commitment outlined in the TOR. No change to EA.
		40) Review Table 13.2.5-1 to ensure residual effects are accurately reflected in Table 13.3-1.	Acknowledged.	Tables 13.2.5-1 and 13.3-1 have been reviewed to ensure residual effects are accurately outlined.
		14.0 Monitoring and Contingency 41) Effects monitoring and compliance monitoring should be described and itemized separately in this section, summarizing the importance and function of each.	Acknowledged. Effects monitoring has been discussed in Section 14.0 of Volume I, whereas compliance monitoring has been discussed in Section 15.0 of Volume I.	Some additional description of effects monitoring and compliance monitoring has been added to Volume I Sections 14.0 and 15.0, including a description of the function of each type of monitoring.
		42) This section should be reviewed to ensure that all environmental components have been discussed, in a consistent manner, and includes a sufficient level of detail from the technical support documents.	Acknowledged.	Section 14.0 of Volume I was amended to ensure that all environmental components were discussed consistently.
		43) Ensure all components are represented in Table 11.10-1, as applicable.	Acknowledged.	Amendments to Table 11.10-1 of Volume I of the EA have been made.
		15.0 Summary of Commitments 44) Ensure all commitments made during the development of the ToR have been captured in Table 15-1. For example, the commitment to establish a Community Liaison Committee has not been reflected.	Noted. All commitments made during development of the TOR are included in Table 15-1. There was not a commitment made during the TOR to develop a Community Liaison Committee; this was made during the EA process and so is correctly captured in Table 15-2 as #77	No change to EA.
		45) Provide cross-references to where the commitment was made (e.g., ToR, Notice of Approval, the November 16, 2012 letter from TMES to the MOECC, etc.). For instance, Section 12.1 in the ToR can be cross-referenced for commitments A through E in Table 15-1.	Acknowledged.	The location of where the commitments were made has been added to Table 15-1 in Volume I of the EA.
		46) Identify where in Table 15-2 other components of community benefits can be found (page 269).	Acknowledged.	Additional details of where components of community benefits can be found has been added to Table 15-2 of Volume I of the EA.

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		47) Additional information is required in order to illustrate if the commitment detailed in item C has been met (page 269).	This commitment was clearly made in Section 6.0 of the TOR. The EASR reflects this commitment through the consideration of diversion rates from Year 1 in Site operations planning for 30 years (Section 9.0), description of the scalable design of the facilities themselves and Site operations from the start of operations at the CRRRC. In Table 15-1, the status of this commitment is correctly described as ongoing.	No change to EA.
		48) Additional information is needed in the response to J to make clear the efforts made to consult with all potentially interested Aboriginal communities.	Acknowledged.	Additional information has been added to response J in Volume I of the EA.
		49) Ensure all commitments made during the preparation of the EA have been captured in Table 15-2 and provide cross-references to where the commitment was made in the EA.	Cross-references to where the commitments were made in the EA were provided in Table 15-2 of Volume I of the draft EA.	Table 15-2 of Volume I has been modified to clarify the location of where commitments were made in the EA.
Dana Cruikshank, Surface Water Scientist, Water Resources Group, Eastern Region	September 5, 2014 (June 19, 2014)	The website of the Halifax C&D recovery centre has a diversion rate of 75%. CRRRC seems to have a much lower diversion rate and I am interested in knowing why since the purpose is to divert waste from landfills.	In reviewing the website of the Halifax C&D recovery centre it appears to only do diversion of C&D waste. The CRRRC will accept IC&I as well as C&D waste. Within Table 9.1-1 of Volume I of the draft EA, the estimated range in target diversion rates for different waste streams received by the CRRRC have been provided. This table reports that the CRRRC anticipates 60 to 80 % diversion on C&D waste, which is comparable to the rate achieved at the Halifax C&D recovery centre.	No change to EA.
		The proposed monitoring program is inadequate. An additional monitoring event is required and additional receiver stream monitoring is required.	Acknowledged.	An additional surface water monitoring event, consisting of monitoring after a large rainfall event, has been added to the monitoring program and is described in Section 14.1.3 of Volume I, Section 13.3.2 of Volume III and Section 7.2 of Volume IV. Additional receiver stream background monitoring has been added in Section 13.3.2 of Volume III.
		1) The description of stormwater control during the construction phase is too minimal to assess. Therefore a more detailed construction phase stormwater monitoring plan is required.	A more detailed construction phase stormwater control plan (a Sediment and Erosion Control Plan) will be provided in support of the ECA application.	No change to EA.
		2) To better assess landfill impacts additional stations based on the revised Figure 1 would be required on Regimbald Drain just upstream on its confluence with Simpson Drain and upstream on Wilson-Johnston Drain from Devine Rd. (Lot 26, Concession 9).	In terms of physical access, establishing the new station in the Regimbald Drain may be problematic since the location is land locked within privately owned land distant from any road and permission to access will have to be obtained. In addition, the area around this Drain is quite wet and it is unknown if the sampling location can be reached on foot. There is public access available to a new station on the Wilson-Johnston Drain.	In Section 14.1.3 of Volume I, Section 13.3.2 of Volume III and Section 7.2 of Volume IV, the surface water monitoring program has been modified to describe that the surface water sampling program will commence in 2014 to increase the baseline database; the program will include the two requested sampling locations as noted in Section 13.3.2 of Volume III, provided permission to access can be obtained, and if the sampling location on the Regimbald Drain can be reached on foot. These locations will be removed from the program once the Site becomes operational.

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		3) Assessment of ditches to handle extra capacity of runoff with respect to erosion and flooding potential is required.	As described in Section 11.4 of Volume I, considering the proposed stormwater management ponds, the controlled, post-development peak flows for each Site sub-catchment area are less than the pre-development flows. The CRRRC will therefore not lead to increased peak off-Site surface water flows. The off-Site ditches are expected to have water flowing more consistently through the year, post-development.	No change to EA.
		4) Additional surface water quality sampling is required in 2014 up to site development at the existing stations (except BSW7 and BSW9) plus the two recommended additional stations.	Acknowledged.	The monitoring program has been changed in Section 14.1.3 of Volume I, Section 13.3.2 of Volume III and Section 7.2 of Volume IV to describe that the surface water sampling program will commence in 2014 to increase the baseline database. It is noted that Taggart Miller had been voluntarily continuing with surface water quality monitoring in 2014 prior to receipt of the reviewer's comments.
Dr. Greg Brookes, NRCan on behalf of MOECC	October 23, 2014 (July 18, 2014)	*Even when larger earthquakes have occurred in the recent past (Aylsworth et al., 2000), they may not be of sufficient magnitude (energy) to generate surface fault rupture.* **(Vol 1, p. 177.)** Negative evidence of paleoseismicity always needs to be interpreted carefully – is there a real absence of evidence or has it not just been recognized? It is entirely possible that larger earthquakes in the past were large enough to generate surface ruptures, but historical evidence of these ruptures has not yet been recognized or documented. Prior to research identifying three post-Champlain Sea paleoearthquakes by Aylsworth et al., (2000) and Brooks (2013), there was no evidence of strong earthquakes in the area. It is possible that the growing availability of LiDAR imagery in the West Quebec Seismic Zone area will result in the discovery of evidence of Holocene fault movement. In this context, the above statement can be viewed as speculative. *Furthermore, where evidence of surface faults has been found in outcrops, it is best explained as local ice deformation rather than by a major through-going surface fault.* **(Vol 1, p. 177.)** There are many examples of surface faulting in outcrops of Champlain Sea deposits in the Ottawa Valley within areas that have experienced sensitive clay landslide activity or within the Lefaivre, Treadwell and Wendover disturbed areas (e.g., Aylsworth and Lawrence, 2003; Brooks, 2013). Such faulting is explained by post-Champlain Sea mass movement processes, which may or may not have been triggered by paleoseismic activity.	The responses to the comments from Dr. Brooks were prepared by Dr. Alan Hull, Seismic Hazard Practice Leader with Golder Associates, in consultation with Dr. Laurent Godin, Associate Professor, Geological Sciences & Geological Engineering, Queen's University, Ontario, We concur that a lack of evidence for past large earthquakes such as surface fault traces, liquefaction features and earthquake-induced landslides does not necessarily establish definitively that such events have not occurred does not exist in the Ottawa region. Indeed, it is the purpose of paleoseismic inquiry to find and test evidence for the sources and frequency of occurrence of past earthquakes. The primary goal of this section of the EA is to characterize surface faulting and earthquake ground shaking in the region surrounding the proposed CRRRC. The current understanding is that coseismic surface fault traces are not known in this area. We cannot rule out the possibility that future investigations will find evidence for additional past large earthquakes, both with and without surface rupture. The present state of knowledge, however, is that the past large earthquakes are not known to have generated surface fault rupture in the area within which the CRRRC is located. We concur that there are local examples where displacement of near-surface sediments have been observed, and that these displacements have a range of potential origins. The purpose of the EA discussion was to address interpretations where faults observed in near-surface sediments have been cited as evidence for ongoing rupture and/or reactivation of adjacent/underlying faults in the bedrock structure.	Clarifications have been added to Section 11.3.1 of Volume I and Sections 9.1, 9.2 and 9.3 of Volume III to reflect the input provided through these comments and the responses below.

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			For example, some writers have postulated that fault exposures in the Rouge River valley near Toronto are the surface expression of deep coseismic tectonic faults. It was argued that an increased seismic hazard could influence the current understanding of the seismic safety of the Darlington and Pickering Nuclear Power plants. The combination of frequent small earthquakes (Martini and Bowlby 1991) and the presence of three proposed geophysical lineaments intersecting near the Rouge River valley in southern Ontario stimulated geological and geophysical investigations in the area (e.g., Wallach and Mohajer 1990; Wallach et al. 1998). These studies questioned the assessments of seismic hazard in the Greater Toronto area. Mohajer et al. (1992) reported normal faults affecting both the Ordovician bedrock and the overlying Pleistocene sediments in the Rouge River valley, about 7 km from the Pickering nuclear power plant. Based on the presence of prominent geophysical lineaments and the overall seismotectonic environment of southern Ontario, Mohajer et al. (1992) suggested that these faults could have a neotectonic origin and should be taken into account in the earthquake hazard assessments for the GTA generally and the Darlington and Pickering nuclear power plants in particular. Not all the geoscientific community shared their interpretations. In response to Mohajer et al. (1992), Adams et al. (1993a, b) suggested that most of the faults of the Rouge River valley could be listric, and may not align with recognized regional geophysical lineaments. Furthermore, as normal faults are common in glaciotectonically disturbed sequences and glacial deformation features exist nearby, Adams et al. (1993a, b) interpreted the normal faults of the Rouge River valley as being most probably the result of ice push-related deformation during one of the last glaciations. After collecting extensive data of local and regional ice flow direction, and kinematically analyzing them in relationship to observed faults, Godin et al. (2002) concluded that (1) surficial faults in the Rouge River valley cannot be connected geographically from one site to the other, (2) deformation (fault offset) rapidly decreases with depth, and (3) most studied faults are kinematically compatible with local and regional ice flow directions. For these reasons, the surficial deformation observed in the Rouge River valley was concluded not to be seismic in origin. In the draft EA, the intent was to suggest that where surficial outcrops of faulted glacial sediments have been examined in detail, the glaciation-related (glacio-tectonic) processes similarly best explained the structural features observed in the Quaternary sediments and underlying bedrock.	

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		A key layer for the evaluation of the potential for past surface fault rupture at this Site is the 0.1-metre to 0.6-metre thick silty layer about 4 to 6 mbgs…. This marker bed within the upper part of the silty clay deposit is horizontal and interpreted to be continuous across the CRRRC Site (Figures 8.5.1-7 and 8.5.1- 8). The constant elevation and lateral continuity indicates that this layer has not been offset by displacements at local faults beneath the area of the CRRRC, and confirms that evidence of fault rupture is absent at both the ground surface and in the shallow subsurface. It is reasonable to conclude, therefore, that there has been no surface fault rupture at the CRRRC Site since at least the deposition of the silty layer (i.e., in the past 8,000 to 10,000 years). Further, the evidence from the surrounding geological structure indicates that recent fault movements are unlikely to have occurred within the bedrock underlying the Site and surrounding area. *Considering the regional, local and Site [sic] geological conditions within the CRRRC Site and surrounding area, and the nature of "active" faults as described above, it is reasonable to conclude that the probability of future fault movement resulting in large differential displacements at the surface or shallow subsurface is negligible and of no engineering or environmental significance for the development of the CRRRC Site.* **(Vol. 1, p. 178)** NRCan has several comments on the interpretation of the 0.1 to 0.6 m thick, silty layer and its relevance to assessing possible fault movement within the CRRRC site. i) As depicted in Fig 8.5.1-8, the silty bed in profile F-F' does not have a constant elevation, as it undulates slightly up to ~1.5 m. A better term to describe the layer would be "quasi-horizontal". It is important to note that displacements from an earthquake of ~6.5 Mw may be less than 1 m, based on empirical evidence for historical earthquakes elsewhere (see Fig. 9.3 in McCalpin, 2009), which falls within the waviness range of the quasi-horizontal silty layer.	We agree that "quasi-horizontal" or sub-horizontal is a better description of the elevation of this important marker layer. We also concur that given the sub-horizontal and variable thickness of the layer, and the density of sampled layer thicknesses, it will be difficult to confirm vertical displacements of less than about 0.5 m.	
		ii) The silty layer is inferred to be continuous and quasi-horizontal based on cross-sections E-E' and F-F' in Figs. 8.5.1-7 and 8.5.1-8 (and similar Figs. 3-14 and 3-15 in Vol. III), respectively. This is a reasonable interpretation considering that the layer aggraded within a glaciomarine depositional setting, however, the interpretation needs to be substantiated using all available data. Therefore, all borehole data from the CRRRC site should be incorporated to represent diagrammatically the horizontal and vertical distribution of the silty layer. This layer should appear to be quasi- horizontal and continuous throughout the site in the new diagram, if the Proponent's inference is correct. However, if the silty layer is not present in any borehole or the layer does not appear to be quasi-horizontal, then an explanation should be provided about this discrepancy.	An isopach map for the silty layer is provided in Volume III Figure 3-17. This map was compiled using all the borehole and CPT data available for the Site. Volume III Figure 3-17 also provides the thickness of the silty layer at each of the 25 investigation locations, thereby answering the question in that it was found in every one of the 25 test locations on the CRRRC Site. The silty layer was first recognized as a sharp increase in cone resistance, qt, in the CPT borings. Continuous soil sampling in the five deep boreholes and continuous cores to about 7.5 m depth in an additional nine boreholes were used to sample through and confirm the silty layer identified from the CPT investigations. On this basis, we interpret the silty layer as continuous across the Site.	
		iii) In the report, the quasi-horizontality characteristic of the silty layer is used to infer absence of a fault rupture within the CRRRC site. This deduction is reasonable in assessing the possible presence of a normal or reverse fault. However, the possibility of minor vertical displacement along a fault in the order of several tens of centimetres cannot be rejected, based on the widely-spread, borehole data alone. Based on profiles in E-E'a and F-F' (Figs. 8.5.1-7 and 8.5.1-8), there seems to be no evidence of metre-scale (or more), vertical fault displacement at the CRRRC site, assuming that all of the borehole data supports the quasi-horizontal and continuous characteristics (see comment ii).	We concur that the lateral continuity of the silty layer suggests that it has not been disrupted by major subsurface displacements, whether of tectonic or other origin. We also agree that minor vertical movements of less than about 0.5 m could not reasonably be detected given the natural variability and borehole spacing.	

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		iv) In the report, the quasi-horizontality characteristic of the silty layer is used to infer absence of a fault rupture within the CRRRC site. This deduction does not preclude the occurrence of a strike-slip fault which led to horizontal displacements and offsets, as well as possible slight (centimetre-scale) vertical displacement. The report needs to explain why there could not have been metre-scale (or more), horizontal strike-slip fault displacement at the site. Given the above comments, NRCan reserves judgment on the conclusion that "*the probability of future fault movement resulting in large differential displacements at the surface or shallow subsurface is negligible and of no engineering or environmental significance for the development of the CRRRC Site* (p. 178, Vol. I)*".*	While the major displacement sense along strike-slip faults is horizontal, strike-slip faults typically also develop apparent vertical separations because: ▪ There is typically a small component of vertical displacement in addition to major horizontal displacement. For major faults, that horizontal to vertical ratio can range from 1:1 to 15:1 depending on the strike of the trace with respect to the principal horizontal strain axis. ▪ Even pure strike-slip offset of a bed of irregular thickness will produce an apparent vertical offset. We agree, however, that both these processes would result in only small (centimetre-scale) vertical displacements that are below the detection threshold of the investigation as described in Section 2.2.3. We concur with the vertical and horizontal detection limitations for potential fault offset of the silty layer described above. We consider it important, however, that analysis of the bedrock geology surrounding the site, the stratigraphy of the subsurface sediments, the surface geomorphology at and surrounding the site, and the historical earthquake record all do not suggest that a fault capable of vertical and/or horizontal movements is present at or beneath the CRRRC site. Because of these positive indicators for the absence of a fault at the site, we consider it is reasonable to interpret the absence of major disruptions to the lateral and vertical continuity of the silty layer as further evidence that the CRRRC is not the site of a major coseismic fault capable of generating large earthquakes and surface or near-surface differential displacements. In terms of the engineering significance of surface or subsurface displacements from potential future fault movement on the design and performance of the proposed CRRRC landfill, both the landfill mass itself and the proposed leachate containment and collection system (and its components), are very flexible. There is no constructed or manufactured liner on the base of the landfill as designed; rather, it relies on the natural containment properties of the 30 metres of low permeability silty clay underlying the site. The proposed leachate containment and collection system has been designed to withstand relatively large movements and continue to perform its intended function. For example, this system has been designed to function when experiencing the predicted movements associated with consolidation of the clay deposit beneath the landfill over time, i.e., total settlements of 6 to 8 metres under the central portion of the landfill, as well as predicted lateral movements of up to 340 mm under seismic loading conditions. As such, the effects of surface or subsurface displacements from fault movement, in the unlikely event this should occur during the contaminating lifespan of the landfill, are not of consequence in terms of the engineering design or performance of the landfill.	

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		The flat topography at the CRRRC site is strong evidence against the presence of large-scale, highly-disturbed terrain similar to those underlying the Lefaivre, Treadwell and Wendover areas. Additional evidence is the lack of evidence of sediment disturbance in continuous soil cores from the site, as indicated on p. 179 of Vol. I. As indicated in the report, the subsurface conditions at the CRRRC site seem significantly different from that documented for the Lefaivre area, as presented by Aylsworth and Lawrence (2003) i.e., the presence of thick sand deposits (up to ~20m) and a steep-sided bedrock basin containing clay up to ~100 m thick. This supports the conclusion that there is absence of large-scale liquefaction or disturbed clay deposits at the CRRRC site that could be considered analogous to the Lefaivre area (which is better documented than the Treadwell and Wendover areas). However, the Proponent's concluding statement that "*the large-prehistoric earthquakes* [inferred to have occurred in the area] *have not resulted in deformation of the silty clay deposit that underlies the site (p. 180, Vol I)*" is not fully substantiated based on widely-dispersed borehole data over the large CRRRC site. There is a need to address the possibility that there has been smaller-scale deformation to the silty clay deposit, which is not apparent in the boreholes, and to indicate whether future movement of this scale could represent a hazard at the CRRRC site. Brooks (2013) and Brooks (2014) hypothesize that many of the large-scale, retrogressive landslides in the sensitive glaciomarine clay areas of the Ottawa Valley and St. Lawrence Lowlands have been triggered by strong earthquakes (~6.0 Mw or larger). Regionally, the largest of the documented earthquake-triggered landslides have retrogressed in excess of the 1.5 to 3.5 km distance from the southern margin of the Mer Bleue paleochannel to the CRRRC site (e.g., Quyon valley landslide and the ancient St. Jean Vianney landslide; see Brooks et al., 2013; Potvin et al., 2001). As summarized by the Proponent on p. 179, large-scale retrogressive landslides occur along the margins of paleochannels and terraces of the Ottawa River, although these are absent along the southern margin of the Mer Bleue paleochannel in the general area of the CRRRC site (see Fig. 9-1, Vol. III). Nevertheless, the potential occurrence of a large-scale sensitive clay landslide originating from the nearest margin of the Mer Bleue paleochannel retrogressing into the CRRRC site needs to be considered. Seismic shaking should also be considered as the triggering mechanism for such a failure.	We concur that we cannot eliminate the potential that a small-scale disturbance feature or features exists within the glaciomarine sediments the CRRRC site. As in the case of the detection of the potential for small-scale vertical and horizontal displacements of the silty layer, we are relying, reasonably in our view, on the apparent vertical and lateral continuity of this marker horizon to infer its lack of tectonic or seismic disturbance. Providing information at the scale required to eliminate this potential beyond any possibility is not considered practical or warranted given the tectonic setting of the region and site. It is not clear where a large scale retrogressive landslide would originate that would regress back to the CRRRC site. Large slides tend to be initiated at existing topographic slopes. One triggering mechanism is prehistoric large earthquakes as documented in Brooks (2013, 2014). In historic times, the landslides have been triggered by various factors such as oversteepening from channel erosion. These slides can retrogress large distances from the slide mass into the low-relief region behind the headscarp. The CRRRC site is located within a large low-relief area about 2 km south of what was the Mer Bleue paleochannel. This about ~10,000 years ago channel has been largely infilled by subsequent deposition, and the paleochannel scarp/margin is now only about 4m in height. This 4 m high former paleochannel margin leads down to the broad valley surrounding Bear Brook Creek. We understand that current studies of retrogressing slides developed in clay soils conservatively suggest that 95% of retrogression occurs within a ratio of 40:1 retrogression distance: slope height. On this basis, the 4 m high slope along the nearest margin of the former paleochannel could potentially retrogress up to 160 m southward from the paleochannel margin—much less than the 2 km distance between the former paleochannel margin and the CRRRC site. We conclude, therefore, that the potential for a future retrogressive landslide to encroach on the CRRRC site is insignificant.	

Table 1
Negligibility Assessment Table

Contaminant	CAS No.	Total Facility Emission Rate [g/s]	Air Dispersion Model Used	Averaging Period [hours]	MOE POI Limit [µg/m³]	Emission Threshold [g/s]	Negligibility Assessment
Sulphur Dioxide	7446-09-5	2.04E-01	AERMOD	24	275	6.56E-02	Indicator Compound
Sulphur Dioxide	7446-09-5	2.04E-01	AERMOD	1	690	6.76E-02	Indicator Compound
Hydrogen Sulfide	7783-06-4	7.85E-03	AERMOD	24	7	1.67E-03	Indicator Compound
Hydrogen Sulfide	7783-06-4	7.85E-03	AERMOD	10-min	13	1.05E-03	Indicator Compound
Ethylbenzene	100-41-4	2.95E-03	AERMOD	24	1000	2.39E-01	Negligible
Ethylbenzene	100-41-4	2.95E-03	AERMOD	10-min	1900	1.53E-01	Negligible
Nitrogen Oxides	10102-44-0	8.60E-01	AERMOD	24	200	4.77E-02	Indicator Compound
Nitrogen Oxides	10102-44-0	8.60E-01	AERMOD	1	400	3.92E-02	Indicator Compound
Ethylene Dibromide	106-93-4	8.65E-06	AERMOD	24	3	7.16E-04	Negligible
Butane	106-97-8	5.21E-04	AERMOD	24	7600	1.81E+00	Negligible
Acrylonitrile	107-13-1	1.53E-06	AERMOD	24	0.6	1.43E-04	Negligible
Methyl isobutyl ketone	108-10-1	5.06E-04	AERMOD	24	1200	2.86E-01	Negligible
Toluene	108-88-3	1.55E-02	AERMOD	24	2000	4.77E-01	Negligible
Chlorobenzene	108-90-7	4.29E-04	AERMOD	1	3500	3.43E-01	Negligible
Chlorobenzene	108-90-7	4.29E-04	AERMOD	10-min	4500	3.63E-01	Negligible
Pentane	109-66-0	1.84E-03	AERMOD	24	4200	1.00E+00	Negligible
Hexane	110-54-3	1.53E-03	AERMOD	24	7500	1.79E+00	Negligible
Myrcene	123-35-3	0.00E+00	AERMOD	24	0.1	2.39E-05	Negligible
Perchloroethylene	127-18-4	0.00E+00	AERMOD	24	360	8.59E-02	Negligible
β-Pinene	127-91-3	0.00E+00	AERMOD	24	270	6.44E-02	Negligible
Xylene	1330-20-7	5.60E-03	AERMOD	24	730	1.74E-01	Negligible
Xylene	1330-20-7	5.60E-03	AERMOD	10-min	3000	2.42E-01	Negligible
Carene	13466-78-9	0.00E+00	AERMOD	24	448	1.07E-01	Negligible
Ethyl Acetate	141-78-6	0.00E+00	AERMOD	1	19000	1.86E+00	Negligible
t-1,2-dichloroethene	156-60-5	2.19E-05	AERMOD	24	105	2.51E-02	Negligible
Carbonyl sulfide	463-58-1	5.77E-05	AERMOD	24	3.2	7.64E-04	Negligible
Carbon tetrachloride	56-23-5	9.67E-06	AERMOD	24	2.4	5.73E-04	Negligible
Limonene	5989-27-5	0.00E+00	AERMOD	24	625	1.49E-01	Negligible
Carbon Monoxide	630-08-0	5.07E+00	AERMOD	½	6000	4.84E-01	Indicator Compound
Ethanol	64-17-5	6.06E-05	AERMOD	1	19000	1.86E+00	Negligible
Isopropanol (Isopropyl Alcohol)	67-63-0	1.56E-04	AERMOD	24	7300	1.74E+00	Negligible
Acetone	67-64-1	5.60E-04	AERMOD	24	11880	2.84E+00	Negligible
Chloroform	67-66-3	2.82E-05	AERMOD	24	1	2.39E-04	Negligible
Benzene	71-43-2	1.07E-03	AERMOD	24	100	2.39E-02	Negligible
Benzene	71-43-2	1.07E-03	AERMOD	Annual	0.45	5.60E-04	Not Negligible
Methyl chloroform (1,1,1-Trichloroethane)	71-55-6	1.17E-04	AERMOD	24	115000	2.75E+01	Negligible
Mercury	7439-97-6	0.00E+00	AERMOD	24	2	4.77E-04	Negligible
Ethane	74-84-0	1.56E-03	AERMOD	24	4800	1.15E+00	Negligible
Chloromethane	74-87-3	9.70E-05	AERMOD	24	320	7.64E-02	Negligible
Methyl mercaptan	74-93-1	3.77E-04	AERMOD	24	0.1	2.39E-05	Not Negligible
Propane	74-98-6	3.91E-03	AERMOD	24	7200	1.72E+00	Negligible
Chloroethane	75-00-3	2.01E-03	AERMOD	24	5600	1.34E+00	Negligible
Vinyl chloride	75-01-4	6.99E-04	AERMOD	24	1	2.39E-04	Indicator Compound
Ethyl mercaptan (ethanethiol)	75-08-1	7.03E-05	AERMOD	24	0.1	2.39E-05	Not Negligible
Methylene chloride	75-09-2	4.11E-03	AERMOD	24	220	5.25E-02	Negligible
Carbon disulfide	75-15-0	3.65E-05	AERMOD	24	330	7.88E-02	Negligible
Dimethyl sulfide	75-18-3	2.01E-03	AERMOD	10-min	30	2.42E-03	Negligible
Bromodichloromethane	75-27-4	5.18E-06	AERMOD	24	0.1	2.39E-05	Negligible
1,1-Dichloroethane	75-34-3	8.48E-04	AERMOD	24	165	3.94E-02	Negligible
Vinylidene chloride (1,1-Dichloroethene)	75-35-4	5.58E-05	AERMOD	24	10	2.39E-03	Negligible
Chlorodifluoromethane	75-45-6	5.42E-04	AERMOD	24	350000	8.35E+01	Negligible
Fluorotrichloromethane	75-69-4	8.22E-04	AERMOD	24	6000	1.43E+00	Negligible
Dichlorodifluoromethane	75-71-8	1.12E-03	AERMOD	24	500000	1.19E+02	Negligible
Hydrogen Chloride	7647-01-0	1.49E-01	AERMOD	24	20	4.77E-03	Not Negligible
Ammonia	7664-41-7	0.00E+00	AERMOD	24	100	2.39E-02	Negligible
Propylene dichloride (1,2-Dichloropropane)	78-87-5	2.12E-05	AERMOD	24	2400	5.73E-01	Negligible
Methyl ethyl ketone	78-93-3	1.65E-03	AERMOD	24	1000	2.39E-01	Negligible
Trichloroethylene (TCE)	79-01-6	8.57E-04	AERMOD	24	12	2.86E-03	Negligible
1,1,2,2-Tetrachloroethane	79-34-5	3.23E-04	AERMOD	24	0.1	2.39E-05	Not Negligible
Camphene	79-92-5	0.00E+00	AERMOD	24	20	4.77E-03	Negligible
α-Pinene	80-56-8	0.00E+00	AERMOD	24	270	6.44E-02	Negligible
Dichlorobenzene (1,4 isomer)	95-50-1	0.00E+00	AERMOD	1	30500	2.99E+00	Negligible
Suspended particulate matter (< 44 µm Diameter)	N/A	1.51E+00	AERMOD	24	0.1	2.39E-05	Indicator Compound
PM10	N/A	7.68E-01	AERMOD	24	0.1	2.39E-05	Indicator Compound
PM2.5	N/A	5.91E-01	AERMOD	24	0.1	2.39E-05	Indicator Compound
Odour	N/A	2.17E+04	AERMOD	24	0.1	2.39E-05	Indicator Compound
Nitrogen Oxides (EPG)	10102-44-0	1.45E-01	AERMOD	1/2	1880	1.52E-01	Negligible

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Table 2
Emission Summary Table

Contaminant	CAS No.	Total Facility Emission Rate [g/s]	Air Dispersion Model Used	Maximum POI Concentration [µg/m³]	Averaging Period [hours]	MOE POI Limit [µg/m³]	Limiting Effect	Regulation Schedule No.	Percentage of MOE Limit [%]
Benzene	71-43-2	1.07E-03	AERMOD	0.00	Annual	0.45	Health	Schedule 3	<1%
Methyl mercaptan	74-93-1	3.77E-04	AERMOD	0.01	24	0.1	—	De Minimus	Below De Minimus
Ethyl mercaptan (ethanethiol)	75-08-1	7.03E-05	AERMOD	0.00	24	0.1	—	De Minimus	Below De Minimus
Hydrogen Chloride	7647-01-0	1.49E-01	AERMOD	6.39	24	20	Health	Schedule 3	32.0%
1,1,2,2-Tetrachloroethane	79-34-5	3.23E-04	AERMOD	0.02	24	0.1	—	De Minimus	Below De Minimus