

In the matter of Part XIII of the *Environmental Protection Act*, R.S.O. 1990, c.E.19, as amended;

- and -

In the matter of an appeal by the Corporation of the United Counties of Leeds and Grenville for a Hearing before the Environmental Review Tribunal pursuant to section 139(1)(e) of the *Environmental Protection Act*, R.S.O. 1990, c.E.19 as amended, in relation to the November 9, 2017 Decision of the Director, Ministry of the Environment and Climate Change, to suspend Conditions 10 and 11 in Environmental Compliance Approval No. A420009, dated June 24, 1998, regarding the construction and operation of a waste disposal site (landfill) located at Lots 14 and 15, Concession 4, Township of Edwardsburgh/Cardinal, United Counties of Leeds and Grenville;

- and -

In the matter of an appeal by Citizens Against the ED19 Dump to the Minister of Environment, Conservation and Parks in relation to the decision of the Environmental Review Tribunal in Case File No. 017-072 dated January 31, 2019, pursuant to sections 145.6(2) and 145.6(4) of the *Environmental Protection Act*, R.S.O. 1990, c.E.19, as amended.

APPEAL TO MINISTER

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TABLE OF CONTENTS

	<u>Page</u>
PART I – OVERVIEW.....	1
PART II – FACTS.....	2
Background.....	2
Changes in Environmental Conditions since 1998.....	3
Changes in the Regulatory Framework since 1998.....	5
Significance of the Above-Noted Changes.....	7
Proposed Changes in the ED19 Landfill Design and Operations.....	8
Settlement Agreement between the Director and the Counties.....	9
PART III – ISSUES.....	9
PART IV – ARGUMENT.....	10
Issue 1: Should the Tribunal’s Decision be Altered or Revoked?.....	10
The Minister’s Broad Powers on Appeal.....	10
The “Matter in Appeal” was the Suspension of the <i>EPA</i> Approval.....	11
The Tribunal Misapplied the Relevant Test and Misstated the Matter in Appeal.....	14
The Tribunal’s Decision Conflicts with the <i>EPA</i> Purpose and the Public Interest.....	16
CAD’s Overall Conclusions.....	22
Issue 2: Should the Tribunal’s Decision be Stayed Pending the Appeal?.....	23
PART V – ORDER REQUESTED.....	24
Appendix A – Statutory Excerpts.....	26
Schedule A – Decision of the Environmental Review Tribunal dated January 31, 2019	
Schedule B – Notice of Suspension dated November 9, 2017	

Schedule C – Affidavit of Wilf Ruland

Schedule D – Affidavit of Kim Logan

Schedule E – Affidavit of Marcus Kyle Johnston

Schedule F – Reply Affidavit of Wilf Ruland

**APPEAL TO THE MINISTER
RE: DECISION OF THE ENVIRONMENTAL REVIEW TRIBUNAL
DATED JANUARY 31, 2019 (CASE FILE NO. 017-072)**

PART I – OVERVIEW

1. This is an appeal to the Minister of the Environment, Conservation and Parks (“Minister”) by the Citizens Against ED19 Dump (“CAD”) in relation to the January 31, 2019 decision of the Environmental Review Tribunal (“Tribunal”) to accept a settlement agreement that was privately negotiated between the Ministry Director and the United Counties of Leeds and Grenville (“the Counties”).
2. The Tribunal’s decision arises from an unprecedented situation involving an unused, inadequate and outdated landfill approval that was issued under the *Environmental Protection Act* (“EPA”) to the Counties in 1998. To date, the proposed landfill site has never been developed by the Counties, which are currently engaged in advanced discussions to sell its landfill property (and transfer the 20 year-old EPA approval) to a private waste disposal company for its own corporate purposes.
3. In effect, the Tribunal’s decision: (i) orders the Director to simply insert two new conditions into the existing EPA approval; (ii) orders the Director to lift the well-founded Notice of Suspension that is currently in effect in relation to the EPA approval; and (iii) abruptly terminates the public hearing before the Tribunal.
4. For the reasons outlined below, CAD submits that the Tribunal’s decision is not in the public interest, and should therefore be overturned by the Minister. In short, the Tribunal’s modification and acceptance of the sparse settlement agreement between the Director and the Counties leaves the bulk of the stale-dated EPA approval intact and inconsistent with modern landfilling requirements, standards and practices.
5. While new Condition 9.1 ordered by the Tribunal requires certain studies and reports by the Counties (or possibly their successor) before landfilling may commence at the site, CAD submits that these arrangements fall considerably short of the mark and do not effectively safeguard the natural environment or the interests of residents living beside or near the proposed landfill site and its haul routes.
6. Accordingly, CAD requests the Minister to alter or revoke the Tribunal decision pursuant to section 145.6(2) of the EPA by quashing or setting aside the Tribunal’s order at paragraph 87 of the decision, and substituting therefor an order that maintains and/or expands the Notice of Suspension issued in relation to the Counties’ EPA approval.
7. In addition, CAD requests the Minister to immediately issue an order staying the operation of the Tribunal decision until this appeal has been fully adjudicated, pursuant to section 145.6(4) of the EPA.

PART II – FACTS

Background

8. The material facts and chronology of events are not in serious dispute among the parties, and are concisely summarized in the Tribunal decision (which is appended below as Schedule A to this appeal).

Schedule A: Tribunal Decision, paras 1-13

9. The Counties' proposed ED19 Landfill received approvals under the *Environmental Assessment Act* (“EAA”) and *EPA* in 1998. The approved landfill is located on a 66 hectare property in the Township of Edwardsburgh/Cardinal, and is licenced to receive almost 1 million tonnes of waste from municipalities within the Counties.

Schedule A: Tribunal Decision, paras 2, 4

10. Over the past 20 years, the Counties have elected not to proceed with the construction and operation of the ED19 Landfill. However, the *EAA* and *EPA* approvals have no expiry date, and the Counties have been discussing the potential sale of the Landfill property to a private contractor.

Schedule A: Tribunal Decision, paras 4-5

11. In light of such discussions, and given that two decades had elapsed since the approvals were first issued, the Ministry requested the Counties to prepare a report to confirm, among other things, whether the conditions, assumptions and circumstances that were made in the *EAA* documentation are still applicable, and whether the proposed landfill design is still appropriate.

Schedule A: Tribunal Decision, para 6

12. The Ministry further requested the Counties to submit this report by the end of June, 2017. However, the Counties did not comply with this deadline, and instead decided to continue its negotiations with the private contractor.

Schedule A: Tribunal Decision, para 6

13. This turn of events prompted the Director to issue a Notice of Suspension in November 2017 that suspended two key conditions in the *EPA* approval. This suspension notice was appealed by the Counties to the Tribunal, and the Tribunal granted CAD party status at a pre-hearing conference held in April 2018.

Schedule A: Tribunal Decision, paras 7-8, 10

14. Despite being a hearing party, CAD was not invited to participate in settlement discussions that were subsequently held between the Director and the Counties. These

private discussions resulted in Minutes of Settlement, which were then jointly presented to the Tribunal by the Director and the Counties during a two-day settlement hearing held in November 2018.

Schedule A: Tribunal Decision, paras 11, 13

15. The Minutes of Settlement proposed to revoke the Director's suspension order and to insert new Condition 9.1 into the *EPA* approval, which would require the Counties to submit to the Ministry additional studies and reports on specific topics. These topics are narrower than the information originally requested in the reasons for the Notice of Suspension, as discussed above.

Schedule A: Tribunal Decision, paras 11-12

16. CAD opposed the proposed settlement, and requested the Tribunal to order the continuation of the hearing in light of the significant changes in local environmental conditions and regulatory requirements over the past 20 years, as described below.

Schedule A: Tribunal Decision, para 12

Changes in Environmental Conditions since 1998

17. At the settlement hearing, CAD's witnesses presented factual, technical and visual evidence that documented the extensive changes in environmental conditions that have occurred on or near the ED19 Landfill property since the *EPA* approval was issued in 1998. The nature, scope and scale of these changed conditions were not generally challenged or contradicted by evidence presented by the Director or the Counties.

18. The basic hydrogeological setting of the ED19 Landfill property (e.g. underlying geologic formations, hydraulic conductivity, etc.) has not changed since the 1990s. However, the available evidence overwhelmingly demonstrates that major changes in the local environment have occurred over the past two decades, both on-site and in the vicinity of the ED19 Landfill property.

Schedule C: Affidavit of Wilf Ruland, para 7, and Exhibit B: Independent Review of Information, page 17

Schedule D: Affidavit of Kim Logan, para 7, and Exhibit C: Environmental Site Assessment (ESA) Biological Review, pages 10-11

19. In relation to surface water resources, the amount of land covered by surface water at the ED19 Landfill property has significantly increased over time, and has resulted in moisture conditions, vegetation communities, and wildlife habitats that are dramatically different from what was described by the Counties' *EPA* studies in the 1990s.

Schedule C: Affidavit of Wilf Ruland, Exhibit B: Independent Review of Information, pages 17-19

Schedule D: Affidavit of Kim Logan, Exhibit C: Environmental Site Assessment (ESA) Biological Review, pages 10-11

Schedule F: Reply Affidavit of Wilf Ruland, Exhibit A: Reply Report, page 9

20. The largest on-site surface water body is much greater than 1 hectare in size, and there is evidence that this water body has been in existence (and has continuously expanded) for over 15 years.

Schedule E: Affidavit of Kyle Johnston, para. 16

Schedule C: Affidavit of Wilf Ruland, Exhibit B: Independent Review of Information, page 18

Schedule F: Reply Affidavit of Wilf Ruland, para 5(b); Exhibit A: Reply Report, pages 3-4; and Attachment A: 1991 and 2014 aerial photographs

21. There are headwater tributaries (watercourses) located within and beside the ED19 Landfill property.

Schedule D: Affidavit of Kim Logan, Exhibit C: Environmental Site Assessment (ESA) Biological Review, pages 5, 8

22. In relation to wetland resources, the extensive open water wetlands upon the ED19 Landfill property have become larger and have shifted toward the west and southwest since the Counties' EPA studies were conducted in the 1990s.

Schedule D: Affidavit of Kim Logan, Exhibit C: Environmental Site Assessment (ESA) Biological Review, page 11

Schedule E: Affidavit of Kyle Johnston, paras 15-16; Exhibit A: wetland photographs; and Exhibit B: Letter to MECP (February 2018), attached aerial photographs

23. While the local, regional or provincial significance of these wetlands have not been evaluated to date, there is a Provincially Significant Wetland ("PSW") located southwest of the ED19 Landfill property, and there are other pockets of unevaluated wetlands between the PSW and the eastern boundary of the ED19 Landfill property.

Schedule D: Affidavit of Kim Logan, Exhibit C: Environmental Site Assessment (ESA) Biological Review, page 8

24. In relation to fish species, there is evidence that local residents have launched motorized boats and caught fish in the surface water body located upon the ED19 Landfill property.

Schedule E: Affidavit of Kyle Johnston, para 16, and Exhibit B: Letter to MECP (February 2018)

25. In light of the expansion and west/southwest shift of the on-site wetlands, the large (and currently thriving) heronry is now much closer to the ED19 Landfill than previously described in the Counties' EPA studies in the 1990s. The heronry predates the 1998 ECA, and provincial guidelines specify 300 metre setbacks and 1 kilometre seasonal restrictions on development near heronries.

Schedule D: Affidavit of Kim Logan, Exhibit C: Environmental Site Assessment (ESA) Biological Review, pages 3, 8, 11

Schedule E: Affidavit of Kyle Johnston, para 15, and Exhibit A: photograph of heronry

26. The Counties' *EPA* studies in the 1990s did not assess impacts to species at risk. However, there is evidence that numerous species at risk now occur (or have the potential to occur) on-site and/or surrounding lands, including endangered species, threatened species, and species of special concern.

Schedule D: Affidavit of Kim Logan, Exhibit C: Environmental Site Assessment (ESA) Biological Review, pages 9-10

27. The on-site vegetation communities (e.g. trees, bushes and cover plants) have become more mature than the conditions recorded in the Counties' *EPA* studies in the 1990s.

Schedule D: Affidavit of Kim Logan, Exhibit C: Environmental Site Assessment (ESA) Biological Review, pages 10-11

28. After the 1998 *EPA* approval was issued, a number of new residences and domestic wells have been established within 1,500 meters of the ED-19 Landfill property.

Schedule C: Affidavit of Wilf Ruland, Exhibit B: Independent Review of Information, pages 17-18

Changes in the Regulatory Framework since 1998

29. After the *EPA* approval was issued to the Counties in 1998, a number of new laws, regulations, standards, and best practices have been developed in Ontario in relation to landfill siting, sizing, design, operation, and mitigation of adverse effects upon natural features and functions. These changes are not in dispute, and include the following:

- (a) Regulation 347 (Waste Management) under the *EPA* was amended in 2009 to require proponents of large landfills to evaluate the need for improved collection of landfill gas in order to reduce greenhouse gas emissions;
- (b) provincial landfill standards (O.Reg. 232/98) were passed under the *EPA* in 1998 to impose new operational requirements upon landfill proponents;
- (c) the Ontario Drinking Water Quality Standards under the *Safe Drinking Water Act, 2002* have been revised to lower the maximum acceptable concentrations of two key parameters (e.g. benzene and vinyl chloride) that were used in the hydrogeology impact assessment conducted by the Counties in the 1990s;

Schedule C: Affidavit of Wilf Ruland, Exhibit B: Independent Review of Information, page 19

- (d) subsection 27(3.1) was added to the *EPA* in 2004 to prohibit the disposal of waste into water bodies that are caught by the subsection 27(3.2) definition of "lake";

Schedule C: Affidavit of Wilf Ruland, Exhibit B: Independent Review of Information, page 20

- (e) the Ministry no longer permits leachate recirculation at landfills, although the 1998 *EPA* approval approves this practice at the ED19 Landfill;

Schedule C: Affidavit of Wilf Ruland, Exhibit B: Independent Review of Information, pages 13-15

- (f) pursuant to the Counties' Official Plan and Ontario's *Clean Water Act, 2006*, the ED19 Landfill property has been designated as a "Highly Vulnerable Aquifer" and a "Significant Groundwater Recharge Area";

Schedule D: Affidavit of Kim Logan, Exhibit C: Environmental Site Assessment (ESA) Biological Review, pages 4-6

Schedule F: Reply Affidavit of Wilf Ruland, Exhibit A: Reply Report, page 3, and Figure 1

- (g) the *Fisheries Act* has been amended to protect commercial, recreational or Aboriginal fisheries, and to establish a permitting system for activities or works that may cause serious harm to fish habitat;

Schedule D: Affidavit of Kim Logan, Exhibit C: Environmental Site Assessment (ESA) Biological Review, page 2

- (h) the 2014 Provincial Policy Statement issued under the *Planning Act* (and the associated implementation manuals and guidelines) provides provincial direction on protecting significant natural heritage features and functions (e.g. surface water, groundwater, wetlands, woodlands, and habitat for fish, wildlife and endangered or threatened species);

Schedule D: Affidavit of Kim Logan, Exhibit C: Environmental Site Assessment (ESA) Biological Review, pages 2-3

- (i) Ontario's *Endangered Species Act, 2007* now protects species at risk and their habitat;

Schedule D: Affidavit of Kim Logan, Exhibit C: Environmental Site Assessment (ESA) Biological Review, page 4

- (j) the local Conservation Authority's cut/fill regulation (O.Reg.170/06) passed under the *Conservation Authorities Act* prohibits site alteration or development in or near unevaluated wetlands that may interfere with hydrologic functions of such wetlands;

Schedule D: Affidavit of Kim Logan, Exhibit C: Environmental Site Assessment (ESA) Biological Review, page 4

- (k) the Township's Official Plan contains policies that are aimed at protecting natural heritage features (e.g. wetlands, woodlands and watercourses); and

Schedule D: Affidavit of Kim Logan, Exhibit C: Environmental Site Assessment (ESA) Biological Review, pages 5-6

- (1) Ontario's *Resource Recovery and Circular Economy Act* (and *Waste-Free Ontario Strategy*) was enacted in 2016 to achieve "zero waste" and "circular economy" objectives, and to ensure that is not an oversupply of landfill capacity.

Schedule E: Affidavit of Kyle Johnston, Tab B: Letter to Ministry (February 2018), page 2

Significance of the Above-Noted Changes

30. The significance of the foregoing facts was outlined in opinion evidence prepared by independent hydrogeologist Wilf Ruland, who was retained by CAD in relation to this matter. Among other things, Mr. Ruland's professional opinion was that:

- (a) the documentation tendered by the Counties in the 1990s in support of its *EPA* application was incomplete, inadequate and did not reflect sound scientific investigation and analysis;
- (b) the factual, technical and scientific data obtained over 20 years ago for the ED19 Landfill are no longer valid and are not representative of current site conditions;
- (c) the ED19 Landfill does not reflect or comply with new or amended Ministry requirements for groundwater and surface water protection;
- (d) the construction and operation of the ED19 Landfill at the approved location in accordance with the requirements of 1998 *EPA* approval would pose an unacceptable threat to off-site groundwater supplies and off-site surface water resources; and
- (e) the ED19 Landfill would not be approved in its current form today.

Schedule C: Affidavit of Wilf Ruland, paras 7-11, and Exhibit B: Independent Review of Information, pages 23-25

31. The above-noted facts were also considered in opinion evidence from an independent ecologist Kim Logan, who was retained by CAD in relation to this matter. Among other things, Ms. Logan's professional opinion was that:

- (a) the Counties' site assessment documentation from the 1990s did not demonstrate that the ED19 Landfill project will not cause any negative impacts to local natural features or functions, the on-site wetlands, or the heronry;
- (b) the proponent's site assessment documentation from the 1990s contains significant data gaps which should be addressed through the collection and analysis of updated information on natural heritage features and functions.
- (c) an ecological site assessment for the ED19 Landfill project has not been conducted by the Counties to date, despite the recommendation from the Ministry

of Natural Resources and Forestry that such an assessment should be conducted to evaluate natural heritage features and to identify whether species at risk (or their habitat) are present; and

- (d) proceeding with the ED19 Landfill project at the present time may cause adverse impacts to natural heritage features and functions, and the 1998 *EPA* approval is inadequate to safeguard against such impacts.

Schedule D: Affidavit of Kim Logan, paras 8-11, and Exhibit C: Environmental Site Assessment (ESA) Biological Review, pages 13-15

32. The above-noted professional opinions (and the underlying facts) presented by CAD's experts were not contradicted in the evidence filed by the Director and the Counties. In addition, the testimony offered by CAD's experts was not shaken or undermined under cross-examination by the other parties at the settlement hearing. Thus, CAD submits that the attached affidavit evidence of Mr. Ruland and Mrs. Logan should be accepted and accorded considerable weight by the Minister in this appeal. CAD further notes that the Tribunal made no adverse credibility rulings against these CAD witnesses. However, the Tribunal observed that CAD's experts' site visits had not involved any intrusive testing at the ED19 Landfill property. CAD submits that nothing turns on this observation, particularly since the Director also conducted no on-site testing, and he acknowledged during cross-examination that he had not even visited the ED19 Landfill property.

Schedule A: Tribunal Decision, para 67

Proposed Changes in the ED19 Landfill Design and Operation

33. Based on the evidence presented at the settlement hearing, there appears to be general agreement among the parties' experts that if the ED19 Landfill proceeds at all, it should not be designed, constructed or operated in accordance with the 1998 *EPA* approval and the 1997 Design & Operations Report. This consensus was noted in the Tribunal's decision.

Schedule A: Tribunal Decision, paras 17, 19

Schedule F: Reply Affidavit of Wilf Ruland, para 5(a), and Exhibit A: Reply Report, pages 2, 4-9

34. In fact, a number of potential design and operational changes have been recently identified for the ED19 Landfill, including the installation of a landfill gas collection system and a continuous leachate collection layer at the landfill base.

Schedule F: Reply Affidavit of Wilf Ruland, Exhibit A: Reply Report, pages 5-8, and Attachment D: Golder memorandum (April 2016), pages 2-5

35. No change is being proposed in the ED19 Landfill's approved disposal capacity, which was intended to receive the predicted waste volumes (e.g. 980,000 tonnes) generated within the Counties for a 20 year period from the mid-1990s until 2014.

However, there was no evidence before the Tribunal confirming that the capacity of the ED19 Landfill remains properly sized, or is appropriate to meet local waste disposal needs projected over the next 20 years. Condition 9.1, as ordered by the Tribunal, does not require any studies or reports in relation to landfill capacity or waste generation.

Schedule D: Affidavit of Kim Logan, Exhibit C: Environmental Site Assessment (ESA) Biological Review, page 1

36. In addition, it appears that a service area expansion beyond what was approved under the *EAA* and *EPA* approvals is being proposed if the ED19 Landfill proceeds.

Schedule F: Reply Affidavit of Wilf Ruland, Exhibit A: Reply Report, page 5, and Attachment D: Golder memorandum (April 2016), page 5

Settlement Agreement between the Director and the Counties

37. The settlement agreement reached between the Director and the Counties originally proposed that a single new Condition 9.1 should be inserted into the 1998 *EPA* approval. This proposed condition otherwise left the 1998 approval intact and in effect, but required the Counties to prepare three new reports (e.g. monitoring wells, natural features, and groundwater impacts) and a revised Design & Operations Report to the satisfaction of the Director.

Schedule A: Tribunal Decision, para 11

38. However, the proposed Condition 9.1 initially provided no meaningful review/comment opportunities for CAD or any other stakeholders in relation to the various reports contemplated under Condition 9.1. In light of other deficiencies and concerns arising from Condition 9.1 and the 1998 *EPA* approval, CAD opposed the proposed settlement, and requested the Tribunal to order the continuation of the hearing.

Schedule E: Affidavit of Kyle Johnston, paras 11-13

39. CAD's independent experts also identified a number of unresolved concerns and various shortcomings in the proposed settlement, as described below. However, rather than continuing the hearing as requested by CAD, the Tribunal modified and accepted the settlement proposed by the Director and the Counties, as discussed below in more detail.

Schedule D: Affidavit of Kim Logan, paras 13-14

Schedule C: Affidavit of Wilf Ruland, para 13, and Exhibit B: Independent Review of Information, page 22

Schedule F: Reply Affidavit of Wilf Ruland, para 6

PART III – ISSUES

40. CAD submits that the issues in this appeal to the Minister are as follows:

1. Should the Minister alter or revoke the Tribunal's decision in order to protect the public interest; if so, how?

2. Should the Minister issue an order that stays the operation of the Tribunal's decision pending the final adjudication of this appeal?

PART IV – ARGUMENT

ISSUE 1: Should the Tribunal's Decision be Altered or Revoked?

The Minister's Broad Powers on Appeal

41. Section 145.6(2) of the *EPA* provides as follows:

A party to a hearing before the Tribunal under this Part may, within 30 days after receipt of the decision of the Tribunal or within 30 days after final disposition of an appeal, if any, under subsection (1), appeal in writing to the Minister on any matter other than a question of law and the Minister shall confirm, alter or revoke the decision of the Tribunal as to the matter in appeal as the Minister considers in the public interest.

42. The conditions precedent for filing an appeal under section 145.6(2) of the *EPA* have been satisfied in this case because: (i) CAD was a party to the hearing; (ii) the appeal has been filed in writing within 30 days of the Tribunal's decision; and (iii) the grounds of appeal outlined below pertain to matters "other than a question of law."

43. Section 145.6(2) broadly empowers the Minister to "confirm, alter or revoke" the Tribunal's decision "in the public interest." This wording confers considerable discretion upon to Minister to do or order whatever is necessary to safeguard the public interest, and there is no list of statutory criteria that must be satisfied by the appellant in order to trigger the exercise of Ministerial discretion under this section.

44. This Ministerial appeal mechanism is not analogous to a court appeal or judicial review application, and there no onus placed upon the appellant under section 145.6(2) to demonstrate that the Tribunal's decision is unreasonable, incorrect, or contains palpable or overriding errors of fact or mixed fact/law that warrant the Minister's intervention. In addition, the Tribunal's decision, reasons for decision, and findings of fact are not binding on the Minister in an appeal under section 145.6(2).

45. In short, there is no statutory presumption in section 145.6(2) that the Tribunal's decision is entitled to a high level of deference by the Minister, who is empowered to consider the matter afresh and to make whatever decision is needed "in the public interest," even if the outcome may substantially differ from the Tribunal's perception of the public interest.

46. In making these submissions, CAD recognizes that the Tribunal is a specialized administrative body, and that, in general, the Tribunal's decisions should not be readily overturned by the Minister unless there is good reason to do so. However, CAD submits that on the evidence, it is both appropriate and necessary for the Minister to intervene in this case because the Tribunal:

- (a) misstated the "matter in appeal" and essentially asked itself the wrong question during the settlement hearing;
- (b) misapprehended the evidence and argument of CAD regarding the subject-matter of the settlement hearing; and
- (c) rendered a decision that contains flawed analysis, unsubstantiated conclusions, internal inconsistencies, and, most importantly, does not adequately safeguard the public interest.

47. Each of the foregoing grounds of appeal is described in more detail in the following paragraphs.

The "Matter in Appeal" was the Suspension of the *EPA* Approval

48. Section 145.6(2) of the *EPA* stipulates that the Minister's power to alter or revoke a Tribunal decision on public interest grounds is restricted to the "matter in appeal" before the Tribunal. Therefore, as a preliminary issue in this appeal, it is necessary for the Minister to identify what was – or was not – the matter in appeal before the Tribunal in this case.

49. As a matter of law, the Director originally had three legal options available to him in 2017 in relation to the 1998 *EPA* approval: (i) alter or revoke the approval conditions; (ii) impose new approval conditions; or (iii) suspend or revoke all or part of the approval.

***EPA*, subsection 20.13**

50. In November 2017, the Director elected to issue an order suspending Conditions 10 and 11 in the *EPA* approval. A copy of the Notice of Suspension is attached below as Schedule B to this appeal.

Schedule B: Notice of Suspension dated November 9, 2017

51. In the Notice of Suspension, the Director outlined the reasons why he took this legal step "in the public interest," such as:

- (a) the Counties have not developed the ED19 Landfill in the 20 years since the *EPA* approval was issued;
- (b) the Counties were considering the potential sale of the ED19 Landfill property to a third party; and

- (c) the Counties had not responded to the Ministry’s request for updated information on whether there have been any changes to environmental conditions at the landfill site, and whether the approved landfill design was still appropriate.

Schedule B: Notice of Suspension dated November 9, 2017, page 2

Schedule A: Tribunal Decision, paras 19-20

52. The Director apparently determined that it was not necessary to revoke the *EPA* approval in its entirety, but he provided no evidence at the settlement hearing to explain or elaborate upon this conclusion. In any event, the Director’s partial suspension order was then appealed to the Tribunal by the Counties on the grounds that: (i) the suspension order was beyond the Director’s jurisdiction; and (ii) the suspension order was not based on sufficient “science-based” evidence, and was neither necessary for the purposes of the *EPA* nor in the public interest.

Schedule A: Tribunal Decision, paras 10, 20, 59

53. Aside from the Counties’ jurisdictional claim (which was not heard or decided by the Tribunal), CAD submits that the “matter in appeal” before the Tribunal focused squarely on the Notice of Suspension, and consisted of the following interrelated questions of fact/law on which the parties joined issue:

- (a) have there been material changes in the environmental conditions, regulatory requirements and/or surface water features over the past 20 years that justified the issuance of the Director’s suspension order in relation to the 1998 *EPA* approval?
- (b) if so, should the Tribunal: (i) affirm, vary or revoke the Director’s decision to suspend Conditions 10 and 11; (ii) direct the Director to take such action as the Tribunal considers the Director should take in accordance with the *EPA* and regulations; and (iii) for such purposes, should the Tribunal substitute its opinion for that of the Director?

Schedule A: Tribunal Decision, para 62

54. It is beyond dispute that after the Counties’ appeal was filed under section 139 of the *EPA*, the Tribunal was empowered to: (i) hold a new (or *de novo*) hearing; (ii) effectively step into the shoes of the Director; and (iii) to exercise its own discretion regarding the suspension order under appeal. It is well-established that the Tribunal has authority under Part XIII of the *EPA* to amend or clarify an order or decision under appeal, and can order the reinstatement (and strengthening) of an order or decision that the Director purports to revoke via a settlement agreement.

***EPA*, sections 139, 142, 145.2**

55. Moreover, section 145.2 of the *EPA* provides that the Tribunal “may” confirm, alter or revoke the Director’s action (e.g. the suspension order) that is under appeal. This section further empowers the Tribunal to issue an order directing the Director “to take

such action as the Tribunal considers the Director should take in accordance with this Act and regulations, and for such purposes, the Tribunal may substitute its opinion for that of the Director.”

EPA, section 145.2

56. Nevertheless, after an appeal has been filed under the *EPA*, it is open to the hearing parties to prepare and present settlement agreements that can lead to the termination of the appeal hearing, pursuant to the Tribunal’s Rules. In this case, the proposed settlement executed by the Director and the Counties essentially contained two main components:

- (a) the Director agreed to revoke his suspension order, and to amend the *EPA* approval by inserting new Condition 9.1; and
- (b) in turn, the Counties agreed to withdraw their appeal against the Director’s suspension order.

Schedule A: Tribunal Decision, para 11

57. Since CAD opposed the settlement agreement, the new condition 9.1, and the termination of the public hearing, Tribunal Rule 200 was applicable at the settlement hearing and required the Tribunal to consider:

- (a) whether the proposal is consistent with the purpose and provisions of the *EPA*;
- (b) whether the proposal is in the public interest; and
- (c) the interests of the parties, participants and presenters.

Tribunal Rule 200

58. After considering the above-noted factors in this case, the Tribunal had the option of either continuing with the hearing (as requested by CAD), or accepting the proposed settlement and dismissing the appeal (as requested by the Director and the Counties).

Tribunal Rule 200

59. In considering these options, the Tribunal had the statutory authority and duty to choose the preferable course of action that, from the standpoint of the public interest, achieves the purpose of the *EPA*. The stated purpose of the *EPA* is to “provide for the protection and conservation of the natural environment”, which is defined as “the air, land and water, or any combination or part thereof, of the Province of Ontario.” Water is further defined as “surface water and groundwater, or either of them.”

EPA, subsection 1(1) and section 3

60. By any objective standard, the Tribunal's decision did not select the most protective option (e.g. continuing the hearing in order to determine, on a full evidentiary basis, whether the suspension order should be maintained and/or expanded). In doing so, CAD respectfully submits that the Tribunal misapplied the test for accepting proposed settlements, mischaracterized the "matter in appeal," misapprehended CAD's legal position at the settlement hearing, and, most importantly, fundamentally failed to issue an order that safeguards the public interest, as discussed below.

61. Individually and collectively, these substantive shortcomings in the Tribunal's decision warrant the Minister's intervention in this case, and should trigger the issuance of a Ministerial order that effectively protects the environment and the interests of local residents.

62. On the evidence, and in the circumstances of this case, CAD submits that the public interest is best served by a Ministerial order quashing or setting aside the Tribunal's decision, and substituting therefor an order that maintains and expands the Notice of Suspension so that the 1998 *EPA* approval is indefinitely and unconditionally suspended in its entirety.

The Tribunal Misapplied the Relevant Test and Misstated the Matter in Appeal

63. CAD submits that the Tribunal stated the correct test under Rule 200 for accepting a proposed settlement (e.g. purpose of the *EPA* and public interest), but then proceeded to misapply the test to the largely uncontradicted facts of the case.

Schedule A: Tribunal Decision, paras 15-16, 46, 52

64. The Tribunal's misapplication of the Rule 200 test appears attributable, at least in part, to the other parties' mischaracterization of CAD's position on the "matter in appeal." In particular, the Director and the Counties erroneously argued or implied at the settlement hearing that CAD was seeking the wholesale revocation of the *EPA* approval through the appeal hearing. This claim was manifestly untrue, and was refuted by CAD counsel in opening and closing submissions to the Tribunal. In short, CAD's counsel did not argue that the Tribunal had jurisdiction to revoke the *EPA* approval at the conclusion of the hearing.

65. Despite CAD's clarification of its position on the "matter in appeal," the Tribunal's decision repeatedly insists that CAD counsel submitted that the hearing process should result in the complete revocation of the *EPA* approval. In reality, CAD's legal position was, and remains, that, at a minimum, the Director's decision to suspend the *EPA* approval should be upheld, and that the Tribunal should direct the Director to extend the suspension order to the whole approval, not just Conditions 10 and 11.

Schedule A: Tribunal Decision, para 43-44, 55, 67

66. While CAD's Chairperson and expert witnesses expressed general support for the concept of revoking the outdated *EPA* approval, it must be recalled that CAD was

independently pursuing revocation of the both the *EPA* and *EAA* approvals through other unrelated legal mechanisms outside of the Tribunal's hearing process. CAD's pursuit of these other mechanisms (e.g. *EBR* application for review of the *EPA* approval and request for reconsideration of the *EAA* approval) was outlined in the written evidence presented by CAD for background and contextual purposes at the settlement hearing. Accordingly, the Tribunal's decision refers to the existence of these other mechanisms, and correctly acknowledges that these are independent processes that will ultimately be decided by persons other than the Tribunal member.

Schedule A: Tribunal Decision, paras 9, 54

67. Nevertheless, the Tribunal decision goes on to mistakenly contend that that CAD's legal position was that the *EPA* approval should be revoked by the Tribunal. In fact, CAD's legal position was, and remains, that irrespective of what might happen to the *EPA* and *EAA* approvals in these other external processes, the subject matter of the appeal hearing was the suspension order, whether it should be confirmed, altered or revoked by the Tribunal, and whether the Director should be directed to take other such actions as may be ordered by the Tribunal.

68. CAD respectfully submits that by considering and purporting to address the "red herring" revocation issue raised by the other parties, the Tribunal essentially asked itself the wrong question under Rule 200. The sole question before the Tribunal was whether the proposed settlement was consistent with the *EPA* purpose and in the public interest. As noted below, CAD submits that the Tribunal's decision failed to satisfactorily answer this question. Moreover, the question should have been resolved by the Tribunal without needlessly straying into jurisdictional issues, or questions of statutory interpretation, involving revocation of the *EPA* approval.

69. In summary, it was irrelevant and unnecessary for the Tribunal to consider whether it would have had jurisdiction to order the revocation of the *EPA* approval at the conclusion of the appeal hearing. This is particularly true since CAD's counsel did not request the Tribunal to revoke the approval via the *de novo* appellate powers conferred upon the Tribunal under section 145.2 of the *EPA*.

***EPA*, section 145.2**

70. CAD further submits that the Tribunal appears to have conflated CAD's present-day concerns about the proposed settlement (and new Condition 9.1) with CAD's historic concerns about the original issuance of the *EPA* approval in 1998. Contrary to the Tribunal's commentary on this point, CAD's well-founded concerns about the inadequate Minutes of Settlement did not represent a collateral attack on the 1998 decision to issue *EPA* approval.

Schedule A: Tribunal Decision, paras 53, 55, 57, 65, 70

71. CAD fully accepts that the appeal hearing did not empower the Tribunal to go back in time and reverse the questionable 1998 decision to issue the *EPA* approval. In

short, the timeframe for appealing or challenging that 1998 decision has long since expired. However, once the Director decided in late 2017 to suspend key parts of the *EPA* approval, and once that decision was appealed by the Counties, the Tribunal acquired the requisite jurisdiction to decide whether the suspension order should be confirmed, revoked, or varied in the manner requested by CAD. Unfortunately, by accepting the deficient settlement and prematurely terminating the hearing, the Tribunal has inappropriately declined or refused to properly exercise this authority under the *EPA*.

The Tribunal's Decision Conflicts with the *EPA* Purpose and the Public Interest

72. The Tribunal's decision to accept the proposed settlement over CAD's objections was premised, in part, on the Tribunal's erroneous view that new Condition 9.1 was stronger, better and more certain than the Director's Notice of Suspension.

Schedule A: Tribunal Decision, paras 63, 86

73. In reaching this determination, it appears that the Tribunal gave no consideration to whether the Notice of Suspension itself should be enhanced or expanded, as suggested by CAD in opening and closing submissions. Instead, the Tribunal simply focused on the Director's partial suspension of the 1998 *EPA* approval, and used that document as the basis for comparison with the proposed Condition 9.1.

74. More importantly, CAD respectfully submits that the Tribunal's analysis of the pros and cons of Condition 9.1 versus the Notice of Suspension is fundamentally flawed, and should therefore be accorded no weight by the Minister in this appeal.

Schedule A: Tribunal Decision, paras 63-66

75. For example, the operative (and only legally enforceable) portion of the Director's Notice suspends Conditions 10 and 11 in the 1998 *EPA* approval. The unconditional suspension of these two conditions fully and completely prevents the ED19 Landfill from being constructed or operated. While the Director testified that this suspension was intended to be "temporary," there is no expiry date or time limit on the suspension. In addition, there is nothing in this portion of the Notice of Suspension that legally compels the Counties to prepare studies or conduct field investigations, although such work was undoubtedly contemplated in the Director's brief reasons for issuing the Notice of Suspension.

Schedule B: Notice of Suspension dated November 9, 2017, pages 1-2
Schedule A: Tribunal Decision, para 21

76. Presumably, if the Counties (or possibly its successor) conducted the further work to the satisfaction of the Director, then he might be persuaded to lift the suspension order, in whole or in part, as he is entitled to do under the *EPA* as a matter of law. But unless and until that hypothetical event occurs, the suspension order remains in effect and landfilling cannot proceed at the ED19 Landfill.

77. In contrast, Condition 9.1, as accepted by the Tribunal, takes a somewhat similar approach, but it is qualitatively different from the partial suspension, and provides few particulars or prescriptive details about the nature, scope and extent of the studies that might lead to landfilling operations at the ED19 site. In short, the *EPA* approval is just that – an approval (or green light) to proceed with the ED19 Landfill, provided that the terms and conditions are complied with by the Counties. Moreover, while the Tribunal “assumed” that the Counties no longer contested that material changes have occurred over the past two decades, the fact is that Condition 9.1 is confined to a small number of studies and does not expressly require updates of all the 20 year-old technical documents referenced in the schedules to the *EPA* approval. Similarly, as noted above, the studies required by Condition 9.1 do not address the significant information gaps identified in the Director’s reasons for issuing the Notice of Suspension.

Schedule A: Tribunal Decision, para 62

Schedule B: Notice of Suspension dated November 9, 2017, page 2.

78. At the settlement hearing, the Director suggested that the general wording of Condition 9.1 was intended to provide “flexibility.” However, this “flexibility” appears to solely benefit the Counties (not local residents), and is clearly aimed at facilitating the commencement of landfilling operations, as long as certain vaguely defined studies are completed by the proponent and accepted by the Director.

79. Accordingly, CAD submits that Condition 9.1, as accepted by the Tribunal, creates considerable uncertainty and reduces transparency and accountability in the decision-making process under the *EPA*. In addition, Condition 9.1 fails to provide any meaningful opportunity for CAD to participate in the Director’s review of the required reports, or the issuance of further amendments to the 1998 approval, as discussed below.

80. Therefore, CAD submits that from an environmental protection and public interest perspective, the Notice of Suspension (especially if expanded to the whole *EPA* approval) is superior to simply inserting Condition 9.1 into the *EPA* approval. This position was supported by the opinion evidence of CAD’s expert witnesses, who identified various substantive and procedural problems within the provisions of Condition 9.1.

81. For example, from his hydrogeological perspective, Mr. Ruland’s professional opinion was that the Minutes of Settlement (including Condition 9.1) advanced by the Counties and the Ministry (and ultimately accepted by the Tribunal) were not consistent with the purpose of the *EPA* or the public interest, and should have been rejected for a number of reasons, including:

- (a) the Minutes of Settlement did not provide for protection or conservation of the natural environment; instead, they constituted a threat to the natural environment and the public interest because they potentially enable landfilling at the ED19 site without fully addressing the multitude of deficiencies associated with the ED19 Landfill proposal, the 1998 *EPA* approval, and the Counties’ supporting documentation studies that underpin the approval; and

- (b) none of the 20 year-old technical documents in Schedules A, B, C, D, and E of the *EPA* approval are suitable for a landfill proposed to be built today. Instead, all of these technical documents (not just the Design and Operations Report) require revision to account for changes/evolution in real-world land use and the natural environment, as well as changes in regulations, drinking water quality and surface water quality standards, and current practices regarding landfill design and operation.

Schedule C: Affidavit of Wilf Ruland, para 13, and Exhibit B: Independent Review of Information, page 22

Schedule A: Tribunal Decision, paras 23-24

82. Similarly, from her ecological perspective, Ms. Logan’s professional opinion was that the Minutes of Settlement (including new Condition 9.1) did not adequately address the numerous concerns described in her independent review of the ED19 Landfill, such as:

- (a) the Counties’ original site assessment work contains various deficiencies and shortcomings, and does not demonstrate that the ED19 Landfill will not adversely affect the natural environment; and
- (b) there are significant data gaps regarding the ED19 Landfill and environs which must be addressed through the collection and analysis of updated information, but which were not specifically mentioned by the Minutes of Settlement.

Schedule D: Affidavit of Kim Logan, paras 13-14

Schedule A: Tribunal Decision, paras 25-26

83. In addition to the foregoing opinion evidence, CAD submits that there are numerous red flags, unresolved concerns and outstanding issues about the ED19 Landfill (and its potential impacts) that are not addressed adequately or at all by Condition 9.1, as modified and accepted by the Tribunal.

84. For example, the April 2016 Golder memorandum indicates that Tomlinson (the prospective purchaser of the ED19 property) has identified a number of changes to various aspects of the currently approved design that would either be beneficial... or are required because of changes to provincial regulations since that time.” However, Mr. Ruland accurately characterized these proposed changes as a “wholesale redesign” of the approved ED 19 Landfill, particularly in relation to leachate collection and management, which are “fundamental aspects of landfill design and operation.”

Schedule E: Reply Affidavit of Wilf Ruland, Exhibit B: Reply Report, pages 5-7, and Attachment D, page 1

85. The Golder memorandum goes on to suggest that all of the proposed changes to landfill design and operation can be processed as amendments to the 1998 *EPA* approval,

which is essentially how proposed Condition 9.1 has been crafted in terms of revisions to the original Design & Operations Report.

Schedule E: Reply Affidavit of Wilf Ruland, Exhibit B: Reply Report, Attachment D, pages 2-5

86. CAD submits that this “study now, amend later” approach potentially raises a serious legal barrier to meaningful public involvement in relation to any future proposed changes to the 1998 *EPA* approval. This is because section 32 of the *Environmental Bill of Rights* (“*EBR*”) provides that if an instrument implements an *EAA*-approved undertaking, then the mandatory public notice, comment and third-party appeal rights under Part II of the *EBR* are inapplicable to the instrument.

***EBR*, section 32
Schedule A: Tribunal Decision, para 72**

87. This problem is compounded by the fact that Condition 9.1, as modified by the Tribunal’s decision, contains no meaningful opportunities for CAD or site neighbours to review and comment upon the various reports to be considered by the Ministry once submitted by the Counties. To remedy this situation, CAD argued, in the alternative, that specific review/comment opportunities for CAD and local residents should be built directly into Condition 9.1 if it was going to be otherwise accepted by the Tribunal.

Schedule E: Affidavit of Kyle Johnston, para 13

88. However, this common sense solution was rejected by the Tribunal, which concluded that there was no basis for specifically giving CAD any review/comment opportunities in Condition 9.1. CAD’s exclusion is at odds with the fact that a previous panel of the Tribunal had added CAD as a party in the appeal hearing precisely because of its interest, experience and ongoing involvement in matters relating to the ED19 Landfill. In addition, CAD submits that the Tribunal’s decision to endorse mere website posting of the Counties’ future reports falls considerably short of ensuring meaningful public participation in the Ministry’s decision-making process in this case.

Schedule A: Tribunal Decision, paras 10, 27, 78-79, 83

89. In any event, the Tribunal’s decision stipulates that the Landfill Liaison Committee (“*LLC*”) established under the 1998 *EPA* approval should receive copies of the forthcoming studies and reports. However, there was no evidence at the settlement hearing indicating that the *LLC* was, in fact, still in existence and functional at the present time.

Schedule A: Tribunal Decision, paras 81-82, and Attachment 1

90. In order to improve the *LLC* mandate, structure and composition, CAD argued, in the alternative, that Condition 9 of the *EPA* approval should be upgraded. Since the Tribunal opted to refer to and rely upon the *LLC* in Condition 9.1, strengthening the *LLC* provisions would have been highly appropriate in this case. However, the Tribunal

refused to order any changes to the LLC on the grounds that Condition 9 was not under appeal. A number of CAD's other suggested alternatives for revising other conditions in the *EPA* approval were similarly rejected by the Tribunal, presumably for the same reason.

Schedule A: Tribunal Decision, para 81

91. On the other hand, the Tribunal had no problem adding new Condition 7.1 to the *EPA* approval, although the substance of this condition (e.g. notification of changes in site ownership) was not under appeal by the Counties. In fact, Condition 7.1 had no previous analogue in the 1998 *EPA* approval. On this point, CAD acknowledges that aside from wordsmithing differences, all parties were in general agreement about adding Condition 7.1 if the proposed settlement was otherwise going to be endorsed by the Tribunal.

Schedule A: Tribunal Decision, paras 84-85

92. However, it is well-established in law that parties' consent cannot confer jurisdiction upon an administrative body to take steps or make orders that are *ultra vires*. Accordingly, CAD respectfully submits that the Tribunal's refusal to entertain CAD's proposed changes to the LLC in Condition 9, and the Tribunal's apparent willingness to accept new Condition 7.1, represent a serious internal inconsistency within the Tribunal's decision that cannot be easily reconciled.

93. More generally, the Tribunal's decision recognizes the value and importance of public participation in environmental decision-making, but does not entrench adequate public participation rights in Condition 9.1 for anyone except the defunct LLC. Instead, the Tribunal's decision essentially leaves it to the opposing parties to sort out how the public will be able to engage the information-gathering and decision-making processes set out in Condition 9.1. In CAD's view, this *laissez-faire* approach is unacceptable, and, at best, represents wishful thinking on behalf of the Tribunal.

Schedule A: Tribunal Decision, paras 73, 81

94. In the meantime, outside of the Tribunal's hearing process, the Ministry has committed to review the whole *EPA* approval by the end of May 2019 pursuant to *EBR* Applications for Review filed by CAD and other local residents. However, there are no mandatory opportunities for CAD or other stakeholders to be meaningfully involved in the Ministry's internal review or its outcome, and any subsequent amendments to the 1998 *EPA* approval may be subject to the section 32 "exception to public participation" under the *EBR*.

Schedule E: Affidavit of Kyle Johnston, paras 5-6
Schedule A: Tribunal Decision, paras 72-73

95. CAD submits that the absence of mandatory public participation provisions regarding the *EBR* review and/or future revisions of the 1998 *EPA* approval underscores the need for the Tribunal to have continued the hearing, rather than terminating it.

Holding the public hearing would have offered CAD and other stakeholders a full, fair and efficient opportunity to present evidence and argument on what the Tribunal should do in relation to the partial suspension of the stale-dated *EPA* approval.

96. More fundamentally, CAD submits that the approach entrenched in the Tribunal's decision (e.g. leaving the 1998 approval intact and inserting new Condition 9.1 to require the Counties to prepare a small handful of reports) does not adequately recognize that the environmental features and other constraints to be studied by the Counties may, in fact, turn out to be "show stoppers." Some of these matters may mean either that the large landfill cannot proceed at all at the current site location, or, alternatively, that the landfill will have to be considerably downsized, relocated or substantially redesigned. However, the Tribunal's decision essentially punts these matters into the future, leaving the prospect of landfilling operations hanging indefinitely over the heads of local residents.

97. For example, the *EPA* was amended in 2004 to prohibit waste disposal operations in areas or upon lands that meet the statutory definition of "lake":

(3.1) Despite subsection (1), no person shall use, operate, establish, alter, enlarge or extend a waste disposal site where waste is deposited in a lake.

(3.2) In subsection (3.1),

"lake" includes,

(a) a body of surface water that,

(i) results from human activities, and

(ii) directly influences or is directly influenced by ground water, and

(b) an area of land that was covered by a body of water described in clause (a) or a lake on the day this subsection came into force,

but does not include,

(c) a body of water described in clause (a) or a lake, if the body of water or lake is less than one hectare in area, or

(d) an area of land described in clause (b), if the body of water described in clause (a) or lake that covered the area of land on the day this subsection came into force was, in total, less than one hectare in area on that day.

***EPA*, subsections 27(3.1) and (3.2)**

98. At the settlement hearing, there was uncontradicted evidence that: (i) the area of land covered by water on the ED19 Landfill property is much greater than 1 hectare (and still expanding); (ii) this surface water body has been in existence at least since 2003; and (iii) this surface water body now extends onto and around the approved waste footprint.

Schedule C: Affidavit of Wilf Ruland, Exhibit B: Independent Review of Information, page 20

Schedule E: Affidavit of Kyle Johnston, paras 16-17

Schedule F: Reply Affidavit of Wilf Ruland, Exhibit A: Reply Report, page 3, and Figure 1 aerial photographs

99. In CAD's submission, subsection 27(3.1) effectively overrides and nullifies the 1998 *EPA* approval, and therefore deprives the Director (or the Tribunal, standing in the shoes of the Director) from implementing a settlement agreement, or amending the approval, in a manner that potentially allows waste to be deposited on lands that have been covered by an ever-growing body of surface water since 2003.

100. Put another way, CAD submits that rather than keeping the door open to the deposit of waste upon lands that are currently submerged by surface water, the Director (and the Tribunal, standing in the shoes of the Director) should have firmly closed the door by taking all necessary steps under the *EPA* to ensure compliance with subsection 27(3.1). Unconditionally and indefinitely suspending the *EPA* approval in its entirety is one option for achieving this result.

101. CAD further notes that Ontario's current landfill standards require proponents to own the entire waste disposal site in fee simple.

O.Reg. 232/98, section 3

102. In this case, however, there is uncontradicted evidence that a significant portion of the ED19 Landfill is not actually owned by the Counties, and that much of the critical landfilling infrastructure would be located upon these privately owned lands. Condition 9.1, as modified by the Tribunal, does not address this issue, and there was no evidence in the settlement hearing explaining how the amended 1998 *EPA* approval complies with this modern regulatory requirement.

Schedule F: Reply Affidavit of Wilf Ruland, Exhibit A: Reply Report, pages 4-5; Attachment B: Golder Figure 5; and Attachment C: land ownership map

103. In summary, CAD submits that there is a substantial and continuing disconnect between the 1998 *EPA* approval and the current legislative and regulatory regime governing landfilling in Ontario. Thus, it cannot be concluded that the Tribunal's decision, which essentially leaves the 20 year-old *EPA* approval intact and in force, protects and conserves the natural environment or is in the public interest. It is also abundantly clear that after 20 years, the Counties have absolutely no need or intention to develop the ED19 Landfill, and now they simply want to offload the site to a private company for its own purposes.

CAD's Overall Conclusions

104. On the totality of the available evidence, CAD respectfully submits that there is no compelling basis for the Tribunal's conclusion that the proposed settlement was fully dispositive of the "matter in appeal," or that the proposed settlement meets or exceeds the best possible outcome of a full public hearing on the "merits" of the Counties' appeal against the Notice of Suspension.

105. Given its broad public interest powers under section 145.2 of the *EPA*, the Tribunal's potential disposition of the Counties' appeal was not limited to the binary choice of either upholding or revoking the Director's original suspension of just two conditions in the 1998 approval. Instead, CAD submits that after conducting a full public hearing, the Tribunal's options would have included, *inter alia*, affirming the suspension order, but altering or expanding it to include some or all of the other terms, conditions and schedules in the ECA as may be specified by the Tribunal, and otherwise directing the Director to take other appropriate action that the Tribunal considers the Director should take under the *EPA*.

106. However, this important opportunity was squandered by the Tribunal's decision to accept the meagre settlement and to stop the public hearing in its tracks. For the reasons outlined above, CAD respectfully submits that this outcome is not in the public interest, and must therefore be reviewed and revised by the Minister in this appeal.

ISSUE 2: Should the Tribunal's Decision be Stayed Pending the Appeal?

107. Section 145.6(3) of the *EPA* provides that filing an appeal to the Minister does not stay the operation of the Tribunal's decision.

EPA, section 145.6(3)

108. However, section 145.6(4) expressly empowers the Minister to stay the operation of the Tribunal's decision:

If a decision of the Tribunal is appealed to the Divisional Court or to the Minister under this section, the Divisional Court or the Minister may,

- (a) stay the operation of the decision; or
- (b) set aside a stay ordered by the Tribunal under subsection (3).

EPA, section 145.6(4)

109. This section does not prescribe any specific criteria to be considered by the Minister when exercising this broad discretionary power, and does not mention any of the factors considered by courts when determining whether to exercise their inherent jurisdiction to issue interlocutory injunctions (e.g. serious issue, irreparable harm, and balance of convenience).

110. Accordingly, section 145.6(4) provides the Minister with open-ended discretion to stay a Tribunal decision pending the outcome of the appeal. However, it goes without saying that this statutory discretion must be exercised in a manner that is consistent with the overall purpose of the *EPA*, *viz.*, "protection and conservation of the natural environment."

EPA, section 3

111. On the facts of this case, CAD submits that it is both reasonable and appropriate for the Minister to freeze the status quo by staying the Tribunal decision until this appeal has been finally decided by the Minister.

112. First, the Tribunal decision directs the Director to take specified actions in relation to the *EPA* approval. CAD submits that it would be premature for the Director to amend the approval (or to lift the Notice of Suspension) until the issues raised in this appeal have been adjudicated in this appeal proceeding.

113. Second, as noted in the Tribunal decision itself, the Ministry has committed to conduct and complete its *EBR* review of the *EPA* approval by the end of May, which is only 12 weeks away from the date of this appeal. In these circumstances, CAD submits that it would make no practical sense for the Ministry to take steps to amend the approval in the interim, and then purport to independently determine in May whether the *EPA* approval (including the Ministry's own handiwork on Conditions 7.1 and 9.1) should be revoked, in whole or in part, as a result of the separate *EBR* review.

114. Third, this appeal specifically requests the Minister to maintain and expand the original Notice of Suspension to every term, condition and schedule in the 1998 *EPA* approval. Until the Minister decides this appeal and determines whether such relief should be granted, the Director should not be permitted to lift the current Notice of Suspension in accordance with the Tribunal's order.

115. Fourth, while there appears to be no imminent prospect of any on-site construction activities at the ED19 Landfill property in the near future, there is good reason to believe that the Tribunal's decision to amend the *EPA* approval and terminate the appeal hearing will renew (if not expedite) the negotiations between the Counties and the private waste disposal company regarding the sale of the subject property. In the circumstances of this case, CAD submits that it would be beneficial for all parties to obtain the Minister's ruling on this appeal against the Tribunal's decision before the possible sale of municipal property proceeds any further.

116. Fifth, given the significant ecological features, functions, habitat, wildlife and waterbodies that are now present on or near the ED19 Landfill property, CAD submits that it would be consistent with the purpose of the *EPA* to stay the Tribunal's decision so that the site remains undisturbed in its current natural state until this appeal has been decided by the Minister.

PART V – ORDER REQUESTED

117. For the foregoing reasons, CAD respectfully requests the Minister to issue an order:

- (a) quashing or setting aside the Tribunal's order at paragraph 87 of the decision, and substituting therefor an order that maintains and expands the Notice of Suspension so that the *EPA* approval is suspended in its entirety;
- (b) staying the operation of the Tribunal decision until this appeal has been fully adjudicated by the Minister; and
- (c) imposing such further or other relief as counsel may advise and the Minister permit.

ALL OF WHICH IS RESPECTFULLY SUBMITTED.



March 1, 2019

Richard D. Lindgren
Counsel for the Appellant
Citizens Against the ED19 Dump

APPENDIX A: STATUTORY EXCERPTS

Environmental Protection Act, RSO 1990, c.E.19

Interpretation

1 (1) In this Act...

“natural environment” means the air, land and water, or any combination or part thereof, of the Province of Ontario;

“water” means surface water and ground water, or either of them.

Purpose of Act

3 (1) The purpose of this Act is to provide for the protection and conservation of the natural environment.

Exercise of powers on Director’s initiative

20.13 The Director may, on his or her own initiative,

- (a) alter or revoke terms and conditions of an environmental compliance approval after it has been issued;
- (b) impose new terms and conditions in an environmental compliance approval; or
- (c) suspend or revoke all or part of an environmental compliance approval.

Approval, waste management system or waste disposal site

27 (1) No person shall use, operate, establish, alter, enlarge or extend a waste management system or a waste disposal site except under and in accordance with an environmental compliance approval.

Lakes

(3.1) Despite subsection (1), no person shall use, operate, establish, alter, enlarge or extend a waste disposal site where waste is deposited in a lake. 2004, c. 6, s. 7 (1).

Same

(3.2) In subsection (3.1),

“lake” includes,

- (a) a body of surface water that,
 - (i) results from human activities, and
 - (ii) directly influences or is directly influenced by ground water, and

(b) an area of land that was covered by a body of water described in clause (a) or a lake on the day this subsection came into force,

but does not include,

(c) a body of water described in clause (a) or a lake, if the body of water or lake is less than one hectare in area, or

(d) an area of land described in clause (b), if the body of water described in clause (a) or lake that covered the area of land on the day this subsection came into force was, in total, less than one hectare in area on that day. 2004, c. 6, s. 7 (1).

When Director refuses approval, etc.

139 (1) When the Director,

(a) refuses to give his or her approval of plans and specifications;

(b) requires a condition precedent to the giving of his or her approval;

(c) refuses to issue an environmental compliance approval or renewable energy approval;

(d) refuses to renew a renewable energy approval;

(e) suspends or revokes an environmental compliance approval or renewable energy approval; or

(f) issues a certificate of property use,

the Director shall serve notice upon the applicant or holder, as the case may be, together with written reasons therefor, and the applicant or holder may, by written notice served upon the Director and the Tribunal within fifteen days after the service of the notice, require a hearing by the Tribunal

Contents of notice requiring hearing

142 (1) An applicant for a hearing by the Tribunal shall state in the notice requiring the hearing,

(a) the portions of the order, certificate of property use, direction, term, condition, suspension, revocation or licence or other form of permission in respect of which the hearing is required; and

(b) the grounds on which the applicant for the hearing intends to rely at the hearing.

Powers of Tribunal

145.2 (1) Subject to sections 145.3 and 145.4, a hearing by the Tribunal under this Part shall be a new hearing and the Tribunal may confirm, alter or revoke the action of the Director that is the subject-matter of the hearing and may by order direct the Director to take such action as the Tribunal considers the Director should take in accordance with this Act and the regulations, and, for such purposes, the Tribunal may substitute its opinion for that of the Director.

Appeals from Tribunal

145.6 (1) Any party to a hearing before the Tribunal under this Part may appeal from its decision or order on a question of law to the Divisional Court in accordance with the rules of court.

Appeal to Minister

(2) A party to a hearing before the Tribunal under this Part may, within 30 days after receipt of the decision of the Tribunal or within 30 days after final disposition of an appeal, if any, under subsection (1), appeal in writing to the Minister on any matter other than a question of law and the Minister shall confirm, alter or revoke the decision of the Tribunal as to the matter in appeal as the Minister considers in the public interest.

Decision of Tribunal not automatically stayed on appeal

(3) An appeal of a decision of the Tribunal to the Divisional Court or to the Minister under this section does not stay the operation of the decision, unless the Tribunal orders otherwise.

Divisional Court or Minister may grant or set aside stay

(4) If a decision of the Tribunal is appealed to the Divisional Court or to the Minister under this section, the Divisional Court or the Minister may,

- (a) stay the operation of the decision; or
- (b) set aside a stay ordered by the Tribunal under subsection (3)

Ontario Regulation 232/98

PART II OWNERSHIP

LANDFILLING SITE

3. The holder of an environmental compliance approval to which a landfilling site is subject must own the entire site in fee simple, unless the site is on Crown land.

Tribunal Rules of Practice

200. Where there has been a proposed withdrawal of an appeal not agreed to by all Parties, the Tribunal shall consider whether the proposed withdrawal is consistent with the purpose and provisions of the relevant legislation and whether the proposed withdrawal is in the public interest. The Tribunal shall also consider the interests of Parties, Participants and Presenters. After the consideration of the above factors, the Tribunal may decide to continue with the Hearing or issue a decision dismissing the proceeding.

Environmental Review Tribunal
Tribunal de l'environnement



ISSUE DATE: January 31, 2019

CASE NO.:

17-072

PROCEEDING COMMENCED UNDER section 139(1)(e) of the *Environmental Protection Act*, R.S.O. 1990, c. E.19, as amended

Appellant: Corporation of the United Counties of Leeds and Grenville
Respondent: Director, Ministry of the Environment, Conservation and Parks
Subject of appeal: Notice of Suspension of conditions with respect to an Environmental Compliance Approval for the use and operation of a waste disposal site
Reference No.: A420009
Property Address/Description: Lots 14 and 15, Concession 4
Municipality: Township of Edwardsburgh/Cardinal
Upper Tier: United Counties of Leeds and Grenville
ERT Case No.: 17-072
ERT Case Name: Leeds and Grenville (United Counties) v. Ontario (Environment, Conservation and Parks)

Heard: November 6 and 7, 2018 in Brockville, Ontario

APPEARANCES:

Parties

Counsel/Representative⁺

Corporation of the United Counties of Leeds and Grenville

Tony Fleming and Matt Benson

Director, Ministry of the Environment, Conservation and Parks

Paul McCulloch

Citizens Against the ED-19 Dump

Richard Lindgren and Rashin Alizadeh (Student)

Presenters

Clare Kinlin	Self-represented
1364269 Ontario Limited	Philip Parent ⁺

DECISION DELIVERED BY MARCIA VALIANTE

REASONS**Background**

[1] This decision determines whether a settlement objected to by an added party should be accepted and the appeal dismissed.

[2] The appeal relates to a landfill, proposed by the Corporation of the United Counties of Leeds and Grenville (“UCLG” or “Appellant”) to be located on a 66-hectare property, specifically Parts of Lots 14 and 15, Concession IV, in what is now Edwardsburgh/Cardinal Township (“Site” or “ED-19”). Approval to proceed with the landfill was given by the Minister of the Environment, now the Minister of the Environment, Conservation and Parks (“Minister”) under the *Environmental Assessment Act*, R.S.O. 1990, c. E-18 (“EAA”), on January 20, 1998. Provisional Certificate of Approval No. A420009 (“ECA”) was issued to the UCLG by the Ministry of the Environment (now the Ministry of the Environment, Conservation and Parks (“MECP” or “Ministry”)) on June 24, 1998 pursuant to the *Environmental Protection Act* (“EPA”).

[3] At the time of the original EAA approval and issuance of the ECA, public comments were invited, but no comments were received. No appeal, application for leave to appeal or legal challenge was brought.

[4] The landfill was approved to accept a total of 980,000 tonnes of solid non-hazardous waste, generated in the UCLG, the City of Brockville, the Town of Prescott

and potentially the Town of Gananoque, over a 20-year period. Neither the *EAA* approval nor the *ECA* is subject to an expiry date, either on its face or under any applicable law, and there is no requirement to construct or operate the landfill by a specific date, or at all. This appears to be the usual practice of the Ministry, but is under review.

[5] Despite getting approvals 20 years ago, the UCLG never developed the landfill. Several times over 12 years, the UCLG considered developing the landfill, but each time determined that it was not economically feasible, primarily due to the capital costs of construction. In 2010, the UCLG invited proposals from the private sector to develop the landfill and received an expression of interest. Since then, the UCLG has been in “intermittent discussions” about possible sale of the Site to a private contractor, identified as R.W. Tomlinson Limited (“Tomlinson”).

[6] In March 2017, Andy Brown, Chief Administrative Officer of the UCLG, inquired of the MECP as to the status of the *EAA* approval and the *ECA*. The MECP advised that the approvals were still legally valid. In a letter dated March 30, 2017 to Mr. Brown, Mansoor Mahmood of the Ministry’s Environmental Approvals Branch further advised that, although the *EAA* approval did not include an expiry date, the undertaking had not yet been constructed and therefore, the MECP requested that the UCLG “confirm that the conditions, assumptions and circumstances that were made in the [Environmental Assessment (“EA”)] are still applicable, and that the proposed landfill design is still appropriate based on the recommendations of the EA prior to proceeding with applying for any subsequent approvals and the ultimate construction of the landfill, if that is the proposed intention.” Specifically, the MECP requested that UCLG submit a report by the end of June 2017 containing the following information: documenting whether the purpose and rationale of the undertaking are still applicable and valid; reviewing the environmental effects to demonstrate that the effects identified in the EA are still applicable and there are not significant changes; documenting that the proposed mitigation measures are still appropriate “and/or the enhanced/additional landfill systems proposed will meet or exceed what was proposed in the approved project”; and

regarding other relevant matters. The letter further indicated that the MECP would review the report and stated:

Once the ministry is satisfied that the environmental conditions and circumstances of the site and project have not changed significantly, and that the proposed mitigation measures and enhancements are still appropriate, the proponent may proceed to apply for the required [ECA] amendments if necessary, and any other approvals or permits that may be required prior to construction. If this is not the case, then we will be in touch to discuss the next steps.

[7] Mr. Brown responded to Mr. Mahmood on April 11, 2017, advising him that the UCLG did not plan to develop the landfill but was seeking to sell the Site to a private developer, who would become the proponent and assume the ECA, and that the June 2017 date for submission of the report was premature as a sale was not imminent.

[8] On September 21, 2017, UCLG Council passed a resolution to recommence negotiations for the sale of the Site. The MECP Director, Dale Gable, became concerned that the request in the March 30, 2017 letter for updated information from the UCLG would not be legally enforceable against a third-party purchaser of the Site. As a result, on November 9, 2017, the Director, pursuant to s. 20.7 and s. 20.13 of the *EPA*, issued Notice of Suspension to the ECA (“Suspension Notice”) suspending Conditions 10 and 11 of the ECA relating to construction and operation of the landfill. After outlining the background, the Suspension Notice states that the Ministry “considers it necessary in the circumstances to temporarily suspend the construction and operation” of the landfill “as approved by the ECA until such time as the Owner (or any future ECA-holder) confirms that the conditions, assumptions and circumstances that were made in the EA are still applicable, and that the proposed landfill design is still appropriate based on the recommendations of the EA.” On November 24, 2017, the UCLG filed a notice of appeal of the Suspension Notice with the Environmental Review Tribunal (“Tribunal”).

[9] In the meantime, the Citizens Against the ED-19 Dump (“CAD”) submitted a request to the Minister to exercise discretion under s. 11.4 of the *EAA* to reconsider and/or revoke the *EAA* approval for the landfill and also filed an Application for Review

of the ECA with the Environmental Commissioner of Ontario, pursuant to Part IV of the *Environmental Bill of Rights, 1993*, S.O. 1993, c. 28 (“*EBR*”). A second *EBR* Application for Review of the ECA was later filed by Clare Kinlin, a local resident, raising similar issues. On November 10, 2017 and March 6, 2018, Paul Nieweglowski, Assistant Deputy Minister, Operations Division of the MECP, advised the UCLG and the applicants that the MECP will conduct a review of the ECA and that he anticipated the review will be completed by May 31, 2019.

[10] The Tribunal held a pre-hearing conference with respect to UCLG’s appeal of the Suspension Notice on March 12, 2018. At that time, the Tribunal granted party status to CAD, participant status to Shawn Carmichael, and presenter status to 1364269 Ontario Limited, Mr. Kinlin, the Township of Edwardsburgh/Cardinal and Adrian Wynands. The Tribunal also scheduled the hearing of a motion that the Appellant intended to bring seeking a determination of whether the Director had authority to issue the Suspension Notice under the *EPA* even though past approval for the landfill had been given by the Minister under the *EAA*.

[11] However, before the motion could be heard, the UCLG and the Director entered into Minutes of Settlement (“MOS”). CAD was not a party to their discussions but was provided with the MOS afterwards. Under the terms of the settlement, the ECA would be amended to include a new Condition 9.1 and, if the settlement were to be approved by the Tribunal, the Director would revoke the Suspension Notice and the Appellant would withdraw its appeal. Condition 9.1 would prohibit the UCLG from commencing any development, construction or operation of the landfill until it completes certain work and submits certain reports to the Director and the Director has amended the ECA.

[12] The Appellant and the Director jointly requested that the Tribunal accept the settlement, direct the Director to amend the ECA in accordance with it, and dismiss the appeal. However, CAD objected to the terms of the settlement. At a telephone conference call on September 5, 2018, the Tribunal set a settlement hearing and scheduled the filing of materials in advance of the hearing.

[13] On November 6 and 7, 2018, in Brockville, Ontario, the Tribunal held the settlement hearing, where the parties cross-examined on the affidavits that had been filed and made oral submissions. The Tribunal also heard presentations from two presenters in attendance, Mr. Kinlin and Philip Parent representing 1364269 Ontario Limited. As part of the materials filed, the Appellant provided proposed revised wording for Condition 9.1 and other amendments to the ECA, together with highlighting showing further amendments proposed by CAD and whether these were agreed to by the Appellant. This document was entered into the record as Exhibit 4.

Issue

[14] The issue is whether to accept the proposed settlement and dismiss the appeal.

Relevant Legislation and Rules

EPA

[15] The purpose of the *EPA* is set out in s. 3(1):

3(1) The purpose of this Act is to provide for the protection and conservation of the natural environment.

Tribunal's *Rules of Practice* ("Rules")

[16] Rules 200 and 202 address a proposed withdrawal of an appeal not agreed to by all Parties and a proposed revocation of a decision under appeal:

200. Where there has been a proposed withdrawal of an appeal not agreed to by all Parties, the Tribunal shall consider whether the proposed withdrawal is consistent with the purpose and provisions of the relevant legislation and whether the proposed withdrawal is in the public interest. The Tribunal shall also consider the interests of Parties, Participants and Presenters. After the consideration of the above

factors, the Tribunal may decide to continue with the Hearing or issue a decision dismissing the proceeding.

...

202. Where a Director, Risk Management Inspector or Official, Authority or municipality proposes to revoke a decision that is the subject of an appeal, the Tribunal shall consider whether the proposed revocation is consistent with the purpose and provisions of the relevant legislation and whether the proposed revocation is in the public interest. The Tribunal shall also consider the interests of Parties, Participants and Presenters. After the consideration of the above factors, the Tribunal may decide to continue with the Hearing or issue a decision dismissing the proceeding.

Discussion, Analysis and Findings

The Parties' Evidence

The Appellant's Evidence

[17] The UCLG filed two affidavits of Paul Smolkin, P. Eng., Principal and Senior Geo-Environmental Engineer with Golder Associates Ltd. Mr. Smolkin described the context of the Site and the elements of the original approvals. He went on to outline the proposed new ECA Condition 9.1. In summary, he stated that Condition 9.1 requires studies be carried out that “specifically address both potential changes in the conditions on and in the area around the ED-19 site and changes in applicable regulations over the past 20 years.” He stated that he expects additional approvals from other regulatory agencies will be required, including from the Federal Department of Fisheries and Oceans respecting fish habitat, the Ministry of Natural Resources and Forestry or MECP respecting species at risk (“SAR”), and the South Nation Conservation Authority respecting drainage and wetlands. In his affidavits, Mr. Smolkin gave his opinion that Condition 9.1 will provide the proponent with all the information to determine whether changes to site design and the Design and Operations (“D&O”) Report are appropriate and will provide the MECP with “all the information necessary to determine whether any further amendments to [the ECA] are warranted to provide protection of the environment and to issue an ECA Amending Notice.” However, on cross-examination, Mr. Smolkin

agreed that, as a result of the environmental and regulatory changes, changes in the landfill design are required and it is not a question of “whether” changes are necessary, but “what” those changes should be.

The Director’s Evidence

[18] The Director filed two affidavits from Mr. Gable. The Director outlined the elements of the ECA, describing the scope of its 47 conditions, which include requirements for environmental monitoring, trigger mechanisms and contingency plans. The Director noted that the original hydrogeological study and D&O Report were among the studies submitted in support of the joint *EAA/ECA* application and were incorporated by reference into the ECA. He stated that Condition 10 in the ECA requires UCLG to develop, operate and maintain the landfill in accordance with these supporting documents. He stated further that Condition 11 in the ECA requires UCLG to prepare an Operation and Maintenance Manual for the landfill and operate in accordance with it.

[19] The Director noted that he had received information about environmental changes in the Site area, although the cause and extent of the changes were not evaluated or determined. He also stated that he was aware of regulatory changes applicable to landfills that have been adopted since 1998, including changes that prohibit waste from being deposited in a lake and that support landfill gas collection. He stated that the assessment by Wilf Ruland, witness for CAD, of the potential hydrogeological impacts of the landfill is based on the design in the original D&O Report, but there is a “high likelihood” that aspects of the D&O Report, including the leachate collection system, leachate management method and liner construction, will have to be updated.

[20] According to the Director, after being advised of the UCLG’s intentions, he became concerned that if it sold the landfill, “there was nothing legally prohibiting a new owner from starting to construct the landfill without first addressing the ministry’s request” for confirmation that the conditions, assumptions and circumstances in original

supporting documents were still applicable and the landfill design was still appropriate. For these reasons, he stated, he issued the Suspension Notice. In doing so, he “determined that it was not necessary to revoke the ECA in its entirety. Rather, it was only necessary to ensure that the Landfill was not constructed or operated until a report was submitted that provided the necessary confirmations and updated information...” The Director noted that the UCLG had been aware of the need to provide an updated D&O Report for some time and that “it was and still is unfair to revoke the ECA without giving UCLG a reasonable opportunity to provide information demonstrating whether the site is still suitable for the development and operation of this landfill as designed in June 1998 with certain modifications given existing site conditions.” The Director stated further that, in deciding to suspend the ECA rather than revoke it, he “took into consideration that the Ministry had communicated to UCLG on a number of occasions over the past two years ... that the ECA remained valid. It would have been inconsistent with the Ministry’s position to suddenly revoke the approval.”

[21] The Director stated that the Suspension Notice was drafted in “very general terms in order to provide flexibility to UCLG to demonstrate that the suspension should be lifted.” He noted that “[b]y its very nature, a suspension is intended to be a short-term measure...” He stated that he considers it reasonable to replace the suspension with the new Condition 9.1, which provides more certainty as to the details of the information the Ministry needs in order to review the circumstances and determine whether proceeding with the landfill will be protective of the natural environment. He is of the view that the settlement has the same legal effect as the Suspension Notice.

CAD’s Evidence

[22] CAD filed the affidavits of Mr. Ruland, P. Geo. and Environmental Consultant with Citizens’ Environmental Consulting, Kim Logan, P. Geo. (Limited), P. Biol. (Alberta) and Senior Ecologist with Groundwater Environmental Management Services Inc., and Marcus Kyle Johnston, Chair of CAD.

[23] Mr. Ruland reviewed the report of the hydrogeological investigation that was submitted in support of the *EAA* approval and the original ECA in 1998 (“Hydrogeology Assessment”). He outlined a series of deficiencies in that investigation and concluded that the Hydrogeological Assessment “does not provide the required technical foundation for the safe design and operation of a waste disposal site.” He also reviewed the D&O Report submitted in support of the original approvals and identified numerous deficiencies in the design and proposed operations of the landfill, with particular reference to leachate collection and management, surface water monitoring and impact mitigation. He concluded that the D&O Report “does not provide the required technical foundation for the safe design and operation of a landfill site, and does not meet current landfilling standards and requirements in Ontario.” He recommended that the ECA be revoked in its entirety, as well as the *EAA* approval, although he acknowledged that the *EAA* approval is not before the Tribunal in this proceeding. Mr. Ruland stated that, if the *EAA* approval remains intact, then a new ECA should be developed. He noted, “[i]n my professional opinion, it is a mistake to try to amend the existing ECA, which is now 20 years old and which should not have been issued in the first place.”

[24] Mr. Ruland provided his opinion that the settlement and new Condition 9.1 represents “a threat to the natural environment and to the public interest, because they open the door to landfilling at the ED-19 site without properly addressing the multitude of deficiencies” identified earlier. However, he conceded that he would need to know the final design and the ultimate changes to the D&O Report before he could reach a conclusion about the risks to the environment. Mr. Ruland stated that “[i]f the Tribunal determines that the ECA should be further amended rather than revoked, then it is my recommendation that the more detailed ECA conditions proposed by CAD should be considered and ordered by the Tribunal.” (These proposed changes are identified in Exhibit 4). On cross-examination, Mr. Ruland agreed that these proposed conditions would be protective of the natural environment.

[25] Ms. Logan stated that she reviewed the original documentation in support of the *EAA* and *ECA* applications, collected and reviewed records and additional materials, walked the perimeter of the Site and interviewed local residents. She prepared a report in which she concluded that natural heritage features and functions on and near the Site have changed significantly since the 1990s and that the original assessments are outdated with respect to surface water and groundwater features, a heronry, breeding bird surveys, and land cover. In addition, she concluded that the original natural heritage assessments did not include assessment of significant woodlands, significant wildlife habitat, SAR, amphibians and aquatic habitat.

[26] Ms. Logan provided her opinion that the *ECA* is inadequate to protect against adverse impacts to natural heritage features and functions on and near the Site if the landfill is constructed in accordance with it. She recommended that a new *ECA* be developed “with meaningful public participation and updated information, to ensure that the current ecological site conditions are fully identified and properly assessed, and to ensure that the ED19 Landfill is subject to *ECA* conditions that reflect current site constraints and satisfy current legislative and regulatory requirements regarding natural heritage protection.” It was her opinion that the proposed settlement does not adequately address all her concerns and does not address all the data gaps she identified. She stated that, if the Tribunal “determines that the *ECA* should be further amended rather than revoked, then it is my recommendation that the more detailed *ECA* conditions proposed by CAD [in Exhibit 4] should be considered and ordered by the Tribunal.” She conceded that these proposed conditions would protect the natural environment.

[27] Mr. Johnston provided background information regarding CAD, which was established in 2016. He described CAD and its members’ involvement with the Site and efforts to prevent development of a landfill, including applying to the Minister to reconsider the *EAA* approval and applying for review of the *ECA*. He described his personal observations of the Site area, emphasizing the presence of surface water.

The Presenters' Evidence

[28] Mr. Kinlin stated that he does not consider the Site to be an appropriate location for a landfill. He stated further that he does not consider the studies required by the settlement to go far enough to address concerns he has with respect to SAR, changes in the environment, ecosystem integrity, identification of flora and fauna and the potential for groundwater contamination. He recommends that the ECA be revoked and the process started over. He also expressed concern about a lack of public involvement in the process.

[29] Mr. Parent, who runs a campground near the Site, stated that he is opposed to the landfill and the settlement because his business relies on environmental quality. He noted the economic investment in the area since 1998, which could be adversely affected by the development of the landfill.

The Parties' Submissions

The Appellant UCLG's Submissions

[30] The Appellant submits that under Rules 200 and 202, the Tribunal must consider three issues: the purpose and provisions of the *EPA*, the public interest, and the interests of parties, participants and presenters. The UCLG argues that, when considering a settlement, the role of the Tribunal is not to determine if it is the best alternative for resolution of the issues, but only if it protects the environment and is in the public interest. It cites *Elstone v. Ontario (Environment and Climate Change)*, 2018 CanLII 37721 (ON ERT) ("*Elstone*") in support of this argument.

[31] The UCLG submits that the settlement is consistent with the purpose of the *EPA* to protect the environment because any landfilling activity at the Site is precluded prior to studies being done, the proponent demonstrating that the Site is suitable for landfilling, and the ECA being amended to reflect the results of those studies. The

Appellant argues that the Suspension Notice was issued because of physical changes on the Site and regulatory changes applicable to landfills since the time the ECA was issued; thus, the settlement will address the potential environmental harm that the Suspension Notice was issued to prevent. It further argues that the settlement replicates the essential terms of the Suspension Notice. According to the UCLG, the technical work and reports that are required by the settlement will satisfy current regulatory requirements, will provide appropriate mitigation measures to prevent unacceptable adverse impacts, and will identify what further regulatory approvals are needed.

[32] The Appellant asserts that there is no credible evidence before the Tribunal demonstrating that the studies required by the proposed Condition 9.1 are insufficient or that other studies are needed to protect the natural environment; rather, CAD's witnesses only suggested adding more prescriptive direction for the required studies. The UCLG submits that Mr. Ruland is not impartial and acted as an advocate, which should limit the weight the Tribunal gives to his evidence. Nevertheless, the Appellant submits, although Mr. Ruland stated that he does not trust the MECP to protect the environment and recommended revocation of the ECA, both he and Ms. Logan conceded that their recommended amendments to Exhibit 4 would protect the environment.

[33] The UCLG submits that the settlement is in the public interest because it ensures that a landfill will not be constructed or operated if it will pose a risk to the natural environment. The Appellant argues that the settlement, by requiring that technical studies be done and be reviewed by the MECP and by requiring further amendment of the ECA before development of the landfill can occur, which will provide an opportunity for the public to comment, protects the public interest. The UCLG further argues that it would not be in the public interest to hold a full hearing in these circumstances. The Appellant also submits that continuing the proceeding and holding a hearing would be potentially unfair to it, because it would not know what case it would have to meet.

[34] The Appellant asserts that CAD, by requesting that the settlement be rejected and the proceeding be continued, is seeking revocation of the ECA, but that the Tribunal lacks jurisdiction to revoke the ECA even if the hearing went forward. Citing *RPL Recycling & Transfer Ltd. v. Ontario (Ministry of the Environment)*, [2006] O.E.R.T.D. No. 13 (“*RPL*”), the UCLG argues that the Tribunal’s jurisdiction is constrained by the “subject matter of the proceeding”, which is informed by such factors as the nature of the original action of the Director and the scope of the Appellant’s Notice of Appeal. In this proceeding, according to the UCLG, the Tribunal lacks jurisdiction to revoke the ECA because the Suspension Notice is the only decision before the Tribunal, UCLG’s Notice of Appeal challenged only the Suspension Notice, neither it nor the Director introduced evidence relevant to revocation of the ECA, and reconsideration of the *EAA* approval and review of the ECA are being conducted by the Minister and the MECP and are not before the Tribunal.

The Director’s Submissions

[35] The Director submits that the proposed new Condition 9.1 is consistent with the purposes of the *EPA* because it requires the UCLG to demonstrate that the Site is still environmentally suitable for the proposed landfill and because it prohibits the UCLG from carrying out any landfill development until the Director has issued a further amendment to the ECA. The Director asserts that the settlement is in the public interest because it sets out a definitive and transparent process by which the Director can make an informed decision as to whether the Site is suitable for the landfill, including provision for receipt of information from interested persons. He further asserts that the settlement avoids the time and resources that would be expended on a hearing, thereby providing for an efficient use of public resources.

[36] The Director further submits that the settlement is consistent with previous Tribunal decisions in which settlements have been considered, including *RPL*, *Krek v. Ontario (Ministry of the Environment)*, [2011] O.E.R.T.D. No. 9 (“*Krek*”), *Uniroyal Chemical Ltd. v. Director, Ministry of the Environment*, [1992] O.E.A.B. No. 63

(“*Uniroyal*”), and *CanRoof Corp. v. Ontario (Ministry of the Environment)*, [2008] O.E.R.T.D. No. 33 (“*CanRoof*”). Citing *Krek*, the Director argues that the first consideration for the Tribunal is whether the settlement achieves at least the same result as, and does not weaken, the instrument under appeal. The Director submits that, by prohibiting the UCLG from developing the landfill until certain information is provided, the settlement achieves the same legal result as the Suspension Notice and that, by providing more clarity and precision as to the information to be provided and requiring an ECA amendment before the landfill may be developed, it is arguably stronger than the Suspension Notice.

[37] The Director argues, citing *Uniroyal*, that the Tribunal can consider whether to strengthen the proposed settlement, within the scope of the appeal, after considering a number of factors. In the Director’s submission, these factors are satisfied here. First, the settlement is supported by sworn evidence. Second, CAD has had an opportunity to lead evidence respecting the terms of the settlement. Third, the settlement is technically satisfactory because it requires the collection and submission of proper technical information.

[38] The Director submits that this case is akin to *CanRoof* and *Krek* in that it involves a two-step process, with the first step being the investigations and the second step being the Director’s consideration of the information before making a decision on any application to amend to the ECA. The Director argues that some of CAD’s suggested changes to Condition 9.1 would possibly circumvent the two-step process and interfere with the Director’s decision-making.

[39] In the alternative, if the Tribunal were not to accept the settlement, the Director submits that the Tribunal should continue the hearing and not make a finding at this stage that the ECA should be revoked. The Director argues that the evidence does not support such a finding. The Director also raises concerns with Mr. Ruland’s evidence, which he argues, goes beyond his area of expertise as a professional geoscientist.

CAD's Submissions

[40] CAD opposes the settlement and requests that the Tribunal reject it and continue the proceeding. CAD argues that doing so would foster government accountability, ensure just consideration of the merits of the matter, and provide interested parties an opportunity to introduce evidence of environmental impacts and propose alternative solutions. CAD suggests that scheduling a hearing could result in improved settlement terms that reflect the interests of all parties, participants and presenters.

[41] CAD submits that the settlement is not consistent with the purpose of the *EPA* or the public interest because it opens the door to landfilling at the Site without addressing the deficiencies in the original studies, and thus represents a threat to the natural environment, as outlined in the evidence of Mr. Ruland and Ms. Logan. It is CAD's position that the studies and new reports required by proposed Condition 9.1 are inadequate to remedy the deficiencies and outstanding issues with a landfill at the Site.

[42] CAD further argues that the settlement contains no meaningful opportunities for CAD or neighbouring residents to review and comment on the studies and reports required. In addition, even though the Director acknowledges that CAD and others should have the opportunity to comment on the application to amend the ECA that will be required for the landfill to be developed, CAD points out that notice, comments and appeal rights will not be available to it with respect to an ECA amendment because of s. 32(1) of the *EBR*. Furthermore, CAD submits, there are no mandated opportunities for CAD or others to be "meaningfully involved" in the Minister's reconsideration of the *EAA* approval or the internal MECP review of the ECA. Thus, CAD argues, the Tribunal should continue the proceeding and hold a hearing in which CAD and others are given "a full, fair and efficient opportunity to present evidence and argument on what the Tribunal should do in relation to the stale-dated ECA."

[43] CAD argues that, rather than requiring updates to a few reports but leaving the ECA intact, it is preferable to revoke the ECA in its entirety and require the UCLG or its

successor to file an application for a new approval that will be assessed against current regulatory requirements. For example, CAD submits that the prohibition in s. 27(3.1) and s. 27(3.2) of the *EPA* on landfilling in a “lake”, added to the *EPA* in 2004, would prohibit landfilling on the Site as demonstrated by Mr. Ruland’s evidence. CAD argues that the Tribunal should not keep the door open to the possibility of landfilling on the Site but should close the door by taking all necessary steps to ensure compliance with these and other recent regulatory constraints. CAD submits that the effect of Condition 9.1 is a plea from the Director to “trust us” to collect the appropriate information and to implement the appropriate changes; however, in CAD’s view, the MECP has not earned the public’s trust because it approved the ECA in 1998 based on inadequate information.

[44] CAD submits that the Tribunal has jurisdiction to continue the hearing and, based on the evidence it hears, to go beyond the Director’s decision and revoke the ECA. CAD argues that s. 145.2(1) of the *EPA* gives the Tribunal jurisdiction to “stand in the shoes of the Director” and provides it with broad authority to make an order that is justified on the evidence, so long as the Tribunal does not usurp the Director’s ongoing regulatory role and so long as the Tribunal does not go beyond the “subject matter of the proceeding”. CAD argues that the subject matter of the proceeding is not limited to what the Director did (that is, it is not limited to suspending two conditions in the ECA) but includes what the Director could have done with respect to the ECA, pursuant to his authority in s. 20.13 of the *EPA*, in response to changes on the Site and in the regulatory requirements. CAD further argues that the full scope of the subject matter of the appeal should not be defined at a settlement hearing, but should be left to the panel hearing the matter, as occurred in *Nestlé Canada Inc. v. Ontario (Ministry of the Environment)*, [2013] O.E.R.T.D. No. 54 (“*Nestlé*”).

[45] CAD submits that the suggested wording changes in Exhibit 4 should be understood as an alternative approach, to be considered only if the Tribunal decides not to proceed to a full hearing.

Analysis and Findings

The Tribunal's Approach to Settlements

[46] The Tribunal's approach to proposed settlements is laid out in the Rules and in a number of previous cases. To summarize, in reviewing a settlement in circumstances such as those here, where there is a "proposed withdrawal of an appeal not agreed to by all parties" and a "proposed revocation of the decision that is the subject of the appeal", the Tribunal considers whether the withdrawal or revocation is consistent with the purpose and provisions of the *EPA* and is in the public interest. The Tribunal also considers the interests of parties, participants and presenters and may decide to continue the hearing or dismiss the proceeding. In this proceeding, the parties generally do not disagree on this approach or what factors the Tribunal must consider, but do disagree on how they apply in the circumstances.

[47] Some of the general principles arising from previous cases were reviewed in *Krek*. The starting point in the case law is *Uniroyal*, where a settlement was proposed at the end of a hearing and the Tribunal's predecessor, the Environmental Appeal Board, stated, at paras. 37-38 and 58-60:

The normal result of withdrawing an appeal is that the original order or decision of the Director remains intact and in effect. Thus, there will normally be no prejudice to the public or to other parties from the withdrawal of an appeal.

However, the possibility of prejudice will arise in the following circumstances:

1. If the withdrawal is part of a settlement which undermines or weakens the original order or decision of the Director,
2. If the Board has a right to change the original order or direct the Director to take further action, and the withdrawal deprives other parties of the opportunity to attempt to persuade the Board to do so. This would be of particular concern where, prior to the withdrawal, the Board had heard evidence that the order which continues in effect is inadequate to protect the environment, or
3. If the Director has somehow fettered his discretion to make further orders or decisions needed to protect the environment.

The need to protect the welfare of the community and the public interest support an interpretation of s. [145.2] that will give the Board a broad power to enlarge or expand an order before it to the extent necessary to protect the public. ... On the other hand, there are policy considerations that weigh against an approach that completely deprives an applicant of any control over a process that it has initiated. ... If the mere fact of appealing an order left an applicant vulnerable to an even more stringent and costly order, this would create a high level of uncertainty. ... Where the rights of other parties are affected by the settlement or parties or the public interest may be prejudiced by the settlement, the Board has jurisdiction to make clarifications or improvements to the existing order, at least where this will not impose substantial new burdens on the applicant.

[48] In *RPL*, where certain provisions of a director's order were appealed, the parties reached a settlement under which the appeal would be withdrawn and the order amended to add new conditions. An added party objected to the new conditions. The Tribunal stated at para. 17:

A variety of matters may be considered by the Tribunal in determining whether to proceed with a hearing where parties propose to conclude a proceeding through a settlement agreement (*Johnson*). The Tribunal will not take a mechanistic approach to this task but rather focus on the substance of an appeal. The Tribunal will examine the substantive matters raised in an appeal and examine how they may be affected by a proposed settlement. The focus will not so much be on whether a particular condition has been changed but rather on how the issues raised in the appeal will be affected by the settlement regardless of whether conditions in an Order are altered, added, deleted or whether a side-agreement is reached that may affect the issues raised in the appeal.

[49] The Tribunal in *RPL* found that the issues of concern to the objecting party were not related to any issue raised in the notice of appeal and thus were not proximate enough to the subject matter of the appeal for the hearing to be continued. The Tribunal stated, at para. 24, that it "is not the Tribunal's role to oversee all dealings between the Director and a regulated entity where those dealings are clearly beyond the scope of appeal and matters that would have been raised in an appeal hearing."

[50] In *Krek*, the Tribunal found that the issue before it was whether the Tribunal had "a right to change the original order to take further action and allow the parties the opportunity to persuade the Tribunal to do so." The Tribunal had to determine whether

the third party's request for additional requirements to the Order fell within the "subject matter of the proceeding". At para. 51, it stated that "the Tribunal has relatively wide authority to determine what should be done with respect to the 'subject matter' of the hearing. However, even with respect to matters within the subject matter of the appeal, the Tribunal must be cognizant of the implications and burdens of imposing new or more stringent requirements on appellants," citing the above-quoted text from *Uniroyal*.

[51] In *Elstone*, where the applicant appealed a director's refusal to issue an ECA for land spreading of sewage, the parties reached a settlement under which the director agreed to issue an ECA subject to stringent conditions and additional water monitoring. The participants objected to the settlement, arguing that land spreading was not necessary as other sites were available. At para. 40, the Tribunal stated that its "role in this situation is not to determine the best site but to consider whether the settlement is consistent with the purpose and provisions of the relevant legislation and whether the agreement is in the public interest."

The General Approach in the Settlement

[52] In this case, the result of the Tribunal accepting the proposed settlement would be revocation of the Suspension Notice and the addition of new conditions to the ECA. From previous cases and the Rules, the Tribunal must consider the factors outlined above, including the following questions: Is CAD's request to revoke the 1998 ECA within the subject matter of the appeal? Is the settlement consistent with the purpose of the *EPA*? Does it weaken the original decision? Does it create any prejudice to the public interest or any party? How are the issues raised in the appeal affected by the settlement?

[53] In making their submissions, the parties take very different positions. CAD argues that it was a "mistake" to have issued the *EAA* approval and the ECA back in 1998, and, to support its position, proffers Mr. Ruland's opinion that the original studies relied on by the Ministry in 1998 were deficient. CAD claims that the new studies

required by proposed Condition 9.1 will not address the deficiencies identified in the original hydrogeological and natural heritage studies and the original D&O Report, nor respond to the environmental and regulatory changes since 1998, and thus will not adequately protect the environment. In contrast, the Director focuses on the changes since 1998 in the environment on and near the Site and in the regulatory requirements and argues that the studies required by Condition 9.1 would adequately evaluate these changes and the new D&O Report would have to incorporate corresponding design changes.

[54] The question of whether the *EAA* approval for the ED-19 landfill should be reconsidered and revoked is currently before the Minister, pursuant to s. 11.4 of the *EAA*, which provides that an approval can be reconsidered, and then amended or revoked, if there is a change in circumstances or there is new information concerning an approval. The question about whether the *ECA* in its entirety should be revoked is under review by the *MECP* in accordance with the *EBR*. In their Agreed Statement of Facts, the parties acknowledge and agree that these are independent processes that are not before the Tribunal for adjudication. The outcome of these processes could render this proceeding moot. Despite this, *CAD* asks the Tribunal to continue the appeal so that it will have an opportunity at a public hearing to lead evidence, including evidence that the original decision was grounded in deficient technical studies, and convince the Tribunal to revoke the entire *ECA*.

[55] *CAD*'s position raises a question about whether the Tribunal has jurisdiction in the circumstances here to re-open the original approvals. While there appears to be ample statutory authority for the Minister and/or the Ministry to reconsider the 1998 approvals in a comprehensive way, addressing issues such as need and social and economic impacts, the Tribunal's jurisdiction is more limited. It does not have broad jurisdiction to re-open a final administrative decision. In this proceeding the source of the Tribunal's jurisdiction is s. 145.2(1) of the *EPA*, which provides that the Tribunal shall hold a "new hearing" and may confirm, alter or revoke the "action of the Director that is the subject matter of the hearing" and may direct the Director to take "such action

as the Tribunal consider the Director should take...” CAD does not directly address the issue of the Tribunal’s jurisdiction to re-open the 1998 decisions but submits that, because the Director acted under s. 20.13 of the *EPA* when he issued the Suspension Notice and because under that provision he *could* have revoked the ECA, this, together with s. 145.2(1) under which the Tribunal “stands in the shoes of the Director”, permits the Tribunal to continue the hearing and ultimately revoke the ECA.

[56] The Tribunal agrees it has broad authority under s. 145.2(1) but the cases make it clear that the Tribunal’s jurisdiction is confined to the subject matter of the proceeding. In *RPL*, the Tribunal stated (at para. 20) that the “limits of the subject matter of a proceeding are informed by such factors as the nature of the original action of the Director, the scope of the Appellant’s appeal, and any procedural determinations...”

[57] Here the original “action of the Director that is the subject matter of the hearing” is the decision to issue the Suspension Notice; it is not the 1998 decision to issue the ECA.

[58] The Suspension Notice states that the Ministry considers it necessary, because of the environmental and regulatory changes, to temporarily suspend the two ECA conditions “until such time as the Owner (or any future ECA-holder) confirms that the conditions, assumptions and circumstances that were made in the EA are still applicable, and that the proposed landfill design is still appropriate...” The Suspension Notice does not address what will happen after the confirmatory studies are done and reviewed and do not confirm the original conditions, assumptions and circumstances.

[59] In its notice of appeal, the UCLG raised the following grounds of appeal: (1) that the Director lacks the authority under the *EPA* to suspend the ECA conditions because his decision would effectively invalidate the Minister’s 1998 decision to give approval under a different statute, the *EAA*; and (2) that the Director, by failing to provide a reasonable scientific justification that the Suspension Notice was necessary, did not follow Ministry policy that requires an objective, science-based approach to decision-

making. The Tribunal does not agree with CAD's assertion that these are broad grounds of appeal.

[60] From these two indicia, the subject matter of the appeal is similar to that in *Krek*, where the Director imposed a requirement to produce a site conceptual model ("SCM") that would generate detailed information about site contamination, which the Director would then use as the basis for his or her consideration of remediation options and determination of the best approach to remediation. In *Krek*, the Tribunal reviewed the justification for, and requirements of, the Director's Order and the grounds of appeal and found that the subject matter of the hearing did not extend to the nature of the remedial measures themselves. The Tribunal stated, at para. 60:

There does not seem to be any discussion in the Director's Order or anywhere else that the Director is prepared and able to require remedial measures at this time. It appears quite the opposite. The SCM would be a step in the process for the Director to consider what other measures, if any, would be the subject of an Order. The Notice of Appeal filed by the Appellant is another factor to be considered in determining what is the subject matter of the appeal... The appeal is premised... on the debate as to whether the SCM is needed or worthwhile. The focus is not on what remedial measures should be undertaken now or in the future. ... The Tribunal finds that the subject matter of the proceeding relates to the development of a SCM that would assist the Director in reviewing remedial and other options with respect to the Site.

[61] Similarly here, the justification for and effect of the Suspension Notice is to require the UCLG to carry out a range of technical studies because crucial information about current environmental conditions, at any level of detail, is not available but is necessary for determining whether, and under what conditions, landfilling at the ED-19 Site would be permitted. The evidence is that the Director is not prepared at this time to permit landfilling at the Site and will not be able to specify what design might be acceptable under current regulations until the studies are completed. The information generated by the required studies will provide important details about relevant environmental conditions and will provide the basis for the next step. In the meantime, no steps toward development of a landfill are permitted. The scope of the appeal does not extend to what design specifications or conditions should be instituted if the UCLG,

after carrying out the required studies, decides to apply for an ECA amendment or whether the Director should deny such an amendment.

[62] What is the impact of the settlement on the issues raised in the appeal? The first ground raised by the Appellant, the jurisdictional issue, was to be the subject of a motion. That issue is not now being pursued by the UCLG, but the UCLG did indicate that, if the proceeding is not dismissed, it would seek to revive its motion. With respect to the second ground, whether there was a sufficient scientific basis for the Director to take action, by agreeing to the settlement and leading Mr. Smolkin's evidence in support, it can be assumed that the UCLG now concedes that the environmental and regulatory changes have been significant enough to warrant further study, design changes and amendment of the ECA before there is any development of a landfill. Thus, at this time, all parties and their expert witnesses accept that changes have occurred that warrant further study. Although the parties hold different views on the extent and implications of those changes, there would be little point in holding a hearing to receive evidence on whether sufficient changes have occurred to require detailed investigation.

[63] Is the Director's action weakened by the settlement and is it consistent with the purpose of the *EPA*? The Director's approach to the environmental and regulatory changes, as is clear from both the correspondence from Mr. Mahmood and the Suspension Notice, has been to prohibit any steps toward development of a landfill on the Site until studies are done to delineate and assess the physical changes and determine whether the conditions and assumptions underlying the 1998 approvals are still valid and whether the approved landfill design and operations remain appropriate. The correspondence from Mr. Mahmood suggested that an amendment to the ECA *may* be necessary, depending on the results of the studies; however, it did not require it. The Suspension Notice was similar. The settlement goes a step further than the Suspension Notice to *require* the Appellant to apply for an ECA amendment before any steps toward development of the Site may be taken; thus, by agreeing to the settlement, it appears that the Director accepts that environmental and regulatory changes are

significant enough that the landfill cannot be developed as originally approved. This is unlike *Nestlé*, where the Tribunal compared the settlement to the original conditions imposed by the Director to address a concern with maximum groundwater pumping during droughts and found that the settlement, which removed a key element of those conditions, was not consistent with the purpose of the legislation.

[64] CAD initially supported the Director's decision to issue the Suspension Notice, but now opposes the settlement. Mr. Ruland's opinion is that the settlement does not meet the purpose of the *EPA* because it "opens the door to landfilling" without adequate understanding of the current environmental conditions or studies that will correct what he sees as deficiencies in the original studies.

[65] Based on the evidence presented, it cannot fairly be said that the settlement "opens the door to landfilling" on the Site. Rather, that door was opened in 1998. The settlement closes the door on development of a landfill unless and until new studies are completed and reviewed and the UCLG applies for and obtains an ECA amendment. The settlement has a similar effect as the Suspension Notice but, by *requiring* an ECA amendment, strengthens its effect. By amending the terms of the ECA to prohibit development of the landfill until detailed studies and reports are completed and reviewed and a further ECA amendment is issued, the settlement protects the environment and is consistent with the purpose of the *EPA*. Without this prohibition in place, development of the landfill could proceed without any further studies being done or any design changes being made, which, in light of the evidence, would likely not ensure protection of the natural environment.

[66] The settlement offers no commitment that a landfill will ever be developed on this Site and does not fetter the Director's discretion. No studies will be completed until after the expected date for the Minister and the MECP to determine whether the original 1998 decisions will be revoked. If they are not revoked through these other processes, the decision about whether it is appropriate to permit landfill development will be informed by the results of the very studies that the settlement requires. The onus will be on the

UCLG to demonstrate to the satisfaction of the Director that landfilling is appropriate in light of the environmental conditions at the time of application, and that the design meets up-to-date standards. Approvals from other agencies will be necessary. The UCLG's intentions regarding sale of the Site and the timing of that sale are unknown, but could occur several years from now. If the studies done at that time demonstrate that landfilling is not appropriate, but the UCLG nevertheless applies for an ECA amendment to permit landfilling, the Director has the authority to refuse the amendment. Most importantly, the Director's decision at that time will be informed by more complete evaluations regarding contemporary conditions and will be made in accordance with then-current regulatory standards. It will be subject to appeal if the UCLG disagrees with the Director's decision. In saying this, the Tribunal makes no findings on the jurisdictional argument raised by the UCLG in its notice of appeal.

[67] Is there any prejudice to a party? Should CAD be given an opportunity to present evidence to convince the Tribunal to require revocation of the ECA? The evidence indicates that as a practical matter it would be premature to hold a hearing until further detailed studies are done. Despite Mr. Ruland's categorical statement that the Site is not appropriate for a landfill, and never was, his opinion is based on his critique of the studies that were submitted in support of the original approvals and not on any detailed hydrogeological studies that he himself has conducted, either in the past or recently. He visited the Site with Mr. Smolkin, but was only able to observe the presence of surface water. Ms. Logan testified that she had not been on the Site and did not carry out any of the natural heritage evaluations of the type she considers should be done. Thus, the scientific foundation for making a final determination of whether or not a landfill would be appropriate at this Site is incomplete. The evidence presented to the Tribunal to date is that there have been significant environmental changes since 1998 on and near the Site. While this evidence may be sufficient to raise serious doubts about the continuing relevance of the original assumptions and to justify further investigation, it is unlikely that evidence consisting only of general observations of changes would be sufficient for the Tribunal to be able to reach a final conclusion on whether or not all or part of the Site is suitable for landfilling activity.

[68] CAD raises two further arguments against the Tribunal accepting the general approach in the settlement. First, it submits that the Director and the Ministry cannot be trusted to protect the environment, so the Tribunal should continue the hearing and revoke the ECA without waiting for further studies to be done. Second, it submits that, if the Director were at some later time to issue an amendment to the ECA permitting landfilling on all or part of the Site, CAD would not be able to challenge that decision because of the operation of s. 32(1) of the *EBR*.

[69] With respect to CAD's first submission, there is no indication in the record that the Director has failed to fulfil his statutory responsibility in accordance with applicable law, regulations and policies, or could be expected to do so in future. Nor is there any basis for a finding that any successor to the current Director would not act likewise. It should be noted that the Director acts under statutory authority and, when exercising that authority, is expected to act in accordance with the principles of administrative law. These principles provide that discretion conferred by statute must be exercised for a proper purpose, "to promote the policies and objects of the governing Act", and a decision must be based only on relevant considerations. In addition, "decision makers are expected to act in good faith. Powers must not be abused and should not be exercised arbitrarily or dishonestly" (see, Sara Blake, *Administrative Law in Canada*, 5th Ed. (Toronto: LexisNexis Canada, 2011), pp. 99-101). Remedies are available by way of judicial review if these responsibilities are not met.

[70] The only evidence before the Tribunal even potentially pointing to a lack of trust in the Ministry is Mr. Ruland's opinion, which is based on his critique of the studies submitted in support of the original approvals. In fact, the evidence shows that the MECP and the Director have been responsive to the changes identified by CAD and others. Mr. Mahmood, aware of the regulatory changes, responded to the information provided by CAD and others about environmental changes by requesting updated studies and designs from the UCLG. The Director then responded to a concern that the environment would not be adequately protected if the UCLG sold the Site to Tomlinson

by issuing the Suspension Notice. Despite CAD's submission that the Director cannot be trusted, Mr. Johnston on behalf of CAD voiced support for the Director's approach at the time he issued the Suspension Notice, calling it "an important, if not long overdue, step in the right direction. We commend the Ministry for hitting the pause button on this questionable landfill project..." In addition, the Director stated in his evidence that the Ministry agreed to undertake the actions requested by CAD (when it utilized the available statutory processes to challenge the *EAA* approval and the original ECA) because of the changes identified.

[71] CAD certainly disputes that the Director has gone far enough in responding to its concerns, but there is no foundation for CAD's allegation that the Director cannot be trusted to carry out his responsibilities or to act in accordance with the purpose of the *EPA* when it comes time to consider an application to amend the ECA. This is not a legitimate basis for the Tribunal to continue this proceeding.

[72] With respect to its second submission, CAD argues that the approach in the proposed settlement, of requiring amendment of the ECA before landfill development could occur, raises a "serious legal barrier to meaningful public involvement..." and therefore, the Tribunal's continuation of the hearing is the only opportunity it will ever have to present evidence and argument on the ECA. This is because, under s. 32(1) of the *EBR*, there is an exception to the requirement in s. 22 of the *EBR* for public notice of a Class II proposal or decision – such as an ECA amendment – to be posted on the Environmental Registry where, "in the minister's opinion, the issuance, amendment or revocation of an instrument would be a step towards implementing an undertaking or other project approved by ... a decision made under the *Environmental Assessment Act*." Public notice under s. 22 of the *EBR* is a necessary precondition to a resident of Ontario being able to apply to the Tribunal for leave to appeal a decision on an instrument such as an ECA amendment. CAD also points out that the *EAA* reconsideration and the *EBR* review of the ECA do not mandate an opportunity for public participation.

[73] While the Tribunal recognizes the importance of public participation to environmental decision-making, the Tribunal, exercising authority under one statute, does not have authority to convene a hearing in order to remedy what one person considers to be inadequate participation rights afforded under that or another statute. In addition, a Tribunal hearing is not the only method of effective participation. In the circumstances here, if s. 32(1) of the *EBR* ultimately applies, that does not mean there will be no opportunity for “meaningful public involvement” in the process established by the settlement. The Director stated that, although he does not make the decision about whether s. 32(1) applies, he welcomes information provided by CAD and agrees that CAD should have an opportunity to provide input into the studies required by Condition 9.1. He does not object to adding a condition requiring the UCLG to make draft reports available for public comment. The proposed settlement provides an opportunity for continuing public involvement, as discussed in the next section.

The Proposed Draft Conditions

[74] Beyond its concerns with the general approach of the settlement, CAD raises several detailed criticisms of the conditions set out in Exhibit 4 and proposes further amendments. These fall roughly into three categories: issues related to the required studies, the mechanism for ensuring public involvement, and language regarding a potential change in ownership of the Site. Some proposed changes in definitions were said by the Director to be unnecessary at this stage, and the Tribunal accepts that view.

[75] Proposed Condition 9.1 requires the UCLG to conduct the following studies: groundwater monitoring, surveys of natural heritage features (including surface water bodies, drainage, wetlands, and vegetation), an inventory of SAR and their habitats, and a survey of water supply wells. Reports on this work are to be submitted to the MECP for review and comment and will be posted on UCLG’s website for a public comment period prior to submission. Following submission of these reports, the UCLG is to submit a proposed revised D&O Report, providing information “to ensure that ... elements of the Landfill satisfy applicable regulatory requirements...” These elements

include landfill design, landfill gas controls, leachate collection and leachate management system, stormwater management system, operating conditions for control of litter, dust, noise and odour, inspections and maintenance.

[76] CAD does not argue that these studies should not be done and does not identify other studies that should be done. Rather, CAD argues that the requirements in Condition 9.1 regarding the design of the required studies are not prescriptive enough. For example, with respect to natural heritage surveys, Ms. Logan suggested additional wording to ensure that the surveys do not leave out relevant features and functions. With respect to groundwater monitoring, Mr. Ruland suggested that the proposed Condition 9.1 be amended to include the specific number and location of new monitoring wells, the number of rounds of initial testing, and other details of the study design. CAD would also add specific design parameters for the leachate collection system in the D&O Report. In response, the Director argues that, because it is “difficult to predict exactly what UCLG might discover during its environmental investigations, condition 9.1 was designed to not be overly prescriptive.” Instead, the Director expects that the qualified persons carrying out the studies will exercise their professional judgment and adjust as the specific circumstances and results they encounter may demand. Regarding whether to include leachate system design parameters, the Director argues that this would fetter his discretion when it comes to determining at some unspecified later date the terms of an amendment to the ECA.

[77] The proposed Condition 9.1 is more prescriptive than the earlier direction from the MECP to the UCLG. Whereas Mr. Mahmood initially asked the UCLG to confirm the conditions, assumptions and circumstances outlined in the original studies and asked for studies of “environmental effects”, Condition 9.1 outlines the specific categories of information that must be provided. CAD does not disagree with these categories, but argues that the condition should be more directive. The Tribunal agrees that the condition should be worded so as to ensure that the studies conducted address all relevant environmental features and functions, and agrees with some of the changes suggested by Ms. Logan. However, the Tribunal finds that CAD has not adequately

justified including the level of detail it has proposed respecting the groundwater monitoring program or the prohibitions in the D&O Report. While CAD's motivation appears to be to ensure that a comprehensive study is done and that a landfill will meet current regulations, the Tribunal agrees with the Director that it is appropriate to leave the details, for example the number and location of boreholes, to the professional judgment of those tasked with designing and carrying out those studies, as overseen by the Ministry. It is expected that the studies will be done in accordance with relevant protocols and guidelines. CAD again appears to believe the Director cannot be trusted to approve an appropriate monitoring program or natural heritage evaluation protocol or to follow the applicable regulations and MECP policy if a landfill were to go ahead. As was noted above, the Director has the responsibility to exercise discretion in accordance with statutory authority and there is no evidence that the Director will not do so. This is not a sufficient basis for mandating the inclusion of CAD's proposed amendments to Condition 9.1.

[78] CAD's second area of criticism of the proposed conditions relates to the mechanism for ensuring public involvement. CAD proposes replacing existing Condition 9 in the ECA, which requires the formation of a landfill liaison committee ("LLC"), with a new Condition 9. The new condition would require formation of the LLC by December 31, 2018, would specify the objectives and membership of the LLC (to specifically include a representative of CAD), would set the schedule of meetings, and would require the UCLG to provide sufficient funds for the LLC to retain independent experts to review technical documents. In addition to adding this new condition, CAD proposes: to amend the ECA to ensure CAD's participation in technical meetings between the UCLG and the MECP and submissions on all work plans and reports; to require all reports be provided to CAD and the LLC; and to require the soliciting and consideration of comments from CAD and the LLC on those reports before the Director makes a decision.

[79] The Director and the UCLG expressed support for public involvement in the process but not for these suggested amendments. The UCLG proposes adding a new

provision, Condition 9.1(f), stating that, prior to the submission of the required reports to the MECP, it “shall provide the public with copies of the reports by posting all final drafts on its website...” and invite comments for a 60-day period and consider all comments before finalizing the reports. The Director in his affidavit stated that he agrees CAD should have an opportunity to provide input into the reports required by Condition 9.1 prior to their submission to the MECP, but that he does “not have a strong opinion on whether this opportunity should be facilitated through a liaison committee or through another means.” He noted that it “has become more common for larger landfill operators to provide information directly to the public through dedicated internet sites.”

[80] Existing Condition 9 in the ECA provides for the formation of the LLC “to give residents the opportunity to ... make recommendations to the design of monitoring programs; ... review monitoring data and results; and ... recommend new mitigation measures and improvements to existing practices...” This condition does not detail who the members should be or who they should represent, but provides that the terms of reference, membership and meeting protocols are to be established by the LLC itself. It appears that the LLC was set up after the 1998 approvals were issued, but because the Site was never developed, at some point the LLC disbanded.

[81] Condition 9 was not affected by the Suspension Notice and thus was not appealed. The condition remains in effect. The need to revise it has not been demonstrated and all the parties do not consent to CAD’s recommended changes. The purpose of the LLC is to provide a mechanism for local residents to receive and review reports and make recommendations to the operator of the landfill on monitoring programs and operational practices. The wording suggests that the major role of the LLC occurs once a landfill is constructed and in operation; however, it may be a useful forum in the circumstances here. The LLC could be re-established at any time, if the parties and the community agree that it would be useful in the current circumstances. However, it was also suggested that other mechanisms, such as using websites, might be more convenient and effective in addition to or lieu of using the LLC as the only vehicle for public input. The Tribunal recommends that the parties discuss the matter of

how best to provide information and materials to, and receive comments and feedback from, local residents and when to re-establish the LLC. The wording of Condition 9.1 should provide flexibility on this point.

[82] In addition to any participation in the LLC and the opportunity to review and provide comments on the draft reports before they are submitted to the MECP as set out in Condition 9.1, CAD would also like to have a designated seat at the table in technical meetings and a right to provide submissions on work plans for the studies required under Condition 9.1. The Tribunal agrees in principle that interested members of the public should have an opportunity to review and comment on all of the reports required by Condition 9.1. In Exhibit 4, this opportunity is provided via Condition 9.1 (f), which applies to all reports required by Condition 9.1 (c), including the report required in Condition 9.1 (c)(i), as well as those required by Condition 9.1 (d) and (e). CAD has not sufficiently explained why this opportunity would not be an effective mechanism of participation in the circumstances. The Tribunal also considers it fair and appropriate in the circumstances that the proposed revised D&O Report, required by Condition 9 (g), should be made available to the public once it has been submitted to the Director.

[83] To single out CAD for inclusion in the ECA has not been justified. Other stakeholders and residents may also have an interest or particular information or expertise to offer that could prove of value to those conducting the studies and to the MECP. The timing on the Condition 9.1 studies is uncertain and may not occur for several years in the future. It is not at all certain that CAD will be active at that time. Providing an opportunity for the public to comment would not exclude CAD but would leave open the possibility of including other groups, agencies or individuals who might be equally interested and able to participate at the relevant time.

[84] The third area CAD raises is the need for the ECA to include provisions regarding the potential change in ownership of the Site. It proposes the addition of new Condition 7.1, which would require the Director, in advance, to be notified of a transfer of ownership rights and to confirm in writing that he or she is satisfied that the conditions

of the ECA will be carried out and that sufficient financial assurance is provided. The UCLG proposes to adjust CAD's wording to be consistent with current MECP practice. It objects to a requirement for the Director to consider the operating history and compliance record of a proposed owner or lessee on the grounds that it is not consistent with conditions imposed in other landfill approvals. The Director does not object in principle to including a provision on change in ownership, but requests that the MECP's standard form of condition be used in lieu of CAD's wording.

[85] Given that all parties consent to including a new condition addressing the issue of a change in ownership, the Tribunal accepts that, in the circumstances of a possible sale by the UCLG, the ECA should be amended to include such a condition. The Director and the UCLG agree that the standard MECP wording for such circumstances should be the form of such a condition. CAD provided no evidence or submissions as to why this standard wording is not suitable or why additional conditions are needed. The Tribunal agrees that the standard wording is appropriate.

Conclusions

[86] The Tribunal concludes that the settlement, as modified by the Tribunal, is consistent with the purpose and provisions of the *EPA* and is in the public interest. In summary, the settlement prohibits any steps toward development of a landfill at the Site unless and until detailed studies of contemporary environmental conditions are completed and reviewed by the Ministry. The results of those studies will form the foundation for any subsequent steps that are taken. If those studies indicate that landfilling may still be appropriate for the Site, the settlement requires that the landfill design must be adjusted to reflect the study results and to conform to current regulations and requires that the ECA be amended, which will be done in accordance with the provisions of the *EPA*. The Director's discretion under the *EPA* is not restricted by the settlement. The settlement strengthens the terms of the Suspension Notice, which was adopted as a temporary measure, and incorporates these terms into the

ECA. It also provides for public participation. There is no evidence that the settlement causes prejudice to the interests or any party, participant or presenter.

DECISION

[87] The Tribunal orders:

- a. The Director shall amend ECA No. A420009 to add new provisions, substantially in the form set out in Attachment 1;
- b. Once the ECA is amended, the Director shall revoke the Suspension Notice; and
- c. The appeal is dismissed.

*Director Ordered to Amend ECA
Director Ordered to Revoke Suspension Notice
Appeal Withdrawn
Appeal Dismissed*

“Marcia Valiante”

MARCIA VALIANTE
VICE-CHAIR

If there is an attachment referred to in this document,
please visit www.elto.gov.on.ca to view the attachment in PDF format.

Environmental Review Tribunal

A constituent tribunal of Tribunals Ontario - Environment and Land Division
Website: www.elto.gov.on.ca Telephone: 416-212-6349 Toll Free: 1-866-448-2248

Approval No. A420009 shall be amended as follows:

1. Add the following:

DEFINITION OF TERMS

- 1(l) "Technical Support Manager" means the Ministry's Eastern Region Technical Support Manager.

2. Add the following:

Condition 7.1 NO TRANSFER OR ENCUMBRANCE

- a. No portion of the Landfill Site shall be transferred or encumbered prior to or after closing of the Site unless the Director is notified in advance and is satisfied with the arrangements made to ensure that all conditions of this Approval will be carried out and that sufficient financial assurance is deposited with the Ministry to ensure that these conditions will be carried out.
- b. The Owner shall notify the Director, in writing, and forward a copy of the notification to the District Manager, within 30 days of the occurrence of any changes in the following information:
 - I. the ownership of the Site;
 - II. the Operator of the Site;
 - III. the address of the Owner or Operator;
 - IV. the partners, where the Owner or Operator is or at any time becomes a partnership and a copy of the most recent declaration filed under the *Business Names Act*, R.S.O. 1990, c. B.17, shall be included in the notification; and
 - V. the name of the corporation where the Owner or Operator is or at any time becomes a corporation, other than a municipal corporation, and a copy of the most current information filed under

the Corporations Information Act, R.S.O. 1990, c. C.39, shall be included in the notification.

- c. In the event of any change in the ownership of the site, other than a change to a successor municipality, the Owner shall notify in writing the succeeding owner of the existence of this Approval, and a copy of such notice shall be forwarded to the Director and District Manager.

3. Add the following:

9.1 WORK REQUIRED

- (a) No waste shall be received, stored or disposed of at the Landfill Site, nor shall the Corporation commence any development, construction or operation of the Landfill on any portion of the Site, until the Corporation has completed the work and submitted the reports required by Conditions 9.1(c), (d) and (e) below to the Director for review and comment, and the Director has approved the revised Design and Operations Report required by Condition 9.1(g) and amended this Approval. For greater certainty, any work needed to conduct any of the required investigations or to prepare any required report shall not constitute development, construction or operation of the Landfill.
- (b) The Corporation shall ensure that a qualified person(s) with the necessary experience carries out the work referred to in Conditions 9.1 (c), (d), (e) and (g) and that the Corporation and/or the qualified person(s) conduct one or more consultation technical meetings with the Technical Support Manager prior to conducting the work.
- (c) The Corporation shall:
 - i. Conduct an inventory of the existing on-site and off-site monitoring well network and submit a report to the Technical Support Manager that provides the findings of the inventory and:
 - a. evaluates the operation condition and adequacy of these wells to provide representative groundwater information;

- b. assesses the need for replacement/substitute monitoring wells; and
 - c. proposes which wells will be used as monitoring wells for the purposes of the groundwater program required by Condition 9.1 (c)(ii);
 - ii. Once the Technical Support Manager has accepted the report referred to in Condition 9.1(c)(i) in writing, as amended if necessary, install all new wells and replacement wells, if any, then conduct groundwater monitoring over three consecutive seasons (spring, summer and fall) in accordance with the following requirements, and prepare a report summarizing the results:
 - a. Conduct a groundwater elevation survey of the monitoring wells;
 - b. Sample and analyze the monitoring wells for all parameters set out in column 1 of Table C.2; and
 - c. Sample and analyze the monitoring well intervals in BH8-95, or alternate intervals in another borehole(s), during one of the sampling events, for tritium.
- (d) The Corporation shall complete a survey of the following features located on the Landfill Site and within a 1 kilometre study area radius and prepare a report summarizing the results of the survey and assessing the implications of the current conditions of these features on proceeding to project implementation:
 - i. Surface water bodies and receptors (including mapping of the areal extent of surface water bodies in both wet and dry seasons);
 - ii. Drainage (including mapping of current pathways of surface water flow on and around the Site and the area of the proposed downstream flow path for surface water discharge from the proposed storm water management pond);
 - iii. Wetlands; and

- iv. Ecological and biological features and vegetation (including a current inventory of species at risk and their habitats).
- (e) The Corporation shall prepare a report:
- i. After completing a survey to determine if any additional dwellings and/or water supply wells have been established within one kilometre of the Landfill (the “study area radius”), including an analysis of whether the Landfill design will ensure that there will be no adverse impacts on any such wells and any mitigation measures that should be implemented; and
 - ii. Providing any additional information obtained regarding the geology, topography, and soil types at the Landfill.
- (f) The Corporation shall submit the reports required by Conditions 9.1 (c), (d) and (e) to the Technical Support Manager for review and comment. Prior to submitting each report, the Corporation shall provide the public with a copy of the report by posting the final draft on its website and/or providing it to the LLC. The Corporation shall invite comments from the public for a minimum period of 60 days and shall consider all comments prior to finalizing and submitting the report(s).
- (g) No sooner than three months after the last of the reports have been submitted as required by Condition 9.1 (f), the Corporation shall submit to the Director, and post on its website and/or provide to the LLC, a proposed revised Design & Operations Report that either confirms or modifies the items in the Design & Operations Report referred to in Schedule “A” and adds all required additional changes or information, in order to ensure that the following elements of the Landfill satisfy applicable regulatory requirements:
- i. the landfill design;
 - ii. landfill gas controls;
 - iii. the leachate collection and leachate management system;

- iv. the stormwater management system (including confirmation that sizing and other operational details are correct based on recent data for storm events); and
 - v. the operating conditions for litter control, dust control, noise control, odour control and site inspections and maintenance. The report shall also include a description of the haul route to the Site.
- (h) On December 1 and June 1 of each year until the Corporation submits an application for amending this Approval in accordance with this Condition, the Corporation shall notify the Director and the District Manager in writing, and post on its website and/or notify the LLC, as to whether the application for amendment will be submitted within the next six-month period.

NOTICE OF SUSPENSION TO ENVIRONMENTAL COMPLIANCE APPROVAL

Number A420009

November 9, 2017

United Counties of Leeds & Grenville
P.O. Box 729, Court House
Brockville, Ontario
K6V 5V8

Site: Lots 14 and 15, Concession 4

Location: Edwardsburgh/Cardinal Township, United Counties of Leeds and Grenville

You are hereby notified that, pursuant to my authority under sections 20.7 and 20.13(c) of the *Environmental Protection Act*, I have suspended Conditions 10 and 11 related to the construction and operation of a waste disposal site (landfill), in Environmental Compliance Approval No. A420009 ("ECA") issued on June 24, 1998 to The Corporation of the United Counties of Leeds and Grenville ("Owner") for the use and operation of a waste disposal site (landfill) for final disposal of solid non-hazardous waste located at the Parts of Lots 14 and 15, Concession IV in the Township of Edwardsburgh

The following outlines the key background facts, issues and concerns on which my decision is based:

1. On January 20, 1998, the Minister of the Environment issued to the Corporation of the United Counties of Leeds and Grenville (Owner), a Notice of Approval to Proceed with the undertaking known as the Environmental Assessment (EA) for Leeds and Grenville Waste Management System Plan Environment Assessment (EA File No. MU-0476-02).
2. On June 24, 1998 after a thorough technical review, the Ministry of the Environment issued an Environmental Compliance Approval (ECA) (ECA No. A420009) for the construction and operation of a 14.0 hectare landfilling site within a total site area of 66.0 hectares known as Site ED-19.
3. In nearly 20 years since obtaining these approvals, the Owner has not implemented the undertaking as described in the EA and ECA and has not commenced any construction

activities in respect of Site ED-19.

4. On March 30, 2017, Mansoor Mahmood, Director (A), Environmental Approvals Branch, Ministry of the Environment and Climate Change sent a letter addressed to Mr. Andy Brown, CAO, The Corporation of Leeds and Grenville requesting that prior to any construction for the landfill commencing that a report be provided which assesses whether the conditions and assumptions made in the EA for the proposed Site ED-19 are still valid and that the currently proposed design is still appropriate.
5. On September 21, 2017, the Owner decided to move forward with negotiations for the sale of Site ED-19 and its associated approvals to a private waste operator.
6. On September 21, 2017, the ministry sent a letter to the Owner to advise it of an EBR Application for Review that the ministry had received in respect of the ECA issued for Site ED-19, and to provide the Owner with the opportunity for comment on the issues raised by the applicants.
7. On October 11, 2017, the Owner responded to the ministry's September 21, 2017 letter stating that there is a possibility that Site ED-19 may not be developed for an extended period of time. The Owner indicated that a review of the ECA now is premature and that the public interest is not served by the ministry and the Owner expending further resources in proceeding with an EBR review. As well, the Owner indicated that if Site ED-19 remains undeveloped, it poses no risk to the environment.
8. Given the above, and taking into account the environmental protection purposes of the *Environmental Protection Act*, the public interest, the passage of time since the ECA was issued, and the fact that no construction has commenced at Site ED-19 to-date, the ministry considers it necessary in the circumstances to temporarily suspend the construction and operation of the waste disposal site as approved by the ECA until such time as the Owner (or any future ECA-holder) confirms that the conditions, assumptions and circumstances that were made in the EA are still applicable, and that the proposed landfill design is still appropriate based on the recommendations of the EA.

For the reasons outlined above, I have suspended conditions 10 and 11 of the ECA pursuant to my authority under Sections 20.7 and 20.13(c) of the *Environmental Protection Act*.

In accordance with Section 139(1)(e) of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

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

The Notice should also include:

3. *The name of the appellant;*
4. *The address of the appellant;*
5. *The environmental compliance approval number;*
6. *The date of the environmental compliance approval;*
7. *The name of the Director, and;*
8. *The municipality or municipalities within which the project is to be engaged in.*

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

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1 of the
Environmental Protection Act
Ministry of the Environment and Climate Change
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca

This instrument is subject to Section 38 of the Environmental Bill of Rights, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at www.ebr.gov.on.ca, you can determine when the leave to appeal period ends.

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-3717 or www.ert.gov.on.ca

DATED AT TORONTO this 9th of November, 2017



Dale I. Gable, P.Eng.

Director

appointed for the purposes of Part II.1 of
the *Environmental Protection Act*

DG/

c: District Manager, MOECC Kingston - District

n/a

ENVIRONMENTAL REVIEW TRIBUNAL

In the matter of an appeal by the Corporation of the United Counties of Leeds and Grenville for a Hearing before the Environmental Review Tribunal pursuant to section 139(1)(e) of the *Environmental Protection Act*, R.S.O. 1990, c.E.19 as amended, in relation to the November 9, 2017 Decision of the Director, Ministry of the Environment and Climate Change, to suspend Conditions 10 and 11 in Environmental Compliance Approval No. A420009, dated June 24, 1998, regarding the construction and operation of a waste disposal site (landfill) located at Lots 14 and 15, Concession 4, Township of Edwardsburgh/Cardinal, United Counties of Leeds and Grenville

**AFFIDAVIT OF WILF RULAND, P.Geo.
(Sworn October 12, 2018)**

I, **WILF RULAND**, of the Town of Ancaster, **MAKE OATH AND SAY:**

1. I am a professional geoscientist, and I have been retained by the Citizens Against ED19 Dump (“CAD”) in relation to the appeal filed by the United Counties of Leeds and Grenville (“the Counties”) against the suspension of Conditions 10 and 11 of Environmental Compliance Approval (“ECA”) No. A420009 dated June 24, 1998. Accordingly, I have knowledge of the matters hereinafter deposed to in this affidavit.

2. I have worked as an environmental consultant for over 32 years (2 years for a larger firm in Germany, and 30 years independently in Canada). My specialization is contaminant hydrogeology, and in particular the impacts of landfills and contaminated sites on groundwater and surface water. A copy of my Curriculum Vitae is attached to this affidavit as Exhibit A.

3. I have given testimony as an expert witness on hydrogeological issues before various administrative boards, including the Environmental Review Tribunal (“Tribunal”), the Environmental Assessment Board, the Joint Board, the Ontario Municipal Board, the Canadian Nuclear Safety Commission, and the Niagara Escarpment Commission. A signed copy of my Expert’s Duty form is appended to my review that is attached to this affidavit as Exhibit B.

4. The purpose of my retainer with CAD is to independently review and assess the hydrogeological suitability and technical acceptability of the approved design, construction, operation, management and monitoring of the ED19 Landfill. I have no other interest in this matter.

5. In accordance with my retainer with CAD, I have undertaken the following tasks:

- reviewed the Counties’ documentation that was prepared in the 1990s under the *Environmental Assessment Act* (“EAA”) and *Environmental Protection Act* (“EPA”) for the ED19 Landfill;
- reviewed the 1998 approval that was issued under the EAA, and the 1998 ECA that was issued under the EPA for the ED19 Landfill;
- reviewed the materials filed by the parties in relation to the Counties’ present appeal to the Tribunal, including the proposed settlement that has been agreed to by the Counties and the Ministry of the Environment, Conservation and Parks (“Ministry”);

- conducted a site visit of the ED19 Landfill Site on September 6, 2018, accompanied by a CAD representative and two consultants retained by the Counties;
- interviewed a number of local residents that live beside or near the ED19 Landfill; and
- considered the ED19 Landfill project in the context of current laws, regulations and standards that govern the siting, construction and operation of landfills in Ontario.

6. On the basis of the available information, I have prepared an independent review to CAD to outline my findings, conclusions and recommendations regarding the ED19 Landfill property, the unused 1998 ECA approval, and the proposed settlement being put forward to the Tribunal by the Counties and the Ministry. A copy of my review is attached to this affidavit as Exhibit B.

7. In summary, for the numerous reasons outlined in my review, it is my professional opinion that:

- the documentation tendered by the Counties in the 1990s in support of its ECA application was incomplete, inadequate and did not reflect sound scientific investigation and analysis;
 - the factual, technical and scientific data obtained over 20 years ago for the ED19 Landfill are no longer valid and are not representative of current site conditions;
- and

- the ED19 Landfill does not reflect or comply with new or amended Ministry requirements for groundwater and surface water protection;

8. In particular, it is my professional opinion that the Counties' hydrogeological assessment of the ED19 Landfill is deficient and does not provide the required technical foundation for the safe design and operation of a waste disposal site. My specific concerns about the inadequacy of the hydrogeological assessment include the following considerations:

- incomplete groundwater quality testing was performed by the proponent;
- there was almost no investigation (and consequently no understanding) of the bedrock groundwater system which local residents rely upon for domestic well supplies;
- the pumping test was incapable of assessing the hydraulic characteristics of the geologic formations at the landfill site;
- the significance of fractures found in the Silt/Clay Unit was downplayed;
- isotopic testing was done, but the results were ignored in the assessment report;
- the conceptual model of site hydrogeology is incomplete and deficient; and
- two significant potential pathways for environmental contamination were not identified or assessed.

9. Similarly, it is my professional opinion that the approved Design & Operations Report for the ED19 Landfill does not provide the required technical foundation for the safe design and operation of a landfill site, and does not meet current landfilling

standards and requirements in Ontario. My specific concerns about the Design & Operations Report include the following considerations:

- the complete lack of an impermeable liner at the landfill base to prevent downward and outward leakage of leachate;
- while the design includes 0.3 metre deep basal leachate collection trenches, there is no provision for a continuous high permeability leachate collection layer on the landfill base;
- for the first 10 years of landfill operation, leachate will be managed by recirculating (e.g. pumping) it back into the landfill, which will create leachate mounding and cause leachate seeps on the sideslopes;
- leachate generation rates have been significantly underestimated;
- surface water impact monitoring plans are poorly developed; and
- there are no surface water impact mitigation/contingency plans at all in the Design & Operations Report.

10. In light of the foregoing findings, and on the basis of the available hydrogeological information and evidence, it is my professional opinion that the construction and operation of the ED19 Landfill at the approved location in accordance with the requirements of 1998 ECA would pose an unacceptable threat to off-site groundwater supplies and off-site surface water resources. In my professional opinion, the ED19 Landfill would not be approved in its current form today.

11. Therefore, my overall recommendation is that the 1998 ECA should be revoked in its entirety. This recommendation also extends to the 1998 EAA approval, although I recognize that this approval is not before the Tribunal for adjudication.

12. In the alternative, if the 1998 EAA approval remains intact, and if Counties intend to proceed with (or sell) the ED19 Landfill, then a new ECA should be developed, with meaningful public participation, to ensure that the ED19 Landfill is subject to effective terms and conditions that reflect current site conditions and that satisfy current legislative and regulatory requirements.

13. In my professional opinion, the proposed Minutes of Settlement advanced by the Counties and the Ministry (e.g. new Condition 9.1) are not consistent with the purpose of the EPA or the public interest, and should therefore be rejected by the Tribunal. On the basis of the available information, I reach this conclusion for the following reasons:

- it is my professional opinion that the Minutes of Settlement do not provide for protection/conservation of the natural environment – instead, they represent a threat to the natural environment and to the public interest, because they open the door to landfilling at the ED-19 site without properly addressing the multitude of deficiencies associated with the ED-19 landfill proposal;
- I have outlined the multitude of deficiencies associated with the existing approvals and with the technical studies which provided the basis for those approvals in my review (attached as Exhibit C). The Minutes of Settlement do not meaningfully address these deficiencies;

- I will state for the record that I profoundly disagree with the statement made in Paragraph 5 of the Minutes of Settlement, in which it is claimed that: “...*the Amendment to the ECA set out in Schedule “A” to the Order will protect and conserve the natural environment and is in the public interest.*”

- I was asked by my clients to also consider whether the proposed ECA amendment which is part of the Minutes of Settlement could be further amended to adequately address my concerns. In my professional opinion, it is a mistake to try to amend the existing ECA, which is now 20 years old and which should not have been issued in the first place.

- In my professional opinion, none of the technical documents in Schedules A, B, C, D, and E (written over 20 years ago) are suitable for a landfill proposed to be built today - all require revision to account for changes/evolution in real-world land use and the natural environment, as well as changes in regulations, drinking water quality and surface water quality standards, practices regarding landfill design and operation etc.

14. If the Tribunal determines that the ECA should be further amended rather than revoked, then it is my recommendation that the more detailed ECA conditions proposed by CAD should be considered and ordered by the Tribunal. A copy of CAD’s proposed ECA conditions is attached to this affidavit as Exhibit C.

15. I swear this affidavit in relation to the Tribunal’s settlement hearing to be held on November 6 and 7, 2018, and for no other or improper purpose.

SWORN BEFORE ME in the City of)
Toronto, in the Province of Ontario,)
on this 12th day of October, 2018)



A Commissioner for Taking Affidavits, etc.

Ramani Nadarayan



Wilf Ruland, P. Geo.


Curriculum Vitae of Wilf Ruland

(Professional Geoscientist)

Address: Wilf Ruland (P. Geo.)
766 Sulphur Springs Road
Dundas, Ontario
L9H 5E3
Tel: (905) 648-1296

E-mail: deerspring1@gmail.com

This is Exhibit A referred to in the
affidavit of Wilf Ruland
affirmed before me, this 12th
day of October, 2018.


A COMMISSIONER FOR TAKING AFFIDAVITS
Ramani Nadarajah

Education:

1988 Master of Sciences in Earth Sciences,
University of Waterloo.
Supervisor: Dr. John Cherry

Master's project focussed on the hydrogeological properties of fractured clay deposits in Lambton County. 15 courses provided a broad background in hydrogeology.

1982 Honours Bachelor of Science in Geography and Geology,
McMaster University.

30 courses provided a broad background in natural science, geography and geology.

Experience:

Since 1988 Environmental Consultant, as head of own consulting firm (Citizens' Environmental Consulting).

Active as advisor and consultant on issues related to groundwater or surface water contamination or depletion for private citizens, citizens' groups, environmental groups, First Nations, companies and public agencies from across Ontario.

Specialization in addressing landfill-related groundwater and surface water contamination problems through review of hydrogeological impact studies, field investigations, and participation in public meetings and hearings.

Ongoing contracts include investigations of water contamination at landfills near St. Catharines, Brockville, Kingston, Waterloo, and Windsor.

Other significant areas of work include review of pit and quarry proposals and applications for Permits to Take Water, investigations of well interference resulting from quarries, and groundwater contamination emanating from major industrial properties and gas stations.

Experience: continued

1988-1993 Research Associate, Waterloo Centre for Groundwater Research,
University of Waterloo

Work included research into the hydrogeology of fractured clays and into the impacts of landfills on groundwater.

1983-1985 Hydrogeologist, Ingenieur-Geologisches Institut, Westheim, Germany.

Work included hydrogeological field work, supervision and evaluation of drilling programs, supervision and evaluation of pumping tests, research and preparation of hydrogeologic reports, and supervision of environmental monitoring for a major railway construction project.

Publications, Papers and Research Reports:

Worthington, S.R.H., Smart, C.C., and Ruland, W.W. 2012. Effective Porosity of a Carbonate Aquifer with Bacterial Contamination: Walkerton, Ontario, Canada. Published in the Journal of Hydrology, Vol. 464-465 (2012), p. 517-527.

Ruland, W.W. 2005. Presentation on Source Water Considerations and the Walkerton Setting. Presented at the Canadian Water Network's Walkerton Water and Public Health Training Workshop, May 28 - June 2, 2005.

Worthington, S.R.H., Smart, C.C., and Ruland, W.W. 2002. Assessment of Groundwater Velocities to the Municipal Wells at Walkerton. Paper presented at the 3rd Joint IAH-CNC/CGS Conference, October 20 - 23, 2002 in Niagara Falls, Ontario.

Worthington, S.R.H., Smart, C.C., and Ruland, W. 2001. Karst Hydrogeological Investigations at Walkerton. Report prepared for and submitted as evidence at the Walkerton Inquiry.

Ruland, W.W., Schellenberg, S.S., and Farquhar, G. 1993. The Fate of Landfill Leachate in Waste Water Treatment Plants and in Groundwater at Attenuation Landfills. Report prepared for the Ontario Ministry of Environment and Energy.

Ruland, W.W., Cherry, J.A., and Feenstra, S. 1991. The Depth of Fractures and Active Ground Water Flow in a Clayey Till Plain in Southwestern Ontario. Published in the Journal of Ground Water, Vol. 29, No. 3, p. 405-417.

D'Astous, A.Y., Ruland, W.W., Bruce, R.J., Cherry, J.A., and Gillham, R.W. 1989. Fracture Effects in the Shallow Groundwater Zone in Weathered Sarnia Area Clay. Published in the Canadian Geotechnical Journal, Vol. 26, No. 1, p. 43-56.

Fracture Depths and Active Groundwater Flow in a Clayey Till in Lambton County, Ontario. 1988. Unpublished M.Sc. Project, University of Waterloo.

Cherry, J.A., MacQuarrie, K.T.B., and Ruland, W.W. 1987. Hydrogeologic Aspects of Landfill Impacts on Groundwater and Some Regulatory Implications. Paper presented at the PCAO/MOE Seminar on Landfill Regulations May 13, 1987.

Wilf Ruland (P. Geo.) - Partial List of Consulting Experience:

1) Investigations/Reviews of Landfill-Related Water Contamination:

Niagara Road 12 Landfill, near Grimsby, Ontario.

- Peer Review for the Niagara Road 12 Litizen Liaison Committee (2008-2010).

Humberstone Landfill in Welland, Ontario.

- Peer Review for the Humberstone Public Liaison Committee (since 2007).

City of Owen Sound's Derby Landfill site, near Owen Sound, Ontario.

- investigation and review for the Ledingham family (2004-2006)

Town of Northeastern Manitoulin and the Islands Landfill, near Little Current, Ontario;

- investigation and review for Mr. Raeburn Smith and Mrs. Virginia Smith (2004 - 2013).

Rennie and Brampton Street Landfill Sites, Hamilton, Ontario;

- Peer Review for the Rennie/Brampton Citizens' Liaison Committee (2001-2005).

Town of Thessalon Landfill Site, near Thessalon, Ontario;

- investigation for Mr. Mark Petingalo and Mrs. Wendy Petingalo (in 2000).

City of Brockville Landfill Site, Brockville, Ontario;

- review for Brockville Public Liaison and Monitoring Group (since 1997).

Fletcher Tile Landfill Site, near Chatham, Ontario;

- investigation for Citizens Opposed to Landfill Development (1996-1997).

Bracebridge Landfill Site, Bracebridge, Ontario;

- investigation for Dr. David Kent (1995-1996).

Waterloo Sanitary Landfill Site, Waterloo, Ontario;

- review for Waterloo Waste and Water Watchers (since 1995).

Innisfil Landfill Site, Innisville, Ontario; investigation for Mrs. Helen Hodgson (1995 - 1999).

Tom Howe Landfill Site, near Hagersville, Ontario;

- review for the Mississaugas of the New Credit First Nation (since 1994).

Wolfe Island Waste Disposal Site, Wolfe Island, Ontario;

- investigation for Ms. Theresa James (since 1994).

Bensfort Road Landfill, near Peterborough, Ontario;

- investigation for Mr. Gary McCarrell and Mrs. Lori McCarrell (1991-1993).

Orillia Landfill Site, in Orillia, Ontario; investigation for Citizens Acting Now (1991).

Storrington Landfill near Kingston, Ontario;

- investigation for Storrington Committee Against Trash (1990-1997).

Glenridge Quarry Landfill in St. Catharines, Ontario;

- review for Glenridge Landfill Citizens' Committee (1989-2016).

Warwick Landfill near Watford, Ontario;
- investigation for Watford Warwick Landfill Committee (1989-1996).

Brow Quarry Landfill near Dundas, Ontario;
- investigation for Greensville Against Serious Pollution (1988-1989).

-
Essex County Landfill No. 3 in Maidstone Township, Ontario;
- reviews for Maidstone Against Dumping and Maidstone Township (1988-2008).

Town of Cobourg Landfill, in Haldimand Township, Ontario;
- investigation for Mr. Joe Sherman (1988-1991).

2) Reviews of Proposals to Site New or Expand Existing Landfills

Peer Review of (amended) Terms of Reference for the Walker Environmental Group Southwestern Landfill proposed, to be situated near Ingersoll, Ontario;
- review for the OPAL Alliance (2013/2014).

Review of the proposed Capital Region Resources Recovery Center and Landfill;
- review for the Citizens' Environmental Stewardship Association - East of Ottawa (2013).

Proposal to massively expand the Richmond Landfill near Napanee, Ontario;
- review for the Concerned Citizens Committee of Tyendinaga Twp. (2004 - 2006).

Proposal to expand and significantly alter the Edwards Landfill
(including excavation of hazardous wastes, and relocation of other wastes) near Cayuga, Ontario;
- review for Haldimand Against Landfill Transfers (2004 - 2006)

Proposal to massively expand the Warwick Landfill near Watford, Ontario;
- Peer Review for the Township of Warwick (1998-2008).

Proposal to site a landfill near Cochrane, Ontario;
- review for the Fournier Action Committee (1997 -1999).

Proposal to site a landfill in the abandoned Adams Mine Site near Kirkland Lake;
- review for the Coalition of Temiskaming Concerned Citizens (in 1995).

Proposal to site a landfill in the Taro East Quarry near the Niagara Escarpment
in Stoney Creek, Ontario;
- review for Stoney Creek Residents Against Pollution (in 1995).

Proposal to develop a perimeter-berm landfill around the Lake Ontario Steel Company Limited property
in Whitby, Ontario; Peer Review for the Lasco Berm Liason Committee (1991-1995).

Proposal to build a landfill in a Class 2 Wetland near Cayuga, Ontario;
- review for Haldimand-Norfolk Organization for a Pure Environment (1989-1990).

Proposal to site a landfill in the Acton Quarry near Milton, Ontario;
- review for Protect Our Water and Environmental Resources (in 1989).

3) Review of Landfill Closure and End Use Plans

Closure Plan for the Wolfe Island Landfill Site (since 2012); review done for Ms. Theresa James.

Closure Plan for the Tom Howe Landfill Site; review done for the Mississaugas of the New Credit First Nation (2005, and 2009/2010).

Closure Plan for the Richmond Landfill near Napanee, Ontario; for the Concerned Citizens Committee of Tyendinaga Twp. (2007).

End Use Plan for the Glenridge Quarry Naturalization Site (formerly the Glenridge Landfill), for the Glenridge Landfill Liaison Committee (2002).

Closure and post-Closure Care Plan for the Brockville Landfill Site, for the Brockville Public Liaison and Monitoring Group (2000-2001).

Closure and End Use Plan for Essex County Landfill No. 3, for Maidstone Against Dumping (1996).

Closure Plan for the Cobourg Landfill. For Mr. Joe Sherman (1990s).

Closure Plan for the Brow Quarry Landfill. For Greenville Against Serious Pollution (1990s).

4) Other Landfill-Related Projects

Peer Review of proposal to expand the Clean Harbors Hazardous Waste Landfill Facility near Sarnia, Ontario (2010-2015); for the Township of St. Clair.

Investigation and review of groundwater and surface water contamination being caused by a cement kiln dust landfill near Bath, Ontario. Negotiated an agreement with Lafarge Cement to remediate the existing landfill and use an industry-standard design on a go-forward basis. For Lake Ontario Waterkeeper (2007-2010).

Member of the Expert Panel (appointed by the Minister of the Environment) to look into potential health and environmental impacts from the Taro East Landfill in Stoney Creek, Ontario (in 2000). The final report of the Expert Panel was released in October 2000, and the Addendum Report was released in December 2000.

Technical advisor to private citizens who successfully prosecuted the City of Hamilton (which pleaded guilty) for contamination by PCB-laden leachate of Redhill Creek (in 2000). The resulting \$450,000 fine was a record for fines paid under such prosecutions.

5) Reviews of Waste Management Master Plan (WMMP) Studies

Region of Waterloo Management Master Plan (WMMP);
- review for the Waterloo Landfill Liaison Committee (2013).

Region of Haldimand-Norfolk Waste Management Master Plan (WMMP);
- review for the Mississaugas of the New Credit First Nation (1995-1996).

South Simcoe County Waste Management Master Plan;
- review for the South Simcoe Waste Action Network (1994-1995).

Leeds and Grenville Waste Management Master Plan;
- review for Sabourins Crossing Residents Against Megadumps (in 1994).

Pembroke and Area Waste Management Master Plan;
- review for the Snake River/Micksburg Anti-Dump Association (1991-1992).

Northumberland County Waste Management Master Plan;
- review for Mr. and Mrs. J. Sherman (1989-1991).

Wellington County Waste Management Master Plan;
- review for the Concerned Alma Citizens (1988-1991).

6) Nuclear-Related Peer Review Work

Review of the proposed license renewal for the Pickering Nuclear Generating Station.
- review for Lake Ontario Waterkeeper (2018).

Review of the proposed in-site decommissioning of the Nuclear Demonstration Project (NPD) Reactor on the Ottawa River near Rolphton, Ontario.
- review for the Algonquin Anishinabeg Nation Tribal Council (2018).

Review of the 2016 Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities, Including Cameco's Port Hope Conversion Facility.
- review for Lake Ontario Waterkeeper (2017)

Review of the proposed Near-Surface Disposal Facility for Low Level Nuclear Wastes at the Chalk River Laboratories site, near Chalk River Ontario.
- review for Ottawa River Keeper (2017).

Review of the decommissioning plans for the Deloro Mine Site near Deloro, Ontario.
- review done for Lake Ontario Waterkeeper (2017).

Review of the Port Hope Area Initiative (PHAI) (involving remediation of widespread low-level radioactive wastes, with deposition into 2 specially designed landfills in the Port Hope Area;
- review for Lake Ontario Waterkeeper (2016).

Review of the proposed Deep Geologic Repository (DGR) for low- and intermediate level nuclear wastes;
- review for the Canadian Environmental Law Association (2013)

Review of the Draft Environmental Impact Statement for the proposed Darlington 'B' New Nuclear Power Plant Project;
- review for Lake Ontario Waterkeeper (2010-2012).

Review of the proposed remediation of the Cameco Nuclear Waste Processing Facility in Port Hope, Ontario;
- review for Lake Ontario Waterkeeper (starting in 2010).

Review of the Draft Guidelines for the Environmental Impact Statement for the proposed Darlington 'B' New Nuclear Power Plant Project;
- review for Lake Ontario Waterkeeper (2008).

7) Other Investigations/Reviews of Groundwater Contamination

Review of clean-up of an area of contamination at a former Ontario Hydro Transformer Station;
- review conducted for Ms. Kathy MacLeod (2014).

Contamination by petroleum hydrocarbons of a greenhouse property from an adjacent Hydro One maintenance center in Kenora, Ontario;
- investigation for the Schmidt Family (2008)

Impacts of residual contamination on a former industrial property, which is now the site of St. Mary's High School;
- investigation for Environment Hamilton (2002 - 2004).

Contamination by petroleum hydrocarbons and volatile organic chemicals (VOCs) from a former service center near High Park, Toronto;
- investigation for Mr. Gerard Kennedy, MPP (in 2002).

Contamination of municipal water supply wells by E-coli bacteria in Walkerton, Ontario;
- investigation for Concerned Walkerton Citizens (2000 - 2002).

Contamination by petroleum hydrocarbons and volatile organic chemicals (VOCs) from an Imperial Oil fuel and liquid transfer facility in Kapuskasing, Ontario;
- investigation for the Schlechter family (in 2000).

Contamination by petroleum hydrocarbons from a Gulf Canada gas station in Port Loring, Ontario;
- investigation done for People Against Contaminated Water (PACW); (1999 - 2001).

Contamination by petroleum hydrocarbons from a gas station in Bamberg, Ontario;
- investigation for the Bush and Fink families (1997 - 1998).

Groundwater contamination in Cambridge, Ontario caused by Ciba-Geigy Canada Ltd;
- investigation conducted for Thomas Construction Company Ltd. (1993 - 1997).

Groundwater contamination from the Bristol Aerospace Plant near Lockport, Manitoba;
- investigation for Mrs. Elizabeth Andresen and Miss Ursula von Krogh (in 1993).

Extensive/review of water contamination in Elmira, Ontario caused by Uniroyal Chemical Ltd (subsequently renamed Crompton Corp. and now Chemtura Canada Co;
- investigation for various clients, most recently the Region of Waterloo (since 1989).

8) Permits to Take Water and Drinking Water Systems

Review of an application for a Permit to Take Water to allow draining of a 25 hectare lake on the Carmeuse Canada Lime Inc. property situated near Ingersoll, Ontario.
for the OPAL Alliance (2014).

Preparation of applications to the Ministry of the Environment to upgrade the drinking water systems for Camp NeeKauNis near Waubaushene, Ontario (since 2012).

Review of an application for a Permit to Take Water for a Water Bottling Operation (to be operated by CJC Bottling Limited), with water to be taken from a well which feeds the headwaters of Colborne Creek; for the Concerned Citizens of Northumberland (2001 - 2004).

Review of an application for a Permit to Take Water for a municipal water supply project (for the Village of Woodville), with water to be taken from pumping wells near 5 families' homes;
- for the Mariposa Aquifer Protection Association (2000 - 2004).

Review of an application for a Permit to Take Water for a Water Bottling Operation (to be operated by Artemesia Springs Limited), with water to be taken from a springwell which feeds a headwater stream of the Rocky Saugeen River;
- for the Water Protection Coalition of South Grey (1999 - 2001).

Review of an application for a Permit to Take Water for a Water Bottling Operation (to be operated by Aquafarms 93 Limited), with water to be taken from a spring and 3 pumping wells situated near the headwaters of the Beaver River;
- for Ms. Samantha Wickens and other local residents (in 1999).

Preparation of an application for a Permit to Take Water for a fish farming operation (to be operated by Van Aqua Inc.), with water to be taken from a pumping well near the Town of Burford in Brant County; for Mr. Peter Van Kruistum (in 1988).

9) Reviews/Investigations Related to Impacts of Major Water-Takings

Impacts of ongoing pumping of municipal supply wells K50/K51 in Wilmot Township;
- review for Wilmot Center Monitoring Program Public Liaison Committee (since 2003).

Impacts of ongoing dewatering of the Canadian Gypsum Company mine near Hagersville Ontario;
- review for residents of 3rd Line, Six Nations Indian Reserve (1999-2003).

10) Reviews/Investigations related to Impacts from Pits, Quarries, and Mines

Review of Environmental Impact Statement (EIS) for the proposed Marathon PGM-Cu Mine Project which has been put forward by Stillwater Canada Inc. (SCI).
- review for Northwatch (ongoing 2013-2014).

Investigation of potential impacts from the Miller Braeside Quarry near Braeside, Ontario;
- review for Friends Addressing Concerns Together in McNab/Braeside (since 2008).

Investigation of potential impacts from the unlicensed Nichol Quarry near Hagersville, Ontario;
- review for the Mississaugas of the New Credit First Nation (2007-2011).

Impacts of the proposed expansion of the Nelson Aggregates Quarry near Mount Nemo, Ontario;
- review for Protecting Escarpment Rural Land (2005-2007).

Cumulative impacts of the proposed Halminen Quarry and Lafarge Quarry near Buckhorn, Ontario;
- review for Friends of Life in the Kawarthas (2004 - 2006).

Impacts of the proposed expansion of the Graham Brothers Aggregates Limited gravel pit near Caledon;
- review for Dr. David Sylvester (2000 - 2001).

Impacts of the proposed Nichol Gravel Limited quarry near Hagersville, Ontario;
Quarry operated in violation of MNR and MOE regulations for many years;
- review for the Mississaugas of the New Credit First Nation (1999 - 2011).

Impacts of well interference from the Canadian Gypsum Company mine near Hagersville;
- investigation for several families on the Six Nations Reserve (1999 - 2003).

Impacts of well interference from the Dunnville Rock Products Quarry near Dunnville;
- investigation for Mr. Ken Ricker and Mrs. Ethel Ricker (1997 - 2000).

Impacts of water takings associated with the Acton Quarry near Acton, Ontario;
- review for Protect Our Water and Environmental Resources (1997-2007).

Impacts of a quarry proposed adjacent to Mitchell Lake, near Victoria Road, Ontario;
- review for the Northern Victoria Ratepayers Association (1997 - 1999).

Impacts of a quarry, proposed to be located on the Bruce Peninsula;
- review for Mr. Ziggy Kleinau (1996).

Impacts of a proposed gravel pit, to be sited near Grippen Lake, Ontario;
- review for Township Residents Against Pit Pollution (1995 - 1998).

Impacts of a gravel pit to be built in an Earth Science Area of Natural Interest (ANSI);
- review for Ms. Jeanette Mazur (1995 - 1996).

Impacts of the proposed Seeley and Arnill Quarry near Orillia, Ontario;
- review for Mr. David Lowry (1993 - 1997)

Impacts of a proposed expansion of the Walker Brothers Quarry, near St. Catharines;
- review for Mrs. Ronnie DeMeel (1992).

Impacts of six (6) proposed gravel pit operations in Oro Twp., Ontario;
- review for Dr. E.J. Beaton and Dr. A.C. Beaton (1990 - 1992).

11) Participation in Public Hearings

A Hearing into a proposed rural subdivision in the Hamlet of Hartington, involving a 30% increase in the number of wells and septic systems in an area of inadequate and impaired groundwater supply;

- before the Ontario Municipal Board;
- Decision pending.

A hearing into a proposed 10-year license extension for the Cameco Nuclear Waste Processing Facility in Port Hope, Ontario including proposed remediation of contamination by radionuclides of the Cameco property and the Port Hope Harbour;

- before the Canadian Nuclear Safety Commission;
- Decision dated February 27, 2017.

A hearing into the appeal of deficient monitoring, contingency, and closure plans for the badly leaking Richmond Landfill near Napanee, Ontario.

- before the Environmental Review Tribunal; Decision dated December 24, 2015.

A hearing into the proposed massive expansion of a quarry and proposed development of an asphalt plant on the Braeside Ridge, in the middle of a potential Provincially Significant Wetland complex and uphill of numerous residential wells.

- before the Ontario Municipal Board;
- Decision dated October 27, 2015.

A hearing into the proposed Deep Geologic Repository, designed to accept low- and intermediate-level nuclear waste, and to be situated at the Bruce Nuclear Plant;

- before the Canadian Nuclear Safety Commission;
- Decision dated May 6, 2015.

An application to site a quarry in a Provincially Significant Wetland Complex near Duntroon, Ont;

- before the Ontario Municipal Board;
- Decision dated August 24, 2012.

A hearing into the proposed Darlington 'B' New Nuclear Power Plant Project;

- before the Canadian Nuclear Safety Commission;
- Decision dated August 17, 2012.

An application to develop a quarry in the Niagara Escarpment Plan area near Duntroon, Ontario;

- before the Joint Board;
- Decision dated June 18, 2012.

An application to develop a gravel pit in the Municipality of Grey Highlands, Ontario;

- before the Ontario Municipal Board; Decision dated April 30, 2008.

An application to massively expand the Dufferin Aggregates Milton Quarry;

- before the Joint Board;
- Decision dated June 8, 2005.

An application for conversion of 81 cottages into permanent homes adjacent to a World Biosphere Reserve, Class 1 Wetland and Wilderness Area in Turkey Point;

- before the Ontario Municipal Board;
- Decision dated August 13, 2002.

An application to develop a quarry near Mitchell Lake and Victoria Road, Ontario;

- before the Ontario Municipal Board;
- Decision dated January 22, 1999.

An application to develop a gravel pit adjacent to a Class 1 Wetland along the shore of Lake Katchewanooka near Lakefield, Ontario;

- before the Ontario Municipal Board;
- Decision dated June 4, 1998.

An application to develop a quarry near Kinmount, Ontario;

- before the Ontario Municipal Board;
- Decision dated August 18, 1995.

An act (Bill 62) to amend the Environmental Protection Act to phase out landfilling in the Niagara Escarpment Plan Area;

- before the Standing Committee on the Administration of Justice;
- Bill 62 received Royal Assent June 23, 1994.

An application to expand the Eastview Road Landfill Site near Guelph, Ontario;

- before the Environmental Assessment Board;
- Decision EP 92-02 dated September 22, 1993.

An application to develop six (6) gravel pits on the Oro Moraine in Oro Twp.;

- before the Ontario Municipal Board;
- Decision dated July 23, 1993.

An application to expand the Storrington Landfill Site;

- before the Environmental Assessment Board;
- Decision EP 91-01 dated March 31, 1993.

An amendment (No. 52/89) to the Niagara Escarpment Plan to delete waste disposal sites as a permitted land use in lands protected by the Plan;

- before a Niagara Escarpment Commission Hearing Officer;
- Decision dated Oct. 22, 1991.

An appeal against a zoning bylaw and a proposed plan of subdivision (which allowed construction of a golf course on a Class 1 Wetland);

- before the Ontario Municipal Board;
- Decision dated August 29, 1990.

An application to expand the Seeley and Arnill Aggregates Ltd. gravel pit in Oro Twp.;

- before the Ontario Municipal Board;
- Decision dated May 29, 1990.

An application to expand Essex County Landfill No. 3;

- before the Environmental Assessment Board;
- Decision EP 89-02 dated December 12, 1989.

An application to expand the Town of Cobourg landfill;

- before the Environmental Assessment Board;
- Decision EP 89-01 dated October 16, 1989.

Independent Review of Information

Regarding the Proposed ED-19 Landfill -

Appeal by the United Counties of Leeds and Grenville

This is Exhibit.....B.....referred to in the
affidavit of.....Wilf Ruland.....
affirmed before me, this...12th.....
day of...October.....2018..

.....
Prepared for: A COMMISSIONER FOR TAKING AFFIDAVITS
Ramani Nadarajah

Citizens Against the ED-19 Dump (CAD)

Prepared by Wilf Ruland (P. Geo.)

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Issued: October 11, 2018

1) Introduction

I am a hydrogeologist, and I have worked as an environmental consultant for 32 years (2 years for a larger firm in Germany, and 30 years independently in Canada). I am a specialist in water resource and contamination issues, and have dealt with many such issues over the course of my consulting career.

I have given testimony as an expert witness on hydrogeological issues before various boards, including the Environmental Review Tribunal, the Environmental Assessment Board, the Joint Board, the Ontario Municipal Board, the Niagara Escarpment Commission, and the Canadian Nuclear Safety Commission. A copy of my Curriculum Vitae is available upon request.

I have reviewed and provided comments on several environmental assessments (EAs) of proposed landfills over the course of my career. I have also reviewed/commented on several Waste Management Master Plans (WMMPs), each of which included a landfill proposal. I have investigated many cases of landfill-caused contamination. Finally I have extensive experience and several publications pertaining to the hydrogeology of sites with silt/clay soils in Ontario. These experiences and qualifications are relevant to the technical issues in this matter.

I have been retained by Citizens Against ED-19 Dump (a group of local residents) to evaluate the completeness, accuracy and adequacy of the Environmental Assessment Act (EAA) and Environmental Protection Act (EPA) documentation pertaining to the proposed ED-19 landfill site. In my review I have considered quite a number of publicly available documents which pertain to this matter from a hydrogeology perspective. A list of documents considered is included in **Section 11** of this review.

2) Background

The property in question is known as “ED-19” and is owned by the United Counties of Leeds and Grenville (hereafter referred to as “the Counties”). The Counties originally purchased the property and obtained EAA and EPA approvals for the property for a landfill to serve their own waste management needs. The EAA/EPA approvals were granted to the Counties by the Ministry of the Environment, Conservation and Parks (MOECP) in the late 1990s, but the Counties never acted on those approvals and the property remains undeveloped to this day.

Recently the Counties have been considering the possibility of selling the ED-19 property to a private company (allowing it to run a private, for-profit landfill operation at the site). The issues of whether the EAA/APA approvals are still valid and whether these are transferrable to a private corporation (if the property is sold to a private corporation) are legal issues which will not be considered in this review.

I have been retained to review the water-related scientific issues pertaining to the EAA/EPA investigations and approvals, including consideration of the following questions:

- whether the EAA/EPA approvals which the MOECP granted to the Counties were based on adequate and sound scientific investigations and analysis,
- whether the scientific data obtained at the time (over 20 years ago) are still valid and representative of current conditions,
- whether there are new or amended MOECP regulations pertaining to groundwater and surface water protection which pertain to this matter.

My findings in regard to these questions are presented in the following sections of this review.

Based on the findings of my review of the available hydrogeological information and evidence, it is my professional opinion that the MOECP should revoke the 20 year-old EAA/EPA approvals for the ED-19 site.

The reasons for this opinion are provided in the following sections of this review.

3) Detailed EPA-Level Hydrogeological Investigation/Assessment of Site ED-19

The detailed (EPA-level) investigation and assessment of Site ED-19 are provided in a document entitled “Leeds and Grenville Waste Management System Plan, EAA/EPA Document, Volume 3, Technical Appendix M, Geology/Hydrogeology” which is hereafter referred to as the “Hydrogeology Assessment”.

I have reviewed the Hydrogeology Assessment and found it to be deficient in a variety of ways, including:

- incomplete groundwater quality testing was done;
- there was almost no investigation and there is little understanding of the bedrock groundwater system which local residents rely upon for their well water supplies;
- the pumping test which was done was largely useless for assessing the hydraulic characteristics of the geologic formations at the site (due to interference from a major rain event), and it was not redone;
- the significance of fractures found in the Silt/Clay Unit was downplayed;
- isotopic testing was done but the results were ignored in this report;
- the conceptual model of the site hydrogeology is incomplete and deficient; and
- 2 significant potential pathways for environmental contamination were not identified or assessed.

These issues are discussed in more detail in the following sections of this review.

a) Incomplete Groundwater Quality Testing Done

A total of 33 monitoring wells were installed at 16 locations as part of the site investigation, as shown on Table 2.2 of the Hydrogeology Assessment. The results of the subsequent water quality testing are shown in Schedule E, which indicates that water quality was only assessed at 6 locations (in 18 of 33 wells installed).

No reasons are given for the failure to test water quality at the other wells. Compared to the cost of well installation, water quality testing costs are minor. The failure to test all wells means that the groundwater flow system is not as well understood as it should be.

b) Inadequate Investigation and Understanding of Bedrock Groundwater System

Page M-29 of the Hydrogeology Assessment states the following:

“The majority of domestic wells in the area yield water from the limestone bedrock, making this unit the prime aquifer in the region”.

Notwithstanding the above statement, the ED-19 site investigation almost entirely ignored the bedrock groundwater flow system from which local residents draw their drinking water supplies. None of the 33 monitoring wells installed at the site is completed in the bedrock, and thus none of the wells are useful for assessing bedrock groundwater quality or hydraulic characteristics.

This is a major deficiency in the Hydrogeology Assessment.

There is no first hand or reliable knowledge of bedrock hydraulic characteristics - in fact, the authors of the Hydrogeology Assessment admit on page M-60 that:
“The hydraulic conductivity of the bedrock at this site is not known, but is inferred from work conducted near Cornwall..”.

As a result of this deficiency, there is a massive flaw in the hydrogeological conceptual model provided in schematic form in Figure 4.1 of the Hydrogeology Assessment. Figure 4.1 is supposed to illustrate groundwater flow directions in the vicinity of site ED-19, with the blue arrows showing the report authors' opinions regarding flow directions.

The flow arrow shown in the bedrock beneath the site is pure conjecture, as are the flow arrows shown anywhere close to the margins of the bedrock “bowl”. Without knowledge of groundwater levels in the bedrock (which is impossible to acquire in the absence of bedrock wells), there is no way of knowing how the bedrock and overburden flow systems are interacting and how groundwater is moving - in short, the hydrogeological conceptual model is incomplete and massively flawed.

The authors of the Hydrogeology Assessment really don't know where groundwater in the bedrock is moving (or how fast). There is no way of knowing which residential wells would be threatened if contamination from the proposed landfill should find its way to the bedrock flow system, and no way of knowing how long it would take such contamination to travel from the site to the nearest residential wells.

I should note that there is no commitment to be found in the EAA and EPA documents to installing bedrock monitoring wells in the future.

There is also no first hand or reliable knowledge of bedrock groundwater quality, even though this is the aquifer that local residents are obtaining their drinking water supplies from. No baseline testing of residential bedrock wells was done, and none is proposed. As a result, in the event of a future landfill with bedrock water quality impacts there would be no way for local residents to determine whether changes in their well water quality were caused by the landfill.

In summary, the Hydrogeology Assessment represents a failure at the most fundamental level to investigate and obtain any sort of understanding of the bedrock groundwater flow system beneath the proposed ED-19 landfill site which local residents rely upon for their drinking water supplies. This failure carries through the report, and has implications for many other aspects of the impact assessment for the proposed landfill as well as the proposed monitoring plans and contingency plans.

Taken by itself this failure is sufficient that in my professional opinion it would be reckless and irresponsible for the MOECP to allow the EAA and EPA approvals for the site to be used today or transferred to a third party.

In addition there are further significant deficiencies associated with the Hydrogeology Assessment and with the associated landfill proposal, which will be described in the following sections of this review.

c) Pumping Test Was Largely Unsuccessful

Pump tests are a frequently used tool which allow hydrogeologists to assess the hydraulic characteristics and hydraulic connections of aquifers. As described on pages M-23 and M-24, a 7-day pumping test was carried out at the ED-19 site on Lower Aquifer well BH6-95 starting on October 20, 1995. The pumping test data were not provided in the Hydrogeology Assessment, which is poor practice.

A major rainfall event occurred near the start of the test, which rendered it largely useless for assessing hydraulic characteristics. Instead of breaking off the test and redoing it at a more favourable time, the well was pumped for the full 7 days. The test was not redone at a later date.

Table 3.4 indicates that the hydraulic conductivity estimate obtained for the Lower Aquifer from the flawed pumping test differed from an estimate obtained using a different method by a factor of 1000 - no effort was made to resolve this discrepancy. As a result, there is no confidence that the hydraulic characteristics of the Lower Aquifer are adequately understood at this time.

The pumping test and the observed response to the major rain event indicated that the upper part of the Silt/Clay Unit is hydraulically active and responsive to rain events.

There was also an observed response to the rain event in the lower part of the Silt/Clay Unit, indicating that contrary to expectations this unit is hydraulically active. The hydraulic head vs. time graphs provided in Figures C.35 and C.36 suggest that the lower part of the Silt/Clay Unit was also initially responsive to the pumping test - again suggesting that contrary to expectations this unit is hydraulically active.

d) Significance of Fractures in Silt/Clay Unit Downplayed

Review of the borehole logs in Schedule A of the Hydrogeology Assessment reveals that fractures were found to very considerable depths in the Silt/Clay Unit at numerous locations. Figure 3.9 of that document shows the lowest elevation at which fractures were observed in the Silt/Clay Unit.

I have prepared **Table 1** of this review (on the next page) to show the depth to which fractures were found in the boreholes drilled into the Silt/Clay Unit.

The fracture depths for the Silt/Clay Unit shown in **Table 1** are exceptional in my experience with clay units in Ontario. They strongly suggest that the lake in which the Silt/Clay Unit was deposited, was subjected to repeated drying episodes during which the fractures formed (as also discussed on page M-71 of the report).

The fractures represent permanent weaknesses in the silt/clay, and the fractured silt/clay will have much higher permeabilities than it would if there no fractures present. As a result the fractured Silt/Clay Unit will allow significant groundwater movement (and contaminant transport) - contrary to what is normally expected from thick silt/clay units in Ontario.

Although the presence of fractures to great depths in the Silt/Clay Unit is noted in the Hydrogeology Assessment, the significance of the great depth of the fractures is downplayed or poorly understood. There is talk of groundwater travel times through the Silt/Clay Unit to the Lower Aquifer of 600 to 2000 years. In my professional opinion these estimates represent wishful thinking; are not based on sound science, and are inconsistent with the available hydrogeological evidence.

Table 1 - Depth of Fractures Found in Boreholes at Site ED-19

Well	Maximum Fracture Depth (meters below ground surface)	Minimum Fracture Elevation (meters above sea level)
BH2a-95	5.18 mbgs	77.8 masl
BH3a-95	14 mbgs	67.9 masl
BH4a-95	9.14 mbgs	73.8 masl
BH5a-95	11.4 mbgs	70.7 masl
BH6a-95	11.4 mbgs	70.7 masl
BH7a-95	14.2 mbgs	69.2 masl
BH8a-95	14.8 mbgs	70.7 masl
BH9a-95	13.1 mbgs	71.9 masl
BH10a-95	9.7 mbgs (base of BH)	77.2 masl
BH11a-95	15.2 mbgs	71.0 masl

My opinion is confirmed by several lines of evidence including the water chemistry results, which reveal that chloride levels are very much lower than those of the Champlain Sea in which the silt/clay formed.

As confirmed on page M-72 of the Hydrogeology Assessment, the Champlain Sea in which the Silt/Clay Unit formed is estimated to have had a salinity of about 6,400 mg/L. Under normal circumstances for a silt/clay unit with low permeability one would expect current chloride levels in the groundwater in the silt/clay to reflect these high salinities. Instead, the highest chloride levels found in the silt/clay are on the order of 70 to 80 mg/L - indicating that there has been massive flushing and dilution of the natural salinity in the silt/clay unit by an ongoing flow of fresh rainwater through the transmissive fractures in this permeable unit.

As discussed in the next section of this review, the hydraulically active nature of the fractured Silt/Clay Unit is also confirmed by the isotopic testing results for ED-19.

e) Isotopic Testing Done But Results Ignored

One of the more technically interesting parts of the Hydrogeology Assessment is the discussion of the results of isotopic testing found on pages M-62 to M-64. While the discussion is highly technical - the isotopic testing results showed that from top to bottom the Silt/Clay Unit which is being relied upon to hydraulically contain the site is hydraulically active. Radioactive tritium from nuclear testing within the past 40 years was found in wells throughout the Silt/Clay Unit, indicating that there is significant flow of modern water through the unit.

This is supported by the oxygen-18 results, which likewise show no difference between the groundwater in the silt/clay unit and the groundwater in the Shallow Aquifer and Lower Aquifer.

The isotopic testing was only done at one well nest location (BH8), and no effort was made to confirm or disprove the results which were obtained. The available test results indicate that the Silt/Clay Unit can not be relied upon to hydraulically isolate contaminants from the proposed landfill. Instead, the fact that tritium is found throughout the unit at all depths tested confirms that there is active groundwater movement in the unit. The groundwater which has carried tritium to the bottom of the well nest doesn't stop there - it is part of an active flow system which is carrying it further. The further flow path may be lateral or vertical, but that is not the point.

It took less than 40 years for tritiated rainwater to make it from the ground surface to all depths tested in the Silt/Clay Unit, and thus it follows that it will take less than 40 years for the water in the Silt/Clay Unit to exit the unit and recharge the surrounding Lower Aquifer - not 600 to 2000 years as suggested in the Hydrogeology Assessment.

Nonetheless in the remainder of the Hydrogeology Assessment it is suggested that the Silt/Clay Unit provides “*a very significant measure of control*” over contaminant migration (page M-79) and “*excellent protection*” of the Lower Aquifer (page M-85). I have not been able to find any technical evidence to support these statements.

What I have found instead are multiple lines of evidence all pointing to a rather unique silt/clay deposit which is unusually fractured to very great depths, with active groundwater flow occurring in these fractures and with geochemical and isotopic evidence confirming the very hydraulically active nature of the silt/clay.

Unlike many other sites in Ontario where thick silt/clay deposits are present, there is no reason to think that the Silt/Clay Unit at this site will provide the hydraulic containment which the authors of the Hydrogeology Assessment are suggesting.

f) The Conceptual Model for the Site is Incomplete and Deficient

The conceptual groundwater flow model for the site is depicted on Figure 3.17 and discussed on pages M-69 to M-72 of the Hydrogeology Assessment.

A conceptual model is a hydrogeologist’s best attempt to communicate their understanding of how groundwater is moving through the geological formations in an area. A prerequisite for its development is the best possible understanding of the hydrogeology of each of the geologic formations in the area.

The conceptual model for the ED-19 site is badly hampered by the fact that the authors of the Hydrogeology Assessment failed to investigate the most important formation in the area, namely the bedrock groundwater flow system which is the primary aquifer from which local residents’ wells are drawing their drinking water supplies. This issue was discussed in detail in **Section 3b** of this review.

The overburden formations at the site are situated in what the Hydrogeology Assessment described as a bedrock “bowl”, which encloses them on all sides - it follows that an understanding of the nature of that bowl is essential to understanding the full groundwater flow system.

Questions about the bedrock flow system which should have been addressed in the Hydrogeology Assessment through detailed on-site investigations (but weren’t) include the following:

- What is the hydraulic conductivity of the bedrock, and how does this compare to the hydraulic conductivity of the overburden formations inside the bowl?
- Have karstic dissolution processes been active in the dolostone bedrock, and are there any areas of karst-enhanced permeabilities in the bedrock?

- What are the hydraulic heads and hydraulic gradients across the margins of the bedrock bowl (ie. is groundwater flowing into the bowl or out, and does this change depending on position along the perimeter/base of the bowl)?
- How does groundwater quality in the bedrock compare to that in the overburden inside the bowl?
- The conceptual model in the Hydrogeology Assessment has lumped the sand and gravel unit at the bottom of the bowl and the underlying bedrock into one unit being called the “Lower Aquifer” - is this reasonable given the comparative hydraulic and geochemical characteristics of the units?

The conceptual model is further hampered by the fact that although several lines of evidence are indicating that the Silt/Clay Unit is hydraulically active with groundwater and contaminants well able to move through the formation, the Hydrogeology Assessment is suggesting that instead it provides a “*very significant measure of control*” over contaminant migration.

As a result and as discussed in more detail in the next section of this review, the Hydrogeology Assessment has missed several possible pathways by which contaminants could escape from the proposed landfill.

Moreover the proponent has decided on a series of landfill design and operations measures which are incompatible with the hydrogeologic environment, and which will significantly increase the risk of environmental impacts from the proposed landfill. These concerns are discussed in more detail in **Section 4** of this review.

g) Two Potential Pathways for Contaminant Migration Not Identified

Section 4.2 of the Hydrogeology Assessment discusses 2 possible pathways for contaminants to escape from the proposed landfill.

There are two additional pathways for contaminant migration from the proposed landfill which have not been identified or dealt with in the Hydrogeology Assessment:

- i) downward movement of landfill leachate through the landfill base and sideslopes, followed by underflow beneath the base of the perimeter cut-off wall;
- ii) mounding of leachate within the landfill due to leachate recirculation, leading to development of leachate springs and seeps on the landfill surface followed by surface water contamination.

i) Underflow Beneath Perimeter Cut Off Wall

A major problem with the landfill proposal, is the plan to recirculate all of the landfill's leachate for at least the first 10 years of the life of the site. As is discussed in more detail in the next section of this review, this will inexorably lead to leachate mounding inside the landfill, and a progressive increase in leachate heads.

The Hydrogeology Assessment assumes that this will not occur, and the perimeter cut-off wall has actually been designed to reduce the amount of clean groundwater inflowing into the proposed landfill's leachate collection system.

Though this was not really intended, the cut-off wall will also act as a barrier to outward leachate movement in the event of leachate mounding in the landfill - but the wall is not deep enough to effectively cut off outward leachate movement (likely because it was not designed with this goal in mind).

The conceptual model presented in the Hydrogeology Assessment is premised on the assumption that there will not be any significant groundwater movement below the base (at 72 meters above sea level, or masl) of the proposed perimeter cut-off wall.

Review of **Table 1** of this review reveals that for the majority of the wells listed in the table, the depth of observed fractures (which will facilitate underflow beneath the wall, if they are deeper than the base of the wall) goes below the proposed 72 masl base of the wall.

My prediction based on the review of the EAA/EPA documentation for the proposed landfill is that the recirculation of leachate will quickly lead to mounding of leachate, with hydraulic gradients switching to outward from the landfill area at all depths and in all directions. Leachate moving outward from the landfill will quickly encounter the cut-off wall, which will effectively funnel it downward to the base of the wall from whence it will flow beneath the wall and spread outward.

Isotopic testing at the BH8 location found tritium at the lowest depth sampled in the Silt/Clay Unit (48.5 to 50 feet below ground surface, or 14.8 to 15.2 meters below ground surface). This corresponds to elevations of 70.7 to 70.3 meters above sea level (masl), well below the proposed base of the wall at 72 masl.

Tritium is obviously easily able to get to this depth via fractures in the Silt/Clay Unit, and leachate contamination will be just as easily able to escape via underflow beneath the wall in those same fractures once downward/outward hydraulic gradients develop due to leachate mounding.

The fact that this pathway has not been foreseen or planned for is very problematic, and is further confirmation of the inadequacy of the Hydrogeology Assessment.

ii) Mounding of Leachate Followed by Development of Leachate Springs/Seeps

As discussed in more detail in **Section 4**, with the Counties' plan for at least 10 years of leachate management exclusively through recirculation it is my prediction that massive mounding of leachate will be occurring at the proposed landfill.

As leachate levels rise within the proposed landfill, they will over time exceed the elevation of the surrounding ground surface at which point widespread development of leachate springs and seeps on the side slopes of the landfill can be anticipated. The leachate leaking from the landfill will be carried into the stormwater management pond, and from there to the downstream site boundary. Off-site surface water contamination in excess of Provincial Water Quality Objectives will likely result.

The above 2 additional pathways (which have not been identified or dealt with in the Hydrogeology Assessment) are directly related to flaws in the proposed landfill design and operations plans, and those flaws are discussed in more detail in the next section of this review.

It is a major shortcoming of the Hydrogeology Assessment that these pathways have not been foreseen in the hydrogeological investigation and analysis of the site.

4) Problems with the Design and Operations Report

The detailed plans for the design and operation of the proposed landfill at site ED-19 are provided in a document entitled "Leeds and Grenville Waste Management System Plan, EAA/EPA Document, Volume 4, Design and Operations Report" which is hereafter referred to as the "D&O Report".

I have reviewed the D&O Report and found numerous deficiencies in the design and proposed operations of the landfill, including the following:

- a) the complete lack of an impermeable liner on the landfill base, to prevent downward and outward leakage of leachate;
- b) the leachate collection lines would be put in 10 meter wide and 0.3 meter deep, gravel-filled collection trenches - but there is otherwise no provision for a continuous high-permeability collection layer on the landfill base;
- c) for at least the first 10 years of the landfill's life, the only way leachate would be managed is by recirculating (pumping) it back into the landfill;
- d) leachate generation rates have been significantly underestimated;
- e) the surface water impact monitoring plans are poorly developed;
- f) there are no surface water impact mitigation/contingency plans at all in the D&O Report.

These issues are discussed in more detail in the following sections of this review.

a) No Impermeable Liner on the Landfill Base

A standard feature of modern landfill design is that some form of impermeable liner is put down at the base of the landfill - either compacted clay or some form of synthetic liner, or a combination of both.

Such a liner serves two purposes:

- it prevents the outward leakage of leachate;
- it assists in directing the landfill leachate to the leachate collection system.

Review of the D&O Report reveals that such a basal liner system is not planned for the proposed landfill. The result will be a landfill that too easily leaks leachate, and one in which leachate collection will be an ongoing challenge.

This is a shortcoming that is likely related to the fact that the site proposal was designed over 20 years ago, when less was known about landfill impact management.

b) No High-Permeability Leachate Collection Layer on Landfill Base

The D&O Report indicates that the leachate collection lines for the proposed landfill will be put in 10 meter wide and 0.3 meter deep, gravel-filled collection trenches - but there is otherwise no provision for a high-permeability gravel or geotextile leachate collection layer on the landfill base.

Such a high-permeability collection layer serves the purpose of facilitating the movement of landfill leachate to the leachate collection system, thereby discouraging the leakage of leachate through the landfill base and sidewalls.

With no such collection layer, leachate collection efficiencies will be reduced and downward and outward leakage rates will be higher than they need to be.

As with the lack of a basal liner, this is a shortcoming that is likely related to the fact that the site was designed over 20 years ago when less was known about landfill impact management.

c) Leachate Recirculation to be the Only Leachate Management Method for 10 Years

Leachate recirculation is discussed in Section 6.6 of the D&O Report, which states that:

"It is proposed to recirculate any leachate that is collected in approximately the first 10 years of landfill operation".

So the Counties' intention is clear - any leachate which is generated within the proposed landfill is to be recirculated for at least the first 10 years of operation. As outlined on page 6-18 of the D&O Report, a water pollution control plant (WPCP) capable of receiving the leachate after that time has not even been identified yet.

The following discussion and calculations explore the question of whether it is reasonable to plan to recirculate all of the proposed landfill's leachate for the first 10 years of its life. The calculations provided are not done using conservative numbers - instead they use numbers which I consider reasonable based on my experience.

The proposed development sequence of landfilling is described in Section 8.2 and illustrated on Drawing 4 of the D&O Report. These confirm that by the 10-year mark, the landfill footprint will have reached about 2/3 of its final area.

The leachate collection system will be collecting leachate from the landfill footprint, as well as from the Shallow Aquifer flow system inside of the perimeter cut-off wall (which will be situated beneath the landfill's perimeter access road). If we assume that the area inside the cut-off wall is 15 hectares, then this is the area which will be contributing water to the leachate collection system. Just over one third of that (5.5 hectares) is the size of the average landfill footprint over the 10 year period.

There will be no final cover on any portions of the landfill within the first 10 years, just 0.3 meters of interim cover (see page 9-5). The cover materials at this site are intended to be the soils excavated for the landfill, which are primarily the sandy soils of the Shallow Aquifer. Such soils will encourage the infiltration of rainfall into the landfill, and I anticipate leachate generation rates during the first 10 years of the landfill's life to be about 400 mm/year (this value is based on my several decades of experience dealing with Ontario landfills).

So the landfill footprint will be generating an average of about 400 mm/year over about a 5.5 hectare area, which works out to:

$$0.4 \text{ m} \times 55,000 \text{ m}^2 = 22,000 \text{ m}^3/\text{year} \text{ or } 22 \text{ million litres of leachate per year.}$$

The leachate collection system (at a depth of about 5 meters below ground surface, or mbgs) will be the hydraulic low point in the Shallow Aquifer, and that aquifer's hydraulic conductivity of 5×10^{-3} cm/s is high enough that the leachate collection system can be assumed to be effectively draining the other (average) 9.5 hectares inside the cut-off wall. As a rough estimate, half of the annual water surplus of 330 mm (0.33 m) will infiltrate into the groundwater system (the other half runs off) across the other 9.5 hectares inside the cut-off wall, which works out to:

$$0.165 \text{ m} \times 95,000 \text{ m}^2 = 15,675 \text{ m}^3/\text{year} \text{ or } 15.7 \text{ million litres/year of leachate.}$$

In total this results in about 37,700 m³/year of liquid (which must all be handled as leachate) accumulating in the landfill - given that everything is being recirculated.

Given the landfill size of 10 hectares at the end of the 10-year period of exclusive leachate recirculation, this means that at the end of Year 10 there will be a total leachate accumulation of about $377,000 \text{ m}^3 / 100,000 \text{ m}^2 = 3.77$ meters of liquid build up inside the landfill.

This volume of leachate has to be squeezed into the pore space of the landfilled wastes and cover materials, and if one assumes a porosity of 30% then the depth of wastes which would be fully saturated in the 10-year period can be calculated as follows:

$$3.77 \text{ m} / 0.3 = 12.6 \text{ meters.}$$

At the end of 10 years, the landfill is only 10 or 11 meters thick from top to bottom, so what the above calculations (which are by no means conservative) are showing is that there will be too much leachate for the proposed landfill to hold - with significant leachate mounding on the order of 6 meters, and leachate leakage to be anticipated. Note that this mounding problem will develop within the first few years of operation.

The leachate mounding will activate leakage out of the landfill via the 2 unidentified pathways discussed previously - via underflow beneath the cut-off wall (where it would cause groundwater contamination), and via leachate seeps and springs which would either be coming out the side slopes of the landfill or simply discharging into the surface water collection ditches inside the perimeter road (where they would cause downstream surface water contamination).

This is clearly an unacceptable situation, and one which was not foreseen in the D&O Report. The D&O Report assumes no leachate mounding - an assumption which is clearly not compatible with the plans to recirculate all leachate for at least 10 years. Once mounding is occurring, the 2 unidentified pathways come into play - and neither of these pathways was foreseen in the D&O Report either.

This is particularly problematic because the surface water impact monitoring plans and contingency plans are poorly developed (as will be discussed in subsequent sections of this review), and the groundwater monitoring plans and contingency plans were not developed with the unidentified pathway of underflow beneath the cut-off wall in mind.

d) Landfill Leachate Generation Rates have been Significantly Underestimated

Leachate generation rates are discussed in Section 6.4 of the D&O Report.

The estimate provided (163 mm/year) is based on model calculations for the closed landfill with steep sideslopes and final cover. I have no problem with those calculations, but they are irrelevant to the situation when the landfill is open.

For the record the authors of the D&O Report “*assumed that appreciable amounts of leachate would not be generated until 10 years after the start of operations*” as set out in Section 6.4, with leachate generation being “*zero in Year 10*”.

These are unrealistic and unreasonable assumed numbers, which is why I went through the exercise of calculating leachate generation rates in the previous section.

e) Surface Water Impact Monitoring Plans are Poorly Developed

The surface water impact monitoring plans for the proposed landfill are poorly developed in the D&O Report.

Only 2 surface water monitoring stations are proposed - Station B at the northeast corner of the ED-19 site, and Station F which is situated about 3 km downstream of the site.

Station F will be largely useless for detecting impacts on off-site surface waters just downstream of the site, due to the massive dilution which would take place between the proposed landfill and Station F.

Station B which will receive discharges from the surface water management pond (SWMP) and which is on Tributary 1 at the site boundary is better situated (as shown on Figure 11.2 of the D&O Report), but it will be monitoring surface water quality in just one of four surface water courses shown on Drawing 1 of the D&O Report. I believe that all 4 tributaries should be monitored.

Also, because all of the tributaries are intermittent and will not be able to be monitored at least some of the time - I recommend that the SWMP itself should have been designated a monitoring station.

f) No Surface Water Contingency Plans Have Been Developed

The D&O Report failed to provide surface water contingency plans. This is a significant oversight, given that the majority of the proposed landfill’s water-related impacts could be on downstream surface waters.

The MOECP-issued Provisional Certificate of Approval for the proposed landfill includes triggers for surface water contingency plans, but is awkwardly phrased to deal with the fact that the proponent never developed any contingency plans.

This is dealt with in the Provisional Certificate of Approval with the wording: “*The nature of the contingency measures will depend on the cause of the problem*”.

5) Validity of Scientific Data after 20+ Years

I have been asked to consider whether hydrogeologic data gathered for the EAA and EPA investigations would still be valid and applicable after over 20 years. In my professional opinion while some things will be unchanged (eg. basic hydraulic characteristics like the thickness of a geologic formation or its hydraulic conductivity), others have changed to the point that the changes would significantly affect conclusions reached in the original studies.

If the Counties or a third party wish to pursue the operation of a landfill at this location, then it is essential for all scientific studies supporting the landfill proposal to be updated - in order to ensure that data collected previously are still valid.

I make this statement because of my observations during a tour of the proposed landfill and its surrounding on September 6th, 2018.

I was accompanied on that tour by Paul Smolkin and Megan Farnel (both are representatives of the Counties' consulting firm, Golder Associates Limited), and by Mr. Kyle Johnston from the CAD group who was assisting me.

It became clear during the tour that there have been major changes to the local environment, which is now significantly different from what was described in the EAA/EPA studies.

Changes which I observed to have occurred on the site and in its surroundings include the following:

- a) the number of homes within 1500 meters of the site has significantly increased;
- b) parts of the naturalizing site are now covered by standing surface water and wetlands, and elsewhere the moisture conditions have changed substantially.

a) Number of Homes Around Site

The number of homes within 1500 meters of the site has significantly increased since the time when the research for the Hydrogeology Assessment study was done. Figure 2.3 of that study shows the homes within about 1500 meters of the site. A total of 8 homes are shown on the figure.

Driving around the site area on September 6th I observed that there were many more homes than than the 8 shown on Figure 2.3, with the total number within 1500 meters more than doubling since 1997. Homes in the area rely on domestic wells for their water supplies, and those wells are typically completed in the limestone bedrock aquifer which underlies the site (and which the Counties failed to investigate).

With the increased number of homes comes increased groundwater usage as their bedrock wells are pumped to support the families living there. The increased groundwater usage from the bedrock aquifer will cause groundwater levels in that aquifer to fall, and this in turn will increase the vertical hydraulic gradients between the proposed landfill and the bedrock aquifer (increasing the rate of downward groundwater flow and contaminant transport from the site to the bedrock aquifer).

b) Surface Water Conditions at the Proposed Site

Following my site tour I can state definitively that surface water conditions at the proposed site have changed dramatically from what was reported in the EPA technical studies for the proposed landfill. Page J3-8 of the EPA Surface Water Technical Appendix document describes the site conditions in the 1990s as follows: *"The site consists of open space, fields, and forest/woodlot areas."*

I could not find any mention in this EPA Surface Water report (or in the Hydrogeology Assessment) of any standing water or wetland conditions on or near the proposed landfill site. Given that Surface Water and Hydrogeology are the two disciplines which concern themselves with water, these are the reports which should be describing any notable surface water conditions which may be present on the site.

Since there had been no mention of standing surface water or wetlands in either report, I was taken aback during the September 6, 2018 site tour when I saw extensive standing surface water, vernal pools, and wetland areas on and around the proposed landfill footprint.

The site and its surroundings are now much wetter than they were described to have been in the 1990s. The formation of the observed areas of standing surface water, vernal pools and wetlands is likely due in part to beaver activity, and to some extent due to the naturalization of the site - both of which have been ongoing processes for over 20 years.

During the September 6, 2018 site tour we found BH1-94, which is situated beside a treed former hedgerow just to the east of the proposed waste footprint. From there looking westward toward the proposed waste footprint one could see a vast marshy area of standing surface water extending to the southwest, west and northwest from near BH1-94 which covered a minimum of 4 - 5 hectares. My sense was that we were there at the driest time of the year, and that normally water levels across this vast area would be considerably higher.

My best estimate (based on my observations in the field and on my review of the EPA Biology document) is that the marshy area of standing surface water may cover an area at least 4 or 5 hectares in size, however this is something that would need to be confirmed through aerial photographs.

The presence of this large area of standing water which extends across a significant part of the proposed waste footprint has major implications, because of changes and updates to the regulations governing proposed landfills (please see the next section of this review).

In the meantime, I anticipate that the numerous naturalized standing water areas and wetlands on and around the site together comprise a wetland complex. I am not an expert in wetland classification, but based on a variety of wetland complexes I have encountered over the course of my career I would not be surprised if the wetland complex on and around the site is found to be provincially significant. The Ministry of Natural Resources should be requested to expedite mapping of wetland features on and around the site to determine if this is the case.

6) Effects of Updates to MOECP Guidelines or Regulations on this Matter

There have been numerous changes to MOECP Guidelines, Regulations and Procedures in the 20 years since the ED-19 received its EAA and EPA approvals. There are very significant implications arising from several of these changes, two of which are described in the following sections of this review.

a) The Ontario Drinking Water Quality Standards (ODWQS) for two key parameters used in the hydrogeology impact assessment (eg. benzene and vinyl chloride) have been revised downward in the years since the report was issued. The ODWQS for vinyl chloride (a known carcinogen) was reduced by 50%, from 2 to 1 microgram per Litre (ug/L). The ODWQS for benzene (also a known carcinogen) was reduced by 80%, from 5 to 1 ug/L.

As a result the contaminant transport modelling for the Reasonable Use Assessment which is presented in Schedule H of the Hydrogeology Assessment is no longer valid, and should be redone using the ODWQS which are now in effect.

The modelling should be redone in any event, because it was not done properly in the first place. A vertical hydraulic conductivity value of 5×10^{-8} cm/s was used for the Silt/Clay Unit in the model, even though it is clear from various lines of evidence (including the presence of fractures noted in borehole logs as well as geochemical and isotopic testing results discussed earlier) that the value used is absurdly low.

It should be noted that the vertical hydraulic conductivity value used was based on laboratory testing (which is known to suffer from issues such as sample bias), and was about a factor of 1000 lower than horizontal conductivity values obtained in more valid field tests at the site. The empirical rule of thumb used by hydrogeologists is that vertical hydraulic conductivity is a factor of 10 lower than horizontal - the 1000 times lower value used in the Hydrogeology Assessment is extremely non-conservative (ie. it is 100 times too low), leading to model predictions of flow rates which are about 100 times too low - this is a fatal flaw in the modelling.

b) Since the ED-19 site received its EAA/EPA approvals in 1998, the Environmental Protection Act (EPA) was amended to include Subsections 27(3.1) and 27(3.2).

Subsection 27(3.1) states the following:

".. no person shall use, operate, establish, alter, enlarge or extend a waste disposal site where waste is deposited in a lake."

Subsection 27(3.2) provides definitions and qualifications as follows:

"(3.2) In subsection (3.1), "lake" includes,

a) a body of surface water that,

(i) results from human activities, and

(ii) directly influences or is directly influenced by ground water, and

b) an area of land that was covered by a body of water described in clause (a) or a lake on the day this subsection came into force, but does not include,

c) a body of water described in clause (a) or a lake, if the body of water or lake is less than one hectare in area, or

d) an area of land described in clause (b), if the body of water described in clause (a) or lake that covered the area of land on the day this subsection came into force was, in total, less than one hectare in area on that day."

To paraphrase Subsection 27(3.1), waste disposal sites shall not be operated where waste would be deposited in a lake. Some definitions of "Lake" are then provided in 27(3.2) but these definitions do not appear to be exclusive.

It is my best estimate that the standing surface water (ie. "lake") area which I saw on the ED-19 site was at least 4-5 hectares in size, and it was my strong impression that at least one to two hectares of the lake are on the proposed waste footprint of the site. It is situated on a sand aquifer, so it will interact with groundwater. Based on the extensive standing surface water (ie. lake) which is now present on and around the ED-19 site, it is my understanding that this site as designed and laid out in the D&O Report (and approved in the 1998 ECA approval) is no longer eligible for landfilling.

7) Discussion

The above sections of this review have described and discussed some of the major problems associated with the proposed landfill at the ED-19 site. Under no circumstances should landfilling be permitted to proceed at this site based on the existing documentation and approvals. As discussed above, landfilling may even be prohibited at this site by virtue of s 27(3.2) of the EPA as discussed above.

The major problems listed in prior sections of this review are by no means an exhaustive list of the problems I found. Other concerns which I have noted in the course of my consideration of this matter include the following:

- The Counties managed to cause organic chemical contamination of various aquifer and aquitard units as a result of their drilling program. This is discussed on page M-69 of the Hydrogeology Assessment. A peak level of 2.6 ug/L benzene was found in well BH16-95.
- As discussed in **Section 5a** of this review (and as can be seen from a look at GoogleMaps), many new homes have been built in the area in the past 20+ years. An updated map showing all homes/wells within 1.5 km of the site is required, as is a proper survey of well water usage for each of the homes/wells which are now in the area.
- A discussion of groundwater flow rates in fractured dolostone such as is found in the ED-19 area should have been provided in the Hydrogeology Assessment - such flow rates are commonly on the order of tens to hundreds of meters per day.
- The contingency plan if contamination is detected in the Lower Aquifer is to install a perimeter leachate collection system. Experience at other Ontario landfills has shown that a perimeter leachate collection system will not prevent leachate mounding or downward movement of contaminants as a result of such mounding.
- Another contingency plan in case contamination is detected in the Lower Aquifer is to install purge wells in the Lower Aquifer - but no details were provided. The extent to which such wells could cause well interference with nearby homes has not been considered. The Hydrogeology Assessment (page M-85) claims that there is “*no potential for well interference*”, which is inconsistent with this contingency plan. If purge wells were needed to be installed and pumped then this would be a permanent condition, which would bring with it the potential for well interference.
- The D&O estimate of the amount of clogging of the leachate collection system was based on an assessment at another site which has very different design including a continuous gravel drainage blanket at the base of the landfill - which would not be present at this site. In effect the D&O clogging estimate represents an inapplicable best-case scenario.
- The one-dimensional computer model used in the Reasonable Use Assessment failed to evaluate the potential for underflow beneath the cut-off wall followed by lateral flow to the margins of the bedrock bowl. It also used an inapplicable and far too high hydraulic conductivity value for the silt/clay unit which rendered the whole exercise invalid.
- The estimated lateral flow rates in the Silt/Clay Unit of 0.1 meter/year (see page M-71 of the Hydrogeology Assessment) are not supported by geochemical and isotopic evidence, and are far too low (and thus non-conservative).
- The lack of any basal containment liner for the proposed landfill means that there will be a perpetual potential for leakage of leachate out of the sides of the landfill into the Shallow Aquifer, and from there into the nearest surface water ditch.

8) Inadequate and Unacceptable Minutes of Settlement

I was provided with the Minutes of Settlement between the United Counties of Leeds and Grenville and the Director, MOECP which are dated August 2, 2018 (hereafter referred to as the “Minutes of Settlement”). It is my understanding that the Minutes of Settlement represent the go-forward plan under which the MOECP proposes to amend the Environmental Compliance Approval (ECA) for the ED-19 site, to allow the Counties to proceed with their proposal for landfilling at this location.

I have reviewed the Minutes of Settlement and the associated proposed Amendment to ECA No. A420009 carefully, and can state with absolute certainty that they do not satisfactorily address any of the concerns which I have brought forward in previous sections of this review. I consider them to be utterly inadequate and unacceptable.

It is my professional opinion that the Minutes of Settlement do not provide for protection/conservation of the natural environment - instead they represent a threat to the natural environment and to the public interest, because they open the door to landfilling at the ED-19 site without properly addressing the multitude of deficiencies associated with the ED-19 landfill proposal.

I have outlined the multitude of deficiencies associated with the existing approvals and with the technical studies which provided the basis for those approvals in the previous sections of this review. The Minutes of Settlement do not meaningfully address these deficiencies.

I will state for the record that I profoundly disagree with the statement made in Paragraph 5 of the Minutes of Settlement, in which it is claimed that:

“.. the Amendment to the ECA set out in Schedule “A” to the Order will protect and conserve the natural environment and is in the public interest..”

I was asked by my clients to also consider whether the proposed ECA Amendment which is part of the Minutes of Settlement could be further amended to adequately address my concerns. In my professional opinion it is a mistake to try to amend the existing ECA, which is now 20 years old and which should not have been issued in the first place.

In my professional opinion, none of the technical documents in Schedules A, B, C, D, and E (written over 20 years ago) are suitable for a landfill proposed to be built today - all require revision to account for changes/evolution in real-world land use and the natural environment, as well as changes in regulations, drinking water quality and surface water quality standards, practices regarding landfill design and operation etc.

I have nonetheless assisted my clients in drafting proposed further ECA amendments, to cover the possibility that the Environmental Review Tribunal decides against my advice to allow the Counties to proceed in this matter with an amended ECA.

9) Conclusions

1) The Hydrogeology Assessment is deficient in a variety of ways (as described in detail in **Section 3** of this review), including the following:

- incomplete groundwater quality testing was done;
- there was almost no investigation and there is little understanding of the bedrock groundwater system which local residents rely upon for their well water supplies;
- the pumping test which was done was largely useless for assessing the hydraulic characteristics of the geologic formations at the site (due to interference from a major rain event), and it was not redone;
- the significance of fractures found in the Silt/Clay Unit was downplayed or not understood;
- isotopic testing was done but the results were ignored in the report;
- the conceptual model of the site hydrogeology is incomplete and deficient;
- 2 significant potential pathways for environmental contamination were not identified or assessed.

Due to these and other deficiencies, the Hydrogeology Assessment does not provide the required technical foundation for the safe design and operation of a landfill.

2) The D&O Report contains numerous deficiencies in the proposed design and operations of the landfill (as described in detail in **Section 4** of this review), including the following:

- a) the complete lack of an impermeable liner on the landfill base, to prevent downward and outward leakage of leachate;
- b) the leachate collection lines would be put in 10 meter wide and 0.3 meter deep, gravel-filled collection trenches - but there is otherwise no provision for a continuous high-permeability collection layer on the landfill base;
- c) for at least the first 10 years of the landfill's life, the only way leachate would be managed is by recirculating (pumping) it back into the landfill;
- d) leachate generation rates have been significantly underestimated;
- e) the surface water impact monitoring plans are poorly developed;
- f) there are no surface water impact mitigation/contingency plans at all in the D&O Report.

Because of these and other deficiencies the D&O Report does not meet today's standards in terms of providing a secure design and a solid plan for the safe operation of a landfill.

3) As set out in **Section 5** of this review, some real-world conditions have changed to the point that the changes would significantly affect the conclusions reached in the original EAA/EPA studies, and the viability of the site.

9) Conclusions - continued

3) - continued

One example of changed real-world local conditions which would significantly affect the viability of the site is the more than doubling of the number of homes within 1500 meters of the site. This increase in homes and wells and the associated increase in pumping from the bedrock aquifer, would increase rates of downward movement of groundwater (and any contaminants being carried by that groundwater) from the site.

A second example of major changes in real-world local conditions which would significantly affect the viability of the site is the fact that significant parts of the site are now covered by standing water in the form of an area of standing surface water which covers the area to the southwest, west and northwest of BH1-94 (including parts of the proposed waste footprint). There was no mention of such features in the EPA technical studies on surface water or hydrogeology.

In addition to this major standing surface water feature there are numerous other naturalized vernal pools and wetland areas on/around the site which together are very likely to be classified as a wetland complex, which may be provincially significant.

The above features do not appear to have been present at the time of the original EPA studies, and together they will pose difficult if not insurmountable problems for landfilling at this site. Updates to all scientific studies should be required and obtained to ensure that data collected previously are still valid, in the event that the Counties or a third party wish to pursue the operation of a landfill at this location.

4) As set out in **Section 6** of this review, there have been numerous changes to MOECP Guidelines, Regulations and Procedures in the 20 years since the ED-19 received its EAA and EPA approvals.

For example there have been downward revisions to the Ontario Drinking Water Quality Standards for 2 key parameters considered in the Reasonable Use Assessment for the proposed landfill. The modelling for the assessment should be redone for this reason, and because of other fatal flaws with the original modelling.

A second major change to the regulations since the ED-19 site got its approvals in 1998, was the amendment of the the Environmental Protection Act (EPA) to include Subsections 27(3.1) and 27(3.2) which prohibits landfilling in lakes (ie. bodies of surface water more than 1 hectare in size). I observed a lake (ie. surface water area) on my site tour, and believe that at least one hectare of the lake is on the proposed waste footprint of the site. As such, it is my understanding based on EPA Subsections 27(3.1) and 27(3.2) that this site as designed and laid out in the D&O Report (and approved in the 1998 EPA approval) is no longer eligible for landfilling.

9) Conclusions - continued

5) There are numerous other problems which were found in the course of my review of the documentation for the proposed landfill. These other problems are listed in point form in **Section 7** of this review. Taken together with the major problems outlined above the inescapable conclusion is that while the proposed landfill somehow received approval in 1998, it would certainly not be approved in its current form today.

It is my professional opinion that the technical documentation which supported the MOECP's 1998 approval of the landfill was deficient, and certainly the documentation does not meet today's standards.

6) It is my professional opinion that the construction and operation of a landfill at the proposed location in accordance with the current site documentation would pose an unacceptable threat to off-site groundwater supplies and off-site surface water resources.

7) It is my professional opinion that the Minutes of Settlement negotiated by the United Counties and the MOECP do not provide a safe and sound basis for proceeding in this matter - instead they represent a threat to the natural environment and to local residents, because they open the door to landfilling at the ED-19 site without properly addressing the multitude of deficiencies associated with the ED-19 landfill proposal.

10) Recommendations

1) Based on the findings of my technical review of the available hydrogeological information and evidence as outlined above, it is my professional recommendation that the the Environmental Assessment Act (EAA) approval and the Environmental Compliance Approval (ECA) which were granted for the ED-19 site in 1998 should be revoked.

2) If the MOECP decides against my professional recommendation to permit a landfill to be operated at the proposed location on the basis of the deficient technical documentation which supported its 1998 approval of the landfill, then this should be vigorously challenged through all possible means because of the unacceptable threat that the proposed landfill poses to the natural environment and to local residents who live in the surrounding area.

11) References

The following list includes most of the key documents which have been considered, reviewed or referenced in the course of preparing this Peer Review.

- Chapman, L.J. and Putnam, D.F. 1984. The Physiography of Southern Ontario, 3rd Edition.
- D'Astous, A.Y., Ruland, W.W., Bruce, R.J., Cherry, J.A., and Gillham, R.W. 1989. Fracture Effects in the Shallow Groundwater Zone in Weathered Sarnia Area Clay. Published in the Canadian Geotechnical Journal, Vol. 26, No. 1, p. 43-56.
- Domenico, P.A. and Schwartz, F.W. 1998. Physical and Chemical Hydrogeology.
- Freeze, R.A. and Cherry, J.A. 1979. Groundwater.
- United Counties of Leeds and Grenville and Ministry of the Environment, Conservation and Parks. August 2, 2018. Minutes of Settlement.
- United Counties of Leeds and Grenville. February 1997. Leeds and Grenville Waste Management System Plan - Volumes 1 through 4.
- United Counties of Leeds and Grenville. November 28, 1997. Response to EPA Comments.
- Ontario Geologic Survey, 2008. Karst Map of Southern Ontario.
- Ontario Geologic Survey, 1992. Geology of Ontario.
- Ontario Regulation 169/03: Ontario Drinking Water Quality Standards. Updated January 2017.
- Ontario Ministry of the Environment (MOE). June 24, 1998. Provisional Certificate of Approval Number A420009. Issued to the United Counties of Leeds and Grenville.
- Ontario Ministry of the Environment (MOE). May 1998. Landfill Standards.
- Province of Ontario, Environmental Protection Act, R.S.O. 1990, c. E.19. Current (e-laws) version dated September 4, 2018.
- Ruland, W.W., Cherry, J.A., and Feenstra, S. 1991. The Depth of Fractures and Active Ground Water Flow in a Clayey Till Plain in Southwestern Ontario. Published in the Journal of Ground Water, Vol. 29, No. 3, p. 405-417.

12) Signature and Professional Stamp

This Review has been prepared in its entirety by Wilf Ruland (P. Geo.). It is based on my honest conviction and my knowledge of the matters discussed herein following careful review of the EAA/EPA documentation, and review or reference to other documents listed in the Reference List above.

This Review has been prepared for the use of my clients, Citizens Against the ED-19 Dump.

Signed on the 11th of October, 2018



W Ruland

Wilf Ruland (P.Geo.)

766 Sulphur Springs Road
Dundas, Ont.
L9H 5E3
Tel: (905) 648-1296
deerspring1@gmail.com

Environment and Land Tribunals Ontario

Environmental Review Tribunal

Acknowledgement of Expert's Duty

Case Name and No.:

Case Mo. 17-072: an appeal by the Corporation of the United Counties of Leeds and Grenville for a Hearing before the Environmental Review Tribunal

1. My name is Wilf Ruland. I live at 766 Sulphur Springs Road, Dundas (Hamilton) in the Province of Ontario.
2. I have been engaged by or on behalf of Citizens Against ED19 Dump (CAD) to provide evidence in relation to the above-noted Tribunal proceeding.
3. I acknowledge that it is my duty to provide evidence in relation to this proceeding as follows:
 - (a) to provide opinion evidence that is fair, objective and non-partisan;
 - (b) to provide opinion evidence that is related only to matters that are within my area of expertise;
 - (c) to provide opinion evidence in accordance with the Environmental Review Tribunal's Practice Direction for Technical and Opinion Evidence; and
 - (d) to provide such additional assistance as the tribunal may reasonably require, to determine a matter in issue.
4. I acknowledge that the duty referred to above prevails over any obligation which I may owe to any party by whom or on whose behalf I am engaged.

Date October 11, 2018

..... *W. Ruland*
Signature

Appendix F: Form 5

This is Exhibit C referred to in the affidavit of Wilf Roland affirmed before me, this 12th day of October 2018.

WITHOUT PREJUDICE

Schedule A

UCLG ED-19 ECA Amendment (CAD Edits)


A COMMISSIONER FOR TAKING AFFIDAVITS

The ECA shall be amended to include the following definition as Condition 1(a.1), which shall read as follows:

- a.1) "CAD" means the not-for-profit corporation known as Citizens Against the ED19 Dump;

The ECA shall be amended to revise the definition of "Corporation" in Condition 1(a), which shall read as follows:

- a) "Corporation" means the Corporation of the United Counties of Leeds and Grenville and any successors or assigns that assume ownership of the Landfill property;

The ECA shall be amended to replace the definition of "MOE" in Condition 1(d), which shall read as follows:

- d) "Ministry" means the Ministry of Environment, Conservation and Parks;

[Note: "MOE" should be replaced by "Ministry" throughout the ECA]

The ECA shall be amended to replace the definition of "ODWO" in Condition 1(e), which shall read as follows:

- e) "ODWQS" means the Ontario Drinking Water Quality Standards under O.Reg. 169/03;

The ECA shall be amended to include the following definition as Condition 1(l):

- l) "Technical Support Manager" means the Ministry's Eastern Region Technical Support Manager.

The ECA shall be amended to include the following definition as Condition 1(m):

- m) "Schedule A" means all documents listed in Schedule A to this approval, as revised in accordance with the process set out in Condition 9.1.

The ECA shall be amended to include a new Condition 7.1, which shall read as follows:

Schedule "A"

- a) No portion of the Landfill property shall be sold, leased, transferred or encumbered unless the Corporation notifies the Director in advance of the transaction, and unless the Director confirms in writing that he/she is satisfied with the proposed arrangements to ensure that all conditions of this Approval will be carried out, and that sufficient financial assurance is deposited with the Ministry if the Landfill property is sold, leased, transferred to a non-municipal corporation or person. After receiving this notification, and when reviewing the transaction, the Director will consider the operating history and compliance record of the proposed owner, lessee or transferee.
- b) For the purposes of providing the notification required by clause (a), the Corporation shall notify the Director in writing at least 60 days prior to the occurrence of any proposed changes in the following matters:
 - i. the ownership, possession, management or control of the Landfill property;
 - ii. the address of the proposed owner, lessee or transferee of the Landfill property;
 - iii. the partners, if the owner enters into a partnership regarding the Landfill, and a copy of the most recent declaration filed under the *Business Names Act*, RSO 1990, c.B.17 shall be included in the notification;
 - iv. The name of the corporation that owns the Landfill property, and a copy of the most information filed under the *Corporations Information Act*, RSO 1990, c.C.39 shall be included in the notification.
- c) In the event of any change in the ownership of the Landfill, other than a change to a successor municipality, the Corporation shall notify in writing the succeeding owner about the existence of this Approval, and a copy of this notice shall be provided to the Director.

The ECA shall be amended to replace Condition 9 with a new Condition 9, which shall read as follows:

- a) No later than December 31, 2018, the Corporation shall establish and participate in an LLC. The objectives of the LLC are to:
 - i. provide the public with a meaningful opportunity to review and comment on the methodology used for, and the conclusions or outcomes of, the investigations, reports, studies and other documents required under Condition 9.1;
 - ii. keep the public informed about site design, management and operational matters; and

Schedule "A"

- iii. enable the Corporation to receive and understand public concerns about site design, management and operational matters.
- b) To fulfill these objectives, the Corporation shall invite the following persons to serve as LLC members:
 - i. two residents living within the Township of Edwardsburgh Cardinal;
 - ii. two residents living elsewhere within the United Counties of Leeds and Grenville;
 - iii. one representative of CAD;
 - iv. one representative of the Corporation;
 - v. one representative of the local health unit; and
 - vi. two representatives of local municipalities in the United Counties of Leeds and Grenville.
- c) The LLC shall be chaired by a person other than the Corporation.
- d) The LLC shall meet at least four times per year. The LLC's terms of reference, initial membership and meeting protocols shall be discussed and established at the first meeting of the LLC.
- e) The Corporation shall provide the LLC with sufficient funds to enable the LLC to retain independent experts to conduct third-party reviews of site-related technical documents as deemed necessary by the LLC.
- f) The Corporation shall prepare and submit to the Director an annual report summarizing the LLC's activities.
- g) The LLC shall be entitled upon request to all non-privileged documents in possession or control of the Corporation which are relevant to the site.
- h) All Committee reports, meeting minutes and other documents provided to the Committee will be available to the public upon request.

The ECA shall be amended to include a new Condition 9.1, which shall read as follows:

- a) No waste shall be received, stored or disposed at the Landfill property, and the Corporation shall not commence any development, construction or operation of the Landfill on any portion of the site, until the Corporation has completed the work and submitted the reports required by 9.1(c), (d), (e) and (f) below to the

Schedule "A"

Director and to the LLC and CAD for review and comment, until the Director has approved the revised Design & Operation report required by Condition 9.1 (g) via an amendment to the Approval. For greater certainty,

- i. any work needed to conduct any required investigation or to prepare any required report shall not constitute development, construction or operation of the landfill; and
 - ii. no clearing, grading, site alteration, vegetation removal or drainage work shall be undertaken at the landfill until the Director has approved the report required by Condition 9.1(g) via an amendment to the Approval.
- b) The Corporation shall ensure that qualified person(s) with the necessary experience will carry out the work referred to in 9.1 (c), (d), (e) and (f) and that the Corporation and/or the qualified person(s) conduct one or more consultation technical meetings with the Technical Support Manager prior to conducting the work. CAD and its technical advisors shall be invited to attend and participate in such meetings, and to make submissions to the Technical Support Manager on the adequacy of the proposed work plans and all documents required under this Condition.
- c) The Corporation shall:
- i. Conduct an inventory of the existing on-site and off-site monitoring well network, carry out 2 rounds of water quality testing within one month on all operational wells, and then submit an initial report to the Technical Support Manager that provides the findings of the inventory/testing and:
 - a. evaluates the operational condition and adequacy of these wells to provide representative groundwater information;
 - b. assesses the need for replacement/substitute monitoring wells, if any;
 - c. provides recommendations for at least 8 new bedrock flow system monitoring wells (2 on each side of the proposed waste footprint); and;
 - d. commits to monitoring every new bedrock well, and proposes which other wells will be used as monitoring wells for the purposes of the groundwater monitoring and testing program required by 9(c)(ii);
 - ii. Once the Technical Support Manager has accepted the initial report referred to in 9.1(c)(i) in writing, as amended if necessary, install all new bedrock wells and replacement wells, conduct a groundwater elevation survey of the monitoring wells, and then conduct groundwater monitoring over three consecutive seasons (spring, summer and fall) in accordance

Schedule "A"

with the requirements set out below, carry out a proper pumping test to redo the failed pumping test (done on BH6-95 in October 1995), and prepare and submit to the Technical Support Manager a new report summarizing the results.

The groundwater monitoring referred to above shall be carried out as follows:

- a. sample and analyze the monitoring wells for all parameters set out in column 1 of table C.2.;
 - b. sample and analyze the monitoring well intervals in BH8-95, or alternate intervals in another borehole(s), during one of the sampling events, for tritium.
- iii. The new report referred to Condition 9.1 (c)(ii) above shall also include the results of a door-to-door survey to provide current information on the number and location of dwellings with water supply wells which are situated within 1.5 kilometres of the Landfill (the "study area radius"), and this survey shall obtain as much relevant information as possible about the wells, including depth of well, depth of pump, year of installation, water well record, and any issues to date with the well.
- iv. The new report referred to Condition 9.1(c)(ii) above shall also update and revise as necessary the conceptual groundwater flow model depicted on Figure 3.17 and discussed on pages M-69 to M-72 of EAA/EPA Document Volume 3, Appendix M.
- d) The Corporation shall complete a survey of the following features located on the site and within a 1.5 kilometre study area radius and prepare a report summarizing the results of the survey including:
- i. Surface water bodies and receptors (including mapping of the current areal extent of surface water bodies in both wet season and dry seasons);
 - ii. Drainage (including detailed mapping of current pathways of surface water flow on and around the site, and including in particular the downstream flow path for surface water being discharged from the proposed surface water management pond);
 - iii. Wetlands (including an assessment of whether the wetland pockets on and around the proposed waste footprint comprise a Provincially Significant Wetland Complex);
 - iv. Ecological, Biological and Vegetation, including a current inventory of species at risk and their habitats; and

Schedule "A"

- v. Providing any additional information obtained regarding the site drainage, hydrogeology, geology, topography, soil types, and ecosystems within the Landfill property and the study area radius.

This report shall assess the implications (if any) of the current conditions of these features on proceeding to project implementation, including the development, operation, maintenance, closure and post-closure phases of the Landfill.

- e) Once the reports referenced in Condition 9.1 (c) and 9.1 (d) have been completed and revised as necessary to the satisfaction of the Technical Support Manager, the Corporation shall prepare a subsequent report which includes discussion of:
 - i. all recommended changes to the Landfill design and operations to ensure that there will be no possibility of contamination of off-site surface water features which exceeds the Provincial Water Quality Objectives over the contaminating lifespan of the Landfill; and
 - ii. all recommended changes to the Landfill design and operations to ensure that there will be no exceedances of reasonable use limits (as defined by the RUP) in any aquifer at the Landfill property boundary over the contaminating lifespan of the Landfill.
- f) The reports required by conditions 9.1(c), (d) and (e) shall be submitted by the Corporation to the Technical Support Manager, the LLC and CAD for review and comment.
- g) Once the Director has confirmed in writing that the Ministry is satisfied with all aspects of the reports required by Conditions 9.1 (c), (d) and (e), the Corporation shall, within 90 days, submit to the Director (and provide to the LLC and CAD) a proposed revised Design & Operations Report that either confirms or modifies the items included in the current report, and adds all required additional changes or information, in order to ensure that the following elements of the Landfill satisfy applicable regulatory requirements, including the RUP and PWQO:
 - i. the landfill design;
 - ii. landfill gas controls;
 - iii. the leachate collection and leachate management system;
 - iv. the stormwater management system (including confirmation that sizing and other operational details are correct based on

Schedule "A"

recent data for storm events and potential climate change impacts over the contaminating lifespan of the Landfill); and

- v. the operating conditions for litter control, dust control, noise control, odour control and site inspections and maintenance;
- h) The revised Design & Operations Report required under Condition 9.1(g) shall include:
- i. a commitment that leachate recirculation will not be carried out at the proposed Landfill;
 - ii. a commitment that as much leachate as possible will be collected from the site at all times, with all of the collected leachate being taken off-site for appropriate treatment at a waste water treatment plant which can handle the anticipated leachate volumes and quality (to be named in the report);
 - iii. details of a low-permeability landfill base liner with an overlying high-permeability leachate collection layer and piping system.
 - iv. a revised surface water monitoring plan which includes quarterly testing of the proposed surface water management pond; and
 - v. detailed surface water contingency plans.

The report shall also include a description of the haul route to the site, and a description of how compliance with the haul route will be enforced by the Corporation.

- i) After soliciting and considering the comments of the LLC and CAD on the report required by Condition 9.1(g), the Director may approve it, subject to any changes deemed appropriate, via an amendment to this Approval.
- j) On December 1 and June 1 of each year until the Corporation submits an application for amending this Approval in accordance with this Condition, the Corporation shall notify the Director, the District Manager, the LLC and CAD in writing as to whether the application for amendment will be submitted within the next six month period.

The ECA shall be amended by revising Condition 10 to refer to the following documents:

"...documents listed in Schedule A (as revised in accordance with the process set out in Condition 9.1)".

Schedule "A"

The ECA shall be amended by replacing Condition 11(c) with the following provision:

- c) design and operation of the leachate collection system which will achieve the goal of minimizing leachate levels in the landfill, including a leachate collection system clean-out and maintenance schedule.

The ECA shall be amended by replacing Condition 35 with the following provision:

Site grading and contours shall be maintained by the Corporation such that all clean surface water runoff from the outer slopes of the landfilling area is directed into the perimeter surface water management system, while all potentially impacted surface water is directed into the landfill for containment and collection in the leachate collection system.

The ECA shall be amended by adding a new Condition 36.1 to read as follows:

The overarching goal of the leachate collection system shall be to contain and collect as much of the landfill's leachate as possible on an ongoing basis, thereby minimizing the potential for leachate mounding and off-site landfill impacts. All collected leachate shall be removed from the site immediately, and taken to a waste water treatment plant (WWTP) for proper treatment. The landfill shall not be permitted to commence operations until the receiving WWTP and a contingency WWTP have been identified and made known to the Director and the LLC, including an assessment of the adequacy of the plants to properly treat and dispose of such leachate in accordance with their approvals.

The ECA shall be amended by revising Conditions 23, 25, 28, 31, 34, 36, and 38 to refer to the document which will replace Item 2 of Schedule A, by referring to "Item 2 of Schedule A, as revised in accordance with the process set out in Condition 9.1".

The ECA shall be amended by revising Conditions 39, 40, 41, 42, 43 and 46 to refer to the updated schedules, as follows:

Condition 39 should reference "Schedule C (as revised in accordance with the process set out in Condition 9.1)".

Condition 40 should reference "Schedule D (as revised in accordance with the process set out in Condition 9.1)".

Schedule "A"

Condition 41 should reference "Schedule E (as revised in accordance with the process set out in Condition 9.1)".

Condition 42 should reference "Schedule F (as revised in accordance with the process set out in Condition 9.1)".

Condition 43 should reference "Schedule G (as revised in accordance with the process set out in Condition 9.1)".

Condition 46e should reference "Schedule E (as revised in accordance with the process set out in Condition 9.1)".

Condition 46f should reference "Schedule C (as revised in accordance with the process set out in Condition 9.1)".

The ECA shall be amended by replacing Condition 47 with the following provision:

A copy of all annual reports as well as all other technical reports pertaining to the landfill design, operations, monitoring, and closure shall be provided to the LLC and CAD for review and comment.

ENVIRONMENTAL REVIEW TRIBUNAL

In the matter of an appeal by the Corporation of the United Counties of Leeds and Grenville for a Hearing before the Environmental Review Tribunal pursuant to section 139(1)(e) of the *Environmental Protection Act*, R.S.O. 1990, c.E.19 as amended, in relation to the November 9, 2017 Decision of the Director, Ministry of the Environment and Climate Change, to suspend Conditions 10 and 11 in Environmental Compliance Approval No. A420009, dated June 24, 1998, regarding the construction and operation of a waste disposal site (landfill) located at Lots 14 and 15, Concession 4, Township of Edwardsburgh/Cardinal, United Counties of Leeds and Grenville

**AFFIDAVIT OF KIM LOGAN
(Sworn October 12, 2018)**

I, **KIM LOGAN**, of the City of Vaughan, in the Region of York, **MAKE OATH AND SAY:**

1. I am a senior ecologist, and I have been retained by the Citizens Against ED19 Dump (“CAD”) in relation to the ED19 Landfill project. I therefore have knowledge of the matters hereinafter deposed to in this affidavit.

2. I am the principal ecologist of Groundwater Environmental Management Services (“GEMS”), which provides consulting services to clients on natural heritage protection, conservation and rehabilitation. I have no other interest in the matter before the Environmental Review Tribunal in this case. A copy of my Curriculum Vitae is attached to this affidavit as Exhibit A.

3. I have worked as an ecologist for over 13 years, and I am accredited as a Professional Geoscientist (Limited) and a Professional Biologist (Alberta). A signed copy of my Expert's Duty form is attached to this affidavit as Exhibit B.

4. The scope of my retainer with CAD is to consider the potential impact of the ED19 Landfill (as approved) on existing natural environment features, such as wetland features and functions, watercourses and groundwater recharge areas, wildlife habitat and species at risk, and other natural heritage features and functions. Therefore, my work for CAD has included three main components:

- review the adequacy of the original environmental site assessment documentation prepared by the proponent in the 1990s in relation to the ED19 Landfill project;
- identify any relevant changes in applicable standards or policies (e.g. Provincial Policy Statement, Official Plan policies, source water protection, etc.) that have occurred since the proponent's environmental site assessment was prepared in the 1990s; and
- conduct an initial environmental site assessment, including the current biological and ecological characteristics of the ED19 Landfill property and its vicinity, based on regulatory records and my personal observations.

5. In accordance with my retainer with CAD, I have undertaken the following tasks:

- reviewed the relevant portions of the proponent's documentation that was prepared in the 1990s under the *Environmental Assessment Act* ("EAA") and *Environmental Protection Act* ("EPA") for the ED19 Landfill;

- reviewed the approvals issued under the EAA and EPA for the ED19 Landfill project;
- collected additional background data for the ED19 Landfill property, including literature reviews, database searches and requests for information;
- examined aerial photographs, mapping, and current land uses on or near the ED19 Landfill;
- conducted a site visit along the perimeter of the ED19 Landfill property in August 2017; and
- interviewed local residents who live beside or near the ED19 Landfill.

6. On the basis of the available information, GEMS submitted an independent report to CAD in September 2017 to outline my findings, conclusions and recommendations regarding the biological and ecological aspects of the ED19 Landfill project. A copy of my report to CAD is attached to this affidavit as Exhibit C.

7. As described in my report to CAD, it is my professional opinion that:

- while the landscape-scale soils and ecoregion context for the ED19 Landfill property remains the same, the forested areas of the property have moved well beyond the regrowth and early successional stages described in the proponent's site assessment documentation in the 1990s;
- the proponent's site assessment documentation did not include a significant woodlands assessment or a significant wildlife habitat

assessment of the ED19 Landfill property or adjacent lands (within 120 metres);

- the proponent's site assessment documentation in the 1990s did not prescribe adequate protective measures for the large heronry that is present at the ED19 Landfill property;
- the majority of the ED19 Landfill property has now been mapped as an unevaluated wetland by the local conservation authority, and the size of the wetland area has increased since the 1990s;
- a Provincially Significant Wetland (Edwardsburgh 1) has been mapped southwest of the ED19 Landfill property;
- the ED19 Landfill property and its vicinity has been designated in Official Plan mapping as a Significant Groundwater Recharge Area and Highly Vulnerable Aquifer;
- three headwater tributaries have been identified within the ED19 Landfill property boundaries;
- the proponent's site assessment documentation in the 1990s did not assess impacts upon species at risk or their habitat, and did not include an Ecological Land Classification;
- the proponent's breeding birds survey from the 1990s is outdated, and should be redone to account for current site conditions and changes in species' sensitivity rankings over time;
- the proponent's site assessment documentation from the 1990s did not include an amphibian call survey, although large numbers of amphibians

are now present throughout the ED19 Landfill property due to the increase in wetland area; and

- the proponent's site assessment documentation from the 1990s did not include a detailed description of the local aquatic habitat and ecosystems.

8. In light of these and other concerns, it is my professional opinion that the proponent's site assessment documentation from the 1990s did not sufficiently demonstrate that the ED19 Landfill project will not cause any negative impacts to local natural features or functions, the on-site wetlands, or the heronry.

9. In my professional opinion, the proponent's site assessment documentation from the 1990s contains significant data gaps which should be addressed through the collection and analysis of updated information on natural heritage features and functions. At a minimum, this further work should include:

- heronry mapping and survey;
- significant wildlife habitat assessment, including a wetland assessment in relation to both the on-site wetlands and nearby Provincially Significant Wetland;
- Ecological Land Classification mapping and updated vegetation survey;
- amphibian breeding in accordance with the Marsh Monitoring Protocol;
- turtle surveys;
- aquatic habitat assessment in general accordance with the Ontario Stream Assessment Protocol;
- record species at risk locations; and

- proper discussion of impacts to the heronry due to sound level increases and potential leachate impacts to vegetation and wildlife.

10. In 2017, the Ministry of Natural Resources and Forestry recommended that an ecological site assessment should be conducted to evaluate natural heritage features and to identify whether species at risk (or their habitat) are present. To my knowledge, however, an ecological site assessment for the ED19 Landfill project has not been conducted by the proponent to date.

11. In light of the foregoing findings and unresolved data gaps, it is my professional opinion that proceeding with the ED19 Landfill project at the present time may cause adverse impacts to natural heritage features and functions. Therefore, my overall conclusion is that the 1998 Environmental Compliance Approval (“ECA”) is inadequate to safeguard against such impacts.

12. If the ED19 Landfill project proceeds despite the above-noted concerns, then I recommend that a new ECA should be developed, with meaningful public participation and updated information, to ensure that the current ecological site conditions are fully identified and properly assessed, and to ensure that the ED19 Landfill is subject to ECA conditions that reflect current site constraints and satisfy current legislative and regulatory requirements regarding natural heritage protection.

13. I have considered the proposed settlement advanced by the proponent and the Ministry (e.g. new Condition 9.1). In my professional opinion, this proposal does not

adequately address the numerous concerns described in the GEMS report, and does not expressly address all of the data gaps outlined in paragraphs 8, 9 and 10 above.

14. For example, Condition 9.1(d) of the proposed settlement only requires the proponent to examine “endangered” species (not all species at risk that may be present at or near the site). Similarly, this Condition does not explicitly commit the proponent to assess or report on significant wildlife habitat, significant woodlands, or whether the on-site wetland is regionally or provincially significant. In addition, the work required under this Condition does not constitute an ecological site assessment as recommended by the Ministry of Natural Resources and Forestry. Furthermore, the nature and extent of the groundwater recharge area has not been adequately assessed to date, and an appropriate water balance has not been completed to demonstrate that post-construction inflow/outflow will meet or match pre-construction inflow/outflow.

15. If the Environmental Review Tribunal determines that the ECA should be further amended rather than revoked, then it is my recommendation that the more detailed ECA conditions proposed by CAD should be considered and ordered by the Tribunal. A copy of CAD’s proposed ECA conditions is attached to this affidavit as Exhibit D.

16. I swear this affidavit in relation to the Tribunal’s settlement hearing to be held on November 6 and 7, 2018, and for no other or improper purpose.

SWORN BEFORE ME in the City of)
Toronto, in the Province of Ontario,)
on this 12th day of October, 2018)


_____)

A Commissioner for Taking Affidavits, etc.
Ramani Nadarajah


_____)
Kim Logan



Groundwater Environmental Management Services Inc. (GEMS)

GEMS is a **ONE CALL Environmental Solutions Provider** who manages all the environmental components of your project. Whether planned or in the event of an emergency, GEMS oversees the environmental team of specialists required to meet ALL the project components. Providing the client with ONE POINT OF CONTACT, GEMS manages the team to ensure timelines, budgets & environmental legislation are met.

PROFILE

Ms. Logan has over ten (10) years of experience as both an Ecologist and Environmental Scientist. I have managed and contributed in a wide range of natural environment and environmental assessment investigations. My technical expertise includes the development, management and completion of environmental impact studies, natural environment studies, species at risk surveys, habitat assessments, tree preservation studies, benthic invertebrate studies, environmental assessments, environmental site assessments, risk assessments, interpretation of chemical analyses and preparation of reports. I am currently involved with the Canadian Standards Association in developing new environmental standards and have provided technical support for Ontario Municipal Board (OMB) mediation.

HIGHLIGHTS:

- Senior Ecologist and Project Manager
- Professional Biologist and Geoscientist
- Proficient in both terrestrial and aquatic ecosystem survey methodology including plant identification and family level taxonomic identification of freshwater benthic invertebrates
- Adept at technical reporting and determining impact and mitigation measures for many types of projects

This is Exhibit.....A.....referred to in the affidavit of...Kim Logan..... affirmed before me, this...12th day of...October.....2018.

RELEVANT EXPERIENCE

Senior Ecologist, (Vaughan, ON)

Groundwater Environmental Management Services Inc. (GEMS) 2015 - present

- Responsible for the lead role and completion of ecological studies; supervise and mentor junior and intermediate staff; ensure regulatory compliance, agency and client liason; lead business development for ecological services; manage and compile technical reports and budget/project management; perform field studies; maintain current compliance with applicable legislation.



 Ramani Napolarajah
 A COMMISSIONER FOR TAKING AFFIDAVITS

Part Time Professor, (Niagara-on-the-Lake, ON)

Niagara College 2011 - 2015

- Responsible for the preparation and delivery of lectures related to monitoring and surveying aquatic ecosystems; teaching post secondary students sampling techniques and identification of fish and benthic invertebrates; discussions regarding data metrics and analysis; preparing and marking tests and assignments.

Ecologist, Environmental Scientist and Project Manager, (Burlington, ON)

MTE Consultants Inc. 2009 - 2015

- Responsible for the management and compilation of natural heritage assessments, Environmental Impact Studies, tree inventories/management plans, fish rescue, benthic sampling and identification, data analysis, Phase I/One and II/Two Environmental Site Assessments, risk assessment and Environmental Assessments; development of project study and terms of reference; compilation and execution of monitoring for both

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erosion and sediment control and wetlands in conjunction with development proposals; species at risk surveys; permitting and regulatory compliance; client and agency liason and budgeting; report review and staff training and supervision.

Ecologist, Environmental Technician, (Hamilton, ON)

Trow Associates Ltd. 2006 - 2009

- Responsible for the completion and lead field technical role for natural heritage assessments, Environmental Impact Studies, tree inventories/management plans, fish benthic sampling and identification, data analysis, Phase I and II Environmental Site Assessments, Designated Substance Surveys and Environmental Assessments; development of re-vegetation, restoration and monitoring plans; client and agency liason.

Field Botany Technician, (San Diego, California, USA)

Bureau of Land Management (BLM) 2004 - 2005

- Responsible for the inventory and mapping of vegetation following wildfires; development of invasive species review and management; compilation of a species at risk inventory and guide for protection; inventory of off-road vehicle trails condition and maintenance criteria within the southern California wilderness.

EDUCATION AND CERTIFICATION

CAN-CISEC Certification (CAN0393)

CISEC, Inc. 2016

Professional Geoscientist (P.Geo.) (Limited),

Association of Professional Geoscientists (APGO) 2015

Professional Biologist (P.Biol),

Alberta Society of Professional Biologists (ASPB) 2014

Bachelor of Science, Environmental Science,

McMaster University, Hamilton, ON 2006-2011

Post Graduate Certification in Ecosystem Restoration,

Niagara College, Niagara-on-the-Lake, ON 2003-2004

Diploma for Environmental Technician – Field and Laboratory,

Niagara College, Niagara-on-the-Lake, ON 2001-2003

PUBLICATIONS

Logan, K.A, E. Donkers, edited by B. Hard. Review of Wetland Impacts and the Potential Effects of Aggregate Operations Below the Water Table. The Canadian Society of Environmental Biologists Newsletter/Bulletin. Volume 72, Issue 3. Fall 2015. pp. 12 – 15.

Logan, K.A, E. Donkers. How Do Aggregate Operations Affect Groundwater Levels and Wetlands. Environmental Science & Engineering Magazine. August 2016. pp. 28 – 32.

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Appendix F: Form 5 – Acknowledgement of Expert’s Duty



Environment and Land Tribunals Ontario

- Environmental Review Tribunal
- Niagara Escarpment Hearing Office
- Office of Consolidated Hearings

Case No.
17-072

Acknowledgement of Expert’s Duty

Case Name:

1. My name is Kim Logan (name). I live at Binbrook (city) in the Province (province/state) of Ontario (name of province/state).
2. I have been engaged by or on behalf of CAD (name of party/parties) to provide evidence in relation to the above-noted proceeding.
3. I acknowledge that it is my duty to provide evidence in relation to this proceeding as follows:
 - (a) to provide opinion evidence that is fair, objective and non-partisan;
 - (b) to provide opinion evidence that is related only to matters that are within my area of expertise;
 - (c) to provide opinion evidence in accordance with the Environmental Review Tribunal’s Practice Direction for Technical and Opinion Evidence; and
 - (d) to provide such additional assistance as the Tribunal may reasonably require, to determine a matter in issue.
4. I acknowledge that the duty referred to above prevails over any obligation which I may owe to any party by whom or on whose behalf I am engaged.

Date October 10, 2018

Kim Logan
Signature

This is Exhibit B referred to in the affidavit of Kim Logan affirmed before me, this 12th day of October 2018.

Form 5: Acknowledgement of Expert’s Duty

Ramani Nadarajah
A COMMISSIONER FOR TAKING AFFIDAVITS



This is Exhibit C referred to in the
affidavit of Kim Loggia
affirmed before me, this 12th
day of October 2018


A COMMISSIONER FOR TAKING AFFIDAVITS

**Environmental Site Assessment (ESA)
Biological Review**

ED-19 Landfill, Township of Edwardsburgh, ON

Prepared for:

Citizens Against the ED-19 Dump

Prepared by:

Groundwater Environmental Management Services Inc.
331 Rodinea Road
Maple, ON. L6A 4P5

September 22, 2017

Ref #: 17-17749



Table of Contents

1.0	INTRODUCTION.....	1
1.1	Scope of Work	1
2.0	POLICY & LEGISLATIVE FRAMEWORK.....	1
2.1	Environmental Assessment Act.....	1
2.2	Federal Fisheries Act.....	2
2.3	Provincial Policy Statement.....	2
2.3.1	Natural Heritage Reference Manual.....	3
2.4	Endangered Species Act (ESA)	4
2.5	South Nation River Conservation Authority	4
2.6	United Counties of Leeds and Grenville	4
2.7	Township of Edwardsburgh/Cardinal	5
2.8	Natural Heritage System Summary.....	6
3.0	PHYSICAL SETTING & BACKGROUND INFORMATION REVIEW	7
3.1	Sources of Background Information	7
3.2	Landscape Context.....	7
3.3	Geological and Physiographic Features	8
3.4	Hydrogeological and Surface Water Features.....	8
3.5	Species of Conservation Concern.....	9
3.6	Vegetation Communities.....	10
3.7	Breeding Birds	11
3.8	Amphibian Breeding.....	11
3.9	Other wildlife	12
3.10	Aquatic Habitat Assessment	12
4.0	ECOLOGICAL IMPACTS ASSESSMENT	13
5.0	CONCLUSIONS & RECOMMENDATIONS	14
6.0	CLOSING	15
	REFERENCES	16



1.0 INTRODUCTION

Groundwater Environmental Management Services Inc. (GEMS) was retained by the not-for-profit organization Citizens Against the Dump (the “Proponent”) to prepare a “Natural Environmental Assessment Review” of the proposed ED-19 Landfill site. The assessment had three components:

- Consider the adequacy of the work done in the 1990s;
- Identify changes to standards for such work in the intervening 20+ years; and,
- Provide an initial assessment of the site based on current regulatory records and a site visit.

GEMS understands that an Environmental Assessment (EA) and Certificate of Approval (CofA) were approved in 1998 for the ED-19 Landfill. It is GEMS’ further understanding that this Environmental Assessment Review forms part of an application under Section 11.4 of the Environmental Assessment Act by the Canadian Environmental Law Association (CELA). The proposed location of the ED-19 Landfill site is at the following legal address: Parts of Lots 14 & 15, Concession IV, Township of Edwardsburgh.

1.1 Scope of Work

The review considers the potential impact of the proposed landfill on the existing natural environment features such as wetland features and functions, watercourses and groundwater recharge areas, wildlife habitat and Species at Risk (SAR), and other natural heritage features and functions, where applicable.

GEMS conducted a visit to the site on August 28, 2017 to assess current environmental conditions.

2.0 POLICY & LEGISLATIVE FRAMEWORK

A summary of natural heritage policies and legislation relevant to proposed development at the site is provided in section 2.1 to 2.8, below.

2.1 Environmental Assessment Act

The Environmental Assessment Act (EAA) was last amended in 2010. Since the EA was approved in 1997 multiple amendments have been made to the EAA; including the most recent where the issuance of an Environmental Compliance Approval (ECA) is required rather than a CofA. The CofA approval issued in 1998 was based on a document that addressed a lifetime of a minimum 20-year operation of a municipal landfill with waste tonnage quantities projected until 2014.



2.2 Federal Fisheries Act

In accordance with the Department of Fisheries and Oceans (DFO)'s Fisheries Act (2015), the main goal of DFO's regulatory efforts is to obtain an overall "Net Gain" in the productive capacity of fish habitat within Canadian Waters. In order to achieve this goal, all new development adjacent to water resources must be conducted in ways that ensure the maintenance of existing fish habitat capacity. The Federal Fisheries Act prohibits the serious harm or death to fish, or any permanent alteration to, or destruction of, fish habitat. Should a proposed development be anticipated to pose serious harm to fish/fish habitat, then permit approval must be obtained by DFO prior to any site works.

The EA completed and approved in 1997 included a review of the then existing Act; however, the Act has since been updated (most recently in 2015) including some significant changes to the way fish habitat was addressed previously. Under current regulations, as noted above, all new development adjacent to water resources needs to ensure maintenance of fish habitat which under the new Act includes commercial, recreational and Aboriginal fisheries and features that support them and no longer just the harmful alteration, disruption or destruction (HADD) prohibition.

2.3 Provincial Policy Statement

The *Provincial Policy Statement* (PPS) (MAH, 2014) provides a policy framework under the Planning Act to guide development "while protecting resources of provincial interest, public health and safety, and the quality of the natural and built environment". Section 2.1 (Natural Heritage), Section 2.2 (Water), and Section 3.1 (Natural Hazards) of the PPS are applicable to the site. The PPS has been updated since the completion of the EA (most recently 2014) and now includes the Natural Heritage Reference Manual for technical guidance.

The Provincial Policy Statement states that no site alteration should have negative impacts on features such as habitat of endangered/threatened species, PSWs, and Significant Wildlife Habitat (SWH), or their ecological functions. Section 2.1 of the PPS generally prohibits development within natural features that include (but are not limited to) PSWs, significant woodlands, significant valleylands, fish habitat or habitat of endangered or threatened species. Furthermore, any development proposed within lands adjacent to such features is not be permitted unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

As per Section 2.2 (Water) of the PPS, development "shall be restricted in or near sensitive surface water features and sensitive ground water features" and should incorporate the protection, improvement or restoration of the hydrological functions, and water quality/quantity of such features.

Furthermore, in accordance with Section 3.1.4 (Natural Hazards) of the PPS, development and site alteration may be allowed in areas within the "flooding hazard" zones along watercourses



where the proposed works are “limited to uses which by their nature must locate within the floodway, including flood and/or erosion control works or minor additions or passive non-structural uses which do not affect flood flows”.

The *Natural Heritage Reference Manual* (MNR, 2010) provides technical guidance for the implementation of Natural Heritage Policies of the PPS (2005 and 2014).

2.3.1 Natural Heritage Reference Manual

The 2005 PPS included reference to natural heritage policies which are further described within the *Natural Heritage Reference Manual* (NHRM) which have both been updated since. The NHRM provides a framework for policies specifically directed at protection and management of natural heritage features. Included in this document is further reference to the significance of features including woodlands (Section 7) and wildlife habitat (Section 9) as well as the function of adjacent lands which apply directly to the proposed landfill location. A significant woodland assessment was not completed in the EA and should be done so now to meet the requirements of the PPS. Significance needs to be addressed for lands proposed for development or site alteration as well as adjacent lands (within 120m).

Significant wildlife habitat was not assessed in the original EA documents. This is now required to be addressed thoroughly in current policies and regulations where development is proposed. In order to determine significance there is a technical guide assigned by regional locations.

2.3.1.1 Significant Wildlife Habitat Technical Guide (2015)

A component of the NHRM discussed in 2.3.1 includes Significant Wildlife which is further addressed in the MNRF *Technical Guide* (2015). Habitats are categorized into schedules based on ecoregion location. The proposed landfill site and surrounding area fall into Ecoregion 6E. Previous documentation was available during the original EA for the protection of heronries in Ontario (1984) however the details within the current Technical Guide provide the criteria for defining a heronry (Colonially - Nesting Bird Breeding Habitat in Tree/Shrubs). Further guidance is provided by the MNRF in the Significant Wildlife Habitat Mitigation Support Tool (SWHMIST) (2014).

Within the EAA documents (1997) there was reference to the heronry however there was no discussion on significance or mitigation beyond quoting a 300 m setback. The available MNRF guidance (Bowman and Siderius, 1984; OMNR, 2000) notes that a minimum of 300 m is required from the exterior margin of the colony proper during the inactive season and that a one kilometre radius is required during a large portion of the year to minimize disturbance. Furthermore, these habitat features are regulated under the MNRF significant wildlife habitat and this fact was not noted in the technical appendix completed by Dillon in the original EA despite the existing guidance at the time.



2.4 Endangered Species Act (ESA)

The *Endangered Species Act (2007)* aims to protect Ontario's species at risk (SAR) and their habitats. Should a SAR or SAR habitat be observed at a site, authorization under the Act is required for any proposed works that may affect SAR/their habitat. The ESA did not exist in the mid 1990s and is a significant new piece of legislation.

2.5 South Nation River Conservation Authority

A review of South Nation River Conservation Authority (SNCA) online mapping indicates that the south west corner of Lot 17 and lands located immediately south of the site are owned by SNCA. The majority of the site is mapped as "Unevaluated Wetland". SNCA's policies pertaining to development within and adjacent to wetlands are provided in Ontario Regulation 170/06 (last amended in 2013). In accordance with these policies, development/site alteration shall not be permitted where development could interfere with the hydrologic function of a wetland within 30 metres of non-provincially significant or unevaluated wetlands. A data sharing agreement has been provided to SNRCA for information pertaining to the parcel of land under their ownership within the limits of the site. Available data includes an Ecological Land Classification (ELC) report, forest inventory and Ontario Stream Assessment (OSAP) sheets. The information in its entirety has yet to be received and reviewed however if there is pertinent information that changes the findings discussed in the current assessment an addendum will be issued.

2.6 United Counties of Leeds and Grenville

Based on available information with the *Official Plan* of the United Counties of Leeds and Grenville the (Office Consolidation, 2017) area contains a large portion of "Crown Lands" within a tertiary sand and gravel resource area directly north of agricultural lands and Provincially Significant Wetlands. The site and general area are identified as a "Significant Groundwater Recharge Area" and are located in a "Highly Vulnerable Aquifer". Additionally, the site and surrounding area incorporate High and Extreme "Wildland Fire Hazard Areas".

The Province of Ontario granted the Counties of Leeds and Grenville a CofA in 1998 to develop the subject lands as a regional waste disposal site. Conditions of the ECA pertain to:

- environmental protection;
- design;
- upgrading of access roads and other related infrastructure;
- operational requirements;
- annual monitoring and reporting: and,
- closure plan

The Counties considered opening and developing ED-19, but found the site was not economically feasible/needed at the time.



In accordance with *Section 4: Natural Heritage, Water Resources and Cultural Heritage* of the County's Official Plan, development and site alteration need to consider the natural heritage features of a site. The Plan notes that additional features may be identified beyond those shown with the available mapping. It is stated that preparation of an ecological site assessment by a qualified professional for development applications may be required where there is uncertainty if natural heritage features and areas exist on or adjacent to the property, which may not be designated or identified in available mapping. Additionally, in accordance with 4.2.1(b)(iii), development and site alteration will not be permitted in significant wildlife habitat. Currently the plan does not contain criteria to determine significance and such areas which are determined as habitat will rely on the MNR Natural Heritage Reference Manual to assign significance through an Environmental Impact Study (EIS) on a site-specific basis. Additionally, lands within 120 m of designated features will be consulted on with the applicable agencies (i.e. province, local conservation authority).

Section 4.2.14 outlines the requirements of an EIS which states that generally a description of the site (e.g. natural environment, natural heritage features, wildlife and habitat); a description of the proposed project; potential impacts; and mitigation shall be included and scoping will be completed in consultation with the local conservation authority.

2.7 Township of Edwardsburgh/Cardinal

GEMS reviewed natural heritage feature mapping for the site as provided within the Township *Official Plan* (2010). A review of Schedule B: Development Constraints of the Township's Official Plan shows 4 headwater tributaries exist within the limits of the site (1 along the north-west corner of Lot 17, the other three along the East side on Lots 13 and 14), which has an overall designation as a "Licensed Waste Management Area" and is surrounded by "Significant Woodland".

Section 3.7 of the Township's Official Plan provides a policy framework for the protection of Natural Heritage Features within the Township. It is stated that the interdependency of these systems has yet to be thoroughly studied or analysed and as such Council will encourage communication and relationships with upper levels of government and the Conservation Authorities to ensure the preservation and ecological health of the natural environment systems. Section 3.7.1 of the Township's Official Plan specifies one of the plan's objectives is to conserve and rehabilitate natural heritage features for the benefit of future generations according to best management practices undertaken today and as they evolve.

As defined within the Township's Official Plan (Section 3.7.5.1), wetlands are lands which have specific ecological characteristics which include, but are not limited to, the presence of a permanent or seasonal shallow water cover, water-tolerant vegetation or the presence of a water table which is close to the surface. They are commonly known as swamps, marshes, bogs, and fens. Wetlands serve important functions such as controlling ground water recharge and discharge, reducing flood damage, stabilizing shorelines, retaining and removing nutrients, supporting the food chain, providing fish and wildlife habitat and contributing to the social and economic quality of life in the Township. Furthermore Section 3.7.5.5 states where development



is proposed on a lot of record containing a wetland or part of a wetland development must take place outside of the wetland and development is subject to the preparation of an Environmental Impact Statement. Activities that create or maintain infrastructure within the requirements of the Environmental Assessment process are not considered to be development for the purposes of this section, **however** wherever possible such uses shall be located outside of designated wetlands. The criteria for evaluating a wetland is based on the most recent available evaluation tool provided by the MNRF.

Section 3.7.6.3 states development or site alteration within 120 metres of a designated wetland may be permitted, if it can be demonstrated that there will be no negative impacts on the wetland's natural features or ecological functions. An environmental impact assessment (EIA) will be required except for established agricultural uses.

2.8 Natural Heritage System Summary

This environmental assessment review focuses on the following natural heritage features that were either not present or assessed in the documents completed for the approved EA in 1998 in accordance with the requirements and policies now in existence as discussed above:

MNRF

- Unevaluated Wetland
- Municipal Drain, South Branch of South Nation Municipal Drain (Non-Sensitive)
- Significant Woodlands
- Potential for Significant Wildlife Habitat
- Potential for Species at Risk

SNCA

- Unevaluated Wetland

United Counties of Leeds and Grenville

- Significant Groundwater Recharge
- Highly Vulnerable Aquifer

Township of Edwardsburgh/Cardinal

- Significant Woodland
- Adjacent watercourses (headwater tributaries)



3.0 PHYSICAL SETTING & BACKGROUND INFORMATION REVIEW

3.1 Sources of Background Information

Background data collection for the site included a literature and database search as well as requests for information. The following information was reviewed in preparation of this report:

- Topographic and survey maps, soil maps, geology maps, aerial photographs, Ontario base maps and any other available relevant mapping;
- Land use of the site and surrounding properties, including the location of existing buildings, residential land use, and surface water bodies;
- Township of Edwardsburgh/Cardinal, United Counties of Leeds and Grenville, SNCA, Provincial and Federal policy planning documents (as referenced in Section 2.0, above); and
- Available Ministry of Natural Resources and Forestry (MNR) and Government of Canada Species at Risk information for the site, including the Wetland Evaluation Form for the Edwardsburgh 1 PSW.

GEMS also reviewed reports and correspondence provided by the Proponent. This included the following report prepared in 1997 by Dillon Consulting Limited, and was included as a "Technical Appendix" to the original EAA/EPA Document submitted for EA/CofA approval:

- Leeds and Grenville WMSP, EAA/EPA Document, Detailed Assessment of Site ED-19, Technical Appendix D: Biology

This report compiled information collected between the years 1994 and 1996.

3.2 Landscape Context

As noted within Dillon Consulting Limited's EA document, the site comprises a size of 66 hectares (ha) and is situated within Ecoregion 6E and the Edwardsburgh sand plain physiographic region. This area was also noted as having small topographic relief and a water table generally near the surface. The ED-19 site is also within the South Branch watershed of the South Nation River which drains to the northeast to the Ottawa river. The site was noted to have been recently logged and partially cleared for agricultural use with tree regrowth and subsequent further logging and partial clearing.

Based on the 2017 visit by GEMS there was no evidence of recent clearing and the surrounding agricultural lands were noted to be well established. The forested areas observed appeared to be beyond early regrowth stages and past the successional stage noted in the 1997 report. The overall landscape context with regards to soils and ecoregion remains the same.



3.3 Geological and Physiographic Features

As noted above, the site is located within the physiographic region known as the “Edwardsburg Sand Plain” (Chapman and Putnam, 2007). This region is characterized as having coarse-textured glaciomarine deposits with small pockets of fine textured deposits that do not coincide with the 66 ha site. Quaternary geology is also noted to consist of glaciomarine and marine deposits: sand, gravelly sand and gravel nearshore and beach deposits (OGS, 2000). Bedrock within the area is of the Beekmantown Group and consists of dolostone and sandstone (OGS, 2011). Well records within the area show clay as shallow as 2.4 m in immediately west of County Road 22 with the remaining wells nearest the site showing sand to a depth of 4.3 m over limestone bedrock.

The topography across the overall site is generally level, ranging between approximately 85 and 90 metres above sea level with a gradual slope to the northeast towards the open water wetland. The immediate surrounding landscape slopes in a northeasterly direction towards South Nation River (Google Earth, 2015).

3.4 Hydrogeological and Surface Water Features

Based on the water well records obtained for locations immediately east and south of the site (obtained from the Ontario Groundwater online Well Records Mapping), groundwater is located at a depth up to 4.9 metres below ground surface. Based on regional topography, it is expected that groundwater generally flows in a southeasterly direction towards the South Nation and Ottawa Rivers.

Three watercourses (headwater tributaries) are located within and adjacent to the site as noted in Section 2.7 above.

The Edwardsburg 1 Provincially Significant Wetland

A review of the MNRF’s “Make-a-Map: Natural Heritage Areas” online mapping application indicated that the Edwardsburg 1 PSW is located southwest of the Site. There are multiple pockets of unevaluated wetlands between the PSW and the eastern limits of the site.

GEMS reviewed the Edwardsburgh Wetland Part 1 2005 Data Record Update Summary for information pertaining to the PSW located southwest of the Site. This PSW was initially classified in 1986 and later reclassified as non-provincially significant in 1999 and again back to provincially significant most recently in 2005. Based on the online mapping it appears that additional units have been added over time by MNRF staff based on aerial photography interpretation.

The wetland does not contain any significant species within the evaluation form.



3.5 Species of Conservation Concern

MNRF Management Biologist Correspondence

GEMS received a letter from the MNRF’s Kemptville district office dated July 17, 2017 in response to a request for information pertaining to the site. The response letter indicated that records of special concern species exist on and surrounding site (monarch and snapping turtle). The MNRF also indicated that there is potential for the following SAR to occur on the site and within the area:

- barn swallow (THR)
- Blanding’s turtle (THR)
- bobolink (THR)
- butternut (END)
- chimney swift (THR)
- eastern meadowlark (THR)
- gray ratsnake (THR)
- Henslow's sparrow (END)
- little brown bat (END)

MNRF strongly recommended in this letter that an ecological site assessment be carried out as per the Natural Heritage Reference Manual (NHRM, 2010) in order to determine the presence of natural heritage features and species at risk and their habitat on site. A copy of the correspondence is provided in **Appendix A**.

Natural Heritage Information Centre

The MNRF’s “Make-a-Map: Natural Heritage Areas” online mapping application (MNRF, 2017) was reviewed for information pertaining to tracked species (rare or at-risk) with records of occurrence within the vicinity of the site. GEMS conducted a search of the 1 km² areas that contain the site. A total of 2 species of plants and animals were identified as listed in Table 1, below. It should be noted that the information provided directly from the MNRF is more accurate than the database results available.

Table 1: Species of Conservation Concern

Scientific Name	Common Name	Type	*ESA Status (Provincial)	*SARA Status (Federal)	Last Observed
<i>Ammodramus henslowii</i>	Henslow's sparrow	bird	END	END	1976
<i>Chlosyne gorgone</i>	gorgone crescentspot	butterfly	-	-	1996

*ESA- Endangered Species Act; SARA- Species at Risk Act; END – Endangered



In addition, the following federal and provincially designated species of concern were identified in the 1997 EAA/EPA Technical Appendix D as on or in the vicinity of the site (status' are based on current status and not the status reported in 1997) as occurring on and/or adjacent to the site:

- butternut (endangered)
- red-shouldered hawk (special concern)
- eastern wood pe-wee (special concern)
- barn swallow (threatened)
- bank swallow (threatened)
- bobolink (threatened)
- eastern meadowlark (threatened)
- Canada warbler (threatened/special concern)
- golden-winged warbler (threatened/special concern)
- vesper sparrow (a subspecies is endangered federally however the report does not specify beyond species)
- whip-poor-will (threatened)
- chimney swift (threatened)
- monarch (special concern)
- western chorus frog (threatened)
- snapping turtle (special concern)
- Blanding's turtle (threatened)
- gray fox (threatened)

Based on the SAR noted by both Proponent's consultants, 20 years ago as well as recently by MNRF within the area, an assessment in accordance with current standards, prior to any development needs to occur to assess the current potential for the listed species that were observed at and surrounding the site in 1997. The previous report did not discuss impacts to any SAR. This is a major deficiency judged against current standards.

3.6 Vegetation Communities

Due to the timing of the biological work done to support the EA (site information collected between 1994 and 1996) an Ecological Land Classification (ELC) was not completed. The current standard ELC guidelines were published in 1998 and 2008 (Lee et al.). Based on the data collected, the site could well have been classified as a Red Maple Mineral Deciduous Swamp (SWD3-1) vegetation community. The canopy of this community is dominated by red maple (*Acer rubrum*). Common swamp species such as sedges, ferns, nettles and spotted jewelweed (*Impatiens capensis*) exist in the understory and groundcover layers of the community.

Based on GEMS' visit in August 2017 the community is consistent with the species noted above, but has become more mature than noted in the 1997 data; this is to be expected for the succession of a swamp/forest community. A full vegetation inventory and ELC was not completed by GEMS; however, areas of open water wetlands were noted that were not included within the



original EAA/EPA data. It is assumed that the wetland that was originally noted to the northeast of the site has shifted to the west and southwest. The open water wetlands appear extensive in nature and are much larger than originally identified by the Proponent in the mid 1990s. Additionally, the old race track has since flooded extensively and also contains substantial wetland and open water features. Completion of an ELC would assess the current vegetation communities on and off-site of the proposed landfill location.

3.7 Breeding Birds

GEMS did not complete an update to the original breeding bird survey under the scope of this assessment and review; however, based on previously collected data and the change in communities and species sensitivity rankings over time and update needs to be completed to sufficiently address impacts to breeding birds.

GEMS also noted that based on the shift in the wetland community within the northeast portion of the area, the heronry is much closer to the proposed landfill site than previously recorded. Since the minimum buffer is to be measured from the outer periphery of the colony proper (as noted in Irene and Siderius, 1984 discussed in Section 2) a survey would be required prior to development to ensure that the minimum distances are met. Additionally, the original documentation stated that there would be an increase in noise within the heronry but did not address the impact of the increase. Information within the available literature suggests that the likely increase is greater than the resilience of the sensitivity of the species. The noise level changes also did not address impacts to the other birds within the area with respect to calling during breeding season. Since multiple species are now listed under the SARA an updated assessment is required with respect to impact and mitigation of breeding birds for the proposed landfill activities. Suitable habitat for these species is present on and surrounding the site with the exception of the limited habitat for vesper sparrow, bobolink and eastern meadowlark due to the succession of the forest community and active agricultural land use.

3.8 Amphibian Breeding

There were no amphibian call surveys noted as being completed in the original 1997 EA technical appendix document however large numbers of amphibians were noted during daytime surveys. GEMS also noted substantial amounts of amphibians throughout the viewed locations of the site during their 2017 visit. Due to the large presence of wetland areas within the site and surrounding area, amphibian breeding surveys should be conducted in order to confirm the presence/absence of breeding on the site. There was also no discussion within the original EA document with respect to potential landfill leachate and site contaminants in the surface water which can have impacts to all life cycle stages of amphibian species.

Habitat descriptions for Reptile and Amphibian SAR:

The availability of suitable habitat within the site for reptile and amphibian SAR identified within the area according to the previous documentation and resident sightings is discussed below.



Western Chorus Frog (Threatened)

Western Chorus Frog (Great Lakes/St. Lawrence – Canadian Shield Population) typically inhabits marshes and wooded wetland areas. Seasonally dry temporary ponds are required for breeding, and hibernation is completed within lowland terrestrial habitats under rocks, dead trees, and leaf litter (COSEWIC, 2008). Suitable habitat is available throughout the site and immediately adjacent wetland areas.

Blanding's Turtle (Threatened)

Blanding's turtles, inhabit shallow lakes, ponds and wetlands with clean water and mucky bottoms. They travel up to several kilometers between summer habitat/nesting sites and overwintering habitat. They hibernate in soft bottoms of water bodies and will bask on rocks, logs or substrates in sunny locations. (Ontario Nature, 2016). Suitable habitat is available throughout the site and surrounding lands.

Snapping Turtle (Special Concern)

Snapping Turtles prefer shallow waters with soft mud and leaf litter. From early to mid summer suitable nesting sites can be found in gravelly or sandy areas, including roads (especially gravel shoulders), dams and aggregate pits (COSEWIC, 2009). Suitable habitat is available with nesting habitat concentrated along the roadways as many residents have recorded seeing them.

Records of the above species were noted within the documents provided for the EAA/EPA document and approved CofA prior to the status changes of these species.

3.9 Other wildlife

Mammals, Lepidoptera and Odonata observations were made previously by Dillon in 1997 which only resulted in the special concern species, monarch. Resident encounters included the threatened gray fox. GEMS did not observe any additional species or SAR during the site visit on August 28, 2017 however significant habitat is suspected to occur for multiple species and a full assessment of significant wildlife habitat should be conducted prior to development as per the noted policies in Section 2 of this report.

3.10 Aquatic Habitat Assessment

Previous data collected included fish and benthic invertebrate sampling however a full description of the aquatic habitat including substrate, cover, water quality, channel characteristics and barriers was not provided. A brief classification as an "impacted warm water system" is the greatest detail that was provided, however further discussion is warranted to relate impacts and mitigation from the proposed landfill. The assessment should incorporate basic visual observations and feature assessments in accordance with guidelines provided within the *Ontario Stream Assessment Protocol (OSAP)* (Stanfield, 2013) which was not available at the time of the EA.



By surveying upstream, midstream and downstream portions of the watercourse and noting watercourse characteristics such as the presence of pools and riffles, depth, substrate type, cover, general water quality parameters, bank conditions and type of riparian vegetation proper discussion with respect to impacts can be made. Due to the increased amount of water within the site, the aquatic habitat should be assessed to determine the impacts draining would have on aquatic habitat.

4.0 ECOLOGICAL IMPACTS ASSESSMENT

The impact assessment within the original EA biology technical appendix included on and off-site impacts. On site impacts were limited to removal of forest, thicket, field and hedgerow habitat. However, these communities are not representative of current conditions. There was no discussion beyond future regeneration of the landfill with respect to compensation for habitat or tree removal.

Additionally, the on-site watercourses were noted as requiring displacement, however there is no hydrology study work referenced to support the conclusion of negligible impacts to the current surface water conditions. It is noted in the EA document which months should be avoided based on warm water conditions however there is no reference to requirements for any permits or relocation efforts for fish species during the proposed displacement.

The EA document states that there are no expected off site groundwater quality or quantity issues expected, however does not state why they are not expected despite only a brief mention of local on-site leachate breakouts. Based on the lack of collected data in the hydrogeological investigation with respect to the groundwater connection on and off-site the statement is not supported.

A main conclusion with respect to the existing heronry is that the nesting colony is 700m northeast of the site however there is no survey data showing the outer limits of the heronry to confirm this minimum distance. As noted above the heronry appears to have relocated and this needs to be reassessed. Furthermore, the observation in the EA that the access road would come as close as 350m but remain outside of the 300m distance in which significant effects can be expected is not supported by any reference material. The management guidance provided by MNRF in 1984 states that 300m is the minimum for the sensitive breeding season extending from the peripheral nests which was not mapped. Activities which are prohibited within the minimum buffer zone includes pedestrian foot traffic, off-road vehicles, recreational activities, pets/livestock and all development activities. The EA further notes that an increase of 15 to 25 dBA would be the predicted worst case scenario for exposure however does not provide a source for what that would equate to not substantiate how it would not impact a highly sensitive species during nesting. The updated information for significant habitat of colonially nesting birds provides further details beyond the 1984 document which have not been properly addressed. If the heronry has relocated as it appears to have and if the peripheral nests are indeed closer this has not been mapped to ensure that a minimum buffer of 300 m is being maintained as required.

Additional impacts with respect to road kill and animals crossing should be further addressed given that some of the wildlife noted in the original surveys and MNRF correspondence are now listed as species at risk (snapping and blanding's turtle which would use the roads for nesting and



become likely targets of road kill). This alone killed the proposed Geiland wind farm in Prince Edward County last year.

The EA concludes that landfill development and operations will bring some major changes to local biological environment however states that the potential impacts only relate to loss of maturing forest and forest fragmentation which can't be mitigated. The mitigation offered for the other potential impacts are limited to general timing windows and control of water flow. There is no discussion with respect to habitat protection or mitigation or mitigation of potential wildlife road kill.

The overall EA process and information that the CofA is based upon include a projected waste tonnage until 2014 which is now historic data and not reflective of potential current conditions as the plans of Tomlinson. The natural conditions also not mention wetlands which are clearly present on and off site and have not been properly evaluated. The overall site selection was based on 20 year old biology data which can drastically change through succession and natural causes without any outside anthropogenic influences. The aerial photography alone shows a drastic change from beaver activity since the approval in 1998 which has had a significant impact to the overall landscape.

As discussed in Section 2 above, there should be a clear demonstration of no negative impacts. With respect to the impact section of the biology portion of the EA there is insufficient evidence to support the conclusions. There was very little interpretation and discussion of ecological functions and potential impacts to the landscape as a whole which includes wildlife habitat.

5.0 CONCLUSIONS & RECOMMENDATIONS

Since there is a designated (unevaluated) wetland within 120 meters of the site an EIA/EIS is required. This was not included as a requirement of the approved CofA. The biology component of the EA did not at the time sufficiently address that there will be no negative impacts on the natural features or function of the wetland which contains the heronry that was noted and is still present.

It is GEMS opinion that the heronry needs to be mapped and surveyed to determine the peripheral nests and denote the proper setbacks and development limits. A significant wildlife habitat assessment would also be needed to determine that the heronry is not the only SWH present. In accordance with the July 2017 recommendation of MNRF, locations of the previously noted species that are now considered SAR need to be mapped and an updated assessment completed to ensure that there is no potential impact to endangered/threatened species/habitat.

The following summarizes the data gaps between the information provided for the original EA and the existing information that should be included to properly assess the current impacts of a proposed landfill within the site limits.

- Heronry mapping and survey;
- SWH assessment including a wetland assessment in relation to both the on site and nearby PSW;
- ELC mapping and updated vegetation inventory;
- Amphibian breeding surveys in accordance with MMP;
- Turtle surveys;
- Aquatic habitat assessment in general accordance with OSAP;



- Record SAR locations; and,
- Proper discussion of impacts to heronry due to sound level increases and potential leachate impacts to vegetation and wildlife.

6.0 CLOSING

This report was completed as part of the Section 11.4 EA application by the Citizens Against the ED-19 Dump. Any unauthorized reuse, redistribution of, or reliance on, the report shall be at the Client's and recipient's sole risk, without liability to GEMS. No portion of this report may be used as a separate entity; it is to be read in its entirety and shall include all supporting drawings and appendices.

The conclusions and recommendations made in this report are in accordance with our present understanding of the proposed project, the current site use, surface and subsurface conditions, and are based on available information, a site reconnaissance on the date(s) set out in the report, records review and interviews with appropriate people and the work scope provided by the Client and described in the report and should not be construed as a legal opinion. GEMS relied in good faith on the data and information provided by the Client and from other materials as noted in this report. GEMS has assumed that the information provided was factual and accurate. GEMS accepts no responsibility for any deficiency, misstatement, or inaccuracy contained in this report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted. Reliance on this report is only extended to the Client. No other representations or warranties of any kind, either expressed or implied, are made. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the sole responsibility of such third parties. If conditions at the Property change or if any additional information becomes available at a future date, modifications to the findings, conclusions and recommendations in this report may be necessary.

We trust this information will meet your current requirements. Please do not hesitate to contact the undersigned should you have any questions or require additional information.

Yours truly,
Groundwater Environmental Management Services Inc.

Prepared By:

A handwritten signature in black ink, appearing to read 'Kim Logan', is written over a horizontal line.

Kim Logan, P.Geo. (Limited), P.Biol (AB)
Senior Ecologist



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ATTACHMENTS

Ministry of Natural
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Mon. Jul 17, 2017

Kim Logan
Groundwater Environmental Management Services
331 Rodinea Road
Maple, Ontario
L6A 4P5
(416) 717-2447
kim@gemservicesinc.com

Attention: Kim Logan

Subject: Information Request - Developments
Project Name: ED19 Landfill - Edwardsburgh
Site Address: Lots 13 to 17, Con 4, Edwardsburgh Twp
Our File No. 2017_EDW-4088

Natural Heritage Values

The Ministry of Natural Resources and Forestry (MNRF) Kemptville District has carried out a preliminary review of the above mentioned area in order to identify any potential natural resource and natural heritage values.

The following Natural Heritage values were identified for the general subject area:

- Municipal Drain, South Branch of South Nation Municipal Drain (Non-Sensitive)
- Unevaluated Wetland (Not evaluated per OWES)

Municipal Official Plans contain information related to natural heritage features. Please see the local municipal Official Plan for more information, such as specific policies and direction pertaining to activities which may impact natural heritage features. For planning advice or Official Plan interpretation, please contact the local municipality. Many municipalities require environmental impact studies and other supporting studies be carried out as part of the development application process to allow the municipality to make planning decisions which are consistent with the Provincial Policy Statement (PPS, 2014).

The MNRF strongly encourages all proponents to contact partner agencies and appropriate municipalities early on in the planning process. This provides the proponent with early knowledge regarding agency requirements, authorizations and approval timelines; Ministry of the Environment and Climate Change (MOECC) and the local Conservation Authority may require approvals and permitting where natural values and natural hazards (e.g., floodplains) exist.

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As per the Natural Heritage Reference Manual (NHRM, 2010) the MNRF strongly recommends that an ecological site assessment be carried out to determine the presence of natural heritage features and species at risk and their habitat on site. The MNRF can provide survey methodology for particular species at risk and their habitats.

The NHRM also recommends that cumulative effects of development projects on the integrity of natural heritage features and areas be given due consideration. This includes the evaluation of the past, present and possible future impacts of development in the surrounding area that may occur as a result of demand created by the presently proposed project.

In Addition, the following Fish species were identified: banded killifish, black crappie, blackchin shiner, blacknose shiner, bluntnose minnow, brook stickleback, brown bullhead, central mudminnow, common shiner, fathead minnow, golden shiner, johnny darter/tessellated darter, longnose sucker, mimic shiner, northern pike, pumpkinseed, rock bass, tadpole madtom, trout-perch, white sucker.

Significant Woodlands

Section 2.1.5 b) of the PPS states: *Development and site alteration shall not be permitted in significant woodlands unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.* The 2014 PPS directs that significant woodlands must be identified following criteria established by the Ontario Ministry of Natural Resources and Forestry, i.e. the Natural Heritage Reference Manual (NHRM), 2010. Where the local or County Official Plan has not yet updated significant woodland mapping to reflect the 2014 PPS, all wooded areas should be reviewed on a site specific basis for significance. The MNRF Kemptville District modelled locations of significant woodlands in 2011 based on NHRM criteria. The presence of significant woodland on site or within 120 metres should trigger an assessment of the impacts to the feature and its function from the proposed development.

Based on criteria from the NHRM, the site has potential for significant woodlands, based on the following criteria: Interior Forest, Interior Forest Support, Linkages, Proximity, Riparian Wood, Uncommon Species, Uncommon Species Support and Woodland Size.

Significant Wildlife Habitat

Section 2.1.5 d) of the PPS states: *Development and site alteration shall not be permitted in significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.* It is the responsibility of the approval authority to identify significant wildlife habitat or require its identification. The MNRF has several guiding

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documents which may be useful in identification of significant wildlife habitat and characterization of impacts and mitigation options:

- Significant Wildlife Habitat Technical Guide, 2000
- The Natural Heritage Reference Manual, 2010
- Significant Wildlife Habitat Mitigation Support Tool, 2014
- Significant Wildlife Habitat Criteria Schedule for Ecoregion 5E and 6E, 2015

The habitat of special concern species (as identified by the Species at Risk in Ontario list) and Natural Heritage Information Centre tracked species with a conservation status rank of S1, S2 and S3 may be significant wildlife habitat and should be assessed accordingly.

Based on MNRF data, there may be potential for significant wildlife habitat on site, this includes data pertaining to: Puttyroot (S2) and Gorgone Crescentspot (S2)

Water

If any in-water works are to occur, there are timing windows for which work in water should not take place (see below). Appropriate measures should be taken to minimize and mitigate impact on water quality and fish habitat, including:

- installation of sediment and erosion control measures;
- avoiding the removal, alteration, or covering of substrates used for fish spawning, feeding, over-wintering or nursery areas; and
- debris control measures to manage falling debris (e.g. spalling).

Timing windows (no in-water works) in MNRF Kemptville District*:

Warmwater and cool water	→ March 15 – June 30
St. Lawrence River & Ottawa River	→ March 15 – July 15
Coldwater	→ October 1 – May 31
Big Rideau Lake & Charleston Lake	→ October 1 – June 30

* Please note: Additional timing restrictions may apply as they relate to endangered and threatened species for works in both water and wetland areas.

Timing windows when in-water work is restricted – based on species presence:

	FISH SPECIES	TIMING WINDOW (No in-water works)
Spring:	Walleye	March 15 to May 31
	Northern Pike	March 15 to May 31
	Lake Sturgeon	May 1 to June 30
	Muskellunge	March 15 to May 31

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Largemouth/Smallmouth Bass	May 1 to July 15
Rainbow Trout	March 15 to June 15
Other /Unknown Spring Spawning Species	March 15 to July 15

	FISH SPECIES	TIMING WINDOW (No in-water works)
Fall:	Lake Trout	October 1 to May 31
	Brook Trout	October 1 to May 31
	Pacific Salmon	September 15 to May 31
	Lake Whitefish	October 15 to May 31
	Lake Herring	October 15 to May 31
	Other /Unknown Fall Spawning Species	October 1 to May 31

Additional approvals and permits may be required under the Fisheries Act. Please contact Fisheries and Oceans Canada to determine requirements and next steps. There may also be approvals required by the local Conservation Authority or Transport Canada. As the MNRF is responsible for the management of provincial fish populations, we request ongoing involvement in such discussions in order to ensure population conservation.

Species at Risk

A review of the Natural Heritage Information Centre (NHIC) and internal records indicate that there is a potential for the following threatened (THR) and/or endangered (END) species on the site or in proximity to it:

- Barn Swallow (THR)
- Blanding's Turtle (THR)
- Bobolink (THR)
- Butternut (END)
- Chimney Swift (THR)
- Eastern Meadowlark (THR)
- Gray Ratsnake (THR)
- Henslow's Sparrow (END)
- Little Brown Bat (END)

All endangered and threatened species receive individual protection under section 9 of the ESA and receive general habitat protection under Section 10 of the ESA, 2007. Thus any potential works should consider disturbance to the individuals as well as their habitat (e.g. nesting sites). General habitat protection applies to all threatened and endangered species. Note some species in Kemptville District receive regulated habitat protection. The habitat of these listed species is protected from damage and destruction and certain activities may require authorization(s) under

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the ESA. For more on how species at risk and their habitat is protected, please see: <https://www.ontario.ca/page/how-species-risk-are-protected>.

If the proposed activity is known to have an impact on any endangered or threatened species at risk (SAR), or their habitat, an authorization under the ESA may be required. It is recommended that MNRF Kemptville be contacted prior to any activities being carried out to discuss potential survey protocols to follow during the early planning stages of a project, as well as mitigation measures to avoid contravention of the ESA. Where there is potential for species at risk or their habitat on the property, an Information Gathering Form should be submitted to Kemptville MNRF at sar.kemptville@ontario.ca.

The Information Gathering Form may be found here:

<http://www.forms.ssb.gov.on.ca/mbs/ssb/forms/ssbforms.nsf/FormDetail?OpenForm&ACT=RDR&TAB=PROFILE&ENV=WWE&NO=018-0180E>

For more information on the ESA authorization process, please see:

<https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization>

One or more special concern species has been documented to occur either on the site or nearby. Species listed as special concern are not protected under the ESA, 2007. However, please note that some of these species may be protected under the Fish and Wildlife Conservation Act and/or Migratory Birds Convention Act. Again, the habitat of special concern species may be significant wildlife habitat and should be assessed accordingly. Species of special concern for consideration:

- Monarch (SC)
- Snapping Turtle (SC)

If any of these or any other species at risk are discovered throughout the course of the work, and/or should any species at risk or their habitat be potentially impacted by on site activities, MNRF should be contacted and operations be modified to avoid any negative impacts to species at risk or their habitat until further direction is provided by MNRF.

Please note that information regarding species at risk is based largely on documented occurrences and does not necessarily include an interpretation of potential habitat within or in proximity to the site in question. Although this data represents the MNRF's best current available information, it is important to note that a lack of information for a site does not mean that additional features and values are not present. It is the responsibility of the proponent to ensure that species at risk are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the activities carried out on the site.

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The MNRF continues to strongly encourage ecological site assessments to determine the potential for SAR habitat and occurrences. When a SAR or potential habitat for a SAR does occur on a site, it is recommended that the proponent contact the MNRF for technical advice and to discuss what activities can occur without contravention of the Act. For specific questions regarding the Endangered Species Act (2007) or SAR, please contact MNRF Kemptville District at sar.kemptville@ontario.ca.

The approvals processes for a number of activities that have the potential to impact SAR or their habitat have recently changed. For information regarding regulatory exemptions and associated online registration of certain activities, please refer to the following website: <https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization>.

Please note: The advice in this letter may become invalid if:

- The Committee on the Status of Species at Risk in Ontario (COSSARO) re-assesses the status of the above-named species OR adds a species to the SARO List such that the section 9 and/or 10 protection provisions apply to those species; or
- Additional occurrences of species are discovered on or in proximity to the site.

This letter is valid until: Tue. Jul 17, 2018

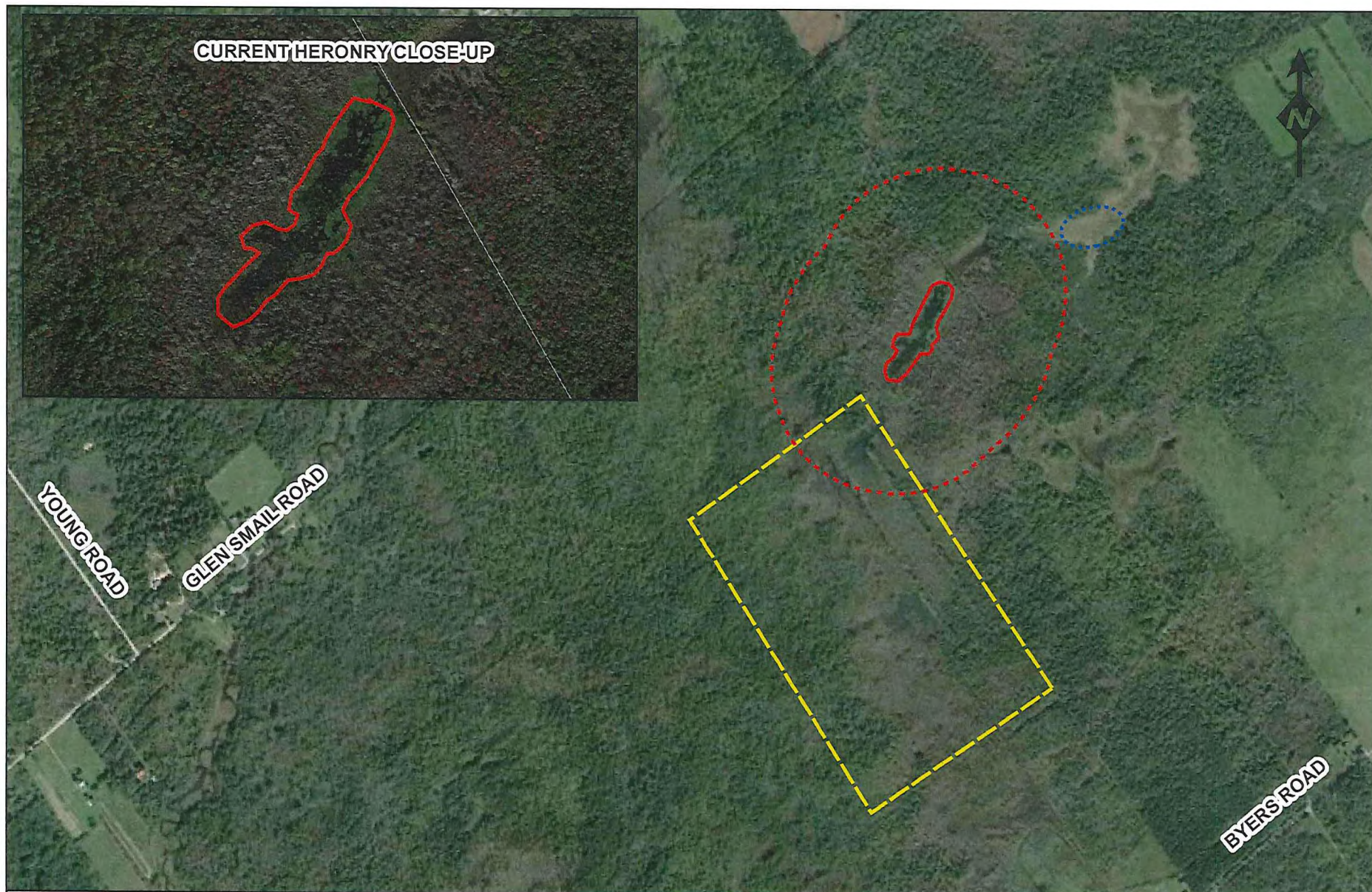
The MNRF would like to request that we continue to be circulated on information with regards to this project. If you have any questions or require clarification please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Lisa McShane".

Lisa McShane
Management Biologist
lisa.mcshane@ontario.ca

Encl.\
-ESA Infosheet
-NHIC/LIO Infosheet



LEGEND	Site Boundaries (approx.)	Drawn By: Erin Donkersi Checked By: KL	Ecological Assessment Review: ED-19 Landfill Edwardsburgh/Cardinal Township, ON Proponent: Citizens Against the Dump	Groundwater Environmental Management Services Inc. http://www.gemservicesinc.com
	Current Heronry Boundaries (approx.)	SOURCE: OBM Map NAD 1983 Zone 17N Elevations in m ASL	SEPTEMBER 2017	
Herony Buffer (300m)			Project No. 17-17749	Drawing No. 1
Assumed Former Herony (approx.)				

This is Exhibit D referred to in the affidavit of Kim Logan affirmed before me, this 12th day of October 2018.

WITHOUT PREJUDICE

Schedule A

UCLG ED-19 ECA Amendment (CAD Edits)


A COMMISSIONER FOR TAKING AFFIDAVITS
Ramani Naclaraiah

The ECA shall be amended to include the following definition as Condition 1(a.1), which shall read as follows:

- a.1) "CAD" means the not-for-profit corporation known as Citizens Against the ED19 Dump;

The ECA shall be amended to revise the definition of "Corporation" in Condition 1(a), which shall read as follows:

- a) "Corporation" means the Corporation of the United Counties of Leeds and Grenville and any successors or assigns that assume ownership of the Landfill property;

The ECA shall be amended to replace the definition of "MOE" in Condition 1(d), which shall read as follows:

- d) "Ministry" means the Ministry of Environment, Conservation and Parks;

[Note: "MOE" should be replaced by "Ministry" throughout the ECA]

The ECA shall be amended to replace the definition of "ODWO" in Condition 1(e), which shall read as follows:

- e) "ODWQS" means the Ontario Drinking Water Quality Standards under O.Reg. 169/03;

The ECA shall be amended to include the following definition as Condition 1(l):

- l) "Technical Support Manager" means the Ministry's Eastern Region Technical Support Manager.

The ECA shall be amended to include the following definition as Condition 1(m):

- m) "Schedule A" means all documents listed in Schedule A to this approval, as revised in accordance with the process set out in Condition 9.1.

The ECA shall be amended to include a new Condition 7.1, which shall read as follows:

Schedule "A"

- a) No portion of the Landfill property shall be sold, leased, transferred or encumbered unless the Corporation notifies the Director in advance of the transaction, and unless the Director confirms in writing that he/she is satisfied with the proposed arrangements to ensure that all conditions of this Approval will be carried out, and that sufficient financial assurance is deposited with the Ministry if the Landfill property is sold, leased, transferred to a non-municipal corporation or person. After receiving this notification, and when reviewing the transaction, the Director will consider the operating history and compliance record of the proposed owner, lessee or transferee.

- b) For the purposes of providing the notification required by clause (a), the Corporation shall notify the Director in writing at least 60 days prior to the occurrence of any proposed changes in the following matters:
 - i. the ownership, possession, management or control of the Landfill property;
 - ii. the address of the proposed owner, lessee or transferee of the Landfill property;
 - iii. the partners, if the owner enters into a partnership regarding the Landfill, and a copy of the most recent declaration filed under the *Business Names Act*, RSO 1990, c.B.17 shall be included in the notification;
 - iv. The name of the corporation that owns the Landfill property, and a copy of the most information filed under the *Corporations Information Act*, RSO 1990, c.C.39 shall be included in the notification.

- c) In the event of any change in the ownership of the Landfill, other than a change to a successor municipality, the Corporation shall notify in writing the succeeding owner about the existence of this Approval, and a copy of this notice shall be provided to the Director.

The ECA shall be amended to replace Condition 9 with a new Condition 9, which shall read as follows:

- a) No later than December 31, 2018, the Corporation shall establish and participate in an LLC. The objectives of the LLC are to:
 - i. provide the public with a meaningful opportunity to review and comment on the methodology used for, and the conclusions or outcomes of, the investigations, reports, studies and other documents required under Condition 9.1;
 - ii. keep the public informed about site design, management and operational matters; and

Schedule "A"

- iii. enable the Corporation to receive and understand public concerns about site design, management and operational matters.
- b) To fulfill these objectives, the Corporation shall invite the following persons to serve as LLC members:
 - i. two residents living within the Township of Edwardsburgh Cardinal;
 - ii. two residents living elsewhere within the United Counties of Leeds and Grenville;
 - iii. one representative of CAD;
 - iv. one representative of the Corporation;
 - v. one representative of the local health unit; and
 - vi. two representatives of local municipalities in the United Counties of Leeds and Grenville.
- c) The LLC shall be chaired by a person other than the Corporation.
- d) The LLC shall meet at least four times per year. The LLC's terms of reference, initial membership and meeting protocols shall be discussed and established at the first meeting of the LLC.
- e) The Corporation shall provide the LLC with sufficient funds to enable the LLC to retain independent experts to conduct third-party reviews of site-related technical documents as deemed necessary by the LLC.
- f) The Corporation shall prepare and submit to the Director an annual report summarizing the LLC's activities.
- g) The LLC shall be entitled upon request to all non-privileged documents in possession or control of the Corporation which are relevant to the site.
- h) All Committee reports, meeting minutes and other documents provided to the Committee will be available to the public upon request.

The ECA shall be amended to include a new Condition 9.1, which shall read as follows:

- a) No waste shall be received, stored or disposed at the Landfill property, and the Corporation shall not commence any development, construction or operation of the Landfill on any portion of the site, until the Corporation has completed the work and submitted the reports required by 9.1(c), (d), (e) and (f) below to the

Schedule "A"

Director and to the LLC and CAD for review and comment, until the Director has approved the revised Design & Operation report required by Condition 9.1 (g) via an amendment to the Approval. For greater certainty,

- i. any work needed to conduct any required investigation or to prepare any required report shall not constitute development, construction or operation of the landfill; and
 - ii. no clearing, grading, site alteration, vegetation removal or drainage work shall be undertaken at the landfill until the Director has approved the report required by Condition 9.1(g) via an amendment to the Approval.
- b) The Corporation shall ensure that qualified person(s) with the necessary experience will carry out the work referred to in 9.1 (c), (d), (e) and (f) and that the Corporation and/or the qualified person(s) conduct one or more consultation technical meetings with the Technical Support Manager prior to conducting the work. CAD and its technical advisors shall be invited to attend and participate in such meetings, and to make submissions to the Technical Support Manager on the adequacy of the proposed work plans and all documents required under this Condition.
- c) The Corporation shall:
- i. Conduct an inventory of the existing on-site and off-site monitoring well network, carry out 2 rounds of water quality testing within one month on all operational wells, and then submit an initial report to the Technical Support Manager that provides the findings of the inventory/testing and:
 - a. evaluates the operational condition and adequacy of these wells to provide representative groundwater information;
 - b. assesses the need for replacement/substitute monitoring wells, if any;
 - c. provides recommendations for at least 8 new bedrock flow system monitoring wells (2 on each side of the proposed waste footprint); and;
 - d. commits to monitoring every new bedrock well, and proposes which other wells will be used as monitoring wells for the purposes of the groundwater monitoring and testing program required by 9(c)(ii);
 - ii. Once the Technical Support Manager has accepted the initial report referred to in 9.1(c)(i) in writing, as amended if necessary, install all new bedrock wells and replacement wells, conduct a groundwater elevation survey of the monitoring wells, and then conduct groundwater monitoring over three consecutive seasons (spring, summer and fall) in accordance

Schedule "A"

with the requirements set out below, carry out a proper pumping test to redo the failed pumping test (done on BH6-95 in October 1995), and prepare and submit to the Technical Support Manager a new report summarizing the results.

The groundwater monitoring referred to above shall be carried out as follows:

- a. sample and analyze the monitoring wells for all parameters set out in column 1 of table C.2.;
 - b. sample and analyze the monitoring well intervals in BH8-95, or alternate intervals in another borehole(s), during one of the sampling events, for tritium.
- iii. The new report referred to Condition 9.1 (c)(ii) above shall also include the results of a door-to-door survey to provide current information on the number and location of dwellings with water supply wells which are situated within 1.5 kilometres of the Landfill (the "study area radius"), and this survey shall obtain as much relevant information as possible about the wells, including depth of well, depth of pump, year of installation, water well record, and any issues to date with the well.
 - iv. The new report referred to Condition 9.1(c)(ii) above shall also update and revise as necessary the conceptual groundwater flow model depicted on Figure 3.17 and discussed on pages M-69 to M-72 of EAA/EPA Document Volume 3, Appendix M.
- d) The Corporation shall complete a survey of the following features located on the site and within a 1.5 kilometre study area radius and prepare a report summarizing the results of the survey including:
- i. Surface water bodies and receptors (including mapping of the current areal extent of surface water bodies in both wet season and dry seasons);
 - ii. Drainage (including detailed mapping of current pathways of surface water flow on and around the site, and including in particular the downstream flow path for surface water being discharged from the proposed surface water management pond);
 - iii. Wetlands (including an assessment of whether the wetland pockets on and around the proposed waste footprint comprise a Provincially Significant Wetland Complex);
 - iv. Ecological, Biological and Vegetation, including a current inventory of species at risk and their habitats; and

Schedule "A"

- v. Providing any additional information obtained regarding the site drainage, hydrogeology, geology, topography, soil types, and ecosystems within the Landfill property and the study area radius.

This report shall assess the implications (if any) of the current conditions of these features on proceeding to project implementation, including the development, operation, maintenance, closure and post-closure phases of the Landfill.

- e) Once the reports referenced in Condition 9.1 (c) and 9.1 (d) have been completed and revised as necessary to the satisfaction of the Technical Support Manager, the Corporation shall prepare a subsequent report which includes discussion of:
 - i. all recommended changes to the Landfill design and operations to ensure that there will be no possibility of contamination of off-site surface water features which exceeds the Provincial Water Quality Objectives over the contaminating lifespan of the Landfill; and
 - ii. all recommended changes to the Landfill design and operations to ensure that there will be no exceedances of reasonable use limits (as defined by the RUP) in any aquifer at the Landfill property boundary over the contaminating lifespan of the Landfill.
- f) The reports required by conditions 9.1(c), (d) and (e) shall be submitted by the Corporation to the Technical Support Manager, the LLC and CAD for review and comment.
- g) Once the Director has confirmed in writing that the Ministry is satisfied with all aspects of the reports required by Conditions 9.1 (c), (d) and (e), the Corporation shall, within 90 days, submit to the Director (and provide to the LLC and CAD) a proposed revised Design & Operations Report that either confirms or modifies the items included in the current report, and adds all required additional changes or information, in order to ensure that the following elements of the Landfill satisfy applicable regulatory requirements, including the RUP and PWQO:
 - i. the landfill design;
 - ii. landfill gas controls;
 - iii. the leachate collection and leachate management system;
 - iv. the stormwater management system (including confirmation that sizing and other operational details are correct based on

Schedule "A"

recent data for storm events and potential climate change impacts over the contaminating lifespan of the Landfill); and

- v. the operating conditions for litter control, dust control, noise control, odour control and site inspections and maintenance;
- h) The revised Design & Operations Report required under Condition 9.1(g) shall include:
- i. a commitment that leachate recirculation will not be carried out at the proposed Landfill;
 - ii. a commitment that as much leachate as possible will be collected from the site at all times, with all of the collected leachate being taken off-site for appropriate treatment at a waste water treatment plant which can handle the anticipated leachate volumes and quality (to be named in the report);
 - iii. details of a low-permeability landfill base liner with an overlying high-permeability leachate collection layer and piping system.
 - iv. a revised surface water monitoring plan which includes quarterly testing of the proposed surface water management pond; and
 - v. detailed surface water contingency plans.

The report shall also include a description of the haul route to the site, and a description of how compliance with the haul route will be enforced by the Corporation.

- i) After soliciting and considering the comments of the LLC and CAD on the report required by Condition 9.1(g), the Director may approve it, subject to any changes deemed appropriate, via an amendment to this Approval.
- j) On December 1 and June 1 of each year until the Corporation submits an application for amending this Approval in accordance with this Condition, the Corporation shall notify the Director, the District Manager, the LLC and CAD in writing as to whether the application for amendment will be submitted within the next six month period.

The ECA shall be amended by revising Condition 10 to refer to the following documents:

"...documents listed in Schedule A (as revised in accordance with the process set out in Condition 9.1)".

Schedule "A"

The ECA shall be amended by replacing Condition 11(c) with the following provision:

- c) design and operation of the leachate collection system which will achieve the goal of minimizing leachate levels in the landfill, including a leachate collection system clean-out and maintenance schedule.

The ECA shall be amended by replacing Condition 35 with the following provision:

Site grading and contours shall be maintained by the Corporation such that all clean surface water runoff from the outer slopes of the landfilling area is directed into the perimeter surface water management system, while all potentially impacted surface water is directed into the landfill for containment and collection in the leachate collection system.

The ECA shall be amended by adding a new Condition 36.1 to read as follows:

The overarching goal of the leachate collection system shall be to contain and collect as much of the landfill's leachate as possible on an ongoing basis, thereby minimizing the potential for leachate mounding and off-site landfill impacts. All collected leachate shall be removed from the site immediately, and taken to a waste water treatment plant (WWTP) for proper treatment. The landfill shall not be permitted to commence operations until the receiving WWTP and a contingency WWTP have been identified and made known to the Director and the LLC, including an assessment of the adequacy of the plants to properly treat and dispose of such leachate in accordance with their approvals.

The ECA shall be amended by revising Conditions 23, 25, 28, 31, 34, 36, and 38 to refer to the document which will replace Item 2 of Schedule A, by referring to "Item 2 of Schedule A, as revised in accordance with the process set out in Condition 9.1".

The ECA shall be amended by revising Conditions 39, 40, 41, 42, 43 and 46 to refer to the updated schedules, as follows:

Condition 39 should reference "Schedule C (as revised in accordance with the process set out in Condition 9.1)".

Condition 40 should reference "Schedule D (as revised in accordance with the process set out in Condition 9.1)".

Schedule "A"

Condition 41 should reference "Schedule E (as revised in accordance with the process set out in Condition 9.1)".

Condition 42 should reference "Schedule F (as revised in accordance with the process set out in Condition 9.1)".

Condition 43 should reference "Schedule G (as revised in accordance with the process set out in Condition 9.1)".

Condition 46e should reference "Schedule E (as revised in accordance with the process set out in Condition 9.1)".

Condition 46f should reference "Schedule C (as revised in accordance with the process set out in Condition 9.1)".

The ECA shall be amended by replacing Condition 47 with the following provision:

A copy of all annual reports as well as all other technical reports pertaining to the landfill design, operations, monitoring, and closure shall be provided to the LLC and CAD for review and comment.

ENVIRONMENTAL REVIEW TRIBUNAL

In the matter of an appeal by the Corporation of the United Counties of Leeds and Grenville for a Hearing before the Environmental Review Tribunal pursuant to section 139(1)(e) of the *Environmental Protection Act*, R.S.O. 1990, c.E.19 as amended, in relation to the November 9, 2017 Decision of the Director, Ministry of the Environment and Climate Change, to suspend Conditions 10 and 11 in Environmental Compliance Approval No. A420009, dated June 24, 1998, regarding the construction and operation of a waste disposal site (landfill) located at Lots 14 and 15, Concession 4, Township of Edwardsburgh/Cardinal, United Counties of Leeds and Grenville

**AFFIDAVIT OF MARCUS KYLE JOHNSTON
(Sworn October 14, 2018)**

I, **MARCUS KYLE JOHNSTON**, of the Township of Edwardsburgh/Cardinal, in the United Counties of Leeds and Grenville, **MAKE OATH AND SAY:**

1. I am a resident of the Township of Edwardsburgh/Cardinal, and I currently serve as the Chair of the Citizens Against the ED19 Dump (“CAD”). I have made numerous visits to observe and photograph the ED19 Landfill property from adjacent lands along the outside perimeter of the site, and I participated in a site tour of ED19 Landfill property in September 2018. As such, I have knowledge of the matters hereinafter deposed to in this affidavit, except for those matters that are stated to be on information and belief, in which case I have set out the source of the information and verily believe it to be true.

2. CAD is a federally incorporated not-for-profit environmental organization formed by local residents in the Township of Edwardsburgh Cardinal, in the United Counties of Leeds and Grenville (“the Counties”), who live near or beside the ED19 Landfill site or its intended haul routes, or who are otherwise concerned about the potential impacts of the landfill if constructed.

3. As a community-based group, CAD has been extensively involved in local organization, public outreach, advocacy and media activities in relation to various matters related to the ED19 Landfill, its current statutory approvals, and its prospective sale to a private waste company.

4. Pursuant to Part IV of the *Environmental Bill of Rights* (“EBR”), CAD filed an Application for Review of the unused 1998 Environmental Compliance Approval (“ECA”) for the ED19 Landfill.

5. The Ministry of the Environment, Conservation and Parks (“MECP”) has determined that CAD’s requested review of the ECA will be undertaken in conjunction with another EBR Application for Review received by the MECP, and anticipates that the MECP’s internal review process will be completed by May 31, 2019. A copy of the MECP’s letter to CAD dated March 6, 2018 regarding the EBR review is attached to the Agreed Statement of Facts at Tab P.

6. The MECP’s letter attached as Tab P does not indicate whether (or how) CAD will be able to participate in the MECP’s internal review of the ECA, and does not explain whether (or how) CAD will be able to provide information, data or evidence to

inform the outcome of the review of the ECA. However, CAD recognizes that the EBR review (or its eventual outcome) will not be heard or decided by the Tribunal in this proceeding.

7. CAD has also applied for Ministerial reconsideration of the unused 1998 *Environmental Assessment Act* (“EAA”) approval of the ED19 Landfill pursuant to section 11.4 of the EAA. This reconsideration request remains outstanding at the present time, but again CAD recognizes that this reconsideration request will not be heard or decided by the Tribunal in this proceeding. A copy of CAD’s reconsideration request is attached to the Agreed Statement of Facts at Tab I.

8. CAD has retained two experts (hydrogeologist Wilf Ruland and ecologist Kim Logan) to independently review and report upon various matters relating to the ED19 Landfill property, the EAA approval, the ECA, and the proposed settlement that has been reached between the MECP and the Counties. Both of these experts have tendered affidavits and reports for the Tribunal’s consideration during the forthcoming settlement hearing, and I defer to their opinion evidence on the technical or scientific issues in dispute between the parties.

9. In light of the findings, conclusions and recommendations of Mr. Ruland and Ms. Logan, and based on CAD’s own understanding and observations of current site conditions at the ED19 Landfill property and its vicinity, CAD strongly believes that the EAA approval and the ECA should be revoked. CAD has consistently advanced this position through its reconsideration request under section 11.4 of the EAA and the EBR

Application for Review of the ECA, and CAD maintains this position in this proceeding before the Tribunal in relation to the ECA.

10. Despite having the ability under the *Environmental Protection Act* (“EPA”) to revoke the ECA, the Director initially elected in November 2017 to suspend two key conditions in the ECA. However, in accordance with the proposed settlement executed between the MECP and the Counties, the Director now proposes to withdraw the suspension order and amend the ECA by adding a new Condition 9.1 that was privately negotiated between the MECP and the Counties.

11. Although CAD is a party in this proceeding, CAD was not invited to participate in the settlement discussions that were held between the MECP and the Counties in relation to the ECA and the disposition of the Counties’ appeal. Instead, the proposed settlement was presented to CAD after it had already been negotiated, drafted and executed by the other two parties.

12. Because CAD was wholly excluded from the settlement discussions, CAD is not surprised that the other parties’ proposed ECA amendment does not adequately reflect or effectively address CAD’s numerous concerns about the ED19 Landfill and the 1998 ECA. In light of these outstanding concerns, CAD is opposed to the proposed settlement now being advanced to the Tribunal by the MECP.

13. For example, proposed Condition 9.1 requires certain workplans, studies and reports to be prepared by the Counties and reviewed by the MECP, but the Condition makes no provision for CAD, its members, other stakeholders or the public at large to

review and comment upon these documents. CAD's position is that our organization, and all other persons who may be interested in or potentially affected by the construction of the ED19 Landfill, should have a fair and timely opportunity to access and review the documents to be produced by the Counties, and to otherwise meaningfully participate in the MECP's decision-making process outlined in Condition 9.1.

14. Similarly, while the current ECA requires the establishment of a Landfill Liaison Committee ("LLC"), I am informed by CAD members who initially served on the LLC, and I verily believe, that the LLC has become defunct and has not held any meetings in recent years. CAD's position is that the LLC should be reconstituted as soon as possible, and that it should be expressly entitled to review and comment upon the documents to be produced by the Counties under Condition 9.1.

15. During my September 2018 site visit to the ED19 Landfill property, I observed forested areas, wildlife habitat, a thriving heronry, wetland areas and several surface water bodies on the property which were significantly larger than 1 hectare in size. A copy of a photograph taken by a CAD member of the heronry is attached to this affidavit as Exhibit A, and I confirm that this photograph fairly and accurately depicts the heronry that is currently present on the ED19 Landfill property.

16. I am informed by CAD members who are long-term residents of the area, and I verily believe, that the surface water bodies have been in existence on the ED19 Landfill property for over 15 years, and that some residents have launched motorized boats, hunted ducks, and caught fish (e.g. mud pout or catfish) in the water bodies located on the ED19 Landfill property.

17. This information about the nature, extent and usage of surface water bodies on the ED19 Landfill property was conveyed by CAD in a 2018 letter to the Minister as a follow-up to CAD's request for reconsideration of the EAA approval. The photographs attached to the letter were taken by me and another CAD member, and I can confirm that the photographs fairly and accurately depict surface water bodies on the ED19 Landfill property in 2017. A copy of CAD's letter to the Minister dated February 14, 2018 is attached as Exhibit B to this affidavit.

18. To date, however, CAD has received no response from the Minister or MECP staff about this information about surface water bodies, or about the current status of CAD's reconsideration request under the EAA.

19. To address CAD's concerns about the shortcomings in the proposed settlement between the MECP and the Counties, CAD has prepared a comprehensive set of recommended amendments to the ECA. A copy of CAD's proposed ECA amendments is attached to this affidavit as Exhibit C.

20. CAD's suggested ECA amendments in Exhibit C have been previously provided to the MECP and the Counties, but CAD has received no response from these two parties to date.


21. As noted above, and for the reasons outlined in the affidavits of Mr. Ruland and Ms. Logan filed in this proceeding, CAD's conclusion is that the ECA should be revoked rather than amended in the narrow manner proposed by the MECP and the Counties.

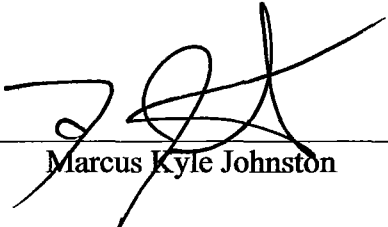
22. Accordingly, CAD's position is that the Tribunal should reject the proposed settlement, and should instead order the continuation of the hearing to adjudicate the Counties' appeal, and to determine whether the Tribunal should order the Director to take such further or other steps under the EPA as may be appropriate to safeguard the natural environment and the public interest.

23. In the alternative, in the event that the Tribunal agrees with the MECP and the Counties that the ECA should be amended as a result of the settlement hearing, then CAD's position is that a number of substantive and procedural improvements are needed in the ECA (as reflected in Exhibit C attached hereto) which go far beyond the modest Condition 9.1 that is being jointly proposed by the MECP and the Counties.

24. I swear this affidavit in relation to the Tribunal's settlement hearing to be held on November 6 and 7, 2018, and for no other or improper purpose.

SWORN BEFORE ME in the Village of)
Spencerville, in the United Counties of Leeds and)
Grenville, on this 14th day of October, 2018)

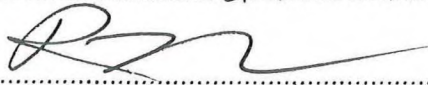


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Marcus Kyle Johnston

A Commissioner for Taking Affidavits, etc.

This is Exhibit ... A ... referred to in the affidavit of MARCUS KYLE JOHNSTON sworn before me, this ... 14TH ... day of ... OCTOBER ... 2018 ...

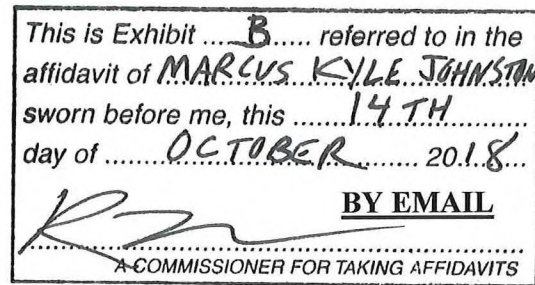


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A COMMISSIONER FOR TAKING AFFIDAVITS





**Canadian
Environmental Law
Association**
EQUITY. JUSTICE. HEALTH.



February 14, 2018

The Hon. Chris Ballard
Minister of the Environment and Climate Change
Ferguson Block, 11th Floor
77 Wellesley Street West
Toronto, ON M7A 2T5

Dear Minister:

**RE: REQUEST FOR RECONSIDERATION OR REVOCATION - ENVIRONMENTAL ASSESSMENT APPROVAL OF ED-19 LANDFILL (CORPORATION OF THE UNITED COUNTIES OF LEEDS & GRENVILLE)
EA FILE NO. MU-0476-02**

Over nine months ago, CELA's client, Citizens Against ED-19 Dump ("CAD"), filed a formal request that the unused 1998 environmental assessment (EA) approval for the ED-19 Landfill should be reconsidered and/or revoked, pursuant to section 11.4 of the *Environmental Assessment Act* ("EA Act"). In the alternative, CAD has requested that the reconsideration issue be referred to the Environmental Review Tribunal ("ERT").

This initial request dated May 5, 2017 was supplemented by further letters from CELA to your office in October and November 2017. Your Ministry has acknowledged receipt of this correspondence, and indicated that a reply was forthcoming. To date, however, we have received no substantive response to this outstanding and time-sensitive request under the EA Act.

Accordingly, we are writing to you to again reiterate our client's request for timely and appropriate action under the EA Act in relation to the ED-19 Landfill.

In the circumstances of this case, we are unclear why the Ministry has failed or refused to act on CAD's reconsideration request. We acknowledge that the Ministry has, in the interim, issued a Notice of Suspension in relation to the unused landfill approval issued in 1998 under the *Environmental Protection Act* ("EPA"). While our client supports this suspension, we submit that this administrative step (which is now under appeal to the ERT) does not obviate the need for your Ministry to make a decision on the reconsideration request under a different statute.

We would add that this case involves matters of provincial interest and public significance, and it cannot be glossed over or dismissed by your Ministry as a purely localized dispute between upper- and lower-tier municipalities. In our view, this characterization is factually inaccurate and reflects a profound misunderstanding of what has transpired to date in this case. The bottom line is that the EA Act approval was issued over 20 years ago under provincial law, and it is incumbent upon the province to now make a fresh determination in 2018 on whether the approval should be

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reconsidered and/or revoked for the numerous reasons provided on behalf of CAD in our previous correspondence.

In addition, the Strategy for a Waste-Free Ontario clearly commits the Ministry to ensuring that there is not an oversupply of landfill capacity across the province, and the Ministry has retained consultants to study and assess this very issue. In our view, reconsideration and/or revocation of the EA Act approval for the ED-19 Landfill is a reasonable and necessary measure that implements this important provincial commitment.

Moreover, in our opinion, there is now reason to believe that the unused EA Act and EPA approvals may be in direct conflict with subsections 27(3.1) and (3.2) of the EPA, which prohibits waste disposal sites in natural or artificial "lakes" larger than 1 hectare. Our client has been advised by long-time residents that the surface water body currently located on a sizeable portion of the ED-19 site has been in existence for over 15 years, and that it has now expanded to over 20 hectares in size (see attached aerial photographs). In addition, this water body exists year-round, and drains into the South Nation River. Furthermore, it is our client's understanding that local residents have boated on this water body and have caught fish in it. In our view, this situation provides a further reason for the 1998 EA Act approval to be reconsidered and/or revoked.

On behalf of CAD, we again request an opportunity to meet with you and/or your staff at your earliest convenience in order to further discuss this important and precedent-setting matter, and to ensure that you have a complete and correct understanding of recent developments in this case.

Yours truly,

CANADIAN ENVIRONMENTAL LAW ASSOCIATION



Richard D. Lindgren
Counsel

cc. Paul Evans, Deputy Minister
Colin O'Meara, MOECC
Annamaria Cross, MOECC
Kathleen O'Neill, MOECC
Dianne Saxe, Environmental Commissioner of Ontario
Kyle Johnston, CAD
Joe Castrilli, CELA



Figure 1

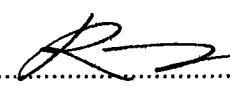


Figure 2



Figure 3

This is Exhibit C referred to in the affidavit of MARCUS KYLE JOHNSTON sworn before me, this 14TH day of OCTOBER 2018


A COMMISSIONER FOR TAKING AFFIDAVITS

Schedule A

UCLG ED-19 ECA Amendment (CAD Edits)

The ECA shall be amended to include the following definition as Condition 1(a.1), which shall read as follows:

- a.1) "CAD" means the not-for-profit corporation known as Citizens Against the ED19 Dump;

The ECA shall be amended to revise the definition of "Corporation" in Condition 1(a), which shall read as follows:

- a) "Corporation" means the Corporation of the United Counties of Leeds and Grenville and any successors or assigns that assume ownership of the Landfill property;

The ECA shall be amended to replace the definition of "MOE" in Condition 1(d), which shall read as follows:

- d) "Ministry" means the Ministry of Environment, Conservation and Parks;

[Note: "MOE" should be replaced by "Ministry" throughout the ECA]

The ECA shall be amended to replace the definition of "ODWO" in Condition 1(e), which shall read as follows:

- e) "ODWQS" means the Ontario Drinking Water Quality Standards under O.Reg. 169/03;

The ECA shall be amended to include the following definition as Condition 1(l):

- l) "Technical Support Manager" means the Ministry's Eastern Region Technical Support Manager.

The ECA shall be amended to include the following definition as Condition 1(m):

- m) "Schedule A" means all documents listed in Schedule A to this approval, as revised in accordance with the process set out in Condition 9.1.

The ECA shall be amended to include a new Condition 7.1, which shall read as follows:

Schedule "A"

- a) No portion of the Landfill property shall be sold, leased, transferred or encumbered unless the Corporation notifies the Director in advance of the transaction, and unless the Director confirms in writing that he/she is satisfied with the proposed arrangements to ensure that all conditions of this Approval will be carried out, and that sufficient financial assurance is deposited with the Ministry if the Landfill property is sold, leased, transferred to a non-municipal corporation or person. After receiving this notification, and when reviewing the transaction, the Director will consider the operating history and compliance record of the proposed owner, lessee or transferee.
- b) For the purposes of providing the notification required by clause (a), the Corporation shall notify the Director in writing at least 60 days prior to the occurrence of any proposed changes in the following matters:
 - i. the ownership, possession, management or control of the Landfill property;
 - ii. the address of the proposed owner, lessee or transferee of the Landfill property;
 - iii. the partners, if the owner enters into a partnership regarding the Landfill, and a copy of the most recent declaration filed under the *Business Names Act*, RSO 1990, c.B.17 shall be included in the notification;
 - iv. The name of the corporation that owns the Landfill property, and a copy of the most information filed under the *Corporations Information Act*, RSO 1990, c.C.39 shall be included in the notification.
- c) In the event of any change in the ownership of the Landfill, other than a change to a successor municipality, the Corporation shall notify in writing the succeeding owner about the existence of this Approval, and a copy of this notice shall be provided to the Director.

The ECA shall be amended to replace Condition 9 with a new Condition 9, which shall read as follows:

- a) No later than December 31, 2018, the Corporation shall establish and participate in an LLC. The objectives of the LLC are to:
 - i. provide the public with a meaningful opportunity to review and comment on the methodology used for, and the conclusions or outcomes of, the investigations, reports, studies and other documents required under Condition 9.1;
 - ii. keep the public informed about site design, management and operational matters; and

Schedule "A"

- iii. enable the Corporation to receive and understand public concerns about site design, management and operational matters.
- b) To fulfill these objectives, the Corporation shall invite the following persons to serve as LLC members:
 - i. two residents living within the Township of Edwardsburgh Cardinal;
 - ii. two residents living elsewhere within the United Counties of Leeds and Grenville;
 - iii. one representative of CAD;
 - iv. one representative of the Corporation;
 - v. one representative of the local health unit; and
 - vi. two representatives of local municipalities in the United Counties of Leeds and Grenville.
- c) The LLC shall be chaired by a person other than the Corporation.
- d) The LLC shall meet at least four times per year. The LLC's terms of reference, initial membership and meeting protocols shall be discussed and established at the first meeting of the LLC.
- e) The Corporation shall provide the LLC with sufficient funds to enable the LLC to retain independent experts to conduct third-party reviews of site-related technical documents as deemed necessary by the LLC.
- f) The Corporation shall prepare and submit to the Director an annual report summarizing the LLC's activities.
- g) The LLC shall be entitled upon request to all non-privileged documents in possession or control of the Corporation which are relevant to the site.
- h) All Committee reports, meeting minutes and other documents provided to the Committee will be available to the public upon request.

The ECA shall be amended to include a new Condition 9.1, which shall read as follows:

- a) No waste shall be received, stored or disposed at the Landfill property, and the Corporation shall not commence any development, construction or operation of the Landfill on any portion of the site, until the Corporation has completed the work and submitted the reports required by 9.1(c), (d), (e) and (f) below to the

Schedule "A"

Director and to the LLC and CAD for review and comment, until the Director has approved the revised Design & Operation report required by Condition 9.1 (g) via an amendment to the Approval. For greater certainty,

- i. any work needed to conduct any required investigation or to prepare any required report shall not constitute development, construction or operation of the landfill; and
 - ii. no clearing, grading, site alteration, vegetation removal or drainage work shall be undertaken at the landfill until the Director has approved the report required by Condition 9.1(g) via an amendment to the Approval.
- b) The Corporation shall ensure that qualified person(s) with the necessary experience will carry out the work referred to in 9.1 (c), (d), (e) and (f) and that the Corporation and/or the qualified person(s) conduct one or more consultation technical meetings with the Technical Support Manager prior to conducting the work. CAD and its technical advisors shall be invited to attend and participate in such meetings, and to make submissions to the Technical Support Manager on the adequacy of the proposed work plans and all documents required under this Condition.
- c) The Corporation shall:
- i. Conduct an inventory of the existing on-site and off-site monitoring well network, carry out 2 rounds of water quality testing within one month on all operational wells, and then submit an initial report to the Technical Support Manager that provides the findings of the inventory/testing and:
 - a. evaluates the operational condition and adequacy of these wells to provide representative groundwater information;
 - b. assesses the need for replacement/substitute monitoring wells, if any;
 - c. provides recommendations for at least 8 new bedrock flow system monitoring wells (2 on each side of the proposed waste footprint); and;
 - d. commits to monitoring every new bedrock well, and proposes which other wells will be used as monitoring wells for the purposes of the groundwater monitoring and testing program required by 9(c)(ii);
 - ii. Once the Technical Support Manager has accepted the initial report referred to in 9.1(c)(i) in writing, as amended if necessary, install all new bedrock wells and replacement wells, conduct a groundwater elevation survey of the monitoring wells, and then conduct groundwater monitoring over three consecutive seasons (spring, summer and fall) in accordance

Schedule "A"

with the requirements set out below, carry out a proper pumping test to redo the failed pumping test (done on BH6-95 in October 1995), and prepare and submit to the Technical Support Manager a new report summarizing the results.

The groundwater monitoring referred to above shall be carried out as follows:

- a. sample and analyze the monitoring wells for all parameters set out in column 1 of table C.2.;
 - b. sample and analyze the monitoring well intervals in BH8-95, or alternate intervals in another borehole(s), during one of the sampling events, for tritium.
- iii. The new report referred to Condition 9.1 (c)(ii) above shall also include the results of a door-to-door survey to provide current information on the number and location of dwellings with water supply wells which are situated within 1.5 kilometres of the Landfill (the "study area radius"), and this survey shall obtain as much relevant information as possible about the wells, including depth of well, depth of pump, year of installation, water well record, and any issues to date with the well.
 - iv. The new report referred to Condition 9.1(c)(ii) above shall also update and revise as necessary the conceptual groundwater flow model depicted on Figure 3.17 and discussed on pages M-69 to M-72 of EAA/EPA Document Volume 3, Appendix M.
- d) The Corporation shall complete a survey of the following features located on the site and within a 1.5 kilometre study area radius and prepare a report summarizing the results of the survey including:
- i. Surface water bodies and receptors (including mapping of the current areal extent of surface water bodies in both wet season and dry seasons);
 - ii. Drainage (including detailed mapping of current pathways of surface water flow on and around the site, and including in particular the downstream flow path for surface water being discharged from the proposed surface water management pond);
 - iii. Wetlands (including an assessment of whether the wetland pockets on and around the proposed waste footprint comprise a Provincially Significant Wetland Complex);
 - iv. Ecological, Biological and Vegetation, including a current inventory of species at risk and their habitats; and

Schedule "A"

- v. Providing any additional information obtained regarding the site drainage, hydrogeology, geology, topography, soil types, and ecosystems within the Landfill property and the study area radius.

This report shall assess the implications (if any) of the current conditions of these features on proceeding to project implementation, including the development, operation, maintenance, closure and post-closure phases of the Landfill.

- e) Once the reports referenced in Condition 9.1 (c) and 9.1 (d) have been completed and revised as necessary to the satisfaction of the Technical Support Manager, the Corporation shall prepare a subsequent report which includes discussion of:
 - i. all recommended changes to the Landfill design and operations to ensure that there will be no possibility of contamination of off-site surface water features which exceeds the Provincial Water Quality Objectives over the contaminating lifespan of the Landfill; and
 - ii. all recommended changes to the Landfill design and operations to ensure that there will be no exceedances of reasonable use limits (as defined by the RUP) in any aquifer at the Landfill property boundary over the contaminating lifespan of the Landfill.
- f) The reports required by conditions 9.1(c), (d) and (e) shall be submitted by the Corporation to the Technical Support Manager, the LLC and CAD for review and comment.
- g) Once the Director has confirmed in writing that the Ministry is satisfied with all aspects of the reports required by Conditions 9.1 (c), (d) and (e), the Corporation shall, within 90 days, submit to the Director (and provide to the LLC and CAD) a proposed revised Design & Operations Report that either confirms or modifies the items included in the current report, and adds all required additional changes or information, in order to ensure that the following elements of the Landfill satisfy applicable regulatory requirements, including the RUP and PWQO:
 - i. the landfill design;
 - ii. landfill gas controls;
 - iii. the leachate collection and leachate management system;
 - iv. the stormwater management system (including confirmation that sizing and other operational details are correct based on

Schedule "A"

recent data for storm events and potential climate change impacts over the contaminating lifespan of the Landfill); and

- v. the operating conditions for litter control, dust control, noise control, odour control and site inspections and maintenance;
- h) The revised Design & Operations Report required under Condition 9.1(g) shall include:
- i. a commitment that leachate recirculation will not be carried out at the proposed Landfill;
 - ii. a commitment that as much leachate as possible will be collected from the site at all times, with all of the collected leachate being taken off-site for appropriate treatment at a waste water treatment plant which can handle the anticipated leachate volumes and quality (to be named in the report);
 - iii. details of a low-permeability landfill base liner with an overlying high-permeability leachate collection layer and piping system.
 - iv. a revised surface water monitoring plan which includes quarterly testing of the proposed surface water management pond; and
 - v. detailed surface water contingency plans.

The report shall also include a description of the haul route to the site, and a description of how compliance with the haul route will be enforced by the Corporation.

- i) After soliciting and considering the comments of the LLC and CAD on the report required by Condition 9.1(g), the Director may approve it, subject to any changes deemed appropriate, via an amendment to this Approval.
- j) On December 1 and June 1 of each year until the Corporation submits an application for amending this Approval in accordance with this Condition, the Corporation shall notify the Director, the District Manager, the LLC and CAD in writing as to whether the application for amendment will be submitted within the next six month period.

The ECA shall be amended by revising Condition 10 to refer to the following documents:

"...documents listed in Schedule A (as revised in accordance with the process set out in Condition 9.1)".

Schedule "A"

The ECA shall be amended by replacing Condition 11(c) with the following provision:

- c) design and operation of the leachate collection system which will achieve the goal of minimizing leachate levels in the landfill, including a leachate collection system clean-out and maintenance schedule.

The ECA shall be amended by replacing Condition 35 with the following provision:

Site grading and contours shall be maintained by the Corporation such that all clean surface water runoff from the outer slopes of the landfilling area is directed into the perimeter surface water management system, while all potentially impacted surface water is directed into the landfill for containment and collection in the leachate collection system.

The ECA shall be amended by adding a new Condition 36.1 to read as follows:

The overarching goal of the leachate collection system shall be to contain and collect as much of the landfill's leachate as possible on an ongoing basis, thereby minimizing the potential for leachate mounding and off-site landfill impacts. All collected leachate shall be removed from the site immediately, and taken to a waste water treatment plant (WWTP) for proper treatment. The landfill shall not be permitted to commence operations until the receiving WWTP and a contingency WWTP have been identified and made known to the Director and the LLC, including an assessment of the adequacy of the plants to properly treat and dispose of such leachate in accordance with their approvals.

The ECA shall be amended by revising Conditions 23, 25, 28, 31, 34, 36, and 38 to refer to the document which will replace Item 2 of Schedule A, by referring to "Item 2 of Schedule A, as revised in accordance with the process set out in Condition 9.1".

The ECA shall be amended by revising Conditions 39, 40, 41, 42, 43 and 46 to refer to the updated schedules, as follows:

Condition 39 should reference "Schedule C (as revised in accordance with the process set out in Condition 9.1)".

Condition 40 should reference "Schedule D (as revised in accordance with the process set out in Condition 9.1)".

Schedule "A"

Condition 41 should reference "Schedule E (as revised in accordance with the process set out in Condition 9.1)".

Condition 42 should reference "Schedule F (as revised in accordance with the process set out in Condition 9.1)".

Condition 43 should reference "Schedule G (as revised in accordance with the process set out in Condition 9.1)".

Condition 46e should reference "Schedule E (as revised in accordance with the process set out in Condition 9.1)".

Condition 46f should reference "Schedule C (as revised in accordance with the process set out in Condition 9.1)".

The ECA shall be amended by replacing Condition 47 with the following provision:

A copy of all annual reports as well as all other technical reports pertaining to the landfill design, operations, monitoring, and closure shall be provided to the LLC and CAD for review and comment.

ENVIRONMENTAL REVIEW TRIBUNAL

In the matter of an appeal by the Corporation of the United Counties of Leeds and Grenville for a Hearing before the Environmental Review Tribunal pursuant to section 139(1)(e) of the *Environmental Protection Act*, R.S.O. 1990, c.E.19 as amended, in relation to the November 9, 2017 Decision of the Director, Ministry of the Environment and Climate Change, to suspend Conditions 10 and 11 in Environmental Compliance Approval No. A420009, dated June 24, 1998, regarding the construction and operation of a waste disposal site (landfill) located at Lots 14 and 15, Concession 4, Township of Edwardsburgh/Cardinal, United Counties of Leeds and Grenville

**REPLY AFFIDAVIT AND REPLY REPORT
FILED BY THE CITIZENS AGAINST THE ED19 DUMP**

(SETTLEMENT HEARING)

**CANADIAN ENVIRONMENTAL LAW
ASSOCIATION**

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Richard D. Lindgren

Counsel for Citizens Against the ED19

Dump

TABLE OF CONTENTS

Tab

1 Reply Affidavit of Wilf Ruland sworn October 29, 2018

ENVIRONMENTAL REVIEW TRIBUNAL

In the matter of an appeal by the Corporation of the United Counties of Leeds and Grenville for a Hearing before the Environmental Review Tribunal pursuant to section 139(1)(e) of the *Environmental Protection Act*, R.S.O. 1990, c.E.19 as amended, in relation to the November 9, 2017 Decision of the Director, Ministry of the Environment and Climate Change, to suspend Conditions 10 and 11 in Environmental Compliance Approval No. A420009, dated June 24, 1998, regarding the construction and operation of a waste disposal site (landfill) located at Lots 14 and 15, Concession 4, Township of Edwardsburgh/Cardinal, United Counties of Leeds and Grenville

**REPLY AFFIDAVIT OF WILF RULAND, P.Geo.
(Sworn October 29, 2018)**

I, WILF RULAND, of the Town of Ancaster, MAKE OATH AND SAY:

1. I am a professional geoscientist, and I have been retained by the Citizens Against ED19 Dump (“CAD”) in relation to the appeal filed by the United Counties of Leeds and Grenville (“the Counties”) against the suspension of Conditions 10 and 11 of Environmental Compliance Approval (“ECA”) No. A420009 dated June 24, 1998. Accordingly, I have knowledge of the matters hereinafter deposed to in this reply affidavit.

2. I have carefully reviewed the affidavits (including the attached exhibits) of Mr. Dale Gable and Mr. Paul Smolkin filed respectively by the Ministry of Environment, Conservation and Parks (“Ministry”) and the Counties in relation to the upcoming settlement hearing to be held by the Environmental Review Tribunal (“Tribunal”).

3. I have also reviewed other relevant materials (e.g. satellite images of the ED19 Landfill property, 2016 Golder memorandum to the Ministry, etc.) that were supplied to CAD by the Ministry after my original affidavit was sworn on October 12, 2018.

4. On the basis of my review of the above-noted documentation, I have prepared an independent report that responds to new information, maps, drawings and statements contained in the affidavits filed by the Ministry and the Counties. A copy of my reply report is attached to this affidavit as Exhibit A.

5. For the reasons outlined in my reply report, I have concluded that:

- (a) there appears to be broad agreement among the parties' experts that the ED19 Landfill should not be designed, built and operated in accordance with the 1998 approvals and the 1997 Design & Operations Report;
- (b) the evidence confirms that site conditions (e.g. increased area of land covered by water) have changed since the 1990s, and that regulatory requirements for landfilling have also changed since the 1990s; and
- (c) critical landfilling infrastructure at the ED19 Landfill property – such as the surface water management pond, leachate management area, site access road and some monitoring wells – are located on lands not currently owned by the Counties.

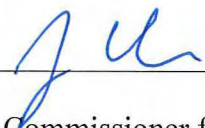
6. Therefore, despite the affidavits filed by the Ministry and the Counties in support of their proposed settlement, it remains my professional opinion that:

- (a) the Minutes of Settlement advanced by the Counties and the Ministry (e.g. proposed Condition 9.1) are not consistent with the purpose of the *Environmental Protection Act* or the public interest; and
- (b) the 1998 ECA should be revoked in its entirety, as should the 1998 approval under the *Environmental Assessment Act*.

6. Similarly, it remains my professional opinion that if the 1998 ECA is not revoked, then the more prescriptive and protective ECA conditions proposed by CAD should be considered and ordered by the Tribunal. A copy of CAD's proposed ECA conditions is attached to my October 12th affidavit as Exhibit C.

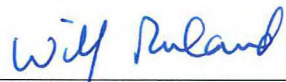
7. I swear this reply affidavit in relation to the Tribunal's settlement hearing to be held on November 6 and 7, 2018, and for no other or improper purpose.

SWORN BEFORE ME in the City of)
Toronto, in the Province of Ontario,)
on this 29th day of October, 2018)



A Commissioner for Taking Affidavits, etc.

(J. Wilson)



Wilf Ruland, P. Geo.

Report Providing Reply Evidence

Regarding the Proposed ED-19 Landfill -

Appeal by the United Counties of Leeds and Grenville

This is Exhibit.....A.....referred to in the
affidavit of.....Wilf Ruland.....
affirmed before me, this.....29.....
day of.....October.....2018.....

.....J. Wilson..... (J. Wilson)
A COMMISSIONER FOR TAKING AFFIDAVITS

Prepared for:

Citizens Against the ED-19 Dump (CAD)

Prepared by Wilf Ruland (P. Geo.)

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Issued: October 29, 2018

1) Introduction

This report providing Reply evidence has been prepared in the context of a Hearing which is to be held before the Environmental Review Tribunal (ERT) in early Nov. 2018.

I have already prepared evidence for the Hearing, which includes:

- my original Report of October 11, 2018, which is entitled “*Independent Review of Information Regarding the Proposed ED-19 Landfill - Appeal by the United Counties of Leeds and Grenville*”;
- my Affidavit of October 11, 2018.

This report providing Reply evidence is intended for the sole purpose of responding to new evidence which was not available when I prepared my original Report of October 11, 2018. That new evidence is contained in the following documents:

- *the Affidavit of Dale Gable, P. Eng (dated October 15, 2018)*;
- *the October 15, 2018 Affidavit and the attached October 12, 2018 Report (entitled “Opinion on Minutes of Settlement”) of Paul Smolkin, P. Eng.;*
- *a Memo dated April 11, 2016 which was prepared by Mr. Smolkin, for a meeting in May 2016 (whose meeting notes are at Tab D of the Agreed Statement of Facts and Common Document Book).*

This Reply report covers the following issues:

- It is my professional opinion based on my review of the above documents that there is considerable and solid evidence that the proposed ED-19 Landfill should not be designed, built, and operated in accordance with what is set out in the 1998 Environmental Assessment Act (EAA) and Environmental Compliance Approval (ECA) approvals and their key supporting document (the February 1997 Design & Operation Report).
- I have come to believe based on my review of the above documents that there is broad agreement among the experts that the proposed ED-19 Landfill should not be designed, built, and operated in accordance with what is set out in the 1998 EAA and ECA approvals and the February 1997 Design & Operations Report.

2) New Evidence Confirming that 1998 Approvals are Not Appropriate

a) Introduction

In my original report on this matter, I provided my conclusion that “*the D&O Report does not meet today’s standards in terms of providing a secure design and a solid plan for the safe operation of a landfill*”. Following below is a compendium of new evidence which supports my earlier conclusion.

b) New Evidence in Affidavit of Mr. Dale Gable, P. Eng.

Points 15. to 18. on page 4 of the Affidavit set out what Mr. Gable presents as “*Relevant Changes to Environmental Protection Measures Since 1998.*” I reviewed this list for completeness when I encountered it in the Affidavit.

Missing from this list is one of the most significant legislative changes that is administered by the MOECP, namely the Clean Water Act (2006) . The area of the proposed ED-19 site is classified as a “significant groundwater recharge area” (score of 6) and “highly vulnerable aquifer” (score of 6) according to mapping provided in the MOECP’s Source Protection Information Atlas. **Figure 1** at the end of this Reply report shows the pertinent map, and the pin on the figure is situated right in the proposed waste footprint.

There is no mention of the site area being a vulnerable aquifer or in a significant groundwater recharge area in the 1990s EAA/EPA documentation for the site. It is my belief that if it had been identified as such then at a minimum then the site design should have been more protective of the groundwater environment, and in fact the site might not have been selected in the EA site selection process.

Point 20. on page 5 of Mr. Gable’s Affidavit states the following:

*“.. information provided to the Ministry through an Environmental Bill of Rights request for review of the ECA issued for the Landfill indicates that there may have been changes to the surface water features at the Landfill. That information is consistent with information provided to me by the Ministry's Kingston Regional Office staff who reviewed aerial photos and observed that **the amount of surface water at the Landfill site has increased over time**, although the cause and extent of these changes was not evaluated or determined.”*

This confirms the observations of my clients and myself - namely that the site of the proposed landfill is much wetter than indicated in the EAA/EPA documents, with large areas of standing surface water on and around the proposed waste footprint of the site. Several maps used by the MOECP (and provided to my clients upon request) are included as **Attachment A** at the end of this report.

Point 22. on page 5 of Mr. Gable’s Affidavit states the following:

“The conditions and assumptions contained in the EAA supporting documents are relevant to the landfill design approved under the EPA approval. A number of the EAA/EPA documents are incorporated into the ECA. In the event the conditions and assumptions changed, they would potentially require an amendment to the landfill design through an amendment to the ECA.”

The much wetter conditions at the landfill discussed above will require amendments to the landfill design. In fact, if the standing surface water on-site is confirmed to meet the definition of a “lake” under Subsection 27(3.1) and 27(3.2) of the EPA, then landfilling would be prohibited in that area.

Point 28. on page 7 of the Affidavit describes Mr. Gable's similar concern in stating the following:

"My decision to suspend the ECA was based on the following considerations:

- i) There has been no information provided to the Ministry by UCLG as to whether there have been any changes to environmental conditions at the Landfill over the past 20 years;*
- ii) There have been regulatory changes since 1998 that were not in place back in 1998 when the Landfill was first approved, in particular:
 - a) Prohibiting waste from being deposited in a lake*
 - b) Encouraging landfill gas to be collected for sites of a specific volumetric capacity or greater.**
- iii) There was reason to believe that there may have been noticeable changes to the surface water features over the past 20 years..*

I can confirm there have been major changes to surface water features over the past 20 years, based on my review of maps and air photos of the site as well as my observations during the site tour. The site has gotten much wetter with large areas of standing surface water, which would necessitate significant changes to the proposed site design.

Point 34. on page 8 of Mr. Gable's Affidavit states the following:

"The proposed new condition is protective of the natural environment because.. it requires UCLG to submit an updated Design and Operation Report with the expectation that the design and operation of the Landfill will consider and take into account more modern environmental standards and requirements, including a landfill gas collection system and explaining how leachate will be managed."

The clear implication of the above paragraph is that the current February 1997 Design and Operation Report is not consistent with modern environmental standards and requirements, in particular with respect to the critical aspects of landfill gas collection and leachate management.

c) New Evidence in the Affidavit/Report of Mr. Paul Smolkin, P. Eng.

Figure 4

Figure 4 in the report of Mr. Smolkin is a figure which I have not seen before - it appears to have been prepared in October 2018 for inclusion in his report. The figure shows what is said to be *"the approximate property boundary"* outlined in a heavy red dashed line. I have included Figure 4 as **Attachment B** of my report.

As I checked the assertion regarding *"the approximate property boundary"* it became clear that the Counties do not actually own all of the land shown within the *"property boundary"* on Figure 4. I know this because for my Sept. 2018 site tour I was required to obtain special permission to cross a property now owned by R.W. Tomlinson Ltd. (Tomlinson) - which had been purchased sometime in the recent past. The Tomlinson-owned property cuts through the approximate eastern 1/4 of the proposed landfill site.

In correspondence dated September 5, 2018 the County’s counsel stated that:
“Please see the attached diagram indicating our ownership of parcels relating to the ED-19 site. Please note that our client does not own the parcel outlined in green. That parcel is now owned by Tomlinson.”

I have attached a copy of this correspondence (which includes a map showing the parcel owned by Tomlinson outlined in green, and surrounded by County-owned lands outlined in red) as **Attachment C** of this report. Clearly visible within the green-outlined parcel now owned by Tomlinson are 2 parallel former hedgerows (just above and below the words “Remi Roy”), which are prominent features in the landscape.

Comparison of the map in **Attachment C** to Figure 4 in the report of Mr. Smolkin (**Attachment B**) reveals that the green-outlined Tomlinson-owned (former Remi Roy) property comprises a critical portion of the Counties’ proposed landfill site. The 2 parallel hedgerows are prominent on Figure 4, with the Tomlinson parcel running from left to right across the figure and including everything from the east side of the proposed waste footprint to the red-outlined purported “property boundary”.

The Tomlinson-owned parcel has on it key infrastructure including:

- the site access road;
- the weigh scales and gatehouse;
- the leachate management area;
- several monitoring wells;
- a screening berm;
- the public drop-off area;
- the topsoil storage area;
- the administration and maintenance area;
- the landfill’s stormwater management pond.

Figure 4 of Mr. Smolkin’s report (**Attachment B**) suggests that all of these key landfill infrastructure features are within the property boundary of the Counties. This is incorrect. They are within the parcel owned by Tomlinson.

Thus the Counties do not in fact own all of the land which was approved in 1998 as a waste disposal site. The proposed landfill could not be built on lands owned by the Counties without massive changes to landfill design and operations.

Figure 5

Figure 5 in the report of Mr. Smolkin is entitled “*Illustration of Proposed ED-19 Landfill Design Approach*”. It amounts to a wholesale redesign of the what was approved in the 1998 ECA in terms of 1) leachate collection system design, and 2) leachate management approach. I will deal with each of these issues in turn.

1) Leachate Collection System Design (1998 ECA vs. Smolkin Report)

The 1998 ECA approval was for an inferior leachate collection system which featured the following key details (as described in Section 6.5.3 and illustrated on Figures 6 and 7 of the 1997 D&O Report):

- leachate collection lines were to be installed at a spacing of about 60 meters apart;
- the leachate collection lines were to be bedded in 10 meter wide layers of about 0.5 meters of clear stone, with the clear stone layer thickening to 0.65 meters right at the collection line;
- 10 of every 60 meters (ie. 16.7%) of the landfill base would have the 0.5-0.65 meter thick basal clear stone layer with the pipe in the middle, with the remaining 83.3% of the landfill base seeing waste deposited straight onto native soil (which would consist of either sand, silt/sand or intensely fractured silt/clay - depending upon location).

The above design is inferior, and would not be used today. It would be prone to clogging, and to the development of a significant leachate mound - even if aggressive leachate pumping were planned as part of landfill operation (which it wasn't, as discussed below).

By comparison, Figure 5 of the Smolkin Report shows a conceptual sketch of a redesigned leachate collection system, with a continuous leachate collection layer at the base of the landfill. Details are lacking, but what is shown is representative of a more modern approach to landfill design than the approved 1997 D&O Report's design.

2) Leachate Management Approach (1998 ECA vs. Smolkin Report)

The Smolkin Report's Figure 5 shows a leachate collection system which is high-efficiency, and operated aggressively with ongoing leachate pumping from the start of operations with the aim of keeping the leachate level right at the landfill base - creating a so-called "hydraulic trap". Landfills designed and aggressively pumped to maintain a hydraulic trap have a lower potential for causing groundwater contamination.

By comparison, the approved landfill operations plan (in the 1997 D&O Report) foresees no leachate collection for the first approximately 10 years of the landfill's life - which is a recipe for massive leachate mounding and groundwater and/or surface water contamination problems.

The conceptual sketch shown in Figure 5 of the Smolkin Report amounts to a tacit admission that the 1997 Design and Operations Report is not appropriate and does not meet today's landfill design practices and standards.

This is confirmed in an April 6, 2016 memo prepared by Mr. Smolkin for a May 12, 2016 meeting between representatives from the Counties, Golder Associates, Tomlinson and the MOECP.

d) New Evidence in a Memo Prepared for May 12, 2016 Meeting

Tab D of the Common Document Book provides the meeting notes for a meeting held on May 12, 2016 between representatives of the Ministry of Environment, Conservation, and Parks (MOECP), the United Counties of Leeds and Grenville (UCLG), and Tomlinson (the company wishing to purchase the landfill).

Both of the other experts in this matter (Mr. Gable from the MOECP, and Mr. Smolkin from UCLG's consulting firm Golder Associates Ltd.) were present at the May 12, 2016 meeting. In fact, Mr. Smolkin presented a memo dated April 6, 2016 (prepared by his firm) at the meeting.

My clients requested and recently were provided with a copy of the April 6, 2016 memo, which had not been included with the meeting notes or elsewhere in the Common Document Book. (The memo was not available to me at the time I wrote my original report for this matter, which is why I did not address it at that time.). I have included the April 6, 2016 memo as **Attachment D** of this report.

The April 6, 2016 memo confirms that several elements of the approved 1998 design should be changed. Page 1 of the memo states that:

"Tomlinson has identified a number of changes to aspects of the currently approved design that would be either beneficial to the project development and operations or are required because of changes to provincial regulations since that time."

The table on the following 4 pages of the April 6, 2016 memo lists numerous aspects of the landfill design and/or operations which should be changed or are required to be changed, and almost all of which would require amendments to the landfill ECA (and presumably the D&O Report).

Key aspects of the landfill's design and operations which (according to the April 6, 2016 memo) should be changed or are required to be changed and which would require ECA amendments include:

- landfill base contours and grading;
- leachate collection system design;
- leachate sumps - design and pumping;
- landfill cells and phasing;
- landfill gas system;
- leachate management;
- landfill monitoring programs;
- landfill stormwater management system.

These are fundamental aspects of landfill design and operations, and Mr. Smolkin's memo which was the basis of the discussion at the May 12, 2016 meeting provides clear evidence that what was approved in 1998 is no longer appropriate today.

There are numerous references in the meeting notes which together make clear that those present at the meeting were in general agreement with the contents of Mr. Smolkin's April 6, 2016 memo, and that the proposed ED-19 Landfill should not be designed, built, and operated in accordance with what is set out in the 1998 ECA and the February 1997 Design & Operations Report.

I have provided an overview of such references below.

The second bullet point on the first page of the meeting notes states that:

"It is recognized that the current ECA is dated and design and operation upgrades are warranted".

The last bullet point on the first page of the meeting notes states that:

"Golder described the design and operational modifications as set out in the memo of April 6, 2016."

The last bullet point in the first section on the second page of the meeting notes states that:

"Stormwater management at the site will require an ECA."

The fifth bullet point in the second section on the second page of the meeting notes states that:

"Leachate recirculation at a WDS is no longer an accepted method by the MOECC for managing leachate."

The seventh bullet point in the second section on the second page of the meeting notes states that:

"Leachate management contingency plans will be required."

The last bullet point in the second section on the second page of the meeting notes states that:

"Although not mentioned in the current ECA, ministry will impose a condition that Guideline B7 will apply to the site (current standards)."

I should note that in addition to listing site design and operations changes which are required, the April 6, 2016 memo indicates that Tomlinson are proposing an expanded service area to beyond the boundaries of the United Counties - notwithstanding the fact that the basis for the entire EA was the search for a landfill to meet the waste management needs of the United Counties only.

3) Conclusions

1) I have come to believe based on my review of newly available documents that there is broad agreement among the experts associated with this matter that the proposed ED-19 Landfill should not be designed, built, and operated in accordance with what is set out in the 1998 EAA and ECA approvals and the February 1997 Design & Operations Report.

2) The new evidence discussed in this Reply report confirms that the 1998 approvals of the EA and ECA (and their supporting documents) are badly outdated.

In some cases site conditions have changed (eg. the site has gotten much wetter), in others regulations pertaining to landfills have changed (eg. O. Reg. 232/98), and in yet others the original design and operations are no longer consistent with modern approaches to landfilling.

3) It has become clear following careful evaluation of the suggested property boundary shown in Figure 4 of Mr. Smolkin's recent report that the County does not in fact own all of the land which comprises the proposed ED-19 landfill site.

The critical approximate eastern 1/4 of the proposed landfill site is owned by Tomlinson, and the Tomlinson-owned parcel is the part of the proposed site which has on it most of the critical infrastructure for the proposed landfill.

4) Recommendations

1) It is my professional opinion that these aforementioned 1998 EA and ECA approvals (and their supporting documents) should under no circumstances be used as the basis for the design and operation of a future landfill on the ED-19 site.

2) The problems with the approved site design and operations report are so great in number and magnitude that in my professional opinion the only reasonable way to proceed is through revocation of the 1998 EA and ECA approvals.

3) The basis for any proposed future landfill at this location should be a new environmental assessment which properly assesses current conditions at the site, and which (if the site is found to be superior to alternative sites and if the existing conditions at the site are found to be suitable for a landfill) then can provide the foundation for a properly designed and modern landfill facility.

5) Signature and Professional Stamp

This report providing Reply evidence has been prepared in its entirety by Wilf Ruland (P. Geo.). It is based on my honest conviction and my knowledge of the matters discussed herein following careful review of the new evidence contained in documents listed on page 2 of this report.

This Review has been prepared for the use of my clients, Citizens Against the ED-19 Dump.

Signed on the 29th of October, 2018



WRuland

Wilf Ruland (P.Geo.)

766 Sulphur Springs Road
Dundas, Ont.
L9H 5E3
Tel: (905) 648-1296
deerspring1@gmail.com

6) Acknowledgement of Expert's Duty

Environment and Land Tribunals Ontario

Environmental Review Tribunal

Case Name and No.:

Case No. 17-072: an appeal by the Corporation of the United Counties of Leeds and Grenville for a Hearing before the Environmental Review Tribunal

1. My name is Wilf Ruland. I live at 766 Sulphur Springs Road, Dundas (Hamilton) in the Province of Ontario.
2. I have been engaged by or on behalf of Citizens Against ED19 Dump (CAD) to provide evidence in relation to the above-noted Tribunal proceeding.
3. I acknowledge that it is my duty to provide evidence in relation to this proceeding as follows:
 - (a) to provide opinion evidence that is fair, objective and non-partisan;
 - (b) to provide opinion evidence that is related only to matters that are within my area of expertise;
 - (c) to provide opinion evidence in accordance with the Environmental Review Tribunal's Practice Direction for Technical and Opinion Evidence; and
 - (d) to provide such additional assistance as the tribunal may reasonably require, to determine a matter in issue.
4. I acknowledge that the duty referred to above prevails over any obligation which I may owe to any party by whom or on whose behalf I am engaged.

Date October 29, 2018

..... *W Ruland*
Signature

Figure 1 - Source Protection Information Atlas Map

Showing ED-19 Site Area

Ministry of the Environment and Climate Change

Ontario

Source Protection Information Atlas
Ministry of the Environment and Climate Change

Location Policy Search by SPA

Tools

Accessibility | Privacy | Important Notices | © Queen's Printer For Ontario, 2018 | Imagery Copyright Notices

Location Information

Latitude: 44.83301 Longitude: -75.4683
 UTM Zone: 18 Easting: 462983.41
 Northing: 4964507.14
 Upper Tier Municipality: UNITED COUNTIES OF LEEDS AND GRENVILLE
 Lower/Single Tier Municipality: TOWNSHIP OF EDWARDSBURGH/CARDINAL
 Township, Concession and Lot: EDWARDSBURGH CON 4, LOT 14
 Assessment Parcel Address: N/A
 Assessment Roll #: 0701701025142000000

Source Protection Details for Location

Source Protection Area: South Nation
 Wellhead Protection Area: No
 Wellhead Protection Area E (GUDI): No
 Intake Protection Zone: No
 Issue Contributing Area: No
 Significant Groundwater Recharge Area: Yes ; score is 6
 Highly Vulnerable Aquifer: Yes ; score is 6
 Event Based Area: No
 Wellhead Protection Area Q1: No
 Wellhead Protection Area Q2: No
 Intake Protection Zone C: No

Use the Policy search tab to see if any policies apply – for more details see the [source protection plan](#)

Information is current as of: March, 2018

Powered By Land Information Ontario

Attachment A

Air Photos of ED-19 Site Provided by MOECP



Attachment C

E-mail Correspondence from County Counsel re Tomlinson-Owned Parcel

From: Matt Benson <mbenson@cswan.com>
Subject: ED-19 - ERT No.17-072 - Site Visit
Date: September 5, 2018 at 12:21:31 PM EDT
To: 'r.lindgren r.lindgren' <r.lindgren@sympatico.ca>
Cc: "McCulloch, Paul (MOECC)" <paul.mcculloch@ontario.ca>, Tony Fleming <tfleming@cswan.com>, Dawn Hagerman <dhagerman@cswan.com>, Wilf Ruland <deerspring1@gmail.com>, "Smolkin, Paul" <Paul_Smolkin@golder.com>

Rick,

Please see the attached diagram indicating our ownership of parcels relating to the ED-19 site. Please note that our client does not own the parcel outlined in green. That parcel is now owned by Tomlinson. We are seeking access across Tomlinson's property for the purposes the site visit tomorrow. I will keep you advised of our progress. If access is granted, it is anticipated that access will be for walking over the site only and that no physical intrusion into the surface or samples could be taken from Tomlinson's property.

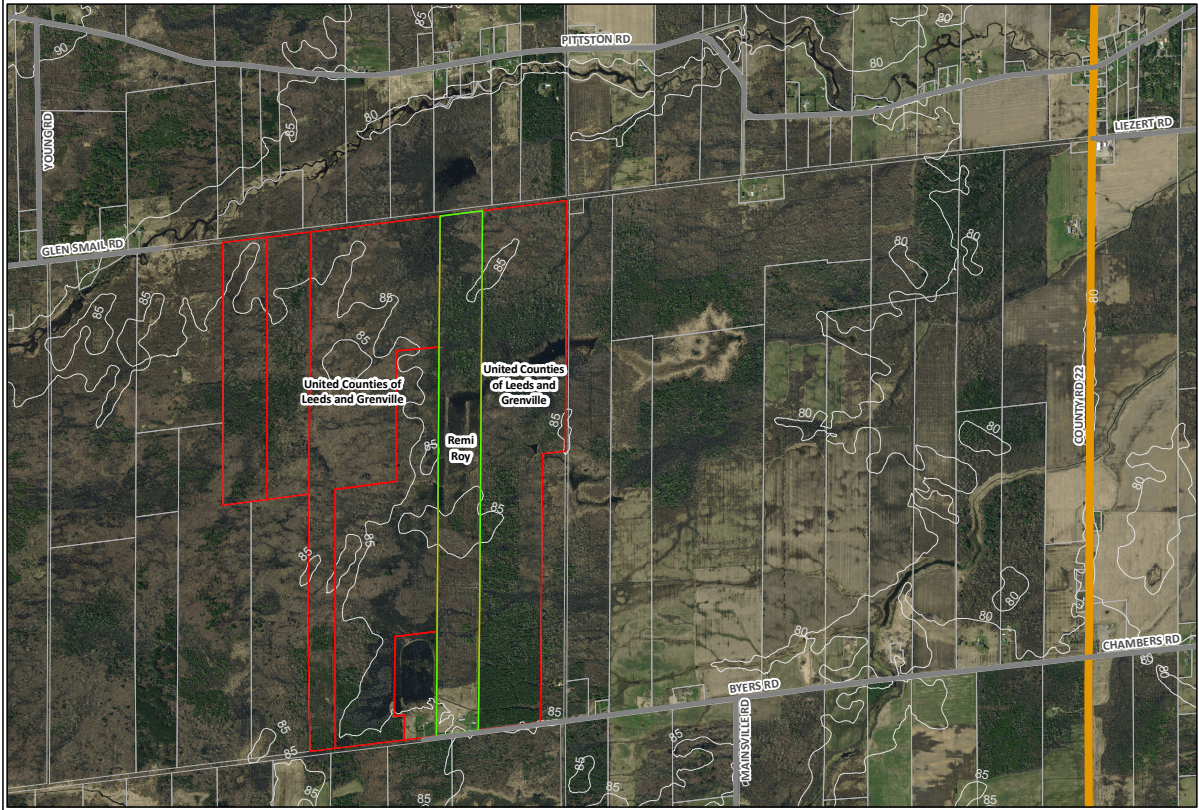
Regards,



Matt Benson
Partner
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Visit our website at www.cswan.com

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Attachment D

April 6, 2016 Memorandum

Prepared by Golder Associates Limited

for Meeting of May 12, 2016

between MOECP, Counties, and Tomlinson

April 11, 2016

United Counties of Leeds & Grenville
25 Central Avenue West
Brockville, ON
K6V 4N6

Attn: Andy Brown
CAO, United Counties of Leeds & Grenville

Re: **ED-19 ANTICIPATED MOECC APPROVAL REQUIREMENTS
PRE DEVELOPMENT**

Dear Mr. Brown;

In order to continue our move forward on the ED-19 development and the PPP it was necessary to meet with the MOECC to gain their input into the current ED-19 Certificate of Approval and what updated engineering studies would be required to move forward. This meeting was carried out so we could have a better understanding of the requirements and possible questions that need to be addressed prior to a formal pre-consultation meeting that the UCL&G, RWT and Golder Associates would attend with the MOECC Kingston Region and Approvals Branch.

Attached you will find a memo that was prepared after our informal meeting with the MOECC in Kingston. The memo outlines what we believe are the proposed changes and anticipated MOECC approval requirements as related to the EA and EPA Approval, to serve as a basis for discussion at the pre-consultation meeting.

In order to move to the official pre-consultation session with the MOECC we require the UCL&G to contact the MOECC Regional office in Kingston to set this up. The contact person is Laura Skoblenick, Environmental Officer, Kingston District Office, 1259 Gardiners Road Unit 3, Kingston, Ontario, K7P 3J6. Laura's direct phone line is 613-540-6870 and her email address is Laura.Skoblenick@ontario.ca.

We need to review our calendars and pick a couple of dates that will work prior to connecting with the MOECC. I will coordinate with Golder today and get a couple of dates that will work.

Yours truly,



Michael Walters, PMP
Manager Projects & Municipal Business Development

DATE April 6, 2016

PROPOSAL No. P011250082

TO Michael Walters
R.W. Tomlinson Ltd.

FROM Paul Smolkin

EMAIL psmolkin@golder.com

**ANTICIPATED MOECC APPROVAL REQUIREMENTS TO PROCEED TO DEVELOPMENT OF THE
NEW ED-19 LANDFILL SITE, UNITED COUNTIES OF LEEDS & GRENVILLE**

At the preliminary meeting with MOECC in Kingston on March 23, 2016, an overview was provided of the history of the ED-19 landfill site project, its current approvals status and the currently proposed Private Public Partnership (PPP) between R.W. Tomlinson Ltd. (Tomlinson) and the United Counties of Leeds & Grenville (UCLG) to implement the ED-19 landfill site. To ensure that both the PPP and the MOECC are in agreement with the approvals required to proceed to implementation of the project prior to finalizing a PPP Agreement, the MOECC suggested that a more formal pre-consultation attended by representatives of UCLG, Tomlinson (with Golder Associates Ltd. as their consultant) and MOECC (both Kingston Region and Approvals Branch) should be convened.

In preparing their proposal to partner with UCLG to develop and operate ED-19, Tomlinson has examined the previous 1997 EA/EPA application document and proposed site design, as well as the June 1998 Certificate of Approval (C of A) #420009. Although it is not proposed to alter any aspects of the project that were fundamental to the EA approval (i.e., site location, site size, landfill size and location within the property, landfill geometry, approach to landfill design to protect groundwater and surface water, maximum annual rate of waste receipt, access route site access location, mitigation measures), Tomlinson has identified a number of changes to aspects of the currently approved design that would be either beneficial to the project development and operations or are required because of changes to provincial regulations since that time. The purpose of this memo is to outline these proposed and/or possible changes and the anticipated MOECC approvals requirements as related to the EA and EPA approvals, to serve as a basis for discussion at the pre-consultation meeting.

As a starting point, it is Tomlinson's understanding that the 1997 EAA approval and the subsequent June 1998 C of A remain in effect and the project can proceed now to implementation on the basis of these existing approvals.

The proposed changes to the approved ED-19 development that are currently contemplated are provided in the table below.



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Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

Project Component	Currently Approved	Proposed Change	Rationale	Anticipated Approval Requirements
1) Site Development Plan	As set out in D&O report, Dwg.3	Possible minor adjustments associated with final design	Optimize site operations	C of A Amendment
2) Landfill Component				
-Base Contours and Grading	As shown in D&O report, Dwg.2	Possible minor adjustments associated with final design and modifications to LCS and leachate removal method (see below)	Based on additional boreholes to delineate the top surface elevation profile of the silty clay and geotechnical analysis, may be necessary to adjust the proposed base grades and slopes and below grade sideslopes	C of A Amendment
-Leachate collection system (LCS)	Perforated pipes within a 10 m width of drainage stone, topped with a filter geotextile and protective stone layer	Perforated pipe network within a continuous drainage stone blanket, topped with a filter geotextile and sand layer (as per O.Reg. 232/98)	To improve the performance, reduce operational problems and increase the service life of the LCS	C of A Amendment
-Leachate removal from landfill	As described in D&O report and illustrated on Dwg.3 and 4; consisting of LCS piping connected to 3 external manhole pump stations that discharge via forcemain to a leachate pumping station	Propose to withdraw the leachate with submersible pumps directly through sideslope risers from sumps within the landfill	Improved performance and reduced capital and operational costs	C of A Amendment

Project Component	Currently Approved	Proposed Change	Rationale	Anticipated Approval Requirements
-Perimeter drain	As described in the D&O report and shown on Dwg.7, a contingency item in case of failure of the LCS, to capture leachate discharging at ground surface	May not be any change, but will be reconsidered in view of the increased service life associated with changing the LCS design as described above	An alternate contingency plan may be more appropriate	C of A Amendment
-Final cover	Currently a permeable soil final cover is proposed, 1200 mm total thickness above the waste	If a permeable soil final cover is retained, reduce total thickness to 750 mm as per O.Reg. 232/98. An alternative low permeability final cover may be found to be a desirable option to reduce the long term leachate generation rate and associated treatment costs	For permeable cover, reduced capital cost; For low permeability cover, reduced post-closure leachate generation and treatment costs (as described below under item 3)	C of A Amendment
-Phasing plan	As per D&O report and illustrated on Dwg.4, landfill divided into 3 phases with filling up to partial final height, then the whole site area topped with Phase 4	In view of relatively small fill rate, possibly modify by dividing into four smaller stage areas that are built to full height	Optimization of site operations and improved ability to control and reduce leachate generation requiring treatment (as described below under item 3)	C of A Amendment
-Landfill gas (LFG) management system	None	Active LFG collection and flare	To comply with O.Reg. 232/98 requirements for all landfills with greater than 1.5 million cubic metres of airspace	C of A Amendment

Project Component	Currently Approved	Proposed Change	Rationale	Anticipated Approval Requirements
3) Leachate Management	Proposed to recirculate collected leachate into the landfill for first 10 years of site operations, then hauling off-site for treatment at a municipal sewage treatment plant (STP)	<p>Proposed to remove collected leachate for treatment from start of landfill operations, either pumped directly into tankers to haul to STP or possibly into an on-site lined leachate holding pond from which the tankers would be loaded</p> <p>Assess available municipal STP's within UCLG capable of leachate treatment and determine the requirements and identify the plant(s) that will be used for this purpose. Determine any plant modifications or on-site pre-treatment requirements</p>	<p>Based on experience at other Ontario sites with leachate recirculation, it is only considered to be an interim leachate management measure. To avoid operational problems, the design and operations should include collected leachate removal from the site for treatment</p> <p>Temporary leachate recirculation and storage of leachate in the landfill base by temporarily not pumping would be operational contingencies if, for example, there was a problem at the STP</p>	<p>C of A Amendment</p> <p>Possible amendment to C of A for municipal STP</p>
4) Monitoring Programs	Groundwater, surface water, leachate, LFG, and biology & vegetation monitoring programs	Possible minor modifications to one or more of the proposed programs	Optimization and to bring them into line with more current practices for monitoring programs at landfill sites	C of A Amendment

Project Component	Currently Approved	Proposed Change	Rationale	Anticipated Approval Requirements
5) Stormwater Management System	Site ditching system and stormwater management pond, designed to handle the 100 year storm, to control discharge water quality and quantity, as per D&O report and Appendix J of the EA/EPA application documents	Possible minor adjustments associated with final design	Optimization for operational reasons	C of A Amendment
6) Service Area Change	ED-19 service area limited to waste generation in the UCLG	Expand service area beyond the UCLG	The site is licensed to receive 50,000 Tpy, but the UCLG only generates about 20,000 Tpy. Economically Viable development of ED-19 requires an increase in the annual waste receipt, accomplished by expanding the service area	EA Screening, as set out in O.Reg. 101/07