



Ministry of the Environment  
Ministère de l'Environnement

PROVISIONAL CERTIFICATE OF APPROVAL  
WASTE DISPOSAL SITE  
NUMBER 0084-78RKAM  
Issue Date: January 30, 2008

Niagara Waste Systems Limited  
P.O. Box No. 100  
Thorold, Ontario  
L2V 3Y8

Site Location: South Landfill  
Lot 31, 49, 50, and 66,  
Former Township of Stamford  
City of Niagara Falls, Regional Municipality of Niagara

*You have applied in accordance with Section 27 of the Environmental Protection Act for approval of:*

the use and operation of a 53.9 hectare waste disposal site within a total site area of 85.68 hectares having a maximum capacity of 17.7 million cubic meters, being known as the South Landfill Site

to be used for the landfilling of the following types of waste:

Solid Non Hazardous Waste which includes Asbestos

Note: Use of the site for any other type of waste is not approved under this Certificate, and requires obtaining a separate approval amending this Certificate.

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

**"Adverse Effect"** means the same as the definition in the EPA.

**"Anniversary Date"** means the date on which waste is first received at the *Site* ;

**"Certificate"** means this entire provisional Certificate of Approval document, issued in accordance with section 39 of the *EPA* , and includes any schedules to it, the application and the supporting documentation listed in schedule "A";

**"Director "** means any *Ministry* employee appointed in writing by the Minister pursuant to Section 5 of the EPA as a Director for the purposes of Part V of the EPA;

**"District Manager "** means the District Manager of the local district office of the Ministry in which the *Site* is geographically located;

"**EPA** " means *Environmental Protection Act* , R.S.O. 1990, c. E. 19, as amended;

"**Engineer** " means holder of a professional engineering licence, a temporary licence, a provisional licence, a limited licence or a certificate of authorization, as the case requires.

"**Operator** " means any person, other than the Owner's employees, authorized by the Owner as having the charge, management or control of any aspect of the site its successors or assigns;

"**Owner** " means any person that is responsible for the establishment or operation of the site being approved by this *Certificate* , and includes the Niagara Waste Systems, its successors and assignees;

"**OWRA**" means the Ontario Water Resource Act, R.S.O 1990, Chapter O.40

"**PA** " means the *Pesticides Act* , R.S.O. 1990, c. P-11, as amended from time to time:

"**PLC** " means the Public Liaison Committee;

"**Provincial Officer** " means any person designated in writing by the Minister as a provincial officer pursuant to section 5 of the *OWRA* or section 5 of the *EPA* or section 17 of *PA* .

"**Regional Director** " means the Regional Director of the local Regional Office of the Ministry in which the Site is located.

"**Regulation 232** " or "**Reg. 232** " means Ontario Regulation 232/98 (New Landfill Standards) made under the *EPA* , as amended from time to time;

"**Regulation 347** " or "**Reg. 347** " means Ontario Regulation 347, R.R.O. 1990, made under the *EPA* , as amended from time to time;

"**Regulation 419**" or "**Reg. 419**" means Ontario Regulation 419, R.R.O.2005, made under the *EPA*, as amended from time to time;

"**Site** " means the entire South Landfill Site, including the buffer lands located at Parts of lots 31, 49, 50 and 66 in the (Former Township of Stamford) City of Niagara Falls in the Regional Municipality of Niagara, approved by this *Certificate* .

"**Trained personnel**" means knowledgeable in the following through instruction and/or practice:

- i. relevant waste management legislation, regulations and guidelines;
- ii. major environmental concerns pertaining to the waste to be handled;
- iii. occupational health and safety concerns pertaining to the processes and wastes to be handled;
- iv. management procedures including the use and operation of equipment for the processes and wastes to be handled;

- v. emergency response procedures;
- vii. specific written procedures for the control of nuisance conditions;
- viii. Specific written procedures for refusal of unacceptable waste loads;
- ix. the requirements of this *Certificate* .

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

## TERMS AND CONDITIONS

### General

1. The Owner and Operator shall ensure that all communication made pursuant to this Certificate of Approval will refer to this Certificate of Approval No. 0084-78RKAM.
2. The *Owner* and *Operator* shall ensure compliance with all the conditions of this *Certificate* and shall ensure that persons authorized to carry out work on or operate any aspect of the *Site* is notified of this *Certificate* and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
3. Except as otherwise provided for in this *Certificate* , the *Site* shall be designed, developed, built, operated and maintained in accordance with the application for this *Certificate* , dated November 21, 2006, and the supporting documentation listed in Schedule "A"
4.
  - (1) If there is a conflict between a provision of any document listed in Schedule "A" and a provision of any term or condition in this Certificate of Approval, the provision in the term or condition shall apply.
  - (2) If there is a conflict between documents listed in Schedule "A", the document bearing the most recent date shall apply.
5. The conditions of this *Certificate* are severable. If any condition of this *Certificate* , or the application of any condition of this *Certificate* to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this *Certificate* shall not be affected thereby.
6. The receipt of any information by the *Ministry* or the failure of the *Ministry* to prosecute any person or to require any person to take any action, under this *Certificate* or under any statute, regulation or other legal requirement, in relation to the information, shall not be construed as:
  - i. an approval, waiver, or justification by the *Ministry* of any act or omission of any person that contravenes any term or condition of this *Certificate* or any statute, regulation or other legal requirement; or
  - ii. acceptance by the *Ministry* of the information completeness or accuracy.

### **Adverse Effect**

7. (1) The Owner and Operator shall take steps to minimize and ameliorate any adverse effect on the natural environment or impairment of water quality resulting from the *Site*, including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.
- (2) The Owner shall ensure the Site is in compliance with Ontario Regulation 419/05.
8. Despite an *Owner, Operator* or any other person fulfilling any obligations imposed by this *Certificate* the person remains responsible for any contravention of any other condition of this *Certificate* or any applicable statute, regulation, or other legal requirement resulting from any act or omission that caused the adverse effect to the natural environment or impairment of water quality.

### **Inspection**

9. The Owner and *Operator* shall take all reasonable steps to have trained personnel inspect the Site for any situation which may cause an adverse effect and to ensure that the Site is being operated in accordance with this Certificate.

### **Certificate of Requirement**

10. Pursuant to Section 197 of the EPA, no person having an interest in the Site shall deal with the Site in any way without first giving a copy of this Certificate of Approval to each person acquiring an interest in the Site as a result of the dealing.
11. The Owner shall:
  - (i) Within 60 days of the date of the issuance of this Certificate, submit to the Director for their review, two copies of a completed Certificate of Requirement and a registerable description of the Property; and
  - (ii) Within 10 calendar days of receiving the Certificate of Requirement authorized by the Director, register the Certificate of Requirement in the appropriate Land Registry Office on title to the Property and submit to the Director the duplicate registered copy immediately following registration.

### **Transferral or Encumbrance of Site**

12. No portion of this *Site* shall be transferred or encumbered prior to or after closing of the *Site* unless the *Director* is notified in advance and sufficient financial assurance is deposited with the *Ministry* to ensure that these conditions will be carried out. In the event of any change in *Ownership* of the works, other than change to a successor municipality, the *Owner* shall notify the successor of and provide the successor with a copy of this *Certificate*, and the Owner shall

provide a copy of the notification to the *District Manager* and the *Director*.

### Notification

13. 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;

### Inspection by Provincial Officer

14. No person shall hinder or obstruct any and all inspection authorized by the EPA, the OWRA and the PA of any place to which this Certificate of Approval relates, and without restricting the generality of the foregoing, to
- i. enter upon, at reasonable times, the premises or the location where the records required by the conditions of this Certificate of Approval are kept;
  - ii. have access to, inspect, and copy, at reasonable times, any records required to be kept by the conditions of this *Certificate* ;
  - iii. inspect, *at reasonable times*, the *Site* and related equipment and appurtenances;
  - iv. to inspect, at reasonable times, the practices, procedures, or operations required by the conditions of this *Certificate* ; and
  - v. to sample and monitor for the purposes of assessing compliance with the terms and conditions of this *Certificate*, the *EPA*, the *OWRA* or the *PA* .

### Information and Records Retention

15. Any information requested by the *Ministry* or by a Provincial Officer, concerning the *Site* and its operation under this *Certificate*, including but not limited to any records required to be kept by this *Certificate* shall be provided to the Ministry, upon request, in a timely manner.
16. The receipt of any information by the *Ministry* or the failure of the *Ministry* to prosecute any person or to require any person to take any action, under this *Certificate* or under any statute, regulation or other legal requirement, in relation to the information, shall not be construed as:
- a. an approval, waiver, or justification by the *Ministry* of any act or omission of any person that contravenes any term or condition of this *Certificate* or any statute, regulation or other legal requirement; or
  - b. acceptance by the *Ministry* of the information completeness or accuracy.

17. The *Owner* shall retain records required by this Certificate of Approval for two (2) years except as otherwise authorized in writing by the *Director* .
18. The *Owner* shall maintain copies of documents listed in Schedule "A" of this Certificate and make them available for inspection by a *Provincial Officer* upon request.

### **Financial Assurance**

19. (1) No waste shall be received at the site until the Director has been provided the first installment of the financial assurance as identified in Schedule "E" which was determined using the calculations provided in Items 24 and 25 in Schedule "A". Financial Assurance shall be provided in a form acceptable to the Director.
  - (2) The Owner shall provide each subsequent installment of financial assurance identified in Schedule "E" and Item 25 of Schedule "A" (Schedule of Payments) by January 31 of each year.
  - (3) Installment amounts following the end of the 4-year period identified in Schedule "E" shall be re-calculated based on the financial assurance re-evaluation report required under Condition No. 20
20. By no later than **January 1, 2011**, and every three years thereafter, the Owner shall submit a Financial Assurance Re-Evaluation Report to the *Director* for approval, with copies to the *District Manager*. The re-evaluation report shall include:
- i. updates of the discount, interest and inflation rates associated with the requirements for financial assurance in this *Certificate* including justifications and sources of the proposed rates; and
  - ii. a report prepared by a qualified professional engineer which updates the cost estimates on which the amounts associated with the requirements for financial assurance in this *Certificate* are based. The report shall take into consideration the:
    - (1) actual amounts of waste landfilled;
    - (2) projected rate of fill;
    - (3) progressive capping of completed fill areas;
    - (4) leachate generation rates;
    - (5) landfill gas generation rates;
    - (6) contaminating life span of the Site with respect to groundwater, surface water and landfill gas;
    - (7) any measures that have been carried out or need to be carried out to prevent and ameliorate any adverse effect that relates to the site; and
    - (8) annual inspection, maintenance, and monitoring costs, including

costs for leachate treatment and disposal and landfill gas use or discharge.

(iii) Updates on required Contingency Costs for the *Site*.

(2) In the event a updated sewer-use discharge agreement is not reached between the *Owner* and the upper or lower tier Municipal Government to address all leachate volumes generated at the *Owner 's Site* , the *Owner* shall include all costs for the handling, transport and disposal of leachate at the site in the financial assurance calculations .

21. If any financial assurance is scheduled to expire or notice is received, indicating financial assurance will not be renewed, and satisfactory methods have not been made to replace the financial assurance at least 60 days before the financial assurance terminates, the financial assurance shall forthwith be replaced by cash.

### **Public Liaison Committee**

22. Upon issuance of the *Certificate* , the *Owner* shall incorporate into the existing Walker Public Liaison Committee the dissemination of information, review and exchange of information and monitoring results relevant to the operation of the *Site* .

23. The *Owner* shall provide the following to the *PLC* for review and recommendations:

- i. update of landfilling operations at the site
- ii. the Annual Report required by Condition No. (88)
- iii. proposed changes to the Certificate of Approval for the Site; and
- iv. complaints and complaint response procedures
- v. closure plans

24. The *Owner* shall review annually in consultation with the members of the *PLC* the need for the committee, and the committee may be suspended upon consent of the *Regional Director* should there be insufficient interest among the public members.

25. The *Owner* shall not construe any recommendations provided by the *PLC* as supervisory or regulatory to the operation of the *Site* or as an approval of operations of the site.

### **Construction, Installation and Planning**

#### **Major Works**

26. For the purposes of this *Certificate*, major works includes, but are not limited to the following:

- i. Liner system;
- ii. Leachate management system;
- iii. Groundwater management system;

- iv. Stormwater management system
  - v. Gas management system --
27. A final detailed design shall be prepared for each *Major Work* to be constructed at the *Site* consistent with the conceptual design of the *Site* as presented in the Supporting Documentation Items (3), (7) and (9) in Schedule "A".
28. The final detailed design of each *Major Work* shall include the following:
- i. design drawings and specifications;
  - ii. a detailed quality assurance / quality control (QA/QC) program for construction of the major work, including necessary precautions to avoid disturbance to the underlying soils; and
  - iii. details on the monitoring, maintenance, repair and replacement of the engineered components of the major work, if any.
29. Any design optimization or modification that is inconsistent with the conceptual design shall be clearly identified, along with an explanation of the reasons for the change.
30. The final detailed design of each *Major Work* shall be submitted to the *Director* for approval, with two (2) copies to the District Manager.
31. No construction of a *Major Work* shall commence prior the Director approving, in writing, the final detailed design of that Major Work. Each major work shall be constructed in accordance with the approved final detailed design and the QA/QC procedures shall be implemented as approved by the Director.
32. (1) Prior to accepting waste, the Owner shall submit in writing to the District Manager a letter indicating that the major works (as applied for under Condition 30) have been constructed as per approved detailed designs and request permission to commence landfilling in that Stage/Phase.
- (2) Landfilling in an approved Stage/Phase shall not commence until the Owner has received confirmation from the District Manager for the request in Condition No. 32(1) and the Financial Assurance required and approved by the Director as identified in Condition No. (19) has been received by the Director.
- (3) Within one hundred and twenty (120) days of receiving confirmation from the District Manager (as identified in Condition No. 32(2), the *Owner* shall submit to the *Director* and *District Manager*, a written *Construction Report* documenting:
- i. all construction activities for the Stage/Phase;
  - ii. *QA/QC* activities;
  - iii. *Site* conditions; and,
  - iv. all details of the construction of the approved stage.

are in accordance with the approved design plans and specifications.

33. As-built drawings for all *Major Works* shall be retained on site and made available to *Ministry* staff for inspection.

### Subsequent Stages

34. At least six months prior to the anticipated initiation or completion of landfilling in each Stage/Phase of the *Site*, a final detailed design for all applicable major works for the subsequent stage/phase shall be submitted to the *Director* for approval in accordance with the Condition No. (27).
35. (1) Prior to accepting waste in each subsequent Phase/Stage, the Owner shall submit in writing to the District Manager a letter indicating that the major works (as applied for under Condition 34) have been constructed as per approved detailed designs and request permission to commence landfilling in that Stage/Phase.
- (2) Landfilling in an approved Stage/Phase shall not commence until the Owner has received confirmation from the District Manager for the request in Condition No. 35(1).
- (3) Within one hundred and twenty days of receiving confirmation from the District Manager (as identified in Condition No. 35(2), the *Owner* shall submit to the *Director* and *District Manager*, a written *Construction Report* documenting:
- i. all construction activities for the Stage/Phase;
  - ii. *QA/QC* activities;
  - iii. *Site* conditions; and,
  - iv. all details of the construction of the approved stage;

are in accordance with the approved design plans and specifications.

### Geomembrane

36. The geomembrane shall be protected against puncturing and load-induced damage at all times, including during installation. During installation, care shall also be taken to:
- a. remove wrinkles in the geomembrane;
  - b. minimize stress concentration;
  - c. ensure high quality seams;
  - d. minimize differential settlement;
  - e. minimize exposure to ultraviolet light;
  - f. prevent damage due to sliding;
  - g. prevent damage due to installation in cold conditions; and
  - h. prevent damage due to rodents.

37. To ensure that the geosynthetic products specified in the design have been supplied and installed in accordance with the design drawings and specifications, a qualified inspector(s) shall be on the Site during construction to sample, test and confirm installation in accordance with the recommendations of the manufacturers, design drawings and specifications, and QA/QC procedures.

### **Blast Monitoring for Liner Performance**

38. (1) The *Owner* shall ensure that no blasting operations in the Southeast Quarry causes damage to the liner system.
- (2) If Walker Aggregates Inc. is extracting rock in the Southeast Quarry directly along Taylor Road adjacent to where liner is to be constructed in Stage 2 of landfilling, then the *Owner* shall prepare a monitoring plan to ensure the ground vibration generated from the blast will not affect the performance of the liner system. The *Owner* shall submit the plan to the *Director* for approval, with copies to the *District Manager*. The *Director* must approve the plan before the liner construction can proceed.

### **Operation**

#### **Proper Operation**

39. (1) The *Site* shall be properly operated and maintained at all times. All waste shall be managed and disposed of in accordance with the *EPA*, *Regulation 347*, *Regulation 232*, and the requirements of this *Certificate*. At no time shall the discharge of a contaminant that causes or is likely to cause an adverse effect be permitted.
- (2) Any changes to the Design and Operations Report shall be submitted to the *Director* for approval prior to their implementation.

#### **Scavenging**

40. The *Owner* shall ensure no scavenging at the *Site* occurs.

#### **Burning Waste Prohibited**

41. Burning of waste at the *Site* is prohibited.

#### **Waste Type**

42. Only solid non-hazardous waste (including asbestos) shall be accepted at the *Site*.

#### **Capacity**

43. (1) The total capacity of the *Site* is **17,700,000** cubic metres; and
- (2). The total capacity as identified in Condition No. 43(1) does not include the composite liner, leachate collection system or the final cover.

#### **Daily and Annual Waste Limit**

44. (i) No more than **10,000 tonnes** of waste per day shall be accepted at the *Site* .
- (ii) The maximum rate at which the Site can receive waste is **850,000 tonnes** of waste per year. This amount includes an allowance of up to 100,000 tonnes per year dedicated exclusively to the Region of Niagara.

#### **Service Area**

45. Only waste that is generated within the **Province of Ontario** shall be accepted at the *Site*.

#### **Design and Operations Report**

46. The Design and Operations Report shall be:
- i. retained at the Site;
  - ii. kept up to date through periodic revisions; and
  - iii. be available for inspection by *Ministry* staff.

#### **Cover**

47. The Owner shall ensure that a thickness of at least 4.0 m of waste (the upper 2.0 m shall be compacted waste) and cover material exists over the area of the leachate collection layer where the biosolids are to be landfilled prior to landfilling the biosolids.
48. Cover material shall be applied as follows:
- a. Daily Cover - At the end of each working day, the entire working face shall be covered with a minimum thickness of 150 mm of soil material or other material approved under Reg. 232/98 or any other alternative daily cover material approved by this Certificate.
  - b. Intermediate Cover - In areas where landfilling has been temporarily discontinued for six (6) months or more, a minimum thickness of 300 mm material cover material (which restricts infiltration to less than 150 mm/year). This materials may consist of soil, contaminated soils, foundry sands, slag, aggregate grindings, aggregate production by-products (limited to shale, ground stone and crushed concrete) manufactured cover materials, or, an approved thickness of alternative cover material approved by this Certificate; and

- c. Final Cover - In areas where landfilling has been completed to final contours, a minimum 600 mm thick layer of final soil cover and 150 mm of topsoil shall be placed as described in Item (3) in Schedule "A". Fill areas shall be progressively completed and rehabilitated as landfill development has reached final contours.

49. Alternative materials not approved by this Certificate may be used as daily and interim cover material, subject to an approval by the *Director* via an amendment to the *Certificate* .

### **Waste Placement**

50. No waste shall be landfilled outside of the **limit of fill area** as shown in Item (3) in Schedule "A" attached to this *Certificate*. No waste shall be landfilled in the buffer area.
51. Final slopes above grade at the time of *Site* closure within the waste fill area shall be within the range of 4H:1V (25%) and 20H:1V (5%).
52. The maximum height of the waste shall be 212.50 mASL.

### **Spills**

53. All spills shall be forthwith reported to the Ministry's Spills Action Centre (SAC) and shall be recorded in a log as to the nature of the spill or upset, and the action taken for clean-up, correction and prevention of future occurrences

### **Buffer**

54. A minimum buffer area width of thirty (30) metres shall be maintained between the perimeter of the approved fill area and the property line

### **Landfill Staging**

55. Waste Landfilling Operations shall proceed in the various stages in the following order:
  - i. Stage 1;
  - ii. Stage 2;
  - iii. Stage 3; and
  - iv. Stage 4.

### **Impacted Surface Water**

56. The *Owner* shall ensure that any surface water contaminated with leachate within the active limit of landfilling area shall be directed to the leachate collection/treatment system, recirculated back into the landfill, or removed off-site for disposal at an approved facility.

## Hours of Operation

57. Waste shall only be accepted at the *Site* during the following time periods:
- i. 7:00 am to 7:00 pm - Monday to Friday (except statutory holidays); and
  - ii. 7:00 am to 1:00 pm - Saturday.
58. On Saturdays that are most proximal to a Statutory holiday, hours of waste receipt may be extended to 4:00pm to receive waste only from curbside pick-up within the Region of Niagara.
59. On-site equipment used for daily site preparation and closing activities shall only be used during the following time periods:
- i. 6:00 am to 9:00 pm - Monday to Friday (except statutory holidays); and
  - ii. 6:00 am to 3:00 pm - Saturday.
60. On Saturdays that are most proximal to a statutory holiday, hours of on-site equipment use may be extended to 6:00 pm to manage waste only from curbside pick-up within the Region of Niagara.
61. The operating hours may be extended to accommodate seasonal or unusual quantities of waste with the prior written approval concurrence of the *District Manager*

## Site Access

62. The Owner shall only permit access to and exit from the *Site* for the transportation of waste via the main entrance/exit on Taylor Road.
63. The Owner shall provide and maintain access roads and on-site roads so that vehicles hauling waste to and on the *Site* may travel readily on any operating day.

## Site Security

64. During non-operating hours, the Owner shall lock the site entrance and exit gates to secure against access by unauthorized persons.

## Signage

65. The Owner shall install and maintain a sign which complies with local by-laws at the main entrance/exit to the *Site* on which is legibly displayed the following information:
- i. the name of the *Site* and *Owner* ;
  - ii. the number of the *Certificate* ;
  - iii. the name of the *Operator* ;
  - iv. the normal hours of operation;

- v. the allowable and prohibited waste types;
- vi. a telephone number to which complaints may be directed;
- vii. a twenty-four (24) hour emergency telephone number (if different from above); and
- viii. a warning against dumping outside the *Site* .

66. The Owner shall install and maintain signs on the site that control speed and direct vehicles to the working face.

### **Nuisances**

67. The Owner shall take all reasonable steps to operate and maintain the *Site* such that the vermin, vectors, dust, litter, odour, noise and traffic do not create a nuisance.

### **Cleaning Leachate Collection System**

68. (1) For each Stage/Phase, the leachate collection system piping in that Stage/Phase of the landfill shall be inspected annually for the first five years after waste placement ovetop of each pipe and then as often as inspections indicate to be necessary .
- (2) The Owner shall conduct and document visual inspections of the leachate collection system (as a component of Condition No. 77) on a monthly basis to assist in determining the need for more frequent cleaning and/or maintenance.
- (3) The leachate collection system shall be cleaned on a frequency as per Reg. 232/98.

### **Employees and Training**

69. A specific training plan for each employee whom is part of any landfill operation at the *Site* shall be developed and implemented by the *Operator* . Only *trained personnel* shall operate any aspect of the *Site* or carry out any activity required under this *Certificate* . Documentation of training and personnel whom have taken the training shall be maintained and kept at Niagara Waste Systems Ltd.'s main office at 2800 Thorold Townline Road.

### **Environmental Inspector**

70. The Owner shall permit an Environmental Inspector (which includes other appropriate technical expert(s)) employed by the MOE to inspect the Site, during hours of waste disposal operations on such terms and conditions, after consultation with the Owner, as deemed appropriate by the District Manager and, for greater certainty:
- i. the Owner shall provide the Environmental Inspector with adequate office facilities, including a telephone, and a computer, for use when at the South Landfill, and appropriate arrangements for on-site transportation;
  - ii. the Owner shall, on a semi-annual basis, reimburse MOE for the reasonable costs of the Environmental Inspector and associated expenses.

71. Implementation of Condition No. 70 shall be required of the Owner in accordance with the following conditions:

- a.. The Owner shall undertake an air space survey of the bottom and top waste contours to determine the estimated air space used for waste disposal in the prior six months. The air space survey shall include daily cover material and shall take into account settlement. The first air space survey shall be undertaken six months after waste is first received at the Site. The Owner shall undertake further air space surveys every six months after the completion of the first air space survey.
- b. Wastes which the Owner has been ordered to dispose of at the Site by any ministry, department or agency of the federal or Provincial Crown shall be excluded from the air space calculations.
- c. Each Air Space Survey shall be conducted by an Ontario Land Surveyor or other qualified consultant and such air space survey shall be confirmed by the District Manager. The Owner shall keep a copy of each air space survey on-site and make them available to MOE personnel.
- d. Based on the annual rate of waste received at the Site reflected by the most recent air space survey, the Owner shall provide the funding equivalent for an Environmental Inspector being on-site for the following number of days per week as shown in the Table below:

Funding Equivalent to Number of Days Per Week the Environmental Inspector may inspect the Site	Annual Rate Waste Received at the Site in Cubic Meters
1	0 up to 500,000
2	500,000 up to 650,000
3	650,000 up to 800,000
4	800,000 up to 950,000
5	950,000 or more

- e. Notwithstanding Condition No. 71(d), the requirement for an Environmental Inspector shall not commence until the annual rate of fill at the Site is equal to or greater than 350,000 cubic meters.
- f.. Notwithstanding Condition No. 71(d) and 69(e), upon the commencement of the construction of the Site, the District Manager may require funds for an Environmental Inspector to be on-site up to one day per week.

72. Notwithstanding Condition No. 71, the Environmental Inspector may in consultation with the Owner, be increased, reduced, suspended or terminated on such terms and conditions as deemed appropriate by the District Manager and, for greater certainty, the District Manager may require

an Environmental Inspector to be on-site for up to five days per week in cases of apparent significant non-compliance with this Certificate until such non-compliance is resolved.

73. If the Environmental Inspector is terminated, the District Manager may required the Owner to develop a “Transparency and Accountability Plan” which sets a framework for public access to environmental performance reporting relating to the Site and alternative performance measures program.
74. The Owner shall include as part of the annual reporting for the Site an assessment of the effectiveness of the Compliance, Transparency and Accountability program implemented at the Site and make recommendations for changes in funding, frequency or application of the program.

### **MONITORING, RECORDING NOTIFICATION**

#### **First Receipt of Waste**

75. Within one week of the *Anniversary Date* , the *Owner* shall notify the *District Manager* in writing of the date on which the *Site* first received waste

#### **Daily Inspections and Record Keeping**

76. (1) The *Owner* shall conduct a visual inspection of the *Site* each day to ensure that: the *Site* is secure; that the operation of the *Site* is not causing any adverse effects on the environment.
  - (2) Any deficiencies discovered as a result of the inspection shall be remedied immediately, including temporarily ceasing operations at the *Site* if needed.
77. The Owner shall keep a record of the inspections in a daily log book or electronically that includes:
  - i. the name and signature of person that conducted the inspection;
  - ii. the date and time of the inspection;
  - iii. the list of any deficiencies discovered;
  - iv. The recommendations for remedial action; and
  - v. the date, time and description of actions taken.
78. The Owner shall keep daily records (when landfill is operating or landfill activity is on-going) that includes but are not limited to the following landfill related operations:
  - a. the type, date and time of arrival, hauler, and quantity (tonnes) of all waste and cover material received at the Site;
  - b. the Stage of the Site in which waste disposal operations are taking place;
  - c. the date of refusals of waste shipments at the Site, the reason for the refusal, and

- d. the origin of the waste, if known;  
a calculation of the total quantity (tonnes) of waste received at the Site during each operating day and each operating month;
- e. the amount of any leachate removed, or treated and discharged from the Site (on a monthly basis);
- f. a record of litter collection activities and the application of any dust suppressants;
- g. a record of the daily inspections; and
- h. a description of any out-of-service period of any control, treatment, disposal or monitoring facilities, the reasons for the loss of service, and action taken to restore and maintain service.

### Complaints Procedure

79. If at any time, the *Owner* receives complaints regarding the operation of the *Site*, the *Owner* shall respond to these complaints according to the following procedure:
- a. The *Owner* shall record and number each complaint, either electronically or in a log book, and shall include the following information: the nature of the complaint, the name, address and the telephone number of the complainant if the complainant will provide this information and the time and date of the complaint;
  - b. The *Owner*, upon notification of the complaint, shall initiate appropriate steps to determine all possible causes of the complaint, proceed to take the necessary actions to eliminate the cause(s) (related to the Site) of the complaint and forward a reply to the complainant; and
  - c. The *Owner* shall complete and retain on-site a report written within one (1) week of the complaint date, listing the actions taken to resolve the complaint and any recommendations for remedial measures, and managerial or operational changes to reasonably avoid the recurrence of similar incidents.

### Leachate Management

80. By no later than **January 1, 2009**, the *Owner* shall submit to the Director for approval, with copies to the District Manager, a contingency plan setting out how the leachate will be treated at the Site in the event the long-term sewer use discharge agreement between the *Owner* and the applicable upper or lower tier municipal government is terminated.

### Landfill Gas Monitoring

81. (1) The *Owner* shall ensure all existing structures and future structures (with the exception of the non-building components of the landfill gas collection system) to be built shall be situated and constructed in a manner which minimizes the potential for explosive hazards due to landfill gas.

- (2) The Owner shall install and maintain methane detection and alarm equipment, with active venting or an effective passive venting system to relieve any possible landfill gas accumulation in all enclosed buildings on the *Site* which at times are occupied by people.
  - (3) The Owner shall conduct routine monitoring for explosive methane gas levels in all buildings on the *Site* , especially enclosed structures which at times are occupied by people.
82. The design of the *Site* and any plans, specifications and descriptions for the control of landfill gas must ensure that the subsurface migration of landfill gas meets the limits of Section (14) of Reg. 232.

### **Environmental Monitoring Program**

83. (1) Monitoring programs for groundwater, surface water, leachate, landfill gas and air quality monitoring shall be carried out in accordance with Schedules "B", "C", and "D", respectively and Items (3) through (23) in Schedule "A".
- (2) The frequency of the landfill air quality sampling program shall be conducted as per Items (22) and (23) in Schedule "A".
- (3) i. At least fourteen (14) days prior to conducting the first air quality sampling event, the Owner shall notify the District Manager in writing of the proposed date for the sampling event and to request the ministry co-ordinate their staff and equipment to collect duplicate samples during the sampling event.
- ii. In conjunction with Condition No. 83 (3)(i), the Owner shall permit ministry staff to be on-site to collect duplicate samples during the first sampling air quality sampling.
- (4) In the event, the air quality data collected in Condition No. 83(1) exceeds the predicted modelled contaminant levels at the locations monitored, the Owner shall re-run and submit the results of the predictive air model used during the Environmental Assessment submission(or any other air modelling program acceptable to the ministry) utilizing the collected ambient air monitoring to the District Manager as a component of the Annual Report as required by Condition No. (88). As a component of the discussion, the Owner shall provide details on the steps to be taken to ensure the site will continue to meet compliance requirements for air quality.
84. (1) The *Owner* may request to make changes to the monitoring program(s) to the *District Manager* in accordance with the recommendations of the annual report as described in Condition No. (88). The Owner shall make clear reference to the proposed changes in separate letter that shall accompany the annual report.

- (2) Within fourteen (14) days of receiving the written correspondence from the District Office confirming that the District Office is in agreement with the proposed changes to the environmental monitoring program(s) identified in Condition No. (83), the *Owner* shall forward a letter identifying the proposed changes and a copy of the correspondences from the District Manager and all other correspondences and responses related to Condition No. (88), to the *Director* requesting the *Certificate* be amended to approve the proposed changes to the environmental monitoring plan prior to implementation.
  - (3) In the event any other changes to the environmental monitoring program are proposed outside of the recommendation of the annual report, the *Owner* shall follow current ministry procedures for seeking approval for amending the Certificate of Approval.
85. In the event of a confirmed exceedance of a site-specific trigger level for groundwater or surface water impacts due to leachate, the *Owner* shall complete the following:
- i. immediately notify the *District Manager*; and
  - ii. an investigation into the cause and the need for implementation of remedial or contingency actions shall be carried out by the *Owner* in accordance with the approved trigger mechanisms and associated contingency plans described in the Design and Operations Report listed as Item (3) in Schedule "A" or as to be approved by Condition No. (86).
86. Prior to any waste being accepted at the *Site*, the *Owner* shall submit to the *Director* for approval, with copies to the *District Manager*, a plan that details a contingency plan to be implemented when required in the event there are exceedances of the Reasonable Use Criteria at downgradient groundwater monitoring wells that are attributable to leachate from the landfill.
87. If monitoring results, investigative activities and implementation criteria indicate the need to implement contingency measures, the *Owner* shall ensure that the following steps are taken:
- a. The *District Manager* shall be notified by the *Owner* as soon as possible of the need to implement contingency measures and the proposed contingency measures that need to be implemented;
  - b. If engineered systems/components or changes to the approved landfill design are required then the *Owner* shall prepare and submit detailed plans, specifications and descriptions for the design, operation and maintenance of the contingency measures to the *Director* for approval; and
  - c. For contingency plan that have an engineered system/component or involve changes to the approved landfill design, the contingency measures shall be implemented by the *Owner* upon approval by the *Director*.

## Annual Report

88. A written report on the development, operation and monitoring of the *Site* , shall be completed annually (the Annual Report). The Annual Report shall be submitted to the *District Manager* and the PLC by no later than April 30 of each year. The Annual Report shall include but not be limited to the following:
- a. the results and an interpretive analysis of the results of all leachate, groundwater, surface water and landfill gas monitoring, including an assessment of the need to amend the monitoring programs;
  - b. an assessment of the operation and performance of all engineered facilities, any updated drawings for facilities, the need to amend the design or operation of the *Site* , and the adequacy of and need to implement the contingency plans;
  - c. site plans showing the existing contours of the *Site*; areas of landfilling operation during the reporting period; areas of intended operation during the next reporting period; areas of excavation during the reporting period; the progress of final cover, vegetative cover, and any intermediate cover application; previously existing site facilities; facilities installed during the reporting period; and site preparations and facilities planned for installation during the next reporting period;
  - d. calculations of the volume of waste, daily and intermediate cover, and final cover deposited or placed at the *Site* during the reporting period and a calculation of the total volume of *Site* capacity used during the reporting period;
  - e. a calculation of the remaining capacity of the *Site* and an estimate of the remaining *Site* life;
  - f. a summary of the quantity of any leachate or pre-treated leachate removed from the *Site* or leachate treated and discharged from the *Site* on a monthly basis;
  - h. a summary of the monthly, maximum daily and total annual quantity (tonnes) of waste received at the *Site*.
  - i. a summary of any complaints received and the responses made;
  - j. a discussion of any operational problems encountered at the *Site* and corrective action taken;
  - k. an update summary of the amount of financial assurance which has been provided to the *Director*;
  - l. a report on the status of all monitoring wells and a statement as to compliance with Ontario Regulation 903;
  - m. a discussion on the sampling results of the ambient air monitoring along the perimeter of the landfill site, a discussion on a comparison between the predicted air quality and actual air quality results and a discussion on whether there is a need for additional mitigation measures to address potential landfill air quality.
  - n. any other information with respect to the *Site* which the *Regional Director* may require from time to time.
  - o. A discussion on the site's compliance with the Conditions in this Certificate.

### **Closure Plan**

89. At least 2 years prior to the anticipated date of closure of this *Site* , the Owner shall submit to the

Director for approval, with copies to the District Manager and the PLC, a detailed site closure plan pertaining to the termination of landfilling operations at this *Site* , post-closure inspection, maintenance and monitoring, and end use, based on Section 7 in Item 3 in Schedule "A" attached to this *Certificate* . The plan shall include the following:

- a. a plan showing *Site* appearance after closure;
- b. a description of the proposed end use of the *Site* ;
- c. a descriptions of the procedures for closure of the *Site*, including:
  - i. advance notification of the public of the landfill closure;
  - ii. posting of a sign at the Site entrance indicating the landfill is closed and identifying any alternative waste disposal arrangements;
  - iii. completion, inspection and maintenance of the final cover and landscaping;
  - iv. site security;
  - v. removal of unnecessary landfill-related structures, buildings and facilities; and
  - vi. final construction of any control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas;
  - vii. a schedule indicating the time-period for implementing sub-conditions i) to vi) above.
- d. descriptions of the procedures for post-closure care of the Site, including:
  - i. operation, inspection and maintenance of the control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas;
  - ii. record keeping and reporting; and
  - iii. complaint contact and response procedures;
- e. an assessment of the adequacy of and need to implement the contingency plans for leachate and methane gas;
- f. an updated estimate of the contaminating life span of the *Site* , based on the results of the monitoring programs to date; and
- g. an update of the cost estimates for financial assurance and the amount which has been provided to the *Director* to date.

90. The *Site* shall be closed in accordance with the closure plan as approved by the *Director*.

## Schedule "A"

This Schedule forms part of this Provisional Certificate of Approval"

1. Application for a Provisional Certificate of Approval for a Waste Disposal Site submitted by Niagara Waste Systems Limited requesting approval for a waste disposal site (South Landfill). The application was signed by John Fisher, Vice President and General Manager Niagara Waste Systems dated November 21, 2006.
2. Letter and supporting documentation (EA Decision) dated November 15, 2006 addressed to Mr. John Fisher, Walker Industries from the Honourable Laurel Broten, Minister of the Environment providing the Notice of Approval to proceed with the proposed undertaking as required under the EAA.
3. Report entitled "Proposed Walker South Landfill - Design and Operations Report" prepared by Gartner Lee Limited dated September 2006.
4. Letter dated December 8, 2006 addressed to Mr. John Fisher, Walker Environmental Services from Mr. Dale Gable, Ministry of the Environment providing comments on Financial Assurance.
5. Letter dated January 31, 2007 addressed to Ms. Alison Braithwaite, Niagara Waste Systems Ltd. from Mr. Dale Gable, Ministry of the Environment providing groundwater and surface water technical support comments.
6. Letter dated February 6, 2007 addressed to Mr. Dale Gable, Ministry of the Environment from Ms. Alison Braithwaite, Niagara Waste Systems Ltd. providing comments and updated calculating for financial assurance.
7. Letter dated February 8, 2007 addressed to Ms. Alison Braithwaite, Niagara Waste Systems Ltd. from Mr. Dale Gable, Ministry of the Environment providing comments on the Design and Operations Plan.
8. Letter dated February 12, 2007 addressed to Mr. Dale Gable, Ministry of the Environment from Ms. Alison Braithwaite, Niagara Waste Systems providing responses to the groundwater and surface water comments.
9. Letter dated February 20, 2007 addressed to Mr. Dale Gable, Ministry of the Environment from Ms. Alison Braithwaite, Niagara Waste Systems Ltd. providing a response to comments on the Design and Operations Plan.
10. Letter dated March 2, 2007 addressed to Ms. Alison Braithwaite, Niagara Waste Systems Ltd. from Mr. Dale Gable, Ministry of the Environment providing comments on the Gas Collection System.
11. Letter dated March 8, 2007 addressed to Ms. Alison Braithwaite, Niagara Waste Systems Ltd.

from Mr. Dale Gable, Ministry of the Environment providing District Office comments on the application.

12. Letter dated March 8, 2007 addressed to Mr. Dale Gable, Ministry of the Environment from Ms. Alison Braithwaite, Niagara Waste Systems Ltd. providing a response to comments on the gas collection system and financial assurance.
13. Letter dated March 29, 2007 addressed to Ms. Alison Braithwaite, Niagara Waste Systems Ltd. from Mr. Dale Gable, Ministry of the Environment providing comments on leachate discharge to the sanitary sewer.
14. Letter dated March 29, 2007 addressed to Mr. Dale Gable, Ministry of the Environment from Ms. Alison Braithwaite, Niagara Waste Systems Ltd. providing a response to the District Office comments.
15. Letter dated April 25, 2007 addressed to Ms. Alison Braithwaite, Niagara Waste Systems Ltd. from Mr. Dale Gable, Ministry of the Environment providing a response from the Ministry's TSS on NWS responses to groundwater and surface water comments.
16. Letter dated May 8, 2007 addressed to Mr. Dale Gable, Ministry of the Environment from Ms. Alison Braithwaite, Niagara Waste Systems Ltd. providing a response to the April 25, 2007 letter.
17. Letter dated May 22, 2007 addressed to Ms. Alison Braithwaite, Niagara Waste Systems Ltd. from Mr. Dale Gable, Ministry of the Environment providing comments on groundwater and surface water trigger mechanisms and leachate discharge to the sanitary sewer.
18. Email dated September 26, 2007 addressed to Mr. Dale Gable, Ministry of the Environment from Ms. Alison Braithwaite, Niagara Waste Systems providing a contingency plan should NWS not meet Regulation 419.
19. Letter dated September 27, 2007 addressed to Dale Gable, Ministry of the Environment from Ms. Alison Braithwaite, Niagara Waste Systems providing comments on sewer use bylaws, financial assurance and air quality monitoring.
20. Report dated September 27, 2007 entitled "Ambient Air Quality Monitoring Program - Niagara Waste Systems Limited" prepared for Niagara Waste Systems Limited by RWDI Air Inc.
21. Letter dated October 11, 2007 addressed to Ms. Alison Braithwaite, Niagara Waste Systems Ltd. from Mr. Dale Gable, Ministry of the Environment providing comments on the ambient air quality monitoring program.
22. Letter dated October 25, 2007 addressed to Mr. Alison Braithwaite, Niagara Waste Systems Ltd. from Brad Bergeron, RWDI Air Inc. providing a response to the comments on the ambient air quality monitoring program.

23. Email of November 20, 2007 addressed to Mr. Dale Gable, Ministry of the Environment from Ms. Alison Braithwaite, Niagara Waste Systems providing information on landfill gas air quality monitoring frequency.
24. Letter dated January 22, 2008 addressed to Dale Gable, Ministry of the Environment from Ms. Alison Braithwaite, Niagara Waste Systems providing updated financial assurance calculations.
25. Email of January 29, 2008 addressed to Mr. Tes Gebrezghi, Ministry of the Environment from Ms. Alison Braithwaite, Niagara Waste Systems providing a Schedule of Payments table of the combined Financial Assurance Costs for closure, post-closure and contingency costs on a yearly basis until closure. This email included the table as follows:
  - i. Table Attachment entitled "FA South by year.doc" prepared on January 29, 2008

## Schedule "B"

This Schedule forms part of this Provisional Certificate of Approval. It describes the groundwater monitoring program referred to in Condition No. (83).

### **B.1 MONITORING PROGRAM OBJECTIVES**

The overall goal of the groundwater monitoring program is to detect and assess the effects of the landfill on local water resources. The following objectives have been identified to achieve this goal:

- a) to monitor groundwater quality in the shallow weathered zone, the intermediate depth in the overburden, and the bedrock aquifer;
- b) to identify and characterize movement of leachate-related contaminants in the overburden and bedrock at the site boundary;
- c) to evaluate the effectiveness of the engineered landfill; and
- d) to determine the need for implementation of the contingency plan.

### **B.2 MONITORING PLAN**

The groundwater monitoring plan shall be carried out by the Owner to address the stated objectives and will include:

#### B.2.1 Measurement of Water Levels

Groundwater levels shall be measured in the groundwater monitors listed in Table B1 four times per year.

#### B.2.2 Collection of Groundwater Samples and Frequency

Collection of groundwater samples from the following monitors:

Table B1 - Sampling Location, Sampling Periods and Parameter List

<b>Monitoring Well</b>	<b>Mar</b>	<b>Jun</b>	<b>Sept</b>	<b>Dec</b>
<i>Upgradient Groundwater</i>				
17-1	B4D	A4D	B4D	D
17-2	B4D	A4D	B4D	D
17-3	B4D	A4D	B4D	D
19-1	D	A4D(sr)	D	D
19-2	B4D	A4D	B4D	D
19-3	B4D	A4D	B4D	D

40-1	A4D*	D	D	D
40-2	B4D	A4D	B4D	D
46-1	D	A4D(sr)	D	D
46-2	B4D	A4D	B4D	D
46-3	B4D	A4D	B4D	D
47-1R	D	A4D(sr)	D	D
47-2R	B4D	A4D	B4D	D
47-3R	B4D	A4D	B4D	D
53-1	B4D	A4D	B4D	D
53-2	B4D	A4D	B4D	D
53-4	D	A4D(sr)	D	D
<b><i>Downgradient Groundwater</i></b>				
MHC2	B2D	A2D	B2D	A2D
MHC2g	B2D	A2D	B2D	A2D
73-1	B4D	A4D	B4D	D
18-1	B4D	A4D	B4D	D
18-2	B4D	A4D	B4D	D
18-3	B4D	A4D	B4D	D
16-1	B4D	A4D	B4D	D
16-3	B4D	A4D	B4D	D
39-1	A4D*	D	D	D
26-1	A4D*	D	D	D
67-1	A4D*	D	D	D

- Notes: (1) D - Field depth measurement  
(2) (sr) - sampled at reduced frequency because well is very slow to recover following a sampling event.  
(3) \* - Sampled annually to coincide with East to Northeast gradient due to annual drainage to canal.  
(4) A2, A3, A4, B2, B3, B4 are parameter lists

### B.2.3 Sampling Parameter Lists

#### *Sampling Parameters for A2*

pH	Conductivity (field and lab)	Total Dissolved Solids
Alkalinity	Chloride	Nitrate
Nitrite	Sulphate	Field Dissolved Oxygen
Chemical Oxygen Demand	Field Temperature	Ammonia
Total Kjeldahl Nitrogen	Total Phosphorus	Arsenic
Barium	Boron	Cadmium
Chromium	Copper	Iron
Lead	Mercury	Zinc
Total Phenols	Biochemical Oxygen Demand	Suspended Solids

*Sampling Parameters for B2*

pH	Conductivity (field and lab)	Total Dissolved Solids
Alkalinity	Chloride	Nitrate
Nitrite	Sulphate	Total Phenols
Chemical Oxygen Demand	Field Temperature	Ammonia
Total Kjeldahl Nitrogen	Total Phosphorus	Iron
Total Suspended Solids	Biochemical Oxygen Demand	Suspended Solids

*Sampling Parameters for A4*

pH	Conductivity (field and lab)	Total Dissolved Solids
Alkalinity	Chloride	Nitrate
Nitrite	Sulphate	Dissolved Organic Carbon
Chemical Oxygen Demand	Ammonia	Total Kjeldahl Nitrogen
Total Phosphorus	Arsenic	Barium
Boron	Calcium	Cadmium
Chromium	Copper	Iron
Lead	Magnesium	Manganese
Mercury	Potassium	Sodium
Zinc	Total Phenols	Benzene
Toluene	Vinyl Chloride	Dichloromethane
1,4-Chlorobenzene		

*Sampling Parameters for B4*

pH	Conductivity (field and lab)	Total Dissolved Solids
Alkalinity	Chloride	Nitrate
Sulphate	Dissolved Organic Carbon	Chemical Oxygen Demand
Ammonia	Barium	Boron
Calcium	Iron	Magnesium
Sodium		

**B.3 MONITORING SYSTEM MAINTENANCE**

During each monitoring event, the monitoring network shall be visually inspected. Changes in the physical condition of each well will be noted and necessary repairs undertaken. Monitoring wells that are shown to be damaged beyond repair or whose integrity is in doubt will be decommissioned in accordance with current regulations and standard procedures and replaced, if necessary.