

January 14, 2015

WASTE MANAGEMENT

1271 Beechwood Road Napanee, ON K7R 3L1 (613) 388-1057 (613) 388-2785 fax

Ms. Agatha Garcia-Wright, Director Environmental Approvals Access and Service Integration Branch Ministry of the Environment and Climate Change 2 St. Clair Avenue West, Floor 12A Toronto, ON M4V 1L5

Re:

Application for Amendment to Environmental Compliance Approval No. A371203

Leachate Storage System – Richmond Landfill Waste Management of Canada Corporation

Dear Ms. Garcia-Wright:

Please find enclosed the Application for an Amendment to Environmental Certificate of Approval No. A371203, dated January 9, 2012, complete with supporting documentation and payment for the Richmond Landfill Site.

This application requests approval of the leachate storage system to simplify and improve leachate removal and truck loading operations.

In support of this application, please find enclosed the following documents:

- Attachment 1 Proof of Legal Name;
- Attachment 2 Design Brief Leachate Storage System; and
- Attachment 3 Proof of Consultation/Notification

It is noted that the site plan with georeferencing points is included in Attachment 2 (Figure 2).

We trust that the enclosed information meets your requirements and will facilitate approval. A copy of this application, minus payment information, has been submitted to the distribution list as noted below.

Yours truly,

Reid Cleland

Director of Operations - Ontario

Waste Management of Canada Corporation

Encl.

cc:

Mr. Trevor Dagilis, District Manager, MOECC - Kingston District

Mr. Chris Raffael, Senior Environmental Officer, MOECC - Kingston District

Mr. Ross Wallace, Landfill Manager, Waste Management of Canada (WM)

Mr. Wayne Jenken, Area Landfill Engineer, WM

Public Liaison Committee

Mayor, Town of Greater Napanee

CAO, Town of Greater Napanee

Reeve, Tyendinaga Township

CAO, Tyendinaga Township

Chief, Mohawks of the Bay of Quinte

CAO, Mohawks of the Bay of Quinte

Concerned Citizens Committee of Tyendinaga and Environs

# Environmental Compliance Approval Application

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# General Information and Instructions

#### **General Information:**

Information requested in this form is collected under the authority of the Environmental Protection Act (EPA), Ontario Water Resources Act (OWRA) and Environmental Bill of Rights (EBR), and will be used to evaluate applications for Environmental Compliance Approvals (ECAs) issued under Part II.1 of the EPA. This application form should not be used for *mobile PCB destruction facilities* and *land application sites of septage and biosolids*.

For all questions related to preparing or submitting this form or about the Ministry's collection of information related to applying for an ECA, contact:

### **Environmental Approvals Access** and Service Integration Branch

2 St. Clair Ave. West, Floor 12A, Toronto, Ontario M4V 1L5. Telephone outside Toronto 1-800-461-6290 or in Toronto 416-314-8001.

This office can also provide you with copies of application forms and supporting documentation.

#### Instructions:

- Applicants are responsible for ensuring that they complete the most recent application form.
   Application forms and information about the required supporting documentation and technical requirements are available from the Environmental Approvals Access and Service Integration
   Branch (the address and phone number are provided in the General Information on this page). As well, you can get this information from your local District Office of the Ministry of the Environment, and on the Resources section of the Ministry of the Environment website at: <a href="https://www.ene.gov.on.ca/environment/en/resources/index.htm">www.ene.gov.on.ca/environment/en/resources/index.htm</a>.
- 2. A complete application consists of:
  - · a completed and signed application form;
  - all required supporting documents and technical requirements identified in:
  - i. this form.
  - ii. Ministry quidance,
  - iii. the Applications for Environmental Compliance Approvals regulation, and
  - payment of the application fee (in Canadian funds) by certified cheque or money order made payable to the Minister of Finance, or credit card payment (for payments up to \$10,000). For *Transfer of Review*, make your cheque or money order payable to the appropriate municipality.

The Ministry may return incomplete applications to the applicant. The Director may require additional information of any application initially accepted as complete.

- 3. Submit the complete application as follows:
  - One (1) paper copy (unless your application is a
     *Transfer of Review*), one (1) electronic copy and
     the fee to the **Director**, **Environmental Approvals Access and Service Integration Branch** at the
     address provided in the General Information on
     this page.
  - If your application is a *Transfer of Review*, you must submit two (2) copies of the completed application and the fee to the designated municipal authority.
- 4. You must also send a copy of the application without the fee to the local Ministry District Office that has jurisdiction over the area where the facilities are located. DO NOT send payment to the District Office.
  - To locate the appropriate local Ministry District
    Office, visit the Ministry of the Environment website
    at: www.ene.gov.on.ca/environment/en/about/
    regional\_district\_offices/index.htm.
- 5. For Waste Disposal Sites you must also send a copy of the application without the fee to the Clerk's office of the local municipality (both upper and lower tier) in which the facility/proposed facility Is located unless the application is for a revocation or an amendment that is environmentally insignificant or the applicant is a

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municipality. DO NOT send any payment information to the municipality.

Information collected by the Ministry of the Environment is subject to the Freedom of Information and Protection of Privacy Act (FIPPA). If you are of the view that any part of application is confidential on the grounds that such information constitutes a trade secret or scientific, technical, commercial, financial or labour relations information, please make this known now. Otherwise, the Ministry may make the information available to the public without further notice to you.

It is an offence under the EPA and OWRA to provide false or misleading information in this application and/ or accompanying documents.

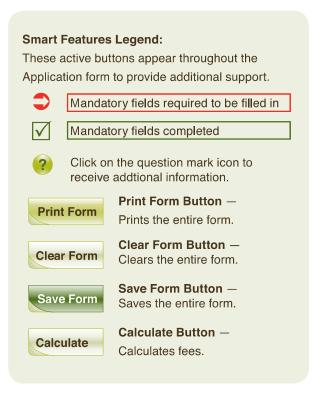
#### The Electronic Form Smart Features

The electronic version of this form incorporates several features to assist you with completing your application.

The electronic form will highlight required information with red and green indicators. Red means that the information is required before the section is complete.

The form will also calculate certain values based on the information you enter and will assist you in ensuring that all required information is included with your application. You can save a copy of this form that includes any information you have entered.

These features are available in Adobe Reader version 8 or above. You can download a copy from the website at: http://get.adobe.com/reader/otherversions/.



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Ministry of the Environment

Public Information Centre: Telephone: 416-325-4000

Toll-free: 1-800-565-4923

E-mail: picemail.moe@ontario.ca www.Ontario.ca/Environment

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For Office Use Only						
Reference Number	Payment Received \$	Date (yyyy/mm/dd)	Initials			

### **Application Summary**

✓ Applicant Name



Waste Management of Canada Corporation

**✓** Project Name



Application to Amend Environmental Compliance Approval No. A371203 - Richmond Landfill - Leachate Storage System

▼ Project Description Executive Summary



The Richmond Landfill operates under Environmental Compliance Approval (ECA) No. A371203 and has an approved fill area of 16.2 hectares within a total site area of 138 hectares. The landfill ceased to accept waste on June 30, 2011, as per Condition 4.4 of the ECA.

Waste Management of Canada Corporation is requesting an amendment for approval of the leachate storage system to streamline handling, loading and shipment of leachate for treatment off-site. The proposed system will consist of four (4) pumping stations (PS) with associated forcemains and a 500 m³ underground leachate storage tank. PS1 and PS2 will pump leachate from the existing landfill into the storage tank. PS3 will draw leachate from the tank and will be used for truck loading. A small PS4 is designed to collect any leachate spilled during truck loading operations and return it to the leachate storage tank.

No changes to tonnages, service area, or hours of operation are requested under this proposal.

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#### Required Information (2)



	completed (years)
Project Name & Description	Yes
Section 1: Applicant Information	Yes
Section 2: Project Information	Yes
Section 3: Regulatory Requirements	Yes
Section 4: Site Information	Yes
Section 5: Facility Information	Yes
Section 6: Supporting Documentation	Yes
Section 7: Payment Information	Yes

Fee Summary	:
-------------	---



Administrative Processing	\$ 200.00
Review of EPA s. 9 activities	\$ 0.00
Review of EPAs. 27 activities	\$ 1,200.00
Review of OWRA s. 53 activities	\$ 0.00
Total Fee	\$ 1,400.00

Calculate

**Application Status** Form Complete

The Ministry may request additional fees upon review of this application.

If you are submitting this form in print version only and are not using the smart calculation feature, please attach the fee calculation separately.

Completed (yes or no)

#### **Supplemental Application Information**

See help text on required information for this section.



Proposed Start Date: as soon as possible

Copies to:

District Manager, MOECC – Kingston District

Senior Environmental Officer, MOE - Kingston District

Director of Disposal Operations, Ontario - Waste Management of Canada

Area Landfill Engineer, Waste Management of Canada

Landfill Manager, Waste Management of Canada

Public Liaison Committee

Mayor and CAO, Town of Greater Napanee

Reeve and CAO, Tyendinaga Township

Chief and CAO, Mohawks of the Bay of Quinte

Representative - Concerned Citizens Committee of Tyendinaga and Environs

### Applicant Information

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<b>√</b> 1	.1 Applicant In	formation	?						
	pplicant Name (legal nam	e of individual or o	rganizatior	n as evidenced by legal c	locuments)	Business No	umber		
١	Waste Management of	Canada Corpo	oration			00160055	4		
В	usiness Name 🔀 same	e as Applicant Na	ame			Business W	ebsite Address:		
١	Waste Management of	Canada Corpo	oration						
Α	pplicant Type:					Primary Nor	th American Industry Cla	ssification System (NAICS	S) Code
0	Corporation (	Federal Gove	rnment			562210 W	∕aste Trea		
	) Individual (	Municipal Gov	vernment			Other NAIC	S codes (select all that app	ly) Separate list at	tached? O Yes No
	) Partnership	Provincial Go	vernment						
	Sole Proprietor (	Other (describe	e):						
В	usiness Activity Descript	ion							
	ivic Address – Street Info	ormation (include:		mber, name, type and dir	ection)		Unit Identifier (suite	or unit number)	
_	1271 Beechwood Roa	d							
	urvey Address ot	Conce	ession			Part	R	deference Plan	
	lunicipality/Unorganized	<u> </u>			rovince/Sta	te	Country		ode/ZIP Code
_	Town of Greater Napa			unty of Lennox &			Canada	K7R 3L	.1
-	elephone Number (includ		)	Fax Number (include	area code)	•		E-mail Address	
L	(613) 388-1057	ext.		(613) 388-2785		(519) 381-6363		rcleland@wm.co	m
					0 D	· <b>(</b>	?		
						eference (required)	Geo-Referencing		
	Description of location	Map Datu	ım	Zone	Acc	uracy Estimate	Method	UTM Easting	UTM Northing
	Southwest corner of property	NAD83		18	+/- 10	) m	Online map	334808.00	4902407.00
	Physical location of front door or main entrance	NAD83		18	+/- 10	) m	Online map	335356.00	4902585.00

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V	1.3 Applicant Mailing Address	?			
	Same as Applicant Physical Address?	O No			
	Civic Address – Street Information (civic numbering		nber, name, type and direction)	Unit Ide	entifier (suite or unit number)
	1271 Beechwood Road				
		ery Identifier	Postal Station		
				uskaskaskaskas	Feet 1
	Municipality/Unorganized Township or Territory	Province/State	Country		Postal Code/ZIP Code
	Town of Greater Napanee	Ontario	Canada		K7R 3L1
V	1.4 Statement of the Applicant I am authorized to prepare and submit this applicate to declare to the best of my knowledge, information		have reviewed the complete	application and I h	ave made all inquiries that are necessary
	The information contained in this applicat				
	<ul> <li>The Technical Contact(s) identified in this application with the Ministry of the Environment</li> </ul>	보는 사람들이 없어야 한다. 그리고 있는 것이 되어 있다면 하지 않아 있는 것이 되는 사람이 없는 것이 하지만 하지 않는 것이다.	에 가게 되었다. (Company) 10 10 10 11 11를 발여하면 11 10 mm = 그 선생님들은 10 10 10 10 10 10 10 10 10 10 10 10 10		40 GGC : 15 GGC 하고 하고 있는데 10 GGC 이 지나 하고 있다. 15 GGC 10 GG
	The information provided to the Technical	Contact(s) in relation to this applica	tion is complete and accurate		
	Name of Signing Authority (please print)			Title	
	Reid Cleland				perations - Eastern Canada Landfills
	Telephone Number (include area code & ext.)	promise an arrangement of the second	per (include area code)		le Number (include area code)
	(519) 849-5810 ex	1010)0	19-6816	The second second	9) 381-6363
	E-mail Address	Signature		The state of the s	(yyyy/mm/dd)
	rcleland@wm.com	let l		The state of the s	2015/01/13
	1.5 Statement of the Municipality I, the undersigned hereby declare on behalf of the Name and Title (please print)		as no objection to the construction Name of Municipality	ction of the works	in the Municipality.
	Signature		Date (yyyy/mm/dd)		

0

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Waste Disposal Site - Composting site

Waste Disposal Site - Thermal

Treatment site

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V	2.1	Rea	son for Application								
	Nev		The state of the s	nendment to existing ECA oplication for renewal of limited operational flexibility				xibility	<ul><li>Revocation of existing ECA</li><li>Consolidation of existing ECAs</li></ul>		
V	Are you	ı adding	a new project type to your site or a new m	nunicipal waste ca	tegory/class	code t	o your	waste m	anagement systems or a new sewage fac	lity type? O Yes	No No
	Is this f	or <i>Tran</i> :	sfer of Review? 🔘 Yes 🌘 No								
V	2.2	Proj	ect Type (select all that apply)								
	Yes	N/A		Limited Operational Flexibility?	Pilot Project?		Yes	N/A		Limited Operational Flexibility?	Pilot Project?
	0	Air – Stationary					0	<b>(</b>	Sewage – Industrial		
	O Air – Mobile					0	0	Sewage – Municipal			
	0	Noise					0	0	Sewage – Private		
	0	<b>O</b>	Vibration				0	<b>(a)</b>	Waste Management System – General Waste Management System	N/A	
	Waste Disposal Site – Landfill site		Waste Disposal Site – Landfill site	N/A			0	<b>(a)</b>	Waste Management System – Hauled Sewage (Septage)	N/A	
	0	•	Waste Disposal Site – Transfer site				0	<b>(a)</b>	Waste Management System – Soil Conditioner for transport to a site for Application on Land	N/A	
	0		Waste Disposal Site – Processing site				0		Waste Management System – Mobile	N/A	

0

 $\bigcirc$ 

0

N/A

N/A

Waste Processing

specific

Cleanup of contaminated sites - Mobile

Cleanup of contaminated sites - Site-

N/A

N/A

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2.3 Approval Information ?							
Application initiated by:							
Applicant S. 20.18 Order (attach copy)	<ul><li>Condition of existing approval</li></ul>		rovincial Officer order (attach copy)	Inspection Report (attach copy)	○ C	Other (specify	):
	арр. о ча.		raer (anaem eepy)				
Current Environmental Compliance Approvals Separate list attached? Yes No	that may be changed or amende	ed by ti	his application:	N/A			
Environmental Compliance Approval Number	Date of Issuance (yyyy/mm/dd	)	Environmenta	Compliance Approval N	umber	Date of Is	ssuance (yyyy/mm/dd)
A371203	2012/01/09						
Proposed Environmental Compliance Approva Separate list attached?  Yes No	Is related to this project: ☐N/A						
Project type	Ministry Reference Number (if a	pplicab	ole)		Have s	ubmitted	Have not submitted
					(	0	0
					(	0	0
					(	0	0
					(	<u> </u>	0

### 2.4 Other Approval/Permits for Facility 🗌 N/A 😲

Separate list attached? O Yes No

List all other instruments (approvals or permits) issued by the Ministry of the Environment or applied for under the Environmental Protection Act, Environmental Assessment Act, Ontario Water Resources Act and Safe Drinking Water Act, 2002 and any Environmental Activity and Sector Registrations that are relevant to this application.

Instrument Type	Instrument Number	Approval or Application Date (yyyy/mm/dd)
Sewage Works	1688-8HZNJG	2012/01/10
Air (LFGCS)	5970-9HKP3V	2014/04/29
Industrial Sewage Works	4-0129-94-956	1995/01/24
Soil Recycling	A710003	1993/12/20
Waste Transfer Station	A371203 Notice 10	2012/01/10

•		
Instrument Type	Instrument Number	Approval or Application Date (yyyy/mm/dd)
ERT - Settlement Minutes	Case 12-033	2013/04/26
Waste - ERT Minutes	A371203 Notice 1	2013/05/03
Waste - FA Revisions	A371203 Notice 2	2013/10/04

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Technical Contact 1							
Area of Responsibility (check all that apply)	☐ Air ☐ Noise/Vibration ☐ Sewage	Waste     ■ Maste     ■ Master     ■ Mas					
Name of Technical Contact		Company					
Peter Brodzikowski, P.Eng.		WSP Canada Inc.					
Telephone Number (include area code & ext.)	Mobile Number (include area code)	Fax Number (include area code)	E-mail Address				
(519) 376-7612 ext. 1325	1 (519) 379-6106	(519) 376-8008	peter.brodzikowski@wspgroup.com				
Address Information:							
Same as Applicant Mailing Address? O Ye	es No (If no, please provide technical conta	act address information below.)					
Civic Address - Street Information (includes stre	eet number, name, type and direction)		Unit Identifier (suite or unit number)				
1450 1st Avenue West			Suite 101				
Delivery Designator [	Delivery Identifier	Postal Station					
Municipality/Unorganized Township or Territor	y Province/State	Country	Postal Code/ZIP Code				
Owen Sound	Ontario	Canada	N4K 6W2				
technical materials and I have made all inquiri  The technical materials contained in  I have the relevant education and exp		of my knowledge, information and bel esponsibility identified above are comp on.	plete and accurate.  Date (yyyy/mm/dd)				
P. Biodinhoush- 2015/01/14							

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Technical Contact 2							
Area of Responsibility (check all that apply)	☐ Waste						
Name of Technical Contact	Company						
Telephone Number (include area code & ext.) Mobile Number (include area code)	Fax Number (include area code)	E-mail Address					
ext.							
Address Information:  Same as Applicant Mailing Address?   No (If no, please provide technical contact address information below.)							
Civic Address – Street Information (includes street number, name, type and direction)	Unit Ider	ntifier (suite or unit number)					
Delivery Designator Delivery Identifier	Postal Station						
Municipality/Unorganized Township or Territory Province/State	Country	Postal Code/ZIP Code					
I have been authorized by the applicant to prepare the technical materials for the area(s) of responsibility identified above that are included in the application. I have reviewed those technical materials and I have made all inquiries that are necessary to declare to the best of my knowledge, information and belief:  The technical materials contained in this application in respect of the area(s) of responsibility identified above are complete and accurate.  I have the relevant education and experience necessary to provide this certification.							
Signature	Date (yy	yy/mm/dd)					

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Technical Contact 3								
Area of Responsibility (check all that apply) 🔲 Air 🔲 Noise/Vibration 🔲 Sewage 🔲 Waste								
Name of Technical Contact		Company						
Telephone Number (include area code & ext.) Mobile ext.	Number (include area code)	Fax Number (include area code)	E-mail Address					
Address Information:  Same as Applicant Mailing Address?   Yes   No (If no, please provide technical contact address information below.)								
Civic Address – Street Information (includes street nun	nber, name, type and direction)	Uni	t Identifier (suite or unit number)					
Delivery Designator Deliver	y Identifier	Postal Station						
Municipality/Unorganized Township or Territory	Province/State	Country	Postal Code/ZIP Code					
I have been authorized by the applicant to prepare the technical materials for the area(s) of responsibility identified above that are included in the application. I have reviewed those technical materials and I have made all inquiries that are necessary to declare to the best of my knowledge, information and belief:  The technical materials contained in this application in respect of the area(s) of responsibility identified above are complete and accurate.								
Signature								

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Technical Contact 4							
Area of Responsibility (check all that apply)	Air Noise/Vibration Sewage	☐ Waste					
Name of Technical Contact		Company					
Telephone Number (include area code & ext.) Mob	oile Number (include area code)	Fax Number (include area code)	E-mail Address				
ext.							
Address Information:  Same as Applicant Mailing Address?   Yes   No (If no, please provide technical contact address information below.)							
Civic Address - Street Information (includes street	number, name, type and direction)	Uni	it Identifier (suite or unit number)				
Delivery Designator Deli	very Identifier	Postal Station					
Municipality/Unorganized Township or Territory	Province/State	Country	Postal Code/ZIP Code				
I have been authorized by the applicant to prepare the technical materials for the area(s) of responsibility identified above that are included in the application. I have reviewed those technical materials and I have made all inquiries that are necessary to declare to the best of my knowledge, information and belief:  The technical materials contained in this application in respect of the area(s) of responsibility identified above are complete and accurate.  I have the relevant education and experience necessary to provide this certification.							
Signature		Dat	te (yyyy/mm/dd)				

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Regulatory Requirements

**√** 3.1

**3.2** 

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J				Print F	Form	Clear Form	Save Form
3.1	Environment	al Bill of Rights (EB	R) Requirements ?				
Is this	a proposal for a pr	escribed instrument under	the EBR?   Yes   No				
If yes, i	is this proposal exe	empted from the EBR requ	iirements? O Yes O No				
If yes, p	olease check one of	the following (Please provide	supporting information.)				
0	This proposal has	been considered in a substa	antially equivalent process of public pa	rticipation. (EBR, 1993, s.30.)			
0	This proposal is fo	r an emergency situation. (E	EBR, 1993, s. 29.)				
0	This proposal is fo	r an amendment to or revoc	ation of an existing Environmental Cor	npliance Approval that is not e	nvironmentally sigr	nificant. (EBR, 199	3, s. 22 (3).)
0	This proposal has	been subject to or exempte	d from EAA Requirements or considere	ed in a decision of a tribunal. (I	EBR, 1993, s. 32.)		
3.2	Environment	al Assessment Act	(EAA) Requirements ?				
Is the p	proposed undertaki	ng subject to the requiren	nents of the EAA? OYes	No			
	olease check one of						
0	The undertaking h	as fulfilled the requirements	of the EAA through an exemption prov	rided under:			
	○ Section		of Ontario Regulation	n No.			or
	O Declaration/E	xemption Order Number					
	If Regulation, D	eclaration Order or Exemption	Order does not refer directly to this undertal	king, please provide supporting do	ocumentation to expla	in why it applies to th	his facility.
0	The proposed und	ertaking has fulfilled the req	uirements of the EAA through the com	oletion of a Class EA process:			
	Name of Class EA	:					
	Schedule/Group/C	ategory (if applicable):					
	If applicable, please	submit a copy of the proof of co	empletion (for example, Notice of Completio	n).			
	Was the unde	rtaking subject of a Part II O	rder request(s)? O Yes O No	If yes, please submit a copy	of the Director's or	Minister's decision	n letter.
0	The proposed und	ertaking has fulfilled all of th	e requirements for the EAA through:				
	completion of	an Environmental Screening	g Process pursuant to O. Reg. 101/07	of the EAA			
	completion of	an Environmental Screening	g Process pursuant to O. Reg. 116/01	of the EAA			
		ng subject of an elevation renade of the Director's decision	equest(s)? O Yes O No If yes on, please also submit a copy of the M	s, please submit a copy of the nister's decision letter.	Director's decision	letter.	

The proposed undertaking has fulfilled the requirements of the EAA through the completion of an individual Environmental Assessment. Please submit a copy of the signed Notice of Approval.

Was the undertaking subject of an objection(s)? O Yes O No If yes, please submit a copy of the Minister's decision letter.

completion of an Environmental Screening Process pursuant to O. Reg. 231/08 of the EAA

## Regulatory Requirements

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Print Form





1	3.3	Consultation/Notification
K .	ა.ა	Consultation/Notification



Are there any consultation/notification activities that you have undertaken to fulfill requirements by other legislation or through voluntary efforts?







If yes, please:

- 1) describe the consultation/notification activities below; and
- 2) attach documents describing each of these consultation/notification activities, any changes to the project as a result of these activities and any planned consultation/notification activities in the future.

A letter to neighbouring residents within a one kilometre radius of the landfill informing them of Waste Management's application to amend ECA No. A371203 has been delivered by WM staff. A copy of the letter, and distribution list of residents, is provided within this application under Attachment 3.

A copy of this application (minus payment information) has been provided to the MOECC - Kingston District Office, the Public Liaison Committee, the Town of Greater Napanee, Tyendinaga Township, the Mohawks of the Bay of Quinte, and the Concerned Citizens Committee of Tyendinaga and Environs.

### Site Information

V

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4.1 Site Address	or Storage I	_ocatic	on ?						
Will the vehicles or equipm	Vill the vehicles or equipment be stored at more than one location? O Yes O No  (If yes, please enter all vehicle or equipment storage locations below and attach separate list, as necessary.)								
Same as Applicant Physical		Yes 🔘	_	·		<i>,</i>			
Primary Civic Address – St				d direction)	Unit Identifier	(suite or unit number)			
1271 Beechwood Road		(1110100000	on out right bot, right, type are	a an oonon,	CTILL TOURIST (	(cuite of unit number)			
Additional Civic Addresses	Separate list atta	ached? (	Yes No		Unit Identifier	(suite or unit number)			
						,			
Primary Survey Address									
Lot		Concess	ion		Part Reference Plan				
Additional Survey Addresses	Separate list a	attached?	Yes No						
Lot		Concess	ion		Part Reference Plan				
Part of Lots 1, 2 and 3		4					_		
Municipality/Unorganized To	wnship or Territo	ry	Upper Tier/District		Province/State	e Country	F	Postal Code/ZIP Code	
Town of Greater Napane	е		County of Lennox & A	ddington	Ontario Canada K7R 3L1			K7R 3L1	
Non-address Information (inc	cludes any addition	al informat	ion to clarify the physical loca	ation)					
Same as Applicant Physical	I Geo Reference	? 🔘 Y	es O No	Geo Refer	ence (required)	?			
Description of location Map Da		tum	Zone	Accuracy Estimate		Geo-Referencing Method	UTM Easting	UTM Northing	
Southwest corner of property	NAD83		18	+/- 10 m	ı	Online map	334808.00	4902407.00	
Physical location of front door or main entrance	NAD83		18	+/- 10 m	1	Online map	335356.00	4902585.00	

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Site Information

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	<del>-</del>	ormation 😢				
Site Name		Days and Hours of Ope	eration	Ministry of the Environment	t District Offi	ice
Richmond Landfill		Monday to Friday 8	a.m. to 5 p.m., Satur	day 8 a.m. to 🚹 Kingston District Office		
If no, please include t	-	-		authority to install and operate the proposed	Yes	O No
• •		site that is the subject of this applie, address and phone number.	cation?		Yes	O No
	n an area of development of a copy of the NEPDA permit	control as defined by the Niagara Enter the for proposed activity.	scarpment Planning 8	Development Act (NEPDA)?	Yes	No
	-	Ridges Moraine Conservation Plan? approval for the proposed activity/worl		py-law, letter from municipality, etc.).	O Yes	No
Current Land Use		Official Plan Designation		Current Zoning (Please attach zonir	ng map, if ava	ailable.)
Current Land Use  Landfill		Official Plan Designation  Waste Management		Current Zoning (Please attach zonin Waste Management	ng map, if ava	ailable.)
	select all that apply)		Adjacent I		ng map, if ava	ailable.)
Landfill	select all that apply)			Waste Management	ng map, if ava	ailable.)
Landfill Adjacent Land Use (s		Waste Management		Waste Management  Land Zoning	ng map, if ava	ailable.)

Site Information

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4.4 Point of Entry into O	ntario (for waste management sys	stem vehicles that are stored at an address outside of Ontario)	?		
City in closest p	proximity to the point of entry	Descri	Description of Point of Entry		
4.5 Source Protection/D	rinking Water Threats (s	ewage or waste disposal site applications only)			
Check the source protection area(s) w	•				
Ausable Bayfield	Grand River	Raisin Region	Lower Thames Valley		
Maitland Valley	Kettle Creek	South Nation	St. Clair Region		
Cataraqui Region	Long Point	Grey Sauble	Upper Thames River		
Central Lake Ontario	Lakehead	Northern Bruce Peninsula	Crowe Valley		
Credit Valley	Mattagami	Saugeen Valley	Ganaraska		
Toronto and Region	Mississippi Valley	Sault Ste. Marie	Kawartha-Haliburton		
Essex	Rideau Valley	Lake Simcoe & Couchiching/Black River	Lower Trent		
Halton	■ Niagara	Nottawasaga Valley	Otonabee-Peterborough		
Hamilton	North Bay Mattawa	Severn Sound	Outside a source protection area		
Catfish Creek	☑ Quinte	Sudbury			
Is the proposed activity located or planunder the Clean Water Act, 2006?  Yes  No	ned to be located in a vulnerable	area identified in a local assessment report source prote	ction plan		
	-)//-)0				
If yes, what is/are the vulnerable area(	s)/zone(s) <sup>-</sup> ?				
☐ Wellhead Protection Areas	s Surface Water Intake P	Protection Zones			
☐ Highly Vulnerable Aquifers	S Significant Groundwate	er Recharge Areas			
Is the activity being applied for identific	ed as a significant drinking water t	hreat in the assessment report for the local source protect	ction area?		
Yes     No	J J	·			



Print Form



4.6 Receiver of Effluent Discharge (sewage applications only)	?				
Intermediate Receiver Name	Watershed Name				
☐ Surface Water ☐ Groundwater ☐ Other (specify):					
Has the facility received local Conservation Authority clearance? (for stormwater management facility discharging to the natural environment)  Yes N/A If yes, please include a copy of the Conservation Authority clearance.					
Final Receivers   N/A					
Final Receivers \( \sum \text{ N/A } \)  Will the proposed activity discharge sewage to any of the following critical receivers?					
Will the proposed activity discharge sewage to any of the following critical receivers?	r (specify):				
Will the proposed activity discharge sewage to any of the following critical receivers?	r (specify):				
Will the proposed activity discharge sewage to any of the following critical receivers?  ☐ Lake Simcoe ☐ Rideau River ☐ Detroit River ☐ Othe	r (specify):				

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5.1 Air

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IF YOUR APPLICATION DOES NOT HAVE AIR EMISSIONS PLEASE PROCEED TO SECTION 5.2

#### 5.1.1 Summary of Equipment that Discharges Contaminants to the Air



(√)	Description	Number of Pieces of Equipment
	Combustion equipment that uses natural gas, propane, no. 2 oil, landfill gas or sewage treatment gas for fuel for the purpose of providing comfort heating or emergency power, producing hot water or steam, or heating material in a system that does not discharge to the atmosphere (Total Heat input of all units ≤ 50,000,000 kJ/hr)	N/A
	Storage tanks	N/A
	Welding operations that use a maximum of 10 kilograms of welding rod per hour	N/A
	Combustion equipment that uses waste-derived fuel for the purpose of providing comfort heating, burning ≤ 15 litres per hour	
	Heat cleaning ovens used for parts cleaning and associated parts washers or degreasing equipment, other than solvent degreasing equipment	
	Cooling towers	
	Equipment used to control emissions of contaminants, other than a fume incinerator	
	Laboratory fume hoods	
	Paint spray booths and associated equipment that have a design capacity of up to 8 litres per hour of paint	
	Grain dryers	
	Any other equipment not listed above with a flow rate of less than or equal to 1.5 m <sup>3</sup> per second	
	Any other equipment not listed above with a flow rate of greater than 1.5 m <sup>3</sup> per second	
	Equipment that is subject to an Environmental Compliance Approval, and from which there is no proposed increase in the discharge of any contaminant that was previously reviewed by the Director.	N/A

5.1.2	<b>Emission</b>	<b>Summary</b>	and	Dispersion	Modelling	(ESDM) Report	
-------	-----------------	----------------	-----	------------	-----------	---------------	--



Is the review of an existing, approved ESDM required as part of this proposed application?  $\bigcirc$  Yes  $\bigcirc$  No

If yes, identify the number of emission sources described in the existing ESDM Report that emit contaminants in common with the sources forming the subject of the application (if none, enter zero).

Have all of these emission sources been described in an ESDM Report that was previously reviewed as part of an application for an existing Environmental Compliance Approval? O Yes O No



Print Form

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5.1.3 O. Reg. 419/05 Requirements					
Which of the following sections of O. Reg. 419/05 app	lies to the facility?				
s.19 (Schedule 2) s.20 (Schedule 3) Does not apply. Please indicate reason:					
Has an instrument under O. Reg. 419/05 been issued	? O Yes O No				
If yes, what type(s) of instruments (including any notices,	orders or approvals) has (have) been issued? (select all that apply)				
ss. 4(2) Adjacent Properties	ss. 20(4) Speed-up Request				
ss. 7(1) Specified Dispersion Models	ss. 20(5) Speed-up Order				
ss. 8(2) Negligible Sources	s. 35 Site-specific Standard				
ss. 10(2) Operating Conditions	ss. 35(14) Site-specific Standard Order				
ss. 11(2) Refined Emission Rates	ss. 39(3) Technical Standard Registration (Industry Standard)				
ss. 13.1 Value of Dispersion Modeling Parameters	ss. 39(4) Technical Standard Registration (Equipment Standard)				
ss. 13(1) Meteorological Data					
ss. 14(6) Area of Modelling Coverage					
Other (list all that have been issued):					
Is an instrument under O. Reg. 419/05 being requeste	ed as part of this application? O Yes O No				
If yes, what type(s) of notice, order or approval is (are) be	eing requested?				
ss. 7(1) Specified Dispersion Models	☐ ss. 14(6) Area of Modelling Coverage				
ss. 8(2) Negligible Sources	☐ ss. 20(4) Speed-up Request				
ss. 10(2) Operating Conditions	☐ s. 32 Request for a Site-specific Standard Order				
ss. 11(2) Refined Emission Rates	ss. 39(1)(a) Application for Technical Standard Registration (Industry Standard)				
ss. 13(1) Meteorological Data	ss. 39(1)(b) Application for Technical Standard Registration (Equipment Standard).				
Other (list all that have been requested):					
Please attach the form(s) requesting the notice(s) and/or	order(s) and any additional supporting information.				
Has an s.30 Upper Risk Threshold (Schedule 6) been ex	ceeded? If yes, please include additional supporting information. O Yes O No				
Is the facility located in a multi-tenant building? If yes, add	ditional information may be requested. O Yes O No				
Ontario Regulation 419: Air Pollution – Local Air Quality' for Ontario Regulation 419: Air Pollution – Local Air Quali	es represented in the Ministry of the Environment publication titled "Summary of Standards and Guidelines to support or have they been screened out based on the publication titled "Jurisdictional Screening Level (JSL) List, A Screening Tool ty"? (If no, please attach Supporting Information for a Maximum Ground Level Concentration Acceptability Request for Approval, EPAS 9 (PIRS 4872)). (A Yes. (A No. 1997)				

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5.2	Noise	IF YOUR APPLICATION DOES NOT HAVE NOISE EMISSIONS, PLEASE PROCEED TO SECTION 5.3.
5.2.1 Have v	Noise Ass	essment ?  ted an Acoustic Assessment Report (AAR) or Abbreviated Acoustic Assessment Report (A-AAR)?
	•	te the report you have completed:
	O AAR	Please attach the Acoustic Assessment Report.
		Does the AAR show that applicable limits are met? O Yes O No
		If no, please attach the Acoustic Assessment Report including the Noise Abatement Action Plan.
	O A-AAR	Please attach the Abbreviated Acoustic Assessment Report.
		Does the A-AAR show that applicable limits are met? O Yes O No
		Note that certain conditions must be met before using the A-AAR and that the A-AAR must show that the applicable limits are met otherwise an AAR may be required.
f no, is	the applicat	ion eligible for Primary or Secondary Noise Screening? O Yes O No
		Note that if you are not eligible for either of the screenings, you must submit either an AAR or A-AAR.
		If yes, is your proposed activity described with one of the NAICS codes that are eligible for the Primary Noise Screening? O Yes O No
		If yes, is the actual separation distance between the facility and the noise sensitive point of reception (POR) greater than the minimum required separation distance calculated from the Primary Noise Screening? O Yes O No
		If yes, please attach the Primary Noise Screening form and supporting documentation.  Note that if the Primary Noise Screening is not successful then you may attempt to proceed with the secondary noise screening.
		If no, does the Secondary Noise Screening report show that the applicable sound level limits are met? O Yes O No
		If yes, please attach the Secondary Noise Screening Report and supporting documentation.  Note that if you cannot demonstrate that the applicable sound level limits are met then you must submit either an AAR or A-AAR.



Print	Form





#### 5.2.2 Equipment Subject to Noise Review

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k.	- 6

(√)	Description	Number of Pieces of Equipment
	Arc Furnaces	
	Asphalt Plants	
	Blow-down Devices	
	Co-generation Facilities	
	Crushing Operations	
	Flares	
	Gas Turbines	
	Pressure Blowers or Large Induced Draft Fans (flow rate > 47m³/second or static pressure > 1.25 kilopascals)	
	Any other equipment not listed above that has not previously been reviewed by the Director in connection with an application for an Environmental Compliance Approval with respect to the facility	
	Any other equipment not listed above that is identical to equipment for which a noise assessment was previously reviewed by the Director in connection with an application for an Environmental Compliance Approval with respect to the facility	

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5.3	Sewage Works	?	IF YOUR APPLICATION DOES NOT CO	ONTAIN SEWAGE WORKS PLEA	ASE PROCEED TO SECTION	5.4
5.3.1	Facility Type – Sewage Wor	ks (	?			
Select	the type of facility that is the sul	bject o	of the application (select all that apply	/).		
☐ Sev	vage Treatment Plant (STP)		Further information:			
			☐ Primary		On-site system	
			Secondary		Lagoons (check all tha	t apply below)
			☐ Tertiary		☐ Septage	
			☐ Receives septage		☐ Municipal	
			☐ Constructed/Enginee	red Wetlands	Other (specify):	
	☐ Municipal or private facility		Please indicate the maxi	mum design capacity of the m	nunicipal or private sewage	treatment plant:
	Category: ○ New ○ 1 ○ 2	O3 (		$\bigcirc$ > 4,550 m <sup>3</sup> /day		
	$oxedsymbol{oxed}$ Facility for the treatment of leacl	nate				
	Category: ○ New ○ 1 ○ 2	O3 (	<b>0</b> 4			
	$\Box$ Facility for the treatment of indu	strial p	process wastewater			
	Category: O New O 1 O 2	O3 (	<b>0</b> 4			
	☐ Facility for the disposal of non-c	ontact	ct cooling water			
	Subsurface disposal		Please indicate the design	gn capacity of the subsurface of	disposal:	
	-		$\bigcirc \le 15 \text{ m}^3/\text{day}$	$\bigcirc$ > 15 m <sup>3</sup> /day and	< 50 m³/day	/day
☐ Sto	rmwater Management Facility					
Ca	regory: O New O 1 O 2 O 3	<b>O</b> 4	☐ Wet Pond ☐ Dry	Pond  Other (specify):		
Sto	following, you must complete and rm Sewers Ditches Ditches Forcemainitary Sewers Pumping	ns	ch the relevant sections of the pipe da	ta form:		
Is a Hy	drogeological Assessment required	d? ()	Yes O No (If yes, please attac	n the hydrogeological assessn	ment.)	
			tormwater management, cooling water a accepted by the Regional Office of		required? O Yes O N	lo
			nunicipal or private sewage, industrial a accepted by the Regional Office of	•	ate treatment plant required	d? O Yes O No

Facility Information

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5.3.2 Servicing	?								
The works will prov	ride sewage servicing	for (select all that apply):							
☐ Residential	☐ Subdivision ☐ Condominium ☐ Institutional ☐ Other (specify):		there a Municipal Responsibility Agreement in place? O Yes O No N/A yes, please attach a copy of the Municipal Responsibility Agreement.						
☐ Commercial	☐ Hotel, Motel, Inn	☐ Campground, Park ☐	Rental Cabins						
	☐ Resort	☐ Shopping Malls	Other (specify):						
	☐ Restaurant	☐ Highway Service Station/Gas							
☐ Industrial	Describe:								
5.3.3 Sewage S	ervicing for Waste I	Disposal/Landfill Sites ?							
Does/Will the sewage	e treatment facility rece	ive waste disposal/landfill site leachate? (	Yes O No If yes, pl	ease identify the	e site(s) below.				
Name of Site Con	tributing Leachate			Environmental Approval		Volur leacha			
1.									
2.									
3.									
4.									



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P	rint	Form



5.4 Waste L	Disposal Site	IF Y	OUR APPLICATION IS	S NOT FOR A WASTE	DISPOSAL OR PROCE		PROCEED TO SECT	ION 5.5
<b>5.4.1 Facility D</b> Service Area	escription – Was	te Disposal Site	information on the natu	ure of the proposed bu	siness or activity at this	site) ? Total Area of Site (he	ectares)	
Province of Ontar	rio					138.00		
Monitoring (select a	ill that apply)							
<b>☒</b> Groundwater	Surface	Water X L	.andfi <b>ll</b> Gas	Leachate	☐ None	Other (specif	fy):	
							.,	
Type(s) of waste to	be accepted at thi	is site (select all that a						
Subject: Hazardous Wasi Liquid Industrial				<b>bject:</b> licipal (non-hazardot er Liquid Waste	us)			
Municipal waste ca	ategories to be acc	•	elect all that apply) C&I Sources	☐ Source Sepa	arated Organics	☐ Tires	Leaf & Ya	rd Waste
Contaminated S	oil 🔲 Wood W	/aste 🔲 E	Blue Box Materials	Other (specif	y):			
Other liquid waste  Processed Orga	_	ccepted at this site		tions 🗌 Hauled	Sewage   Other	(anacifu):		
□ 1 locessed Olga	inics waste ii	om rocessing	g/i reparation Opera	lions nauleu	Sewage   Other	(Specify).		
			Hazardous \	Waste / Liquid Indu	strial Waste			
Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code



<b>Print Form</b>
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### 5.4.2 Waste Transfer/Processing/Composting – Complete this information if waste transfer and/or processing and/or composting take(s) place at this facility

_	
- 4	2
- 1	
- 1	-

Waste Types to be	Transferred or	Processed	Design Capa	city					
☐ Hazardous wa	☐ Hazardous waste or liquid industrial waste ☐ ≤ 100 tonnes per day ☐ > 100 tonnes per day								
☐ Waste other th	nan hazardous w	vaste and liquid industrial w	aste	nnes per day	) > 100 ·	tonnes per day			
			Change to C	perations (	?				
O No Change Prop	oosed	С	Change does not require f	undamental de	esign review	Ohange requi	res fundamental d	esign review	
			Liquid \	Vaste					
Maxin	num Storage Ca	apacity (m³)		Maxi	imum Residual f	or Final Disposal	(m³)		
Hazardous	Liquid Industria	al Other Liquid Waste	Hazardous		Liquid Industrial		Other	Other Liquid Waste	
Hazardous	Liquiu iriuusiria	iai Other Liquid waste	Daily An	ually	Daily	Annually	Daily	Annually	
			Solid V	aste					
Maximu	um Storage Cap	acity (tonnes)		Maxim	um Residual for	Final Disposal (to	onnes)		
Hazardous Non-hazardous			Haz	Hazardous Non-hazardous			S		
Hazardous Non-Hazardous		Non-nazardous	Daily	An	nually	Daily		Annually	
			Maximum Amount of Was	te to be Rece	ived Daily				
		Liquid (m³)				Solid (	tonnes)		
Hazardous	6	Liquid Industrial	Other Liquid Waste		Hazardou	IS	Non-l	nazardous	



Print Form
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Save Form

#### 5.4.3 Thermal Treatment Facility – Complete this information if thermal treatment takes place at this facility

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Vaste Type for Th	nermal Treatmen	nt	Design Ca	pacity				
☐ Hazardous w	vaste or liquid ind	ustrial waste	<u></u> ≤ 100	tonnes per d	ay > 100 t	tonnes per day		
☐ Waste other	than hazardous v	waste and liquid industrial v	vaste	tonnes per d	ay > 100	tonnes per day		
Change to Operations (?)								
O No Change Pro	oposed	(	Change does not require	fundamenta	ıl design review	Change require	es fundamental desiç	gn review
			Limite	l Wasts				
May	imum Staraga Ca	anacity (m3)	Liquic	d Waste	Assimum Dasidual f	or Final Dianocal (r	31	
	timum Storage Ca		Hazardous	IV	Maximum Residual fo Liquid Ir			uid Waste
Hazardous	Liquid Industria	al Other Liquid Waste		nnually	Daily	Annually	Daily	Annually
			Solid	Waste				
Maxin	num Storage Cap	pacity (tonnes)			ximum Residual for	Final Disposal (tor	,	
Hazardou	ıs	Non-hazardous		zardous			Non-hazardous	
			Daily		Annually	Daily A		Annually
			Maximum Amount of W	aste to be R	eceived Daily			
		Liquid (m³)				Solid (to	nnes)	
Hazardoı	us	Liquid Industrial	Other Liquid Wast			azardous Non-hazardou		ardous
			Maximum Daily Fe	ed Rate (ton	nes/m³)			
Hazardou	s Waste (tonnes)	Non-hazar	dous Waste (tonnes)	onnes) Liquid Industrial Waste (m³)		(m³)	Other Liquid Waste (m³)	



								Print F	-orm	Clear	Form		Save Form
5.4.4 Landfil	II Site – Complet	te this inforr	mation if this fa	cility o	perates	as a landfill	site	?					
Waste Types t	o be accepted at t	the Landfill			Design	Capacity							
☐ Hazardous	s waste or liquid inc	dustrial waste			<u></u> ≤	≤ 40,000 m³	0	> 40,0	00 m³ ≤ 3 mi <b>l</b>	lion m³	O > 3	3 million m	1 <sup>3</sup>
Waste is concrete a	only uncontaminate and rocks	d tree stumps,	, leaves, branches	,	<u></u> ≤	≤ 40,000 m³	0	> 40,0	00 m³ ≤ 3 mil	lion m³	O > 3	3 million m	<b>1</b> 3
	er than hazardous w nated tree stumps, k	•			<u></u> ≤	≤ 40,000 m³	•	> 40,0	00 m³ ≤ 3 mil	llion m³	O > 3	3 million m	<b>1</b> 3
					Chanc	ge to Operatio	ns ?						
ONo Change Proposed  Change does not require fundamental design review or hydrogeological assessment  Change requires fundamental design review or hydrogeological assessment								eview or					
				Max	imum La	andfilling Capa	acity (m³)						
Haz	ardous Waste		Non-hazaro	dous Wa	ste		Liquid Indust	trial Wast	e		Other Li	quid Wast	te
		284	12700.00				0.00						
					_								
				Maximui	m Amou	nt of Waste to	be Received						
Hazard	ous Waste (tonnes)		Non-hazardous	Waste (	(tonnes)		Liquid Industria	al Waste	(m³)	0	ther Liqu	er Liquid Waste (m³)	
Daily	Annua	lly	Daily	А	nnually	l	Daily	Anr	nually	Dai	ly	Д	Annually
		400	0.00	12500	0.00					0.00		0.00	
					Land	Ifill Informatio	n (?)						
Area to be Landfilled (hectares)	Total Site Area including Buffer Area (hectares)	Estimated Da of Closure (yyyy/mm/do	Population	n	Control Types (select all that apply)								
					X Lead	chate Collected	and Treated (	Off-site	Leacha	ate Collected	d and Tre	eated On-s	site
16.20	138.00	2011/06/30	13600000	.00	X Land	dfill Gas Collec	ted and Flared		Landfil	l Gas Collec	ted for E	nergy Ge	neration
					Othe	er (describe):							

### Fac Info

5	Facili Inforr	•		Application Summary   1 Applicant Information   2 Project operating Documentation and Technical Requirements   7	• •	Requirements  Save Form
5.5		•	ems (Except Mobile Wast			
5.5.1	Flee	et List (all vehicles and equipme	nt to be used in the operation of the	Waste Management System)	Separate list attached?	Yes O No
Y	ear	Make	Model	Vehicle Identification Number (VIN)	Licence Plate Number	Province/State
If no,	II the ve please in	um of \$1,000,000.00 liability in	out ownership arrangements for ea	ich vehicle not owned by the applicant.  hicles for which it is required?  Yes  No pairment liability insurance).		

Pag	e	30
ı ay	U	$\circ$



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5.5.3 General Was	ste Managemen	t System	?									
Type(s) of Waste to	be Transported b	y the General Waste	e Management Sys	tem (select all that app	oly)							
Subject:			Non-su	Non-subject:								
☐ Hazardous Wast	е		☐ Mun	icipal (non-hazardou	s)							
Liquid Industrial	Waste		☐ Othe	er Liquid Waste								
Non-subject Catego	ories to be Transp	orted by the Genera	al Waste Manageme	ent System (select al	I that apply)							
☐ Blue Box Materia	als 🗌	Domestic Sources	☐ Com	mercial	☐ Non-Ha	azardous Solid Industria	al 🗌 Asbestos '	☐ Asbestos Waste in Bulk				
☐ Dewatered Catch Clean-out Materi		Leaf/Yard Waste	☐ Woo	d Waste		eanup Material	☐ Contamina	ated Soil				
☐ Waste from Food	1 10003311g/ —	Tires	☐ Was	te Wash Water		sed Organics and application)	☐ Grease Tr	ap Waste				
Preparation Ope	rations		☐ Othe	ers (specify):								
Subject Waste Cate	egories to be Tran	sported by the Gene			•	st attached? O Yes	s O No					
Class Code	Class Code	Class Code	Class Code	Waste / Liquid Indu Class Code	Class Code	Class Code	Class Code	Class Code				
Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code				
☐ All drivers are/w	vill be trained in acc	cordance with O. Reg.	347 and all pertiner	nt environmental legi	slation.							
Each vehicle us environment.	ed to transport a s	oecific subject waste o	class is suitable for t	hat waste transporta	tion in order to pro	tect the health and safe	ety of the public an	d the natural				
Note: For transporte must be provided.	rs of pathological v	vaste and PCBs (was	te classes 243 and 3	312) Operations Mar	ual and Driver Trai	ning Manual must also	be attached and F	inancial Assurance				



Duint Farms

				Print Form	Clear Form	Save Form
General Was	e Management System -	- Disposal Site Information				
What is the Fir	al Destination of Waste to	be Transported by the General Waste Mana	ngement System? (select	all that apply)		
☐ A disposal s	ite in Ontario approved by the	Ministry of the Environment				
☐ Disposal site	es outside of Ontario approve	d by another regulatory agency				
List the destin	ation province(s)/state(s):					
(includes non-agr	ant received recommendati	pement System that is waste and processed organic waste (biosolic on from Biosolids Utilization Committee (E py of the BUC recommendation.			janic waste (biosolids) c	or NASM?
○ No	If no, please clarify:	, , , , , , , , , , , , , , , , , , , ,				
Spreading equi	pment (land application only)	Separa	ate list attached? O	es 🔾 No		
E	quipment Type	Make & Model		Desc	ription	



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Method of system operation (land applica	ution only)					
Estimated quantity to be handled on an annual basis (cubic metres/litres/tonnes):						
Louintatod quantity to bo flatification and annual basis (subis meteorial contents).						
Please describe the loading procedures:						
Please describe the spreading methods:						
Please describe the storage facilities (tanks, la	goons, etc.):					
Soil Conditioner Waste Management S What is the final destination of waste to be  Non-agricultural land	transported by the soil conditi	oner waste	_	system? (r	must include	for land application only)
5.5.5 Hauled Sewage (Septage) Was	te Management System	?				
Type(s) of hauled sewage (septage) to be tra	nsported					
☐ Portable toilet waste ☐ Septic tank wa	ste	☐ Other	(specify):			
Spreading Equipment (land application only)		Separate	arate list attached? O Yes O No			
Equipment Type	Make & Model		Description			

# Facility Information

Contents | General Information and Instructions | Application Summary | 1 Applicant Information | 2 Project Information | 3 Regulatory Requirements | 4 Site Information | 5 Facility Information | 6 Supporting Documentation and Technical Requirements | 7 Payment Information

Print Form	Clear Form	Save Form

Does this system include in-transit storage? O Yes O No ?
If yes: a) What is the duration of storage? Please specify (Maximum period of in-transit storage should not exceed more than two weeks):
ay vinatio the datation of otorage in reason operating form transitionage enough not enter the most of
b) Is the storage tank a prefabricated tank with the capacity < 100,000 L, designed and constructed in accordance with a Class 5 Sewage System under the Ontario Building Code or CAN/CSA B66-05?
Yes No If no, please provide a copy of the design of the storage tank signed and dated by a professional engineer.
Does this system include in-transit processing? O Yes O No
If yes: a) Location of in-transit processing:
☐ In Vehicle ☐ In-storage Tank
b) Describe the method of in-transit processing:
Does this system use barge/boat to transport hauled sewage (septage)? O Yes O No
If yes,
a) Has a minimum of \$1,000,000.00 liability insurance been obtained for the barge/boat for which it is required?
○ Yes ○ No
b) Does the barge/boat have an engine of 10 horsepower (hp) or more, for which a commercial vessel licence is required from Transport Canada?  O Yes  No If yes, please include a copy of the commercial vessel licence.
Note: For in-transit storage or processing the applicant must include with the application the consent of the landowner, if the landowner is different than the applicant. A financial

Note: For in-transit storage or processing the applicant must include with the application the consent of the landowner, if the landowner is different than the applicant. A financial assurance estimate must be provided by applicants using in-transit storage or using in-transit processing where processing is conducted in the in-transit storage tanks.



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Hauled Sewage (Septage	) Waste Management S	System – Land Application Sites
------------------------	----------------------	---------------------------------

□ N/A

List the Environmental Compliance Approval Number(s) of all disposal site(s) approved by the Ministry of the Environment for land application of hauled sewage in association with this waste management system.

Instrument Type	Instrument Number	Approval or Application Date (yyyy/mm/dd)

Instrument Type	Instrument Number	Approval or Application Date (yyyy/mm/dd)



Print Form	



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6 Waste Management System – Mobile Waste Processing				?	?			
5.6.1 Mobile Was	1 Mobile Waste Management System Process and Equipment Description							
ype(s) of Waste to b	e Processed (select a	ıll that apply)						
Subject:			Non-subject:					
☐ Hazardous Waste			☐ Municipal (non-	-hazardous)				
Liquid Industrial Wa	aste		☐ Other Liquid W	aste				
Number of	Units	Type of Waste to be P	rocessed by the Unit(s)	Financia	Il Assurance (per unit)	Financial A	Financial Assurance Required	
		Non-hazardoı	us Solid Waste	\$5,000				
		Hazardo	us Waste	\$20,000				
Liquid Industrial Waste								
Other Liquid Waste								
	N	lultiple Types of Waste f	rom the Categories Abo	ve \$20,000				
	Total Financial Assurance \$0							
/lunicipal (non-hazar	dous) Waste Catego	ories to be Processed (	select all that apply)					
Contaminated Soil	at Cleanup Site	Wood Waste   Cor	nstruction & Demolition	Waste   Asbestos	Waste   Tires			
Domestic Waste	Other (specify):							
Other Liquid Waste C	ategories to be Pro	cessed (select all that app	oly)					
☐ Hauled Sewage	☐ Waste from Food	Processing/Preparation	Operations	essed Organic				
Other (specify):								
		Hazardo	ous/Liquid Industrial V	Vaste Types to be Pro	ocessed			
Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	



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#### **5.6.2 Equipment Information** – Please attach a separate list if more space is required.

Separate list attached? O Yes O No

				Equipment List				
Unit No.	Unit Type	Process Description	Equipment Type	Make	Model	Serial Number	Equipment Capacity (including unit of measurement)	
Unit 1								
Unit 2								
Unit 3								
Offic 3								
Unit 4								



Print Form



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#### 5.7 Cleanup of Contaminated Sites



IF YOUR APPLICATION IS NOT FOR A CLEANUP OF A CONTAMINATED SITE PLEASE PROCEED TO SECTION 6.

Type of cleanup:	
◯ In-situ	
○ Ex-situ	
O Both	
Contaminated media to be	treated:
Groundwater	
☐ Surface water	
Sediment	
Soil	
Waste Type:	
Subject:	Non-subject:
☐ Hazardous Waste	☐ Municipal (non-hazardous)
☐ Liquid Industrial Waste	☐ Other Liquid Waste
Type of discharge:	
Air	☐ Surface water
Groundwater	Noise
☐ Storm or sanitary	

## Supporting Documentation and Technical Requirements

Contents | General Information and Instructions | Application Summary | 1 Applicant Information | 2 Project Information | 3 Regulatory Requirements | 4 Site Information | 5 Facility Information | 6 Supporting Documentation and Technical Requirements | 7 Payment Information

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Attachment	Attac	hed	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential* $()$
Proof of legal name	Yes	O No		
Enhanced EBR description	O Yes	○ No		
Provincial Officer Notice	O Yes	○ No		
Inspection Report	O Yes	○ No		
Detailed project and process description	Yes	O No		
Pre-application Consultation Record	O Yes	No	Not applicable	
Legal Survey(s)	O Yes	O No		
Site Plan(s)	Yes	O No		
Scaled area location plan(s) with geo-referencing points identified	Yes	O No		
Documentation in support of EBR Exception	O Yes	○ No		
Proof of Compliance with EAA Requirements	O Yes	○ No		
Proof of Consultation/Notification	Yes	O No		
Financial Assurance Estimate	O Yes	No	Not applicable	
Name, address and consent of land/site owner for the installation and operation of the proposed activity or storage location of equipment or vehicle	○ Yes	○ No		
Name, address and phone number of the Operating Authority	O Yes	O No		
Copy of NEPDA Permit	O Yes	○ No		
Copy/Proof of Municipal Planning Approval (ORMCA, general)	○ Yes	○ No		
Municipal Zoning Confirmation Letter	○ Yes	○ No		
Zoning map	Yes	No	Not available	
Conservation Authority Clearance	O Yes	O No		
Director's approval for Policy 2 Deviation	O Yes	O No		
Application Fee	(a) Yes	O No		

Supporting Documentation and Technical

(PIBS 5356e)

Vibration Assessment report

Contents | General Information and Instructions | Application Summary | 1 Applicant Information | 2 Project Information | 3 Regulatory Requirements 4 Site Information I 5 Facility Information I 6 Supporting Documentation and Technical Requirements I 7 Payment Information

	Requirements		Print Form Clear Form	Save Form
	Attachment	Attached	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential*
V	A copy of this application has been sent to the Ministry Local District Office	Yes     No		
	Explanation for confidentiality	○ Yes ○ No		
	Other (please describe):	○ Yes ○ No		
$\checkmark$	6.2 Air			
	Emission Summary and Dispersion Modelling (ESDM) Report prepared in accordance with s.22 and of O. Reg. 419/05 (inclusional checklist – PIBS 5357e)			
	Electronic copy of the Dispersion Modelling input and output prepared in accordance with s.26 of O. Reg. 419/05	files Yes No		
	Supporting Information for a Maximum Ground Level Concentration Acceptability Request for Compounds with no Ministry POI Limit – Supplement to Application for Approval, I S.9 (PIBS 4872)	EPA Yes O No		
	Copies of forms requesting O. Reg. 419/05 instruments and supporting documentation	○ Yes ○ No		
	Other (please describe):	○ Yes ○ No		
V	6.3 Noise and Vibration			
	Primary Noise Screening	○ Yes ○ No		
	Secondary Noise Screening	○ Yes ○ No		
	Abbreviated Acoustic Assessment Report including signed checklist (A-AAR)	○ Yes ○ No		
	Acoustic Assessment Report including signed checklist (AAR	) O Yes O No		

O No

O Yes



V

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V

Other (please describe):

Contents | General Information and Instructions | Application Summary | 1 Applicant Information | 2 Project Information | 3 Regulatory Requirements | 4 Site Information | 5 Facility Information | 6 Supporting Documentation and Technical Requirements | 7 Payment Information

Requirements		Print Form Clear Form	Save Form
Attachment	Attached	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential*
Noise Abatement Action Plan	○ Yes ○ No		
Other (please describe):	○ Yes ○ No		
6.4 Sewage			
Signed Municipal Responsibility Agreement	○ Yes ○ No		
Detailed description of the proposed activities/works	○ Yes ○ No		
Notice of Completion for the Environmental Study Report (ESR)	O Yes O No		
Design Brief	○ Yes ○ No		
Preliminary Engineering Report	O Yes O No		
Final Plans	○ Yes ○ No		
Engineering Drawings and Specifications	○ Yes ○ No		
Sewage quantity and quality characteristics	○ Yes ○ No		
Stormwater Management Report	○ Yes ○ No		
Stormwater Management Plan	○ Yes ○ No		
Hydrogeological Assessment	○ Yes ○ No		
Environmental Impact Analysis	Yes No		
Final effluent criteria accepted by regional office of the Ministry	○ Yes ○ No		
Sewage Works Limited Operational Flexibility Requirements			
1. Engineer's Report	○ Yes ○ No		
2. Declarations	○ Yes ○ No		
Pipe Design Data Form	○ Yes ○ No		

○ Yes ○ No

#### Supporting Documentation and Technical Requirements

Contents | General Information and Instructions | Application Summary | 1 Applicant Information | 2 Project Information | 3 Regulatory Requirements 4 Site Information I 5 Facility Information I 6 Supporting Documentation and Technical Requirements I 7 Payment Information

	Requirements		Print Form Clear Form	Save Form
	Attachment	Attached	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential*
1	6.5 Waste Disposal Sites			
1	Design and Operations Report	O Yes No	See Design Brief Attachment	
1	Stormwater Management Report	Yes No	Not applicable	
1	Hydrogeological Assessment	O Yes No	Not applicable	
1	Assessment of Physical and Water Use Conditions	Yes No	Not applicable	
	Waste Limited Operational Flexibility Requirements			
	1. Engineer's Report	○ Yes ○ No		
	2. Declarations	○ Yes ○ No		
	Copy of notification to adjacent landowners	Yes     No		
1	Other (please describe):	O Yes No	Not applicable	
1	6.6 Waste Management Systems			
	Proof of vehicle and/or equipment ownerships	○ Yes ○ No		
	Complete Fleet List (list of all vehicles, trailers and equipment used)	○ Yes ○ No		
	Copy of the Liability Insurance for all vehicles for which insurance is required	○ Yes ○ No		
	Copy of BUC recommendation	○ Yes ○ No		
	Copy of the storage tank design	○ Yes ○ No		
	Copy of commercial vehicle licence	○ Yes ○ No		
	Description of the physical location where the vehicles transporting biomwedical waste are being disinfected	O Yes O No		
	Drivers Training Manual (for PCB/Biomedical Waste)	Yes No		
	A copy of the applicant's Operation Plan including detailed packaging and biomedical waste handling methods	O Yes O No		
	Contingency and Emergency Procedures Plan (for PCB/Biomedical Waste/Hauled Sewage (Septage))	O Yes O No		
	Other (please describe):	○ Yes ○ No		

Supporting
Documentation
and Technical
Requirements

Contents | General Information and Instructions | Application Summary | 1 Applicant Information | 2 Project Information | 3 Regulatory Requirements | 4 Site Information | 5 Facility Information | 6 Supporting Documentation and Technical Requirements | 7 Payment Information

**Print Form** 

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nequilente			
Attachment	Attached	If no, provide explanation, (include referenced attachment if more space is required for rationale)	Confidential*
✓ 6.7 Mobile Waste Processing			·
Design and Operations Report – Mobile Waste Processing of General Waste	○ Yes ○ No		
Design and Operations Report – Mobile Waste Processing of Liquid Waste	○ Yes ○ No		
Other (please describe):	○ Yes ○ No		
√ 6.8 Cleanup of Contaminated Sites			
Design Report for Cleanup of Contaminated Sites	○ Yes ○ No		
Other (please describe):	○ Yes ○ No		
√ 6.9 Other Attachments			
Title	Reference		Confidential* (√)
Are you attaching an additional list of attachments?  Yes  No		space to list all of the attachments included in this application package, itional listing of these attachments.	

\*Please note: The collection of personal information in this application is necessary to administer the Ministry's approvals program, which is authorized pursuant to the Environmental Protection Act and the Ontario Water Resources Act. The personal information collected in this application will be used to administer the program, including for the purposes of the Ministry's compliance and enforcement activities under the aforementioned acts, and for the purposes of making information in respect of Environmental Compliance Approvals available to the public with the exception of payment information. Questions about the collection of the information can be directed to a Client Service Representative, Environmental Approvals Access and Service Integration Branch, 2 St. Clair Avenue West, Floor 12A, Toronto Ontario M4V 1L5; Telephone outside Toronto 1-800-461-6290 or in Toronto 416-314-8001 or Fax 416-314-8452.



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#### Payment Information: Application for an Environmental Compliance Approval



#### Please Note:

- If you are completing this form by hand, you must complete and attach your fee calculations separately.
   You do not need to include the supplemental fee calculations if you are filling in this form electronically.
- 2. If you are completing this form electronically, the fees for this application have been calculated based on the information you have provided. The Ministry may require additional information during the review of your application that could impact the total fee required.
- 3. All fees should be paid in Canadian funds, payable to the Minister of Finance, except fees for Transfer of Review, which are payable to the local municipality.
- 4. Credit card payments are accepted for payments under \$10,000 only.
- 5. If you are paying by certified cheque or money order, please staple your payment to this page.
- 6. The information collected in this section of the form is considered confidential and will only be used to process your application fee.

Do not include this page in the copies of your application that are being provided to the Local Ministry District Office.

Amount Enclosed	Method of Payment		
\$ 1,400.00	☐ Certified Cheque ☐ VISA	<ul><li>✓ Money Order</li><li>✓ MasterCard</li></ul>	☐ American Express
Credit Card Information (if paying by VISA, MasterCard or A	merican Express)		
Name on Card (please print)	Credit Card Number		Expiry Date (mm/yyyy)
Claire Allen	5569090003285890		04/2016
Cardholder Signature	Date (yyyy/mm/dd)		
fram alle		d cheque or money order, attach it here.	

ontario.ca/environment



Attachment 1

Proof of Legal Name

Ministry of Consumer and Business Services

Registration Division Companies and Personal Property Security Branch 393 University Ave., Suite 200 Toronto ON M5G 2M2 Ministère des Services aux consommateurs et aux entreprises

Division de l'enregistrement Direction des compagnies et des sûretés mobilières 393, av. University, bureau 200 Toronto ON M5G 2M2



January 8, 2004

#### Corporations Information Act

#### Your Reporting Requirements

WASTE MANAGEMENT OF CANADA CORPORATION NICOLA QASEM 20 SIMMONDS DRIVE DARTMOUTH NS B3B 1R3

#### This is your Ontario Corporation Number (OCN)

#### 1600554

Regulations require that this number is stated in all notices submitted under the Corporations Information Act. This number must be stated in ALL correspondence with the Companies and Personal Property Security Branch.

#### Initial Return

The Corporations Information Act states that every extra-provincial corporation, other than a corporation of a class exempted by the Regulations, that begins to carry on business in Ontario shall file an Initial Return, Form 2, within sixty (60) days after the date the corporation begins to carry on business in Ontario. The Initial Return you have just filed has generated an Ontario Corporation Number and created a file for the public record for your corporation.

#### **Notice of Change**

In addition to the Initial Return you have recently filed, you are required to file a Notice of Change for every change in the information within 15 days after the change or changes take place. There is no fee for filing these notices.

#### **Forms**

Forms may be obtained from the Ministry at the above noted address or by <u>calling (416) 314-8880, 1-800-361-3223 or TDD (416) 212-1476</u>. Forms are also available on the Ministry's website at <u>www.cbs.gov.on.ca</u>. To access the forms, select the 'Business Information' option at the top of the Ministry's home page.

#### **Business Name**

- (a) No corporation shall carry on business in Ontario or identify itself to the public in Ontario by a name other than its corporation name unless the name is first registered. The appropriate registration form may be obtained from the Companies and Personal Property Security Branch or by calling one of the above noted telephone numbers.
- (b) A corporation which has registered and uses a name other than its corporate name is required to set out its corporate name and all registered business names on all contracts, invoices, negotiable instruments and orders for goods or services.

#### Penalties

Sections 13 and 14 of the Corporations Information Act provide penalties for contravening the Act or Regulations.

Section 18(1) of the Act provides that a corporation that is in default of a requirement under this Act to file a notice or that has unpaid fees or penalties is not capable of maintaining a proceeding in a court in Ontario in respect of the business carried on by the corporation except with leave of the court.

Attachment 2

Design Brief - Leachate Storage System

# DESIGN BRIEF LEACHATE STORAGE SYSTEM RICHMOND LANDFILL SITE TOWN OF GREATER NAPANEE

**Waste Management of Canada Corporation** 

Project No: 081-12493-00 (8570G)

Date: January 2015

WSP Canada Inc. 1450 1<sup>st</sup> Avenue West, Suite 101 Owen Sound, ON N4K 6W2

Phone: 519-376-7612 Fax: 519-376-8008 www.wspgroup.com



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2	PROPOSED LEACHATE STORAGE SYSTEM	2
2.1	RATIONALE	2
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## FIGURES

Figure 1 Site Area Plan

Figure 2 Landfill Site Location Plan

## DRAWINGS

8570G-LS1	Proposed Leachate Storage System - Plan
8570G-LS2	Proposed Leachate Storage System Plan, Sections and Details
8570G-LS3	Proposed Leachate Storage System Sections and Details
8570G-LS4	Proposed Leachate Storage System PS2 and FMC1 – Plan and Sections
8570G-LS5	Proposed Leachate Storage System PS1 – Plan, Sections and Details

### APPENDICES

#### Appendix A Environmental Compliance Approval and Amendments

- A-1 Environmental Compliance Approval (Waste Disposal Site) No. A371203, dated January 9, 2012
- A-2 Amendment to Environmental Compliance Approval No. A371203, dated January 9, 2012
- A-3 Amendment to Environmental Compliance Approval No. A371203, (Notice 1) dated May 3, 2013
- A-4 Amendment to Environmental Compliance Approval No. A371203, (Notice 2) dated October 4, 2013

#### Appendix B Hydraulic Calculations

- B-1 PS1/PS2 to Leachate Storage Tank
- B-2 PS3 Tanker Truck Loading
- B-3 PS4 Spilled Leachate Return to Leachate Storage Tank

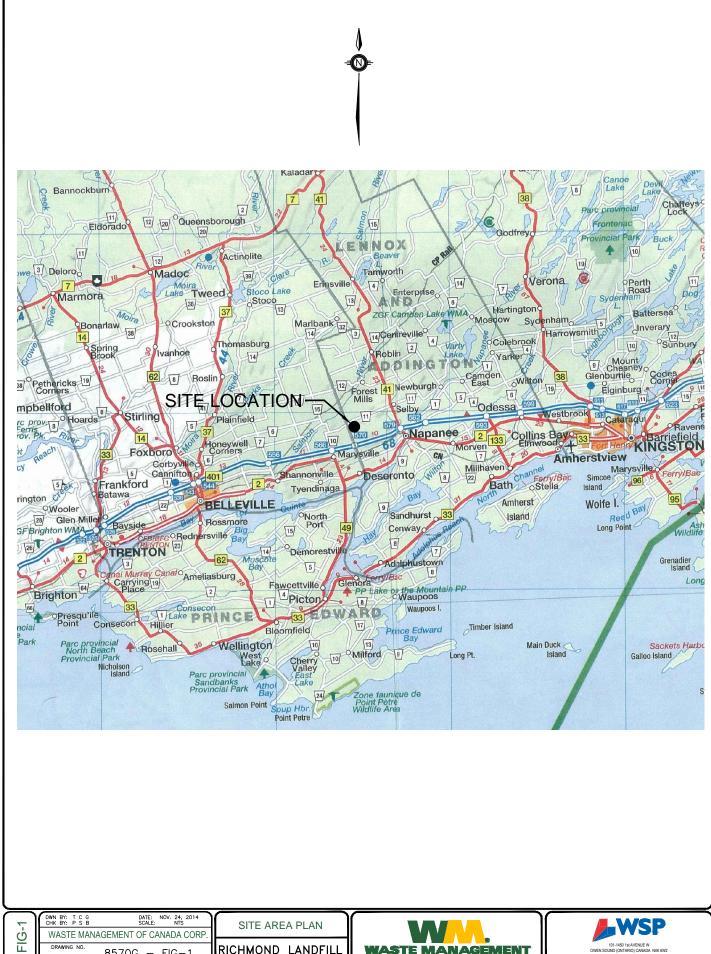
### 1 INTRODUCTION

Waste Management of Canada Corporation's (WM) Richmond Landfill site is located within Part of Lots 1, 2, and 3, Concession IV, Former Township of Richmond, now the Town of Greater Napanee. Refer to **Figures 1 and 2** for site location plans. **Figure 2** includes the site georeference information. The landfill site consists of a 16.2 hectare (ha) waste disposal area within a total site area of 138 ha, and operates under Environmental Compliance Approval (ECA) No. A371203, including amendments (refer to **Appendix A**). The Richmond Landfill ceased to accept waste for final disposal on June 30, 2011.

The landfill is equipped with a leachate collection system consisting of a perimeter leachate collector. The oldest northwest quadrant of the landfill is unlined, while the remaining landfill has a clay or HDPE base liner. Leachate is collected from two (2) separate withdrawal points; pumping station PS1, which is located on the south side of the landfill, and PS2 chamber, located on the north side. The existing pumping station PS1 (sideslope riser) is equipped with Grundfos pumps. The PS2 chamber does not have a pump, and leachate is removed by vacuum tanker trucks.

Typically leachate is hauled off site to Napanee for treatment. Truck loads are manifested and discharged at the septage receiving facility located at the intersection of Enviro Park Lane and West Street in the Town of Greater Napanee. In the event that the Napanee facility is unable to accept leachate, WM has approval to discharge leachate at a facility in Cobourg, Ontario. Alternatively, there is a leachate holding lagoon located to the north of the landfill footprint that can be used for backup storage.

In 2013, approximately 17,743 cub metres (m³) of leachate hauled from the site and disposed of at the Napanee facility. The average daily leachate generation rate is calculated as 48.6 m³/day. Maximum leachate production occurs usually in the spring, with the highest weekly volume in 2013 of 699 m³/day on average. The 2013 leachate volume is equal to approximately 110 mm of precipitation over the landfill footprint area of 16.2 hectares.



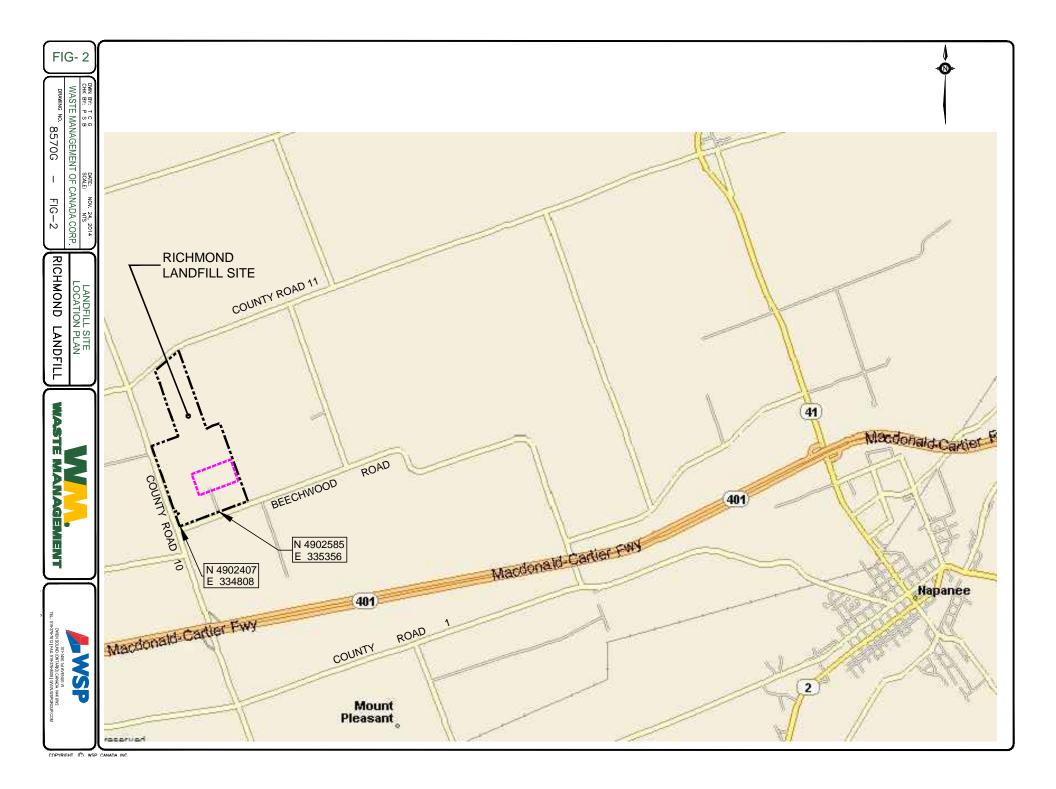
2014 25, AREA\area STORAGE 1985\8570G\DRAW\2014

8570G - FIG-1

RICHMOND LANDFILL







## 2 PROPOSED LEACHATE STORAGE SYSTEM

#### 2.1 RATIONALE

WM is proposing to upgrade the existing leachate collection system to simplify truck loading procedures and reduce leachate storage over the landfill base. The proposed system will lower leachate levels within the landfill, thus reducing the head over the base liner system. This should result in better protection of groundwater resources at the site.

The proposed leachate storage system will consist of the following:

- → Leachate pumping stations PS1 and PS2, with associated forcemains discharging into the leachate storage tank;
- → Leachate storage tank 500 m³ capacity;
- → Truck loading pumping station PS3; and
- → Pumping Station PS4, which will return leachate spilled during truck loading activities to the leachate storage tank.

All of the above noted components are described in more detail later in this report.

#### 2.2 LEACHATE QUALITY AND QUANTITY

The proposed system will not have any affect on leachate quality and quantity generated at the site. Leachate strength is anticipated to decrease with time to such a level that leachate collection/disposal is no longer required at the end of the site's contaminating lifespan. The same applies to leachate quantity, as it would remain unchanged and fluctuate seasonally, peaking usually in the spring. The maximum annual leachate volume recorded during the last five (5) years was 20,813 m³ in 2010. It is unlikely that this volume would be largely exceeded in the future, as this volume was recorded when the site was still active and not fully capped. Based on the above and assuming a peaking factor of 2.5, the maximum daily leachate production is estimated conservatively at approximately 142 m³/day (1.64 L/s).

#### 2.3 LEACHATE COLLECTION SYSTEM

The existing leachate collection system will remain unchanged. Leachate will continue to drain by gravity towards two (2) separate, low lying withdrawal points located at pumping stations PS1 and PS2.

#### 2.3.1 EXISTING PUMPING STATION PS1

This pumping station was constructed in the mid-1990's at the lowest point within the HDPE lined cell on the south side of the landfill. The pumping station consists of two (2) upslope risers which terminate inside the pump removal structure. Each upslope riser is equipped with a stainless steel Grundfos 80520-2 submersible pump. These pumps shall be removed, inspected and if found in need of repair, at least one pump should be replaced with an EPG-Surepump WSDPT 18-2. The replacement pump has similar operating parameters as the existing pump, but is mounted on wheels, thus easier to install/maintain inside the upslope riser. The section of discharge line inside the upslope riser may also be replaced with a flexible hose which is more suitable for this type of installation. The pumping station will continue to be operated in response to the water level in the sump. All electrical/control modifications will be completed as required to ensure that the system is fully operational in both automatic and manual modes of operation.

#### 2.3.2 PUMPING STATION PS2

It is proposed to convert the existing leachate storage chamber into a pumping station. Leachate would continue to flow by gravity into the PS2 chamber where an EPG Surepump VSPDT 31-2 would be installed. The pump is a two (2) stage, 150 mm nominal diameter with a 75 mm diameter threaded discharge connection and 5 hp single phase motor. All EPG pumps will be equipped with a liquid level sensor which will be used for pump control. The water level within PS2 will be displayed at the control panel near the leachate storage tank. The pump will be turned on/off automatically depending on the water level in the chamber. High/low level alarm (float) is proposed as a backup and extra safety measure. Both PS1 and PS2 would pump leachate to new leachate storage tank and stop automatically whenever the tank is full. This is necessary to prevent accidental tank overfilling and subsequent leachate spills. The pump discharge line will be equipped with a check and isolation valve. The pump will be removable through a patented EPG disconnect/guide rail system. Please refer to **Drawing LS4** for pumping station details. There are two (2) design options for PS2 with different piping configurations resulting from two (2) different discharge forcemain alignments between PS2 and the leachate storage tank. Both forcemain alignment options are depicted on **Drawing LS1**.

#### 2.3.3 LEACHATE FORCEMAINS

Leachate from pumping stations PS1 and PS2 will be pumped into the storage tank through separate forcemains up to flow meter chamber FMC1. Beyond this chamber, both forcemains will merge into a single 100 mm diameter line discharging into the storage tank. Pumping Station PS1 will continue to use the existing discharge line, however, near the existing valve chamber (VC) it will be redirected towards the new flow meter chamber FMC1 and further into the tank. Details are provided on **Drawing LS2**.

There are two (2) forcemain alignment options proposed for pumping station PS2 as shown on **Drawing LS1**. The preferred alternative is Option 2, which requires pulling of approximately 300 m of forcemain inside the existing 150 mm diameter pipe installed at the landfill bottom. Earlier this year, a large portion of this pipe (± 200 m) was camera inspected, and confirmed the integrity of the line. Details of the forcemain crossing through the existing pump removal structure at PS1 are presented on **Drawing LS5**. The second

alternative (Option 1) is proposed in the event that the pulling of the forcemain under the landfill is not feasible. The Option 1 forcemain travels around the east side of the landfill to the proposed leachate storage tank location at the pad near PS1.

The forcemain will be embedded in well compacted granular material with cover of 1.8 m which is sufficient to protect the line from freezing. Insulation will be provided wherever depth of cover is less than 1.8 m. Clay plugs will be provided every 100 m of the forcemain length to minimize the landfill gas migration potential along the pipe bedding material. The HDPE forcemain pipe DR21 is rated at 100 psi and will be able to withstand a normal operating pressure of approximately 250 kPa (36 psi) and instantaneous overpressure resulting from sudden stoppage of water column. The forcemain section pulled under the landfill may be heavier DR17 because coiled HDPE pipe is not available in DR21.

The reader is referred to **Appendix B-1** for printouts of the PS1/PS2 hydraulics. According to calculations, the following flows are anticipated for each pumping station:

- → PS1 8.1 L/s at 7 m TDH (average)
- → PS2 Option 1 6.2 L/s at 24.5 m TDH (average)
- → PS2 Option 2 7.8 L/s at 21.3 m TDH (average)

If the forcemain under the landfill is downsized to 50 mm diameter, flow would be reduced to 3.5 L/s at 29.0 m TDH (average).

Each forcemain branch will be equipped with a 75 mm diameter electromagnetic flow meter inside the dedicated precast concrete chamber FMC1. A flow meter readout will be provided inside the control panel near the leachate storage tank. The exact control panel location will be determined during the final design stage.

#### 2.4 LEACHATE STORAGE TANK

Leachate storage tank installation details are presented on Drawings LS2 and LS3.

The proposed tank is 69 m in length, 3.0 m nominal diameter and 500 m<sup>3</sup> capacity. The tank will be built from Weholite pipe, Class RSC 250. Weholite is a flexible, lightweight double wall (closed profile) pipe made of HDPE, manufactured in a patented process by Uponor Infra Ltd., formerly KWH.

Approximately half of the tank will be installed below the existing grade and high groundwater table. The other half of the tank will be above the existing grade and covered with approximately 1.2 m soil cover, to provide uplift protection with a sufficient factor of safety. The tank will be embedded and backfilled with granular soil compacted to 95% SPMDD. The tank will be equipped with all required pipe ports, vent, manways, ladders and stilling well to prevent foaming. The tank will be supplied in several pieces which will be extrusion welded inside and outside by a manufacturer's qualified technician. The entire tank assembly will be tested for leakage together with pumping station PS3.

#### 2.5 PUMPING STATION PS3

The pumping station will be housed inside a 2.4 m diameter manhole which will be hydraulically connected with the adjacent leachate storage tank through 300 mm diameter pipe. Pumping station details are presented on **Drawing LS2 and LS3**.

An EPG Surepump VSPDT 61-1 will be set at the bottom of the chamber. This pump is submersible, single stage, and equipped with a three (3) phase, 5 hp motor, a liquid level sensor and a factory perforated internally built check valve. The 300 mm diameter knife gate valve will allow isolation of the pumping station from the leachate storage tank. The pump will be turned on/off manually by the operator when required to load tanker truck(s). The pump will stop automatically on low level when the system is empty. In addition, a float activated low and high level alarm will be provided as a backup. Pump removal would be through the patented EPG guide rail/disconnect system. The pump discharge line is relatively short, terminating at the headwall, a few metres northwest from the pumping station. The discharge line will slope towards the pumping station so it can be emptied by gravity after each filling cycle to prevent freezing of the line. The electromagnetic flow meter, housed inside FMC2 chamber, will record all flows. The reader is referred to **Appendix B-2** for pumping station hydraulic calculations. It is estimated that pumping rates will be as follows:

- → 24.2 L/s at 4.8 TDH (average) tank full, truck empty
- → 20.3 L/s at 8.5 m TDH (average) tank empty, truck full

#### 2.6 PUMPING STATION PS4

Details of this pumping station are shown on **Drawing LS2**. This facility is designed to collect leachate spillage which would occur during normal tanker truck loading operations. Any leachate spilled from the truck and/or hose used for truck loading will drain into the PS4 pumping chamber through a perforated grate mounted on top of the structure. Tanker truck loading will take place within a specially constructed and graded concrete spill containment pad (16 x 4 m size) with PS4 positioned at the lowest point of the pad. Collected leachate will be diluted by runoff from precipitation which will also be captured within the spill containment pad. Proper grading of the gravel area surrounding the proposed concrete pad will be critical to minimize the amount of runoff collected by the system. Pumping station PS4 will be equipped with a small submersible sewage pump. The preliminary selection is a Sulzer ABS Scavenger Pump Model EJ07W-2. This pump is equipped with a single phase 0.75 hp motor. The pump discharge line will be fitted with check and isolation valves. The short 50 mm diameter forcemain will empty into pumping station PS3 below the low water level. Refer to **Appendix B-3** for hydraulic analysis of this pumping system. Estimated flows are as follows:

- → 3.5 L/s at 6.2 TDH (average) tank full
- → 4.8 L/s at 5.6 TDH (average) tank empty

PS4 will operate automatically in response to the water level in the pump chamber as sensed by floats. The pump will stop automatically whenever the leachate storage tank is full.

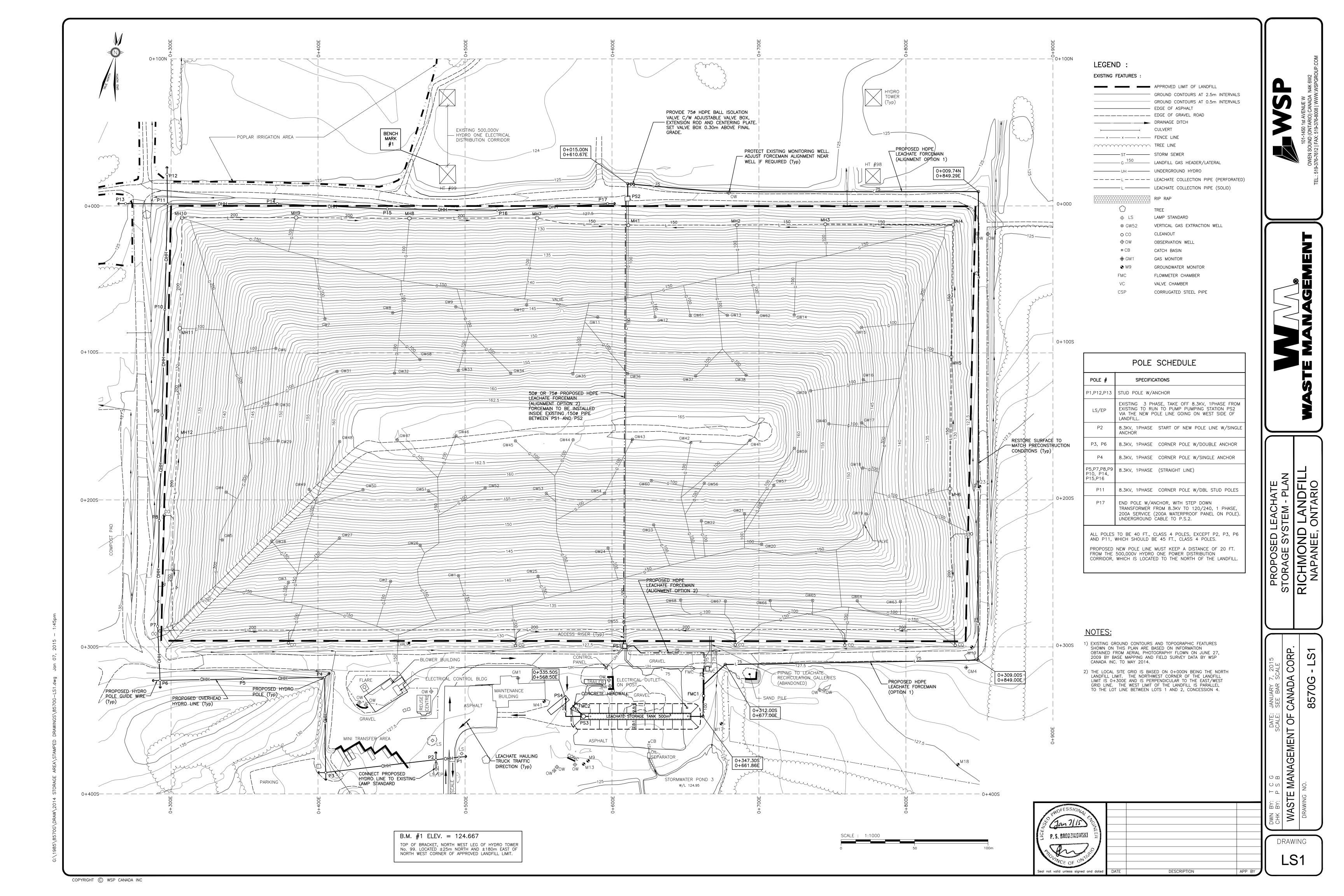
#### 2.7 POWER SUPPLY

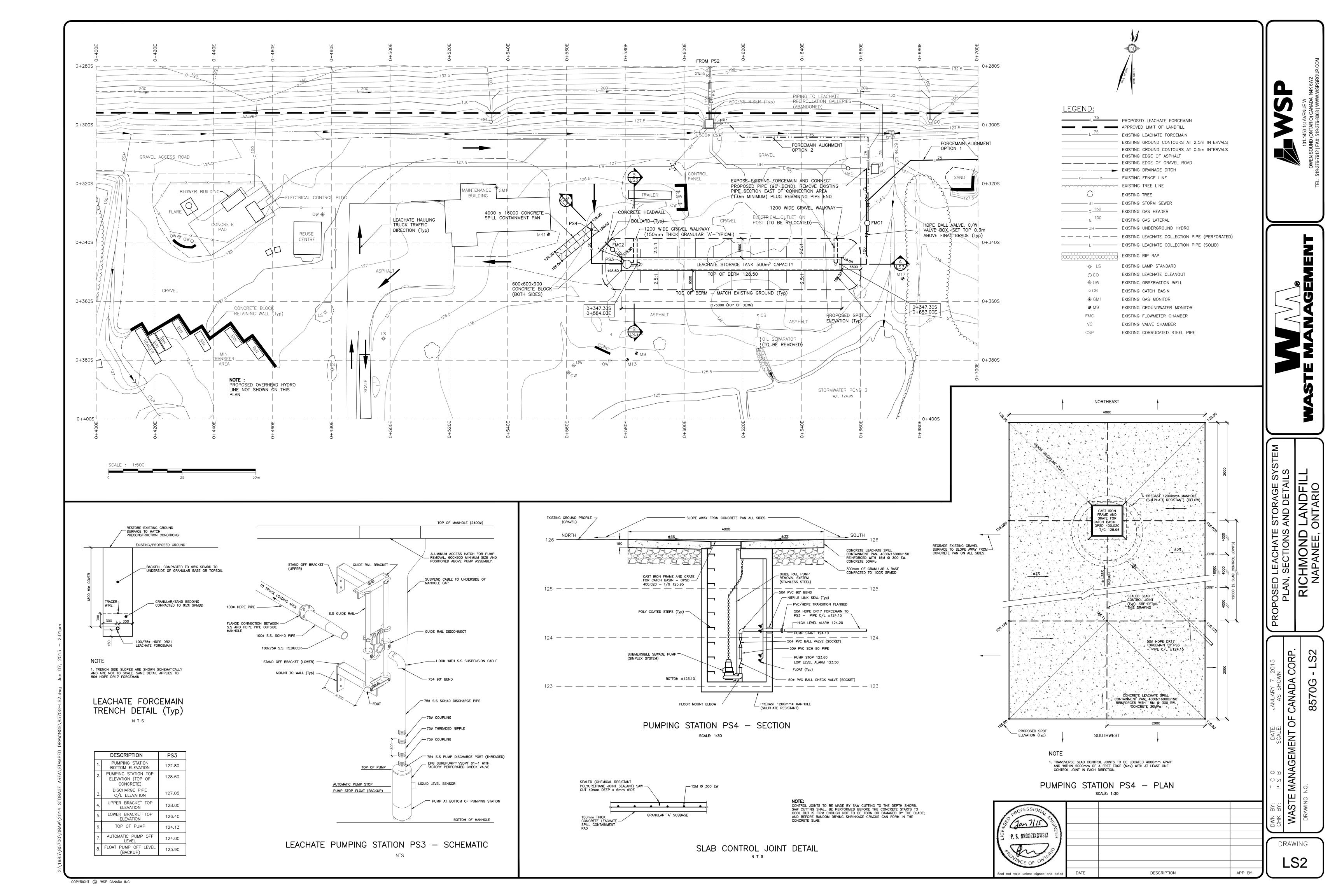
Three (3) phase electric power is available on site near the existing weigh scale, which is relatively close to the proposed leachate storage tank location (± 100 m). Since there is no power on the north side of the landfill (PS2 location), an overhead power supply line will have to be erected. A preliminary power distribution layout is provided on **Drawing LS1**. The proposed line is 8.3 kV, over 900 m long and goes around the landfill on the west side. Detailed electrical/control system design will be carried out by design/build contractor Nielsen Systems Inc., who is familiar with the existing onsite electrical system configuration.

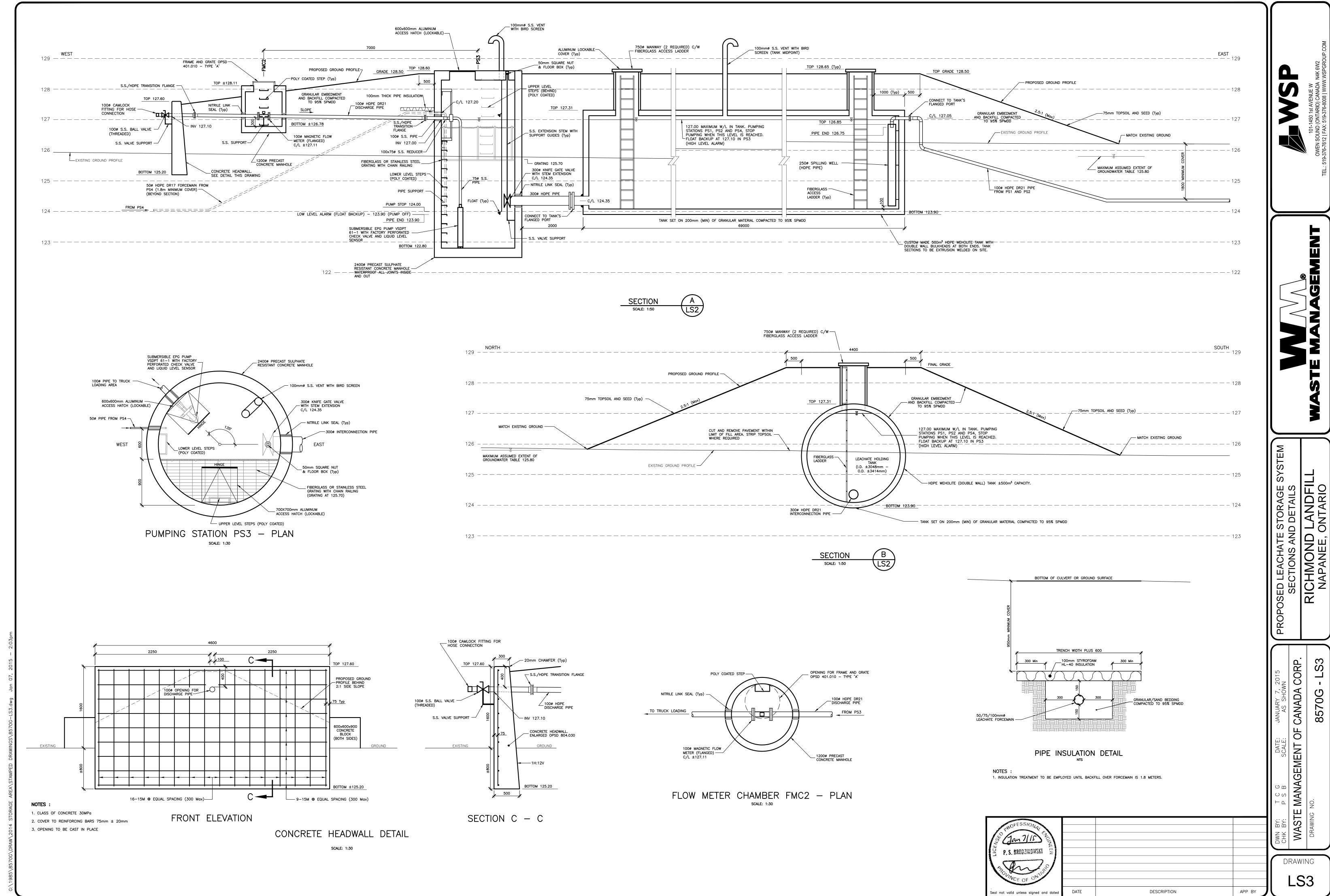
PREPARED BY

Peter S. Brodzikowski, P.Eng. Designated Consulting Engineer Senior Environmental Engineer

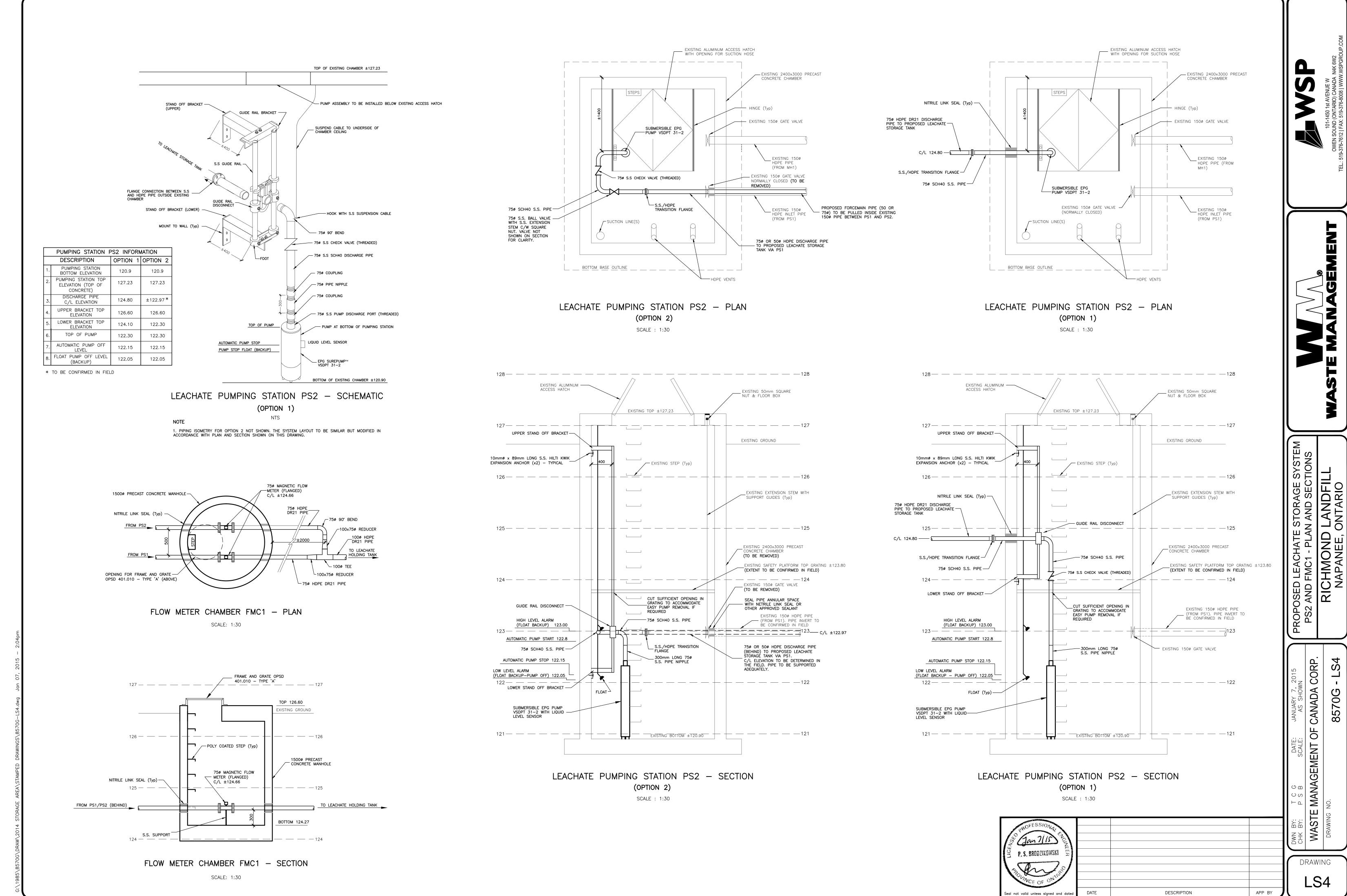
PSB/dlw



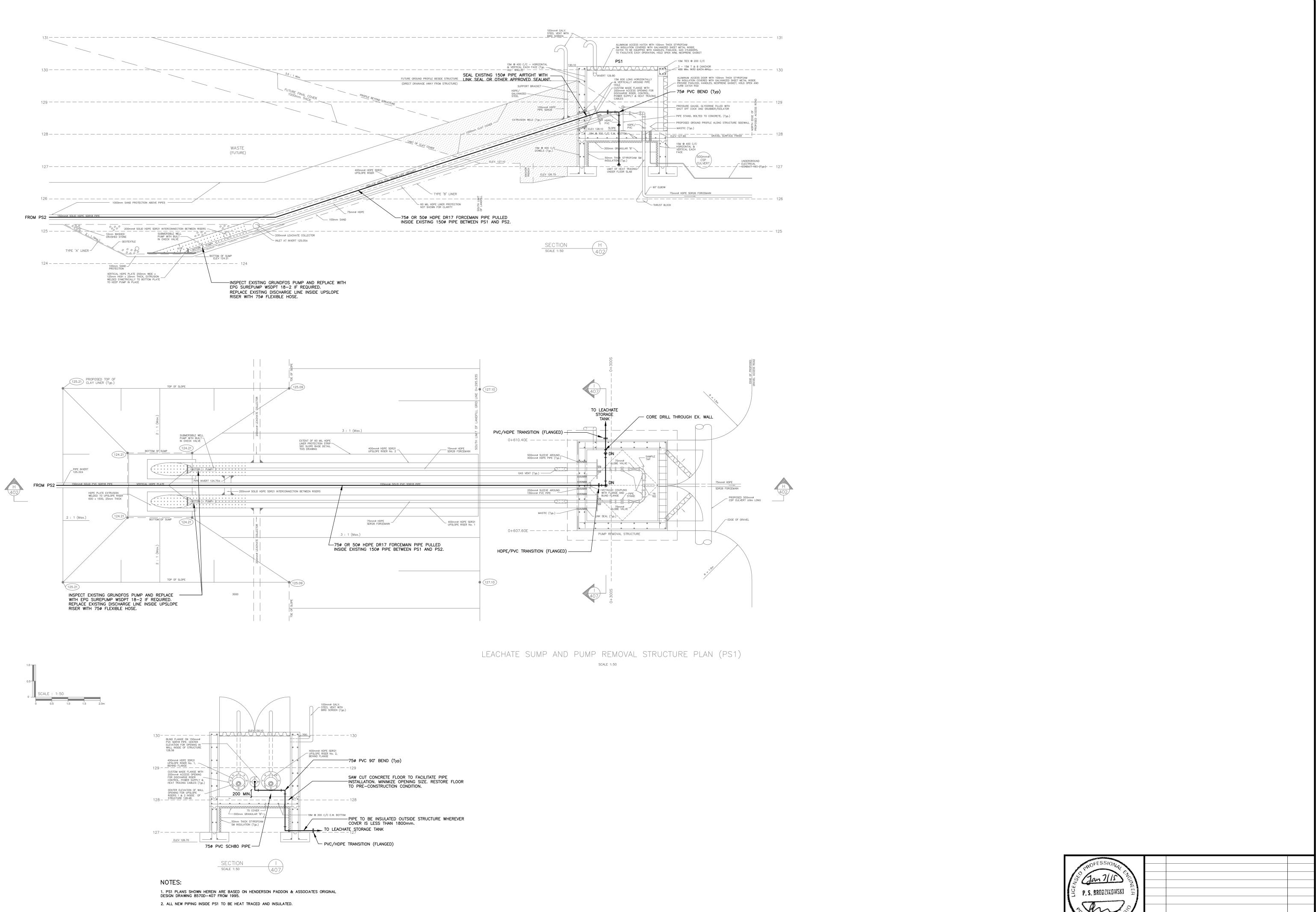




- LS3 8570G



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OWEN SOUND (ONTARIO) CANADA N4K 6W2
:L.: 519-376-7612 | FAX: 519-376-8008 | WWW.WSPGROUP.

OPOSED LEACHATE STORAGE SYSTEM
9S1 - PLAN, SECTIONS AND DETAILS
RICHMOND LANDFILL
NAPANEE, ONTARIO

A CORP.

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SCALE: SEE BAR SCALE

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DRAWING

DESCRIPTION

Seal not valid unless signed and dated

# Appendix A

**ENVIRONMENTAL COMPLIANCE APPROVAL AND AMENDMENTS** 

## **APPENDIX A-1**

## ENVIRONMENTAL COMPLIANCE APPROVAL (WASTE DISPOSAL SITE) NO. A371203, DATED JANUARY 9, 2012





Ministry of the Environment Ministère de l'Environnement

#### AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER A371203

Issue Date: January 9, 2012

Waste Management of Canada Corporation

2301 Carp Rd Ottawa, Ontario K0A 11.0

Site Location:

Richmond Landfill Site

Lot Pt 1, 2, 3, Concession 4

Greater Napanee Town, County of Lennox and Addington

K7R 3L1

You have applied under section 20.2 of Part II.1 of the <u>Environmental Protection Act</u>, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

the use, operation, and closure of a 16.2 hectare waste disposal landfill site including a landfill gas collection system and landfill gas flare within a total site area of 138 hectares, as follows:

For the purpose of this environmental compliance approval, the following definitions apply:

"Contaminating Lifespan" or "CLS" refers to the period of time, after closure until the Site finally produces contaminants at concentrations below levels which have unacceptable health or environmental effects;

"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" refers to the District Manager in the Ministry of the Environment's Kingston District Office;

"District Office" refers to the Ministry of the Environment Kingston District Office;

"EAB" refers to the Environmental Approvals Branch of the Ministry of the Environment,

"EMP" refers to the Environmental Monitoring Plan;

"Environmental Compliance Approval" or "ECA" means this entire provisional Environmental

Compliance Approval document, issued in accordance with Section 20.2 of the EPA, and includes any schedules to it, the application and the supporting documentation listed in Schedule "A";

- "EPA" means Environmental Protection Act, R.S.O. 1990, c. E. 19, as amended from time to time;
- "Major Works" are those works that have an engineering component.
- "MOE" or "Ministry" refers to the Ontario Ministry of the Environment,
- "Operator" has the same meaning as "Operator" as defined in s.25 of the EPA;
- "Owner" means Waste Management of Canada Corporation and its successors and assigns;
- "O. Reg. 101/94" means Ontario Regulation 101/94 as amended from time to time;
- "PA" means the Pesticides Act, R.S.O. 1990, c. P-11, as amended from time to time;
- "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" refers to the Director of the Ministry of the Environment's Eastern Regional Office;
- "Regulation 232" or "Reg. 232" or "O. Reg. 232/98" means Ontario Regulation 232/98 (New Landfill Standards) made under the EPA, as amended from time to time;
- "Regulation 347" or "Reg. 347" or "O. Reg. 347" means Regulation 347, R.R.O. 1990, made under the EPA, as amended from time to time; and
- "Site " means the Richmond Landfill Site.

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

#### TERMS AND CONDITIONS

#### 1.0 GENERAL

#### Compliance

- 1.1 The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Site is notified of the ECA and the conditions herein and shall take all reasonable measures to ensure the person complies with the same.
- 1.2 Any person authorized to carry out work on or operate any aspect of the Site shall comply with

the conditions of this ECA.

#### In Accordance

1.3 Except as otherwise provided for in this ECA, the Site shall be designed, developed, constructed, operated and maintained in accordance with the supporting documentation listed in Schedule "A".

#### Other Legal Obligations

- 1.4 The issuance of, and compliance with, this ECA does not:
  - a. relieve any person of any obligation to comply with any provision of the EPA or any other applicable statute, regulation or other legal requirement; or
  - b. limit in any way the authority of the *Ministry* to require certain steps be taken or to request that any further information related to compliance with this *ECA* be provided to the *Ministry*.

unless a provision of this ECA specifically refers to the other requirement or authority and clearly states that the other requirement or authority is to be replaced or limited by this ECA.

#### Adverse Effect

1.5 The Owner or Operator remain responsible for any contravention of any other condition of this ECA or any applicable statute, regulation, or other legal requirement resulting from any act or omission that caused the adverse effect or impairment of air and/or water quality.

#### **Furnish Information**

- 1.6 Any information requested by the *Director* or a *Provincial Officer* concerning the *Site* and its operation under this *ECA*, including but not limited to any records required to be kept by this *ECA* shall be provided in a timely manner.
- 1.7 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 *ECA* or under any statute, regulation or subordinate legal instrument, 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 condition of this *ECA* or any statute, regulation or other subordinate legal requirement; or
  - ii. acceptance by the *Ministry* of the information's completeness or accuracy.
- 1.8 Any information related to this ECA and contained in Ministry files may be made available to the public in accordance with the provisions of the Freedom of Information and Protection of Privacy

Act, RSO 1990, CF-31.

#### Interpretation

- 1.9 This ECA revokes and replaces the previous ECA and all subsequent amendments.
- 1.10 Where there is a conflict between a provision of any document, including the application, referred to in this ECA, and the conditions of this ECA, the conditions in this ECA shall take precedence.
- 1.11 Where there is a conflict between the application and a provision in any documents listed in Schedule "A", the application shall take precedence, unless it is clear that the purpose of the document was to amend the application and that the Ministry approved the amendment in writing
- 1.12 Where there is a conflict between any two documents listed in Schedule "A", other than the application, the document bearing the most recent date shall take precedence.
- 1.13 The conditions of this ECA are severable. If any condition of this ECA, or the application of any condition of this ECA to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this ECA shall not be affected thereby.

#### Certificate of Requirement

- 1.14 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 to each person acquiring an interest in the Site as a result of the dealing.
- 1.15 The Certificate of Requirement shall be registered in the appropriate land registry office on title to the Site and a duplicate registered copy shall be submitted to the Director within ten (10) calendar days of receiving the Certificate of Requirement signed by the Director.

#### No Transfer or Encumbrance

1.16 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 is satisfied with the arrangements made to ensure that all conditions of this ECA will be carried out and that sufficient financial assurance is deposited with the Ministry to ensure that these conditions will be carried out.

#### Change of Owner

1.17 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;
- 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.
- 1.18 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 ECA, and a copy of such notice shall be forward to the Director and District Manager.

# Inspections

- 1.19 No person shall hinder or obstruct a *Provincial Officer* from carrying out any and all inspections authorized by the *EPA*, or the *PA*, of any place to which this *ECA* relates, and without limiting the foregoing:
  - to enter upon the premises where the approved works are located, or the location where the records required by the conditions of this ECA are kept;
  - ii. to have access to, inspect, and copy any records required to be kept by the conditions of this ECA;
  - iii. to inspect the Site, related equipment and appurtenances;
  - iv. to inspect the practices, procedures, or operations required by the conditions of this *ECA*; and
  - v. to sample and monitor for the purposes of assessing compliance with the terms and conditions of this ECA or the EPA, or the PA.

# 2.0 FINANCIAL ASSURANCE

#### Overview

- 2.1 Financial assurance shall be provided as required by the *Director*, in an amount that is sufficient to pay for compliance with and performance of any action specified in this *ECA*, including closure, monitoring and maintenance of the *Site*, maintenance of all required contaminant control systems including leachate management systems, contaminant monitoring for the contaminating lifespan of the *Site* and contingency plans for the *Site* in accordance with this *ECA*.
- 2.2 Financial assurance may be provided in one or more of the following forms: cash, irrevocable letter of credit, surety bond, or some other form, all satisfactory to the *Director*.

#### Inflation Rate

2.3 The Owner shall ensure the methodology used to determine the inflation rate for the financial assurance re-evaulation calculation is the current approach deemed acceptable by the Ministry.

#### Interest (Discount) Rate

2.4 The Owner shall ensure the methodology used to determine the interest rate for the financial assurance re-evaulation calculation is the current approach deemed acceptable by the Ministry.

## **Proposed Payment Schedule**

- 2.5. The Owner shall ensure that financial assurance in a form acceptable to the Director in the amount of \$13,236,992.00 has been provided to the Director. If these amount has not been provided, the Owner shall within thirty (30) days of issuance of this ECA, provide to the Director the financial assurance as required by this condition in a form that is in a form acceptable to the Director.
- 2.6. The Owner shall provide the Ministry financial assurance (total amount, not additional amount) in a form acceptable to the Director as follows for the following years:
  - i. March 31, 2012 \$12,192,739.00
  - ii. March 31, 2013 \$ 11,755,105.00

## **Updated Review Report**

- A revised or new financial assurance program shall be submitted to the *Director* by no later than **March 31, 2013** and then at an interval no greater than a period of every three (3) years thereafter. The report shall include:
  - a. updates of the discount, interest and inflation rates associated with the requirements for financial assurance in this ECA including justifications and sources of the proposed rates; and
  - b. 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 ECA are based.
- 2.8 No waste shall be received, accepted, disposed or transferred at the Site unless appropriate financial assurance is received.
- 2.9 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 sixty (60) days before the financial assurance terminates, the financial

assurance shall forthwith be replaced by cash.

# 3.0 CONSTRUCTION, INSTALLATION and PLANNING

# Major Works

- 3.1 (1) The final detailed design of Major Works shall include the following:
  - a. design drawings and specifications;
  - 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
  - c. details on the monitoring, maintenance, repair and replacement of the engineered components of the major work, if any.
  - (2) Maintenance or replacing components (i.e. piping for the gas collection system) related to existing Major Works are not considered Major Works under Section 3.0 of the ECA
- 3.2 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.
- 3.3 Each major work shall be constructed in accordance with the approved final detailed design and the QA/QC procedures shall be implemented as proposed by the *Owner*. Any significant variances from the conceptual design for the *Site* shall be subject to approval by the *Director*.
- 3.4 As-built drawings for all Major Works shall be retained on site and made available to Ministry staff for inspection.

# 4.0 GENERAL OPERATIONS

# **Proper Operation**

4.1 The Site shall be properly operated and maintained at all times. All waste shall be managed and disposed of in accordance with the EPA and Regulation 347 and the requirements of this ECA. At no time shall the discharge of a contaminant that causes or is likely to cause an adverse effect be permitted.

# **Operations Manual**

- 4.2 The Owner shall ensure the operations and procedures manual for the Site includes discussions on the following items.:
  - a. Health and safety;
  - b. Operation and maintenance of the Site;

- c. Waste disposal area and development;
- d. Nuisance management;
- e. Leachate management;
- f. Landfill gas management;
- g. Surface water/Stormwater management;
- h. Inspections and monitoring;
- i. Contingency plans and emergency procedures;
- j. Complaints; and,
- k. Reporting and record keeping.
- 4.3 The operations and procedures manual shall be:
  - a. retained at the Site;
  - b. reviewed on an annual basis and updated by the Owner as required; and
  - c. be available for inspection by Ministry staff.

#### Site Closure

4.4 The Owner shall ensure that no waste is received for disposal at the Site after June 30, 2011 and the site is capped with final cover material by September 30, 2011.

#### Capacity

4.5 The ECA permits disposal of waste at the Site to fill an air space of 2,842,700 cubic metres (including waste, daily and interim cover material).

#### Yearly Waste Limit

4.6 No more than 125,000 tonnes of waste per year may be accepted at the Site.

#### Service Area

4.7 Only waste that is generated in the Province of Ontario shall be accepted at the Site.

## **Hours of Operation**

- 4.8 Waste shall only be accepted at the Site during the following time periods:
  - i. 8 am to 5 PM Monday to Friday (except statutory holidays)
  - ii. 8 am to 1 PM Saturday
- 4.9 With the prior written approval of the *District Manager*, the time periods may be extended to accommodate seasonal or unusual quantities of waste.
- 4.10 The Owner may provide limited hours of operation provided that the hours are posted at the

landfill gate and that suitable notice is provided to the public of any change in operating hours.

4.11 Upon reasonable notice to the *Director*, contingency actions may take place outside normal hours of operation. Emergency response may occur at any time as required.

## Site Security

4.12 During non-operating hours, the *Site* entrance and exit gates shall be locked and the *Site* shall be secured against access by unauthorized persons.

# On-Site Roads

4.13 Site roads shall be maintained in a manner approved by Item 19 of Schedule "A".

# **Waste Inspection Procedures**

4.14 The Operator shall develop and implement a program to inspect waste to ensure that the waste is of a type approved for acceptance under this ECA.

# Waste Inspection and Deposition

- 4.15 All loads of waste must be properly inspected by trained Site personnel prior to acceptance at the Site and waste vehicles must be diverted to appropriate areas for waste disposal.
- 4.16 The Owner shall deposit waste in a manner that minimizes exposure area at the landfill working face and all waste shall be compacted before cover is applied.

# Litter Control:

4.17 All loose, windblown litter shall be collected and disposed of at an approved disposal facility.

# Vermin, Scavenging, Dust, Litter, Odour, Noise, etc.

- 4.18 The Site shall be operated and maintained such that the vermin, vectors, dust, litter, odour, noise and traffic do not create a nuisance.
- 4.19 No scavenging is to occur at the Site.

#### Dust

4.20 The Owner shall control fugitive dust emissions from Site sources including but not limited to Site roads, stockpiled cover material and closed landfill area prior to seeding especially during times of dry weather conditions. If necessary, major sources of dust shall be treated with water and/or dust suppression materials to minimize the overall dust emissions from the Site.

#### Noise

4.21 The Owner shall comply with noise criteria in MOE Guideline entitled "Noise Guidelines for Landfill Sites."

#### 5.0 SITE OPERATIONS

#### Cover Material

- 5.1 i. Intermediate Cover In areas where landfilling has been temporarily discontinued for six (6) months or more, a minimum thickness of 300 mm of soil cover or an approved thickness of alternative cover material shall be placed.
  - ii. Final Cover Final cover placed after the effective date of this ECA must meet the following specifications. In areas where landfilling has been completed to final contours, a minimum 900 mm thick layer of native silty clay till soil shall be placed having a hydraulic conductivity of 1 x 10 <sup>4</sup> m/s or less followed by 150 mm of topsoil. The Owner shall construct the final cover system for the Site in accordance with Items 33 to 36 of Schedule "A" and this ECA.
  - iii. The Owner shall ensure that no contaminated soils are used in the final cover.

# **Cleaning Leachate Collection System**

5.2 The leachate collection system piping for each stage of the landfill shall be cleaned on an annual basis, or more frequently as circumstances require, in order that the leachate collection system operates properly. Visual inspections of the leachate collection system shall be conducted on a quarterly basis to determine the need for more frequent cleaning.

#### Leachate Sump Pits

- 5.3 A leachate maintenance level of no greater than 0.66 metres shall be maintained in the north pumping chamber and documented each working day.
- 5.4 Appropriate alarms shall be installed to warn Site personnel of rising leachate levels within the sump pits so that the Owner can take appropriate action to prevent an overflow.

## Surface Water

- 5.5 The Owner shall take all appropriate measures to minimize surface water from coming in contact with waste. Temporary berms and ditches shall be constructed around active waste disposal areas to prevent extraneous surface water from coming in contact with the active working face.
- 5.6 The Owner shall not discharge surface water to receiving water bodies without an approval under

Section 53 of the OWRA.

# Compost Pad Area and Compost Pond

- 5.7 The Owner shall stop operation of the compost pad by no later than September 30, 2011.
- 5.8 The Owner shall removed all compost material (finished, curing compost, bulking material) from the Site by no later than September 30, 2011.

# Construction and Operation of Phytoremediation System

- 5.9. (1) The phytoremediation system located in the northwest corner of Site shall be constructed and operated in accordance with Item 38 in Schedule A.
  - (2) The extent of the phytoremediation system shall not extent beyond the limits as shown in Item 38 in Schedule A.
  - (3) The phytoremediation system located in the northwest corner of the Site shall not be irrigated with any leachate.
  - (4) The Owner shall ensure that the vegetation does not exceed a height of 12 feet.
  - (5) Where vegetation reaches or exceeds a height of 12 feet, the Owner shall prune the vegetation forthwith.
  - (6) Within seven (7) days of completion of planting of the phytoremediation system as identified in Item 38 of Schedule "A", the Owner shall notify the District Manager in writing that the planting has been completed.

# Monitoring of Phytoremediation System

- 5.10 (1) The following monitor wells will be used to monitor groundwater levels around the phytoremediation system in the northwest corner of the Site:
  - Shallow Zone M27, M29, M30, M31, M38, M66-2, M67-2, M100, M101, M102 and M103
  - b. Intermediate Bedrock Zone M3A-3, M5-3, M6-3, M74 and M75
  - (2) The following monitors will be used to monitor groundwater quality around the phytoremediation system in the northwest corner of the Site:
    - a. Shallow Zone M29, M66-2, M67-2, M101, M102 and M103
    - b. Intermediate Bedrock Zone M5-3, M6-3, M74 and M75
  - (3) For the monitoring wells identified in Condition 5.10 (2), the Owner shall analyze groundwater

for determining the quality of groundwater around the phytoremediation system in the northwest corner of the Site based on the EMP approved prior to this notice and any future approved changes identified in future amendments.

## Reporting

- Reporting on the phytoremediation system shall be part of the annual monitoring report for the Site and shall include but not be limited to the following:
  - i. results and an analysis of the results of the monitoring programs for the phytoremediation system;
  - ii. assessment of the results of the phytoremediation system as related to the stated objectives for the existing and proposed phytoremediation system;
  - iii. assessment of the need to change the monitoring program for the phytoremediation system and a recommendation of the required changes;
  - iv. a report on operational problems identified during the operation of the phytoremediation system and a discussion of each problem and details of what was done to rectify each problem;
  - v. assessment of the need for operational changes for the phytoremediation system and a recommendation of the required changes;
  - vi. a Site plan which shows the location of the phytoremediation system and any changes made to the phytoremediation system;

#### 6.0 TRAINING

# **Employees and Training**

- A training plan for all employees that operate any aspect of the Site shall be developed and implemented by the Operator. Only trained employees shall operate any aspect of the Site or carry out any activity required under this ECA. For the purpose of this ECA "trained" means knowledgeable either through instruction or practice in:
  - i. the relevant waste management legislation including EPA, O. Reg. 347, regulations and guidelines;
  - ii. major environmental and occupational health and safety concerns pertaining to the waste to be handled;
  - iii. the proper handling of wastes;
  - iv. the management procedures including the use and operation of equipment for the processes and wastes to be handled;
  - v. the emergency response procedures;
  - vi. the specific written procedures for the control of nuisance conditions;
  - vii. the terms, conditions and operating requirements of this ECA and,
  - viii. proper inspection, receiving and recording procedures and the activities to be undertaken during and after a load rejection.

# 7.0 INSPECTIONS AND RECORD KEEPING

# Daily Inspections and Log Book

- 7.1 An inspection of the entire Site and all equipment on the Site shall be conducted each day the Site is in operation to ensure that the Site is being operated in compliance with this ECA. Any deficiencies discovered as a result of the inspection shall be remedied immediately, including temporarily ceasing operations at the Site if needed.
- 7.2 A record of the inspections shall be kept in a daily log book or a dedicated electronic file 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.
- 7.3 A record shall be kept in the daily log book of all the following:
  - i. the type, date and time of arrival, hauler, and quantity (tonnes) of all waste received at the Site; and,
  - ii. a list of the refusal of waste shipments, the reason(s) for refusal, and the origin of the waste, if known.

# Monthly Records

- 7.4 Monthly Site inspection records in the form of a written log or a dedicated electronic file shall include the following:
  - i. a summary of wastes received and refused for disposal at the Site;
  - ii. the area of the Site in which waste disposal operations are taking place;
  - iii. a calculation of the total quantity (tonnes) of waste received at the Site during each operating day and each operating week;
  - iv. the amount of any leachate removed, or treated and discharged from the Site;
  - v. a record of litter collection activities and the application of any dust suppressants;
  - vi. a record of the daily inspections;
  - vii. 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;
  - viii. type and amount of daily, intermediate and final cover used;
    - ix. maintenance and repairs performed on equipment employed at the Site;
    - x. complaints received and actions taken to resolve them;
  - xi. emergency situations and actions taken to resolve them; and

xii. any other information required by the District Manager.

## Site Inspections

- 7.5 During Site operations, the Owner shall inspect the site monthly for the following items but not limited to these items:
  - i. General settlement areas or depressions on the waste mound;
  - ii. Shear and tension cracks on the waste mound;
  - iii. Condition of surface water drainage works;
  - Erosion and sedimentation in surface water drainage system;
  - v. Presence of any ponded water on the waste mound:
  - vi. Adequacy of cover material:
  - vii. Evidence of vegetative stress, distressed poplars or side slope plantings on or adjacent to the waste mound;
  - viii. Condition of groundwater monitoring wells and gas wells;
  - ix. Presence of insects, vermin, rodents and scavenging animals on or adjacent to the waste mound;
  - x. Condition of fence surrounding the Site; and,
  - xi. General Site appearance.
- 7.6 The Owner shall inspect the waste mound and surrounding areas for the presence of leachate seeps as required by Condition No. 13.5.

#### **Record Retention**

- 7.7 Except as authorized in writing by the *Director*, all records required by this *ECA* shall be retained at the *Site* for a minimum of two (2) years from their date of creation.
- 7.8 The Owner shall retain all documentation listed in Schedule "A" for as long as this ECA is valid.
- 7.9 All monthly summary reports are to be kept at the Site until they are included in the Annual Report.
- 7.10 The Owner shall retain employee training records as long as the employee is working at the Site.
- 7.11 The Owner shall make all of the above documents available for inspection upon request of Ministry staff.

#### 8.0 MONITORING

#### **Groundwater Monitors**

8.1 The Owner shall ensure all groundwater monitoring wells are properly capped, locked and

protected from damage.

- 8.2 All groundwater monitoring wells whether included in the monitoring program or not shall be assessed, repaired, replaced or decommissioned as required. Any well being decommissioned shall be decommissioned in accordance with good standard practice that will prevent contamination through the abandoned well and in accordance with Ontario Regulation 903.
- 8.3 The Owner shall repair or replace any monitoring well included in the monitoring program which is destroyed or in any way made inoperable for sampling such that no more than one sampling event is missed.
- Any monitoring well included in the monitoring program that is no longer required as part of the groundwater monitoring program may be decommissioned provided its removal from the monitoring program has been approved by the *Director*. A report on the decommissioning shall be provided in the annual monitoring report for the period during which the well was decommissioned.

## **Monitoring Programs**

- 8.5. a. Monitoring programs shall be carried out for groundwater, surface water and landfill gas on an interim basis in accordance with Item 45 in Schedule "A" until the report required by Condition 8.5 (b) has been approved by the *Director*.
  - b. The Owner of the Site must provide an addendum report to the report entitled "
    Environmental Monitoring Plan WM Richmond Landfill Site" prepared by WESA Inc
    dated June 29, 2010 to the Director for approval, with copies to the District Manager,
    that addresses additional information required as indicated in Item 48 in Schedule "A".
    The report shall be submitted within sixty (60) days upon the Ministry's Eastern Region
    Technical Support Section acceptance of the findings of a technical report to be prepared
    by the Owner that details the findings of the groundwater investigation. Pending final
    approval of the EMP and the addendum by the Director, the Owner shall implement the
    amended EMP upon approval by the Director.
  - c. The addendum report for the *EMP* must include adequate detail on groundwater and surface water monitoring locations, monitoring frequencies, parameters etc.
  - d. The addendum report for the *EMP* shall also include a monitoring program to identify odour issues along with appropriate odour abatement activities and a communication plan for the public.
  - e. Any off site exceedances of parameters for groundwater, surface water, or odour shall be reported to the *District Manager* within 48 hours of determination of the exceedance. In addition, a statement detailing which results are out of compliance with the *Ministry's* guidelines and objectives shall be provided at the same time as the results.

## Compliance Criteria

8.6 The Site shall be operated in such a way to ensure compliance with the MOE 's Guideline B-7 Reasonable Use Concept at monitoring points along the property line that have the potential to be impacted by leachate from the Site.

# 9.0 CONTINGENCY PLANS

# Groundwater and Surface Water Impact Contingency Plan

- 9.1 In conjunction with the report required by Condition No 8.5 (b), the Owner shall submit for approval to the Director an addendum report that provides an update to the memorandum entitled "Groundwater and Surface Water Impact Contingency Plan" prepared by WESA Inc. dated June 29, 2010 that incorporates the additional information collected from the groundwater investigations to be conducted as detailed in Items 47 and 50 of Schedule "A". The addendum report for the Groundwater and Surface Water Impact Contingency Plan will include but not be limited to the following:
  - Trigger mechanisms associated with the groundwater and surface water monitoring programs. These mechanisms, based on water quality monitoring data, will identify when additional measures are required to be implemented in order to ensure on-going compliance with water quality criteria;
  - ii. Quantifiable timelines for each step of the impact contingency plans; and
  - iii. A plan to deal with any off site groundwater and surface impacts that can be attributed to landfill operations over the long term including during landfill operation and during post-closure.

# Leachate Collection System Contingency Plan

- 9.2 i. The Owner shall initiate the Leachate Collection System Contingency Plan at a minimum when the trigger mechanisms identified in Items 41, 47 and 48 of Schedule "A" have been identified as occurring.
  - ii. The conceptual Leachate Collection System Contingency Plans as identified in Item Nos. 41, 47 and 48 in Schedule "A" are considered acceptable. In the event the Owner needs to implement the Contingency Plan, the Owner shall submit to the Director for approval prior to implementation, with copies to the District Manager, detailed design drawings for works or any remedial system required for the contingency plan.

#### Leachate Contingency Plan

9.3 The Owner shall on a biannual basis confirm that there is a suitable location available for disposal of leachate and what that location is. Confirmation shall be provided to the District Manager upon receipt. If a location for disposal of leachate is not available, the Owner shall provide an action plan for approval to the District Manager.

# Landfill Gas Contingency Plan

- 9.4 i. The Owner shall initiate the Landfill Gas System Contingency Plan at a minimum when the trigger mechanisms identified in Item Nos. 42, 47 and 48 in Schedule "A" have been identified as occurring.
  - ii. The conceptual Landfill Gas System Contingency Plans as identified in Item Nos. 42 and 48 in Schedule "A" are considered acceptable. In the event the Owner needs to implement the Contingency Plan, the Owner shall submit to the Director for approval prior to implementation, with copies to the District Manager, detailed design drawings for works or any remedial system required for the contingency plan.

# Public Notification Plan for Contingency Plans

9.5 Within 12 months of issuance of this notice, the Owner shall submit to the Director for approval, with copies to the District Manager, a public notification plan that shall address the steps to be taken to notify the adjacent property owners, the PLC, the Town of Greater Napanee, Township of Deseronto, Tyendinaga Township and the Mohawks of the Bay of Quinte that the Owner will be initiating contingency plans as approved by this ECA.

# 10.0 PUBLIC LIAISON COMMITTEE

- 10.1 The Owner shall use its best efforts to establish and maintain a Public Liaison Committee (PLC) for the Site. The PLC shall serve as a focal point for dissemination, review and exchange of information and monitoring results relevant to the operation of the undertaking. In addition, the purpose of the PLC will be to provide community review of the development, operation (current and proposed) and ongoing monitoring, closure and post-closure care related to the Site. The PLC will also be provided the opportunity to review and comment on any subsequent applications for approval under the EPA.
- 10.2 The Owner shall invite representatives from the Town of Greater Napanee, the Ministry, the Township of Tyendinaga, the Quinte Conservation Authority and the Mohawks of the Bay of Quinte to sit on the committee.
- 10.3 The Owner shall, in consultation with the PLC, develop a terms of reference for the PLC that will describe how the PLC shall carry out business, and the terms of reference shall include a dispute resolution strategy to resolve issues and disagreements between the PLC and the Owner. The Owner shall provide the terms of reference to the Director and the Regional Director for placement on the public record.

# 10.4 The general mandate of the PLC shall include:

- a. Review operations and provide regular input to the Owner with respect to all matters pertaining to landfill site operation, including issues pertaining to ongoing operations, monitoring, the need for contingency plans or remedial measures, response to community complaints, the need for changes to the ECA, post-closure monitoring and maintenance, and development of the proposed end use for the Site;
- b. Review operational and monitoring reports;
- c. Consider and make recommendations to the Owner regarding outside consulting advice in respect of the Site;
- d. Facilitate ongoing dialogue between the Owner, and the community, including residents and businesses in the immediate vicinity of the Site;
- e. Provide reports regularly to the community on the activities of the PLC, the landfill operations and landfill related issues and seek public input on these activities and issues;
- f. Monitor the Owner's complaint response program and make recommendations to the Owner with respect to this program; and
- g. Provide recommendations to the Owner with respect to unresolved complaints.
- 10.5 The PLC shall not exercise any supervisory, regulatory, approval, legal or other decision making role with respect to the operations at the Site.
- 10.6 The Owner shall provide for the administrative costs of operating the PLC, including the cost of meeting places and clerical services.
- 10.7 The PLC shall operate under a Terms of Reference of the committee. Any changes to the Terms of Reference for the PLC shall be made by the PLC. Any changes to the Terms of Reference for the PLC shall be provided to the *Ministry* for information purposes.
- 10.8 Community members shall be appointed by the PLC. The community member positions are intended to be available to individuals that are not members of groups already represented on the PLC and have an interest in the operation of the Site. The PLC shall encourage individuals who reside in close proximity to the Site to participate. A community member is defined as a taxpayer and/or resident of the Town of Greater Napanee and/or The Township of Tyendinaga.
- 10.9 The function of the *Ministry* member will be to provide advice, information and input to other members as required.
- 10.10 The PLC shall determine the appropriate meeting frequency and review it on an annual basis.
- 10.11 Minutes and agendas of meetings shall be printed and distributed on a timely basis.
- 10.12 The PLC shall have reasonable access to the Site and its landfill related facilities for the purpose of carrying out its objective and mandate and the Owner 's consultants' reports relating to Site operations shall be provided to the PLC.

- 10.13 The Owner shall provide the PLC with access to the Owner's consultants as required and consultants reports in accordance with protocols agreed to between the Owner and the PLC.
- 10.14 Unless disclosure would be contrary to the Freedom of Information and Protection of Privacy Act, the PLC, the Town of Greater Napanee, the Township of Tyendinaga, and the Mohawks of the Bay of Quinte are to be provided all formal submissions and correspondence related to the Site operations by the Owner at the same time as these items are submitted to the Ministry.
- 10.15 The Owner shall allow access to the Site during normal operating hours, to enable any individual member of the PLC and member of the public recommended by local representatives on the PLC, to observe operations. An individual member of the PLC must contact the Operator to arrange for a Site pass, be accompanied by an Operators representative at all times and follow all safety procedures.
- 10.16 All recommendations made to the *Owner* with respect to ongoing *Site* operations, monitoring and the implementation of contingency measures shall be discussed at joint meetings between representatives of the *Owner* and the PLC. The purpose of these meetings will be to arrive at an agreement between the *Owner* and PLC with respect to implementation of the recommendations.
- 10.17 The Owner will provide and deliver to the PLC, the Town of Greater Napanee, the Township of Tyendinaga and the Mohawks of the Bay of Quinte all monitoring results, reports and any other information required to be collected and/or submitted to the MOE by a Condition of this ECA.
- 10.18 The Owner with approval from the Director and the District Manager, may dispense with the PLC if, after a period of time and after giving sufficient notice, there is no interest from the public in continuing with it. The need for a PLC shall be reviewed by the Owner on a yearly basis.

#### 11.0 COMPLAINTS PROCEDURE

- 11.1 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 of the complaint and forward a formal reply to the complainant; and
  - c. The Owner shall complete 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. A copy of the report shall be retained at the Site.

11.2 The Owner shall post Site complaints procedure at Site entrance along with the name and phone number of a suitable, local contact to receive complaints or questions related to the Site. All complaints and the Owner's actions taken to remedy the complaints must be summarized in the Annual Report.

#### 12.0 EMERGENCY SITUATIONS

- 12.1 In the event of a fire or discharge of a contaminant to the environment, Site staff shall contact the MOE Spills Action Centre (1-800-268-6060) and the District Office of the MOE.
- 12.2 The Owner shall submit to the District Manager a written report within three (3) days of the spill or incident, outlining the nature of the incident, remedial measures taken and measures taken to prevent future occurrences at the Site.
- 12.3 The Emergency Response Manual shall be updated on a regular basis and be provided to the *District Manager* within one month of the revision date.
- 12.4 The Owner shall ensure that adequate fire fighting and contingency spill clean up equipment is available and that emergency response personnel are familiar with its use and location.

# 13.0 SITE CLOSURE

- 13.1 i. The Owner shall construct the final cover system for the Site in accordance with Items 33 to 36 inclusive of Schedule "A" and this ECA.
  - ii. Prior to subgrade preparation, the *Owner* shall inspect for any evidence of leachate springs or seeps and immediately remedy any seeps or springs prior to placement of the final cover and topsoil.
- 13.2 If final contours are reached in any part of the *Site* then that part of the *Site* shall be closed in accordance with the closure plan, Items 19 to 30 on Schedule "A" and this amendment to the *ECA* as approved by the *Director*.
- 13.3 Within sixty (60) days prior to *Site* closure, the *Owner* shall notify the public via an advertisement in all local newspapers. In addition, notice shall be given to the *District Office*, the Town of Greater Napanee, the Mohawks of the Bay of Quinte and all residents and businesses within a 1,000 metre radius of the *Site*.
- 13.4 The Owner shall update the sign at the front gate of the Site to indicate the following:
  - a. the name of the Site and Owner;
  - b. the ECA number;

- c. the name of the Operator;
- d. a warning against unauthorized access;
- e. the telephone number to which complaints or questions may be directed;
- f. a twenty-four (24) hour emergency telephone number;
- g. the Site is closed;
- h. dumping outside of the gate is illegal; and
- i, alternative locations for waste disposal.
- 13.5 After Site closure, on a weekly basis, the Owner shall inspect the Site for leachate seeps and for signs of illegal dumping of waste. Illegal waste shall be removed and disposed of within 48 hours of detection. Leachate seeps shall be repaired within 48 hours of detection. Upon approval from the Director, the frequency for inspecting for leachate seeps may be reduced to quarterly.
- 13.6 Upon closure of the *Site*, the following features will be inspected, recorded and maintained on a quarterly (every three (3) months) basis:
  - a. evidence of settlement;
  - b. landfill gas collection system, landfill gas flare and related equipment;
  - c. cover soil integrity;
  - d. vegetative cover;
  - e. gates and fencing around the Site;
  - f. surface water drainage works; and
  - g. erosion and sediment in surface water drainage system.
- 13.7 Any deficiencies noted in the above items shall be repaired within one month time of notice.
- 13.8 Upon Site closure, grass on the berms and the top of the landfill shall be cut a minimum of two (2) times per year.
- 13.9 Upon closure of the Site, the ditches and culverts surrounding the Site shall be cleaned on an annual basis for the first five (5) years after Site closure. Prior to five years after Site closure, the Owner shall submit to the Director for approval a proposed maintenance schedule for the ditches and culverts for the period covering 5 years after Site closure until the end of the contaminating lifespan.
- 13.10 Upon closure of the Site, the leachate collection system shall be cleaned and camera inspected on an annual basis for the first three (3) years after Site closure. Prior to three (3) years after Site closure, the Owner shall submit to the Director for approval a proposed maintenance schedule for the leachate collection system or the period covering 3 years after Site closure until the end of the contaminating lifespan.
- 13.11 If weather conditions do not allow timely placement of final and vegetative cover, silt curtains shall be employed to minimize silt loadings to surface water bodies.

- 13.12 The following shall remain in place and be operational at the Site until the end of the contaminating lifespan:
  - a. Leachate extraction equipment;
  - b. Landfill gas extraction equipment; and
  - c. Sedimentation ponds.

#### 14.0 SEMI ANNUAL AND ANNUAL REPORTING

## Semi Annual Monitoring Reporting

- 14.1 By January 15 and July 15 of each year, the Owner shall submit semi-annual monitoring reports to the District Office and post the reports on a publicly accessible website. These semi annual reports shall include:
  - i. The results and an interpretive analysis of the results from the leachate, groundwater, surface water, and landfill gas monitoring programs approved by this *ECA*, including an assessment of the need to amend the monitoring programs;
  - ii. An assessment with regards to the compliance of the groundwater quality at the property boundary and compliance points with regards to Guideline B-7 Reasonable Use Concept;
  - iii. A report on the status of all monitoring wells and a statement as to compliance with Ontario Regulation 903; and
  - iv. The second semi-annual report will include an Annual Summary section which describes the results from the current calendar year and any data quality changes identified from previous years, or through the current year.

## **Annual Reporting**

- 14.2 A written report on the development, operation, and closure of the Site shall be completed annually (the "Annual Report"). The Annual Report shall be submitted to the Regional Director, the District Manager, the PLC, the Town of Greater Napanee, the Township of Tyendinaga and the Mohawks of the Bay of Quinte, by March 31st of each year and shall cover the year ending the preceding December 31st.
- 14.3 The Annual Report shall include the following:
  - an assessment of the operation and performance of all engineered facilities, the need to amend the design or operation of the Site, and the adequacy of and need to implement the contingency plans;
  - ii. an assessment of the efficiency of the leachate collection system;
  - iii. Site plans showing the existing contours of the Site;
  - iv. areas of landfilling operation during the reporting period;
  - v. areas of intended operation during the next reporting period;

- vi. areas of excavation during the reporting period;
- vii. the progress of final cover, vegetative cover, and any intermediate cover application;
- viii. previously existing Site facilities;
- ix. facilities installed during the reporting period;
- x. Site preparations and facilities planned for installation during the next reporting period;
- xi. 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;
- xii. a summary of the quantity of any leachate or pre-treated leachate removed from the Site during each operating week;
- xiii. a summary of the weekly, maximum daily and total annual quantity (tonnes) of waste received at the Site.
- xiv. a summary of any complaints received and the responses made,
- xv. a discussion of any operational problems encountered at the Site and corrective action taken;
- xvi. a summary of the amount of wastes refused for disposal at the Site, the reasons for refusal and the carrier who brought the waste to the Site;
- xvii. a summary of the leachate collection system cleaning and inspection activities;
- xviii. an update summary of the amount of financial assurance which has been provided to the *Director*:
- xix. any other information with respect to the site which the District Manager or Regional Director may require from time to time;
- a statement of compliance with all conditions of this ECA and other relevant Ministry groundwater and surface water requirements;
- a confirmation that the Site inspection program as required by this ECA has been complied with by the Owner;
- xxii. Any changes in operations, equipment or procedures employed at the Site; and
- xxiii. Recommendations regarding any proposed changes in operations of the Site.

# Schedule "A"

- Application for a Certificate of Approval for a Waste Disposal Site (Landfill), dated January 11, 1988.
- Report entitled "Sutcliffe Sanitation Services Ltd., Landfill Site Expansion Development and Operations Report", prepared by Henderson Paddon and Associates Limited, dated September 1985.
- Report entitled "Addendum No. 1 Sutcliffe Sanitation Services Limited Landfill Site Expansion Development and Operations Report" prepared by Henderson Paddon and Associates Limited dated December 1986.
- Report entitled "Hydrogeologic Study Proposed Landfill Expansion, Township of Richmond" prepared by Morrison Beatty Limited and dated September 30, 1985.
- Report entitled "Proposed Groundwater and Surface Water Monitoring Program, Sutcliffe Sanitation Services Limited Landfill, Township of Richmond" prepared by Morrison Beatty Limited and dated August 1987.
- 6. Letter dated September 12, 1990 from Mr. J.R. Bray, P.Eng. to Tricil Limited (c/o Laidlaw Waste Systems Ltd.).
- Application for Approval of a Waste Disposal Site, dated May 24, 1995 and signed by Michael Pullen, Director, Environmental Management, Laidlaw Waste Systems (Richmond) Ltd.
- Letter from Jeff Armstrong, Henderson, Paddon & Associates Limited to I. Parrott, MOEE dated May 30, 1995 re: Development of Landfill Base of Phases IV and V (including attached drawings 8570D-400 to 406, inclusive and 8570D-94-Site).
- Letter from Jeff Armstrong, Henderson Paddon and Associates Limited to i. Parrott, MOEE dated June 23, 1995 re: Additional information to Support Application for Provisional Certificate of Approval for a Waste Disposal Site A371203.
- Letter from Jeff Armstrong, Henderson Paddon and Associates Limited to I. Parrott, MOEE dated July 21, 1995 re: Public Consultation on the Re-Design of the Landfill Base for Phase IV and V.
- Application for Approval for a Waste Disposal Site dated July 25, 1996 signed by Mr. Michael Pullen, Director, Environmental Management.
- Report entitled "Undertaking to Establish an Organic Composting Facility at the Laidlaw Waste Systems (Richmond) Ltd. Landfill Site" dated July 1996, prepared by Laidlaw Waste Systems (Richmond) Ltd.

- 13. Plan entitled "Richmond Township Landfill Proposed Compost Pad Expansion", revised April 12, 1996, prepared by Henderson Paddon and Associates Ltd.
- 14. The June 9, 1999, report entitled "Conceptual Design for a Landfill Gas Collection and Flaring System Richmond Landfill Site Napanee, Ontario" which was prepared by Comcor Environmental Limited.
- Drawing 8570G-L1 dated May 2000- Phase I Proposed Leachate Collector, Napanee Landfill, Napanee, Ontario
- A letter dated July 31, 2000, regarding concerns raised during review of application, to Tes Gebrezghi, MOE, from Jeff Armstrong, Henderson Paddon & Associates Limited
- A report titled "Assessment of Napanee Water Pollution Control Plant To Treat Leachate from the Laidlaw Landfill, Richmond, Ontario, dated May 1996 and prepared by Henderson, Paddon & Associates Limited
- 18. A report titled "CWS Response to the Town of Greater Napanee Audit of the Richmond Landfill Operation, dated May 12, 2000, and prepared by Canadian Waste Services Inc.
- 19. Report entitled "Richmond Sanitary Landfill Site Final Closure Plan" and appendices dated June 2007 prepared by Henderson, Paddon and Associates Limited.
- Memorandum dated November 30, 2007 from K. Stephenson, Hydrogeologist, Eastern Region, MOE to C. Dobiech, Kingston District, MOE.
- Memorandum dated December 5, 2007 from Victor Castro, Surface Water Scientist, Eastern Region, MOE to Craig Dobiech, Kingston District, MOE.
- Letter dated July 11, 2008 from Greg Washuta, Senior Waste Engineer, EAAB, MOE to Mike Walters, WMCC.
- 23. Letter, attachments, and Appendix B dated September 26, 2008 from Randy Harris, Site Manager, WMCC to Greg Washuta, Senior Waste Engineer, EAAB, MOE.
- 24. Letter dated February 23, 2009 from Greg Washuta, Senior Waste Engineer, EAAB, MOE to Randy Harris, Site Manager, WMCC.
- Drawing number 8570-2006 entitled "June 2006 Existing Conditions Richmond Landfill Napanee, Ontario" dated March 19, 2007 prepared by Henderson Paddon and Associates Limited.
- Drawing number 8570F-104 entitled "Richmond Landfill Site Proposed Final Contours Landfill and Borrow Areas" dated March 1995 prepared by Henderson Paddon and Associates Limited.

- 27. Letter dated March 2009 from Randy Harris, Site Manager, Waste Management of Canada Corporation to Greg Washuta, Senior Waste Engineer, Waste Unit, EAAB, MOE.
- 28. Drawing number 8570F-114 entitled "Richmond Township Landfill Sections 'A-A' and 'B-B'" created by Henderson Paddon and Associates Limited, dated March 1996.
- 29. Drawing number 8570F-115 entitled "Richmond Township Landfill Sections 'C-C', 'D-D', and 'E-E'" created by Henderson Paddon and Associates Limited, dated March 1996.
- 30. Memorandum dated February 25, 2009 from K. Stephenson, Hydrogeologist, Eastern Region, MOE to C. Dobiech, Kingston District, MOE.
- 31. Letter dated June 1, 2009 from Mr. Randy Harris, Site Manager, Waste Management of Canada Corporation to Application Processor, Client Services Section, Environmental Assessment and Approvals Branch, Ministry of the Environment.
- 32. Report entitled "Site Conceptual Model Report, WM Richmond Landfill" and attached appendices A to H inclusive by Dr. B.H. Kueper and WESA Inc., dated October 2009.
- 33. Report entitled "Richmond Sanitary Landfill Site OS-08-570-13-OS Construction Quality Assurance/Construction Quality Control Plan for the Final Cover System", dated June 2010, prepared by GENIVAR Consultants LP.
- 34. E-mail dated August 20, 2010 from Greg Washuta, Senior Waste Engineer, Waste Unit, Environmental Assessment and Approvals Branch, Ministry of the Environment to Dave White and Randy Harris, Waste Management of Canada Corporation.
- 35. Letter dated August 24, 2010 from Jeff E. Armstrong, Senior Environmental Engineer, GENIVAR Consultants LP to Greg Washuta, Senior Waste Engineer, Waste Unit, Environmental Assessment and Approvals Branch, Ministry of the Environment.
- 36. Document entitled "Richmond Sanitary Landfill Site Construction Quality Assurance/Construction Quality Control Plan for the Final Cover System ERRATA" prepared by Jeff E. Armstrong, Senior Environmental Engineer, GENIVAR Consultants LP, dated August 24, 2010.
- 37. Application for a Provisional Certificate of Approval for a Waste Disposal Site for Waste Management of Canada Corporation's Richmond Landfill Site, signed by Randy Harris, Site Manager on September 30, 2010.
- 38. Report entitled "Phytoremediation Plan WM Richmond Landfill Town of Greater Napanee, Ontario" dated December 2010 and prepared by WESA Inc.
- 39. Report entitled "Richmond Sanitary Landfill Site Operations and Procedures Manual June 25, 2010" prepared by GENIVAR Consultants LP Inc dated June 25, 2010.

- Report entitled "Landfill Gas Collection and Flaring System Design Report Richmond Landfill" prepared by GENIVAR Consultants LP dated June 29, 2009.
- 41. Report entitled "Richmond Sanitary Landfill Site Leachate Collection System Contingency Plan" prepared by GENIVAR Consultants LP dated June 25, 2010.
- 42. Report entitled "Richmond Sanitary Landfill Site Landfill Gas Collection System Contingency Plan" prepared by GENIVAR Consultants LP dated June 25, 2010.
- 43. Report entitled "Financial Assurance Plan" completed by GENIVAR Consultants LP and dated June 25, 2010;
- 44. Report entitled "Contaminating Lifespan" (Appendix D of Financial Assurance Plan) completed by GENIVAR Consultants LP and dated June 16, 2010.
- 45. Report entitled "Final Report Environmental Monitoring Plan WM Richmond Landfill" prepared for Waste Management of Canada Corporation by WESA Inc. and dated June 29, 2010.
- 46. Appendix "A" (Report Entitled "Odour Monitoring Plan" prepared for Waste Management of Canada Corporation by GENIVAR Consultants LP dated June 25, 2010) of the report entitled "Environmental Monitoring Plan WM Richmond Landfill" prepared for Waste Management of Canada Corporation by WESA Inc. and dated June 29, 2010.
- 47. Letter dated January 14, 2011 addressed to Mr. Randy Harris, Waste Management of Canada Corporation from Mr. Greg Washuta, Ministry of the Environment providing comments on Items 39 through 46 in Schedule "A".
- 48. Letter dated February 28, 2011 addressed to Mr. Greg Washuta, Ministry of the Environment from Mr. Randy Harris, Waste Management of Canada Corporation providing additional information regarding financial assurance, the status of the environmental monitoring plan and various contingency plans.
- 49. Letter dated April 5, 2011 addressed to Mr. Randy Harris, Waste Management of Canada Corporation from Mr. Dale Gable, Ministry of the Environment requesting additional information on financial assurance, the status of the environmental monitoring plan and various contingency plans.
- 50. Letter dated April 20, 2011 addressed to Mr. Dale Gable, Ministry of the Environment from Mr. Jeff Armstrong, GENIVAR Inc. providing additional information on the environmental monitoring plan, financial assurance and the contaminating lifespan of the Site.
- 51. Letter dated August 12, 2011 and supporting documentation addressed to Mr. Tesfaye Gebrezghi, Ministry of the Environment from Mr. Reid Cleland, Waste Management of Canada Corporation requesting amendment to Condition No. 35. The supporting documentation included the following:

i.	Application for a Certificate of Approval for a Waste Disposal Site signed by Mr. Reid Cleland, Waste Management of Canada Corporation and dated August 15, 2011.

The reasons for the imposition of these terms and conditions are as follows:

- 1. The reason for Conditions 1.1 and 1.2 is to ensure that the Site is designed, operated, monitored and maintained in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has not been asked to consider.
- 2. The reason for Conditions 1.3, 1. 4, 1. 5, 1.9, 1.10, 1.11, 1.12, 1.13, 3.1, 3.2, 3.3 and 8.6 is to clarify the legal rights and responsibilities of the Owner under this ECA.
- 3. Conditions 1.6, 1.7 and 1.8 are included to ensure that the appropriate Ministry staff have ready access to information and the operations of the Site, which are approved under this Certificate.
- 4. Conditions 1.14 and 1.15 are included, pursuant to subsection 197(1) of the EPA, to provide that any persons having an interest in the Site are aware that the land has been approved and used for the purposes of waste disposal.
- 5. The reasons for Condition 1.16 are to restrict potential transfer or encumbrance of the Site without the approval of the Director and to ensure that any transfer of encumbrance can be made only on the basis that it will not endanger compliance with this ECA.
- 6. The reasons for Conditions 1.17 and 1.18 are to ensure that the Site is operated under the corporate name which appears on the application form submitted for this approval and to ensure that the Director is informed of any changes.
- 7. The reason for Condition 1.19 is to ensure that appropriate Ministry staff have ready access to the Site for inspection of facilities, equipment, practices and operations required by the conditions in this ECA. This condition is supplementary to the powers of entry afforded a Provincial Officer pursuant to the EPA and OWRA.
- 8. The reasons for Conditions 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, and 2.9 are to ensure that sufficient funds are available to the Ministry to close the landfill, and to carry out all expected post-closure care activities and any contingencies. Failure to include requirements for financial assurance would not be in the public interest and may result in a hazard or nuisance to the natural environment or any person.
- 9. The reason for Condition 3.4 is to ensure the availability of as-built drawings for inspection and information purposes.
- 10. The reasons for Conditions 4.1, 4.2 and 4.3 are to ensure the Owner operates the Site in an environmentally safe manner. This to is ensure the environment and public health are

protected.

- 11. The reason for Condition 4.4 is to establish a closure date for the Site.
- 12. The reasons for Conditions 4.5, 4.6 and 4.7 is to specify the approved areas from which waste may be accepted at the Site and the types and amounts of waste that may be accepted for disposal at the Site, based on the Owner's application and supporting documentation.
- 13. The reasons for Conditions 4.8, 4.9, 4.10 and 4.11 are to specify the normal hours of operation for the landfill Site and a mechanism for amendment of the hours of operation.
- 14. The reasons for Condition 4.12 are to specify Site access to/from the Site and to ensure the controlled access and integrity of the Site by preventing unauthorized access when the Site is closed and no Site attendant is on duty.
- 15. The reasons for Condition 4.18 are the protection of public health and safety and minimization of the potential for damage to environmental control, monitoring and other works at the landfill Site. Scavenging is the uncontrolled removal of material from waste at a landfill Site.
- 16. The reason for Condition 4.21 is to ensure that noise from or related to the operation of the landfill is kept to within Ministry limits and does not result in a hazard or nuisance to any person.
- 17. The reason for Condition 5.1 is to ensure that landfilling operations are conducted in an environmentally acceptable manner. Daily and intermediate cover is used to control potential nuisance effects, to facilitate vehicle access on the Site, and to ensure an acceptable Site appearance is maintained. The proper closure of a landfill Site requires the application of a final cover which is aesthetically pleasing, controls infiltration, and is suitable for the end use planned for the Site.
- 18. The reasons for Conditions 5.2, 5.3 and 5.4 are to ensure proper operation of the leachate collection system. This is to ensure the protection of the environment and public health.
- 19. The reason for Conditions 5.5 and 5.6 are to ensure surface water at the site is not impacted by landfill operations. This is to ensure the environment and public health are protected.
- 20. The reasons for Condition 5,7 and 5.8 is to ensure the Owner is aware that the composting operation will cease by the given date.
- 21. The reason for Condition 5.9 is to approve the proposed phytoremediation system as

- applied and established operations conditions for the phytoremediation system.
- 22. The reason for Conditions 5.10 and 5.11 is to clarify the responsibilities of the Owner, the requirements of the Ministry, the authority of the Ministry and protects the natural environment and human health.
- 23. The reason for Condition 5.12 is to approve the continued operation of the Waste and Recycling Drop-Off Facility as per the submitted information.
- 24. The reason for Conditions 5.13, 5.14, 5.15 and 5.18 is to ensure the type of waste, the quantity of waste service and removal frequency are clearly identified.
- 25. The reasons for Condition 5.16 and 5.17 is to specify the normal hours of operation for the landfill Site and a mechanism for amendment of the hours of operation and ensure trained staff are present to accept waste.
- 26. The reasons for Conditions 5.19 through 5.24 is to ensure the operation is done in a manner that will not cause a nuisance or an adverse effect. This is to ensure the long-term protection of the environment and human health.
- 27. The reason for Condition 6.1 is to ensure that the Site is supervised and operated by properly trained staff in a manner which does not result in a hazard or nuisance to the natural environment or any person.
- 28. The reasons for Conditions 7.1, 7.2 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11 and 14.1 are to provide for the proper assessment of effectiveness and efficiency of Site design and operation, their effect or relationship to any nuisance or environmental impacts, and the occurrence of any public complaints or concerns. Record keeping is necessary to determine compliance with this ECA, the EPA and its regulations
- 29. The reasons for Conditions 8.1, 8.2, 8.3, and 8.4 are to ensure protection of the natural environment and the integrity of the groundwater monitoring network.
- 30. The reason for Condition 8.5 is to demonstrate that the landfill Site is performing as designed and the impacts on the natural environment are acceptable. Regular monitoring allows for the analysis of trends over time and ensures that there is an early warning of potential problems so that any necessary remedial/contingency action can be taken.
- 31. The reason for Condition 9.1 is to ensure the Owner submits a contingency plan for the Site based on the current soil and groundwater investigation. This is to ensure the environment and public are protected.
- 32. The reason for Conditions 9.2, 9.3, 9.4, 11.1 and 11.2 is to ensure that the Owner follows a plan with an organized set of procedures for identifying and responding to

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Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

- 3. The name of the appellant,
- 4. The address of the appellant;
- The environmental compliance approval number,
- 6. The date of the environmental compliance approvat
- 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 Environmental Commissioner 1075 Bay Street, Suite 605 Toronto, Ontario M5S 2B1

AND

The Director appointed for the purposes of Part II.1 of the Environmental Protection Act Ministry of the Environment 2 St. Clair Avenue West, Floor 12A Toronto, Ontario M4V 1L5

\* 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) 314-4506 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.

DATED AT TORONTO this 9th day of January, 2012

Ian Parrott, P.Eng.

Director

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

DG/

c: District Manager, MOE Kingston - District Randy Harris, Waste Management of Canada Corporation

# **APPENDIX A-2**

# AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL NO. A371203, DATED JANUARY 9, 2012



Ministry of the Environment Ministère de l'Environnement

#### AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER A371203 Notice No. 10

Issue Date: January 9, 2012

Waste Management Canada Corporation

1271 Beechwood Rd Rural Route, No. 6 Napanee, Ontario

K7R 3L1

Site Location: 1271 Beechwood Road

1271 Beechwood

Greater Napanee Town, County of Lennox and Addington

K7R 3L1

You are hereby notified that I have amended Approval No. A371203 issued on December 29, 2011 for the use, operation, and closure of a 16.2 hectare waste disposal landfill site including a landfill gas collection system and landfill gas flare within a total site area of 138 hectares, as follows:

#### Waste and Recyclable Drop-Off Facility

#### Compliance

5.12 Except as otherwise provided by these conditions, the Waste and Recyclable Drop-Off Facility shall be designed, developed, maintained and operated in accordance with the Applications for a Provisional Certificate of Approval for a Waste Disposal Site dated May 25, 2011, and the supporting documentation, plans and specifications listed in Schedule "A".

#### **Waste Types**

- 5.13 (1) The Waste and Recycling Drop-Off Facility shall accept the following types of waste:
  - i. Solid Non Hazardous Waste Domestic Waste, Construction and Demolition Waste;
  - ii. Blue Box Materials;
  - iii. Tires; and
  - iv. White Goods and Metal:
- (2) Contaminated soil shall not be accepted at the Waste and Recycling Drop Off Facility.
- (3) If the *Owner* participates in Stewardship Ontario, Ontario Tire Stewardship, or any other recyling program developed by the Province of Ontario, then the waste that has been approved for collection under the aforementioned programs will also be accepted at the public drop off area.

#### Waste Quantity

- 5.14 (1) The total amount of waste and recyclable material, which may be received at the Waste and Recyclable Drop off Facility shall not exceed **50 tonnes** per day.
- (2) On twenty-five occasions throughout a single calendar year the *Owner* is permitted to have a "Large Waste Day" where the *Owner* is permitted to accept up to **100 tonnes** per day. The *Owner* shall notify the *District Manager* in writing within 48 hours after the *Owner* has used one of the "Large Waste Days".

- (3) The maximum amount of waste that may be stored at the Waste and Recycling Drop-Off Facility shall not exceed 50 tonnes.
- (4) The maximum number of waste storage containers that may be stored/utilized at the Waste and Recyclable Drop-Off Facility at any one time shall be as follows:
  - i. nine (9) 40 yard bins for metals, tires and solid non hazardous waste consisting of domestic, construction and demolition waste;
  - ii. two (2) 8 yard bins for blue box materials;
  - iii. three (3) five (5) gallon pails for single use batteries.

#### Service Area

5.15 Only waste that is generated within the boundaries of the **Town of Greater Napanee**, **Town of Deseronto and Tyendinaga Township** which includes the **Mohawks of the Bay of Quinte** shall be accepted at the *Site*. No waste shall be received for disposal at this *Site* from outside the approved service area.

#### **Hours of Operation**

- 5.16. The operating hours of the Waste and Recycling Drop-Off Facility shall be as follows:
  - i. 8 a.m. to 5 p.m. Monday to Friday, except for statutory holidays; and
  - ii. 8 a.m. to 1 p.m. Saturday
- 5.17 No waste shall be received at the Waste and Recycling Drop-Off Facility except during operating hours when the *Site* is under the supervision of trained personnel.

#### **Removal Frequency**

- 5.18 (1) Waste materials shall be removed from the Waste and Recycling Drop-Off Facility on a minimal frequency of twice per week with the exception of white goods and blue box materials.
- (2) White goods and blue box materials shall be removed at a frequency no less than once every six months.
- (3) Wastes which have been approved for collection under Stewardship Ontario, Ontario Tire Stewardship, or any other recycling programs developed by the Province of Ontario, shall be removed from the *Site* at the frequency as detailed in the requirements for the aforementioned programs.

#### **Operations**

- 5.19 Recycling activities shall be completed as per Ontario Regulation 101/94.
- 5.20 Recyclable materials shall be properly separated and each area properly identified. The areas shall be kept in a neat and tidy manner.
- 5.21 All storage containers/bins used to store waste and/or recyclable materials shall be maintained in good condition to prevent leakage. The *Owner* shall immediately remove from service any leaking container. Containers/bins used to store clean scrap metal may be equipped with drainage holes to permit the drainage of rainwater.
- 5.22 With the exception of white goods, waste may only be stored within the waste storage bins in accordance with Items 52, 53, 54 and 55 in Schedule "A".
- 5.23 All waste types shall be segregated either into bins, or in designated areas defined by barriers. All bins and designated waste storage areas shall be clearly labelled.

5.24 The *Owner* shall ensure that all white goods received at the Waste and Recyclable Drop-off Facility have been drained of any refrigerants, and have the appropriate paperwork (current ODP card) demonstrating that the refrigerants have been removed.

# The following Items are hereby added to Schedule "A":

- 52. Letter report dated May 25, 2011 addressed to Mr. Tesfaye Gebrezghi, Ministry of the Environment from Mr. Jeff Armstrong, GENIVAR Inc. requesting an amendment to permit the approval of continued recyclables disposal at the Richmond Landfill Site. The supporting documentation included the following:
  - i. Application for a Certificate of Approval for a Waste Disposal Site signed by Mr. Reid Cleland, Waste Management of Canada Corporation and dated May 25, 2011;
  - ii. Drawing No 8570713-MT1 entitled "Site Location Map" prepared by GENIVAR INC. and dated May 17, 2011; and
  - iii. Drawing No. 8670713-MT2 entitled "Site Plan Mini-transfer Station" prepared by GENIVAR Inc. and dated May 17, 2011.
- 53. Letter report dated May 25, 2011 addressed to Mr. Tesfaye Gebrezghi, Ministry of the Environment from Mr. Jeff Armstrong, GENIVAR Inc. requesting an amendment to Condition No. 35 which would allow the continue use of the minitransfer station at the Richmond Landfill Site. The supporting documentation included the following:
  - i. Application for a Certificate of Approval for a Waste Disposal Site signed by Mr. Reid Cleland, Waste Management of Canada Corporation and dated May 25, 2011;
  - ii. Development and Operations Report for a Waste Transfer Station prepared by GENIVAR Inc. (Project No. 081-12493-00) and dated May 2011
  - iii. Drawing No 8570713-MT1 entitled "Site Location Map" prepared by GENIVAR INC. and dated May 17, 2011; and
  - iv. Drawing No. 8670713-MT2 entitled "Site Plan Mini-transfer Station" prepared by GENIVAR Inc. and dated May 17, 2011.
- 54. Letter dated June 20, 2011 addressed to Mr. Reid Cleland, Waste Management of Canada Corporation from Mr. Dale Gable, Ministry of the Environment requesting additional information on the continued operation of the Waste and Recycling Drop-Off Facility.
- 55. Letter dated June 30, 2011 addressed to Mr. Dale Gable, Ministry of the Environment from Mr. Jeff Armstrong, GENIVAR Inc. providing additional information on the operations of the Waste and Recycling Drop-Off Facility. The information included the following:
  - i. Development and Operations Report for a Waste Transfer Station prepared by GENIVAR Inc. (Project No. 081-12493-00) and dated June 2011.

# The reasons for this amendment to the Certificate of Approval are as follows:

- 1. The reason for Condition 5.12 is to approve the continued operation of the Waste and Recycling Drop-Off Facility as per the submitted information.
- 2. The reason for Conditions 5.13, 5.14, 5.15 and 5.18 is to ensure the type of waste, the quantity of waste service and removal frequency are clearly identified.
- 3. The reasons for Condition 5.16 and 5.17 is to specify the normal hours of operation for the landfill Site and a mechanism for amendment of the hours of operation and ensure trained staff are present to accept waste.
- 4. The reasons for Conditions 5.19 through 5.24 is to ensure the operation is done in a manner that will not cause a nuisance or an adverse effect. This is to ensure the long-term protection of the environment and human health.

#### This Notice shall constitute part of the approval issued under Approval No. A371203 dated

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, 1993, S.O. 1993, c. 28 (Environmental Bill of Rights), the Environmental Commissioner, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. 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.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

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 Environmental Commissioner 1075 Bay Street, Suite 605 Toronto, Ontario M5S 2B1 The Director appointed for the purposes of Part II.1 of the Environmental Protection Act Ministry of the Environment 2 St. Clair Avenue West, Floor 12A Toronto, Ontario M4V IL5

\* 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) 314-4506 or www.ert.gov.on.ca

AND

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.

DATED AT TORONTO this 9th day of January, 2012

Ian Parrott, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

DG/

c: District Manager, MOE Kingston - District Jeff Armstrong, GENIVAR Inc.

# **APPENDIX A-3**

# AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL NO. A371203, (NOTICE 1) DATED MAY 3, 2013



Ministry of the Environment Ministère de l'Environnement

#### AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER A371203 Notice No. 1 Issue Date: May 3, 2013

Waste Management of Canada Corporation

Rural Route, No. 6 Napanee, Ontario

K7R 3L1

Site Location: 1271 Beechwood Road

1271 Beechwood Rd Lots 1, 3, 4, 5, 6 Concession 4, Geo. Twp. of Richmond

Greater Napanee Town, County of Lennox and Addington

K7R 3L1

You are hereby notified that I have amended Approval No. A371203 issued on January 9, 2012 and amended on January 9, 2012 forthe use, operation, and closure of a 16.2 hectare waste disposal landfill site including a landfill gas collection system and landfill gas flare within a total site area of 138 hectares, as follows:

#### The following Conditions are hereby amended as follows:

- 8.2 All groundwater monitoring wells whether included in the monitoring program or not shall be assessed at least every five years, and repaired, replaced or decommissioned as required in accordance with good standard practice to prevent groundwater contamination and in compliance with the requirements of Ontario Regulation 903.
- 8.5.1 (a) The *Owner* shall conduct odour monitoring and undertake odour abatement activities as described in the Odour Monitoring Plan dated February 2013, set out as Item 56 and 57 in Schedule "A".
- (b) The *Owner* may apply to the *Director* for an amendment to this ECA to amend the Odour Monitoring Plan after completing grid surface emissions surveys, one each in the second, third and fourth quarters of each of 2013 and 2014, and where the results from the grid surface emissions surveys demonstrate that total hydrocarbon vapours, expressed as methane, do not substantially exceed 500 parts per million per each grid dimension.

#### **Public Notification Plan**

- 9.5 (a) The Owner shall provide notice to interested persons and follow the procedures set out in the Public Notification Plan dated February 2013 set out as Item 58 in Schedule "A" upon the occurrence of any event that triggers notice to be given as set out in the Plan.
- (b) Should the *Owner* wish to amend the Public Notification Plan, the *Owner* shall apply to the *Director* for an amendment to this approval and include in the Application a list of interested persons that were consulted on the proposed amendments and a summary of their comments.

#### **Semi Annual Monitoring Reporting**

- 14.1 By **January 15** and **July 15** of each year, the *Owner* shall submit semi-annual monitoring reports to the *District Office* and post the reports on a publicly accessible website. These semi-annual reports shall include:
  - a. The results in tabular form and an interpretive analysis of the results from the leachate, groundwater, surface water, and landfill gas monitoring programs approved by this *ECA*, including:
    - i. an assessment of the need to amend the monitoring programs;

- ii. an evaluation of any observations of saline upwelling in the groundwater;
- iii. an estimation of the leachate generated at the Site;
- iv. an evaluation of leachate quality, levels, and mounding within the landfill;
- v. figure(s) showing the landfill site and contaminant attenuation zone;
- vi. maps or figures showing groundwater concentrations of alkalinity, tritium, 1-4 dioxane, and ammonia in the shallow and intermediate aquifers;
- vii. figure(s) showing the off-site properties suspected or confirmed of being impacted by leachate from the landfill;
- viii. a complete inventory of the groundwater monitoring well locations;
- ix. detailed analysis on groundwater quality trends on downgradient groundwater wells which have been impacted or are suspected of being impacted by leachate from the landfill.
- b. An assessment with regards to the compliance of the groundwater quality at the property boundary and compliance points with regards to Guideline B-7 Reasonable Use Concept;
- c. A report on the status of any monitoring wells required to be tested pursuant to the EMP and a statement as whether those wells are in compliance with Ontario Regulation 903;
- d. The second semi-annual report will include an Annual Summary section which describes the results from the current calendar year and any data quality changes identified from previous years, or through the current year.
- e. All surface and groundwater analytical results reported in future Semi-Annual and Annual Monitoring Reports shall be reported by groups of substances (i.e. VOCs, PAHs, inorganics, etc.) and by numeric location, and shall be posted by WMC on a publicly accessible website, with the data being posted on such website being updated annually.
- 14.2 A written report on the development, operation, and closure of the *Site* shall be completed annually (the "Annual Report"). The Annual Report shall be submitted to the *District Manager*, *the PLC*, the Town of Greater Napanee, the Township of Tyendinaga, the Mohawks of the Bay of Quinte, and a representative of the Concerned Citizens Committee of Tyendinaga and Environs by **March 31st** of each year and shall cover the year ending the preceding December 31st.
- 14.3 The Annual Report shall include the following:
  - i. an assessment of the operation and performance of all engineered facilities, the need to amend the design or operation of the *Site*, and the adequacy of and need to implement the contingency plans;
  - ii. an assessment of the efficiency of the leachate collection system;
  - iii. Site plans showing the existing contours of the Site;
  - iv. areas of landfilling operation during the reporting period;
  - v. areas of intended operation during the next reporting period;
  - vi. areas of excavation during the reporting period;
  - vii. a summary of the inspection of the final cover and vegetative cover including identification of any seepages and remedial actions taken;
  - viii. previously existing Site facilities;
  - ix. facilities installed during the reporting period;
  - x. A discussion on any facilities planned for installation during the next reporting period;
  - xi. a summary of the quantity of any leachate or pre-treated leachate removed from the north and south pumping stations at the *Site* during each operating week;
  - xii. a discussion of the results of the toxicity testing of the landfill stormwater management ponds which includes potential impacts to the groundwater by the SWMP;
  - xiii. a summary of the weekly, maximum daily and total annual quantity (tonnes) of waste received at the Site.
  - xiv. a summary of any complaints received, the responses made and corrective/remedial taken if required;
  - xv. a summary of any seeps, upset conditions or emergency situations and or corrective/remedial actions taken
  - xvi. a discussion of any operational problems encountered at the *Site* and corrective action taken;
  - xvii. a summary of the amount of wastes refused for disposal at the *Site*, the reasons for refusal and the carrier who brought the waste to the *Site*;

xviii. a summary of the leachate collection system cleaning and inspection activities;

xix. an update summary of the amount of financial assurance which has been provided to the *Director*; xx. a table detailing the chronology of significant landfill design, operational, and land use changes for the landfill and any other information with respect to the site which the *District Manager or Regional Director* may require from time to time:

xxi. a statement of compliance with all conditions of this *ECA* and other relevant *Ministry* groundwater and surface water requirements;

xxii. a confirmation that the *Site* inspection program as required by this *ECA* has been complied with by the *Owner*:

xxiii. any changes in operations, equipment or procedures employed at the *Site*; and recommendations regarding any proposed changes in operations of the *Site*.

#### The following Conditions are hereby added to the ECA:

- 14.4 (a) In the event the *District Manager* requires additional information to be submitted to complete the *District Office*'s assessment on whether or not the *Site* is in compliance, the *District Manager* shall provide written notification to the *Owner* at least sixty (60) days before the submission of the next Semi-Annual or Annual Report submission date on the type of additional information to be included in the report.
- (b) In the event the *District Manager* determines that the inclusion of information in either the annual or semi-annual report annual for which notification under 14.4(a) was provided is no longer warranted or needed for the *Ministry*'s assessment of whether or not the *Site* is in compliance, the *District Manager* shall notify the *Owner* in writing of the information that is no longer required. The *District Manager* can later request the information be re-included in the report as per Condition 14.4 (a).

#### The following Items are hereby added to Schedule "A":

- 56. Report entitled "Richmond Sanitary Landfill Site- Odour Monitoring Plan Revision No. 1" prepared for WMCC by GENIVAR Inc and dated March 22, 2012.
- 57. Protocol entitled "Odour Survey Protocol February 2013" prepared for WMCC by GENIVAR Inc.
- 58. Report entitled "Richmond Sanitary Landfill Site (081-12459-00) Public Notification Plan February 2013" prepared for WMCC by GENIVAR Inc. and dated February 2013.

#### The reasons for this amendment to the Approval is as follows:

1. Conditions 8.2, 8.5, 9.5, 14.1, 14.2, 14.3 and 14.4 are included in the ECA to reflect the interim order issued by the ERT.

#### This Notice shall constitute part of the approval issued under Approval No. A371203 dated January 9, 2012

In accordance with Section 139 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.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

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

<u>AND</u>

The Director appointed for the purposes of Part II.1 of the Environmental Protection Act Ministry of the Environment 2 St. Clair Avenue West, Floor 12A Toronto, Ontario M4V 1L5

\* 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

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

DATED AT TORONTO this 3rd day of May, 2013

Tesfaye Gebrezghi, P.Eng. Director appointed for the purposes of Part II.1 of the Environmental Protection Act

DG/

c: District Manager, MOE Kingston - District David Arnott, MOE, Kingston District Randy Harris, WMCC, Richmond Landfill Reid Cleland, WMCC

Chief Don Maracle, Mohawks of the Bay of Quinte First Nation

Mike Bossio, Concerned Citizens Committee of Tyendinaga and Environs

Dr. Tom Touzel, Napanee Green Lights

Reeve Margaret Walsh, The Corporation of the Township of Tyendinaga

Steve Mercer, Clerk/Treasurer, The Corporation of the Township of Tyendinaga

Mayor Gordon Schermerhorn, Town of Greater Napanee

Rebecca Murphy, Clerk/Treasurer, Town of Greater Napanee

# **APPENDIX A-4**

# AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL NO. A371203, (NOTICE 2) DATED OCTOBER 4, 2013



#### AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL

**NUMBER A371203** 

Notice No. 2

Issue Date: October 4, 2013

Waste Management of Canada Corporation

2301 Carp Rd Ottawa, Ontario K0A 1L0

Site Location: Richmond Landfill Site

Lot Pt 1, 2, 3, Concession 4

Greater Napanee Town, County of Lennox and Addington

K7R 3L1

You are hereby notified that I have amended Approval No. A371203 issued on January 9, 2012 for the use, operation, and closure of a 16.2 hectare waste disposal landfill site including a landfill gas collection system and landfill gas flare within a total site area of 138 hectares, as follows:

#### The following Conditions are hereby amended as follows:

#### **Proposed Payment Schedule**

- 2.5. The Owner shall ensure financial assurance in a form acceptable to the Director in the amount of \$12,478,791.00 has been provided to the Director. If these amount has not been provided, the Owner shall within thirty (30) business days of issuance of this ECA, provide to the Director the financial assurance as required by this condition in a form that is in a form acceptable to the Director.
- 2.6. The *Owner* shall provide the *Ministry* financial assurance (total amount, not additional amount) in a form acceptable to the *Director* as follows for the following years:
  - i. March 31, 2014 \$12,049,585.00;
  - ii. March 31, 2015 \$11,549,022.00; and
  - iii. March 31, 2016 \$11,152,473.00.

#### The reasons for this amendment to the Approval are as follows:

1. The reasons for the amendments to Conditions 2.5 and 2.6 are to ensure that sufficient funds are

available to the Ministry to close the landfill, and to carry out all expected post-closure care activities and any contingencies. Failure to include requirements for financial assurance would not be in the public interest and may result in a hazard or nuisance to the natural environment or any person.

This Notice shall constitute part of the approval issued under Approval No. A371203 dated January 9, 2012

In accordance with Section 139 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:

The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in 1. respect of which the hearing is required, and;

The grounds on which you intend to rely at the hearing in relation to each portion appealed 2.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

The name of the appellant; 3.

The address of the appellant; 4.

The environmental compliance approval number, 5.

The date of the environmental compliance approval 6.

The name of the Director, and; 7.

The municipality or municipalities within which the project is to be engaged in 8.

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 2 St. Clair Avenue West, Floor 12A Toronto, Ontario M4V 1L5

\* 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

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

DATED AT TORONTO this 4th day of October, 2013

Tes Geberre!

Tesfaye Gebrezghi, P.Eng.

Director

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

DG/

c: District Manager, MOE Kingston - District Jeff E. Armstrong, GENIVAR Inc.

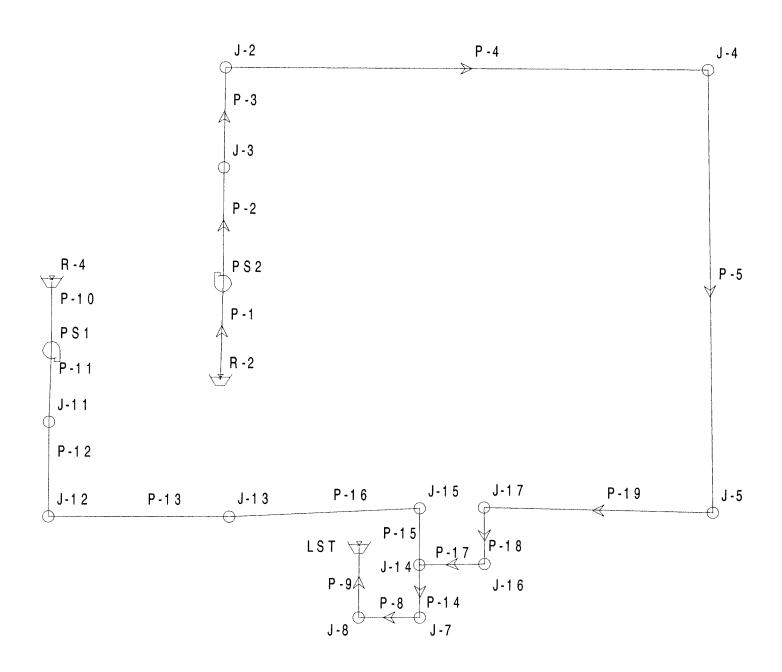
# Appendix B

**HYDRAULIC CALCULATIONS** 

# **APPENDIX B-1**

# **PS1/PS2 - TO LEACHATE STORAGE TANK**

#### Scenario: Base



ALIGNMENT OPTION 1 PS 2 – ON C=120

# Scenario: Base **Steady State Analysis Pipe Report**

Link Label	Length (m)	Diameter (mm)	Roughness	Minor Loss	Initial Status		Discharge (m³/min)	Calculated	End Calculated Hydraulic	Headloss (m)	Friction Slope (m/km)	(m/s)		End Pressure (kPa)
								Grade (m)	Grade (m)					
P-3	8.00	78	120.0	0.00	Open	Open	0.342	147.48	147.27	0.21	26.49	1.19	224.82	222.74
P-1	0.10	300	120.0	0.00	Open	Open	0.342	122.50	122.50	0.00	0.00	0.08		4.40
P-2	2.50	78	120.0	6.00	Open	Open	0.342	147.99	147.48	0.50	200.86	1.19	253.69	224.82
P-4	239.00	78	120.0	0.00	Open	Open	0.342	147.27	140.94	6.33	26.49	1.19	222.74	163.74
P-5	317.00	78	120.0	0.00	Open	Open	0.342	140.94	132.54	8.40	26.49	1.19	163.74	46.37
P-8	8.00	100	120.0	0.00	Open	Open	0.342	127.10	127.04	0.06	7.90	0.73	28.39	10.16
P-14	11.00	100	120.0	0.00	Open	Open	-0.342	127.10	127.19	0.09	7.90	0.73	28.39	26.30
P-9	1.50	100	120.0	1.00	Open	Open	0.342	127.04	127.00	0.04	25.83	0.73	10.16	
P-12	2.50	78	120.0	0.00	Open	Open	0.000	127.19	127.19	0.00	0.00	0.00	-13.80	29.24
P-13	18.00	78	120.0	0.00	Open	Open	0.000	127.19	127.19	0.00	0.00	0.00	29.24	23.37
P-10	0.10	300	120.0	0.00	Open	Open	0.000	125.00	125.00	0.00	0.00	0.00		4.89
P-11	14.00	78	120.0	2.00	Open	Open	0.000	127.19	127.19	0.00	0.00	0.00	26.30	-13.80
P-15	16.00	78	120.0	0.00	Open	Open	0.000	127.19	127.19	0.00	0.00	0.00	26.30	21.41
P-17	11.00	78	120.0	0.00	Open	Open	-0.342	127.19	127.48	0.29	26.49	1.19	26.30	29.15
P-16	46.00	78	120.0	0.00	Open	Open	0.000	127.19	127.19	0.00	0.00	0.00	21.41	23.37
P-18	20.00	78	120.0	0.00	Open	Open	-0.342	127.48	128.01	0.53	26.49	1.19	29.15	29.44
P-19	171.00	78	120.0	0.00	Open	Open	-0.342	128.01	132.54	4.53	26.49	1.19	29.44	46.37

# Scenario: Base **Steady State Analysis Junction Report**

Node Label	Elevation (m)	Demand Type	i .	Demand Pattern	Calculated Demand (m³/min)	Calculated Hydraulic Grade (m)	Pressure (kPa)
J-3	124.50	Demand	0.000	Fixed	0.000	147.48	224.82
J-2	124.50	Demand	0.000	Fixed	0.000	147.27	222.74
J-4	124.20	Demand	0.000	Fixed	0.000	140.94	163.74
J-5	127.80	Demand	0.000	Fixed	0.000	132.54	46.37
J-7	124.20	Demand	0.000	Fixed	0.000	127.10	28.39
J-8	126.00	Demand	0.000	Fixed	0.000	127.04	10.16
J-11	128.60	Demand	0.000	Fixed	0.000	127.19	-13.80
J-12	124.20	Demand	0.000	Fixed	0.000	127.19	29.24
J-13	124.80	Demand	0.000	Fixed	0.000	127.19	23.37
J-14	124.50	Demand	0.000	Fixed	0.000	127.19	26.30
J-15	125.00	Demand	0.000	Fixed	0.000	127.19	21.41
J-16	124.50	Demand	0.000	Fixed	0.000	127.48	29.15
J-17	125.00	Demand	0.000	Fixed	0.000	128.01	29.44

#### Scenario: Base Steady State Analysis Pump Report

Link Label	Input Pump Power (kW)	Head	Shutoff Discharge (m³/min)	Head		Operating		Status	Start Calculated Hydraulic Grade (m)	Calculated			
PS2		31.70	0.000	24.40	0.378	9.10	0.757	On	122.50	147.99	0.342	25.49	1.42
PS1		27.70	0.000	25.90	0.227	15.20	0.416	Off	125.00	127.19	0.000	0.00	0.00

#### Scenario: Base **Steady State Analysis Reservoir Report**

	Reservoir Surface Elevation (m)	Inflow	Calculated Hydraulic Grade (m)
R-2	122.50	-0.342	122.50
LST	127.00	0.342	127.00
R-4	125.00	0.000	125.00

ALIGNMENT OPTION 1 PS2 – ON C=150

# Scenario: Base **Steady State Analysis Pipe Report**

Link Label	Length (m)	Diameter (mm)	Roughness	Minor Loss	Initial Status		Discharge (m³/min)	Calculated	End Calculated Hydraulic Grade	Headloss (m)	Friction Slope (m/km)	(m/s)		End Pressure (kPa)
								(m)	(m)					
P-3	8.00	78	150.0	0.00	Open	Open	0.404	145.41	145.22	0.19	23.79	1.41	204.50	202.64
P-1	0.10	300	150.0	0.00	Open	Open	0.404	122.50	122.50	0.00	0.00	0.10		4.40
P-2	2.50	78	150.0	6.00	Open	Open	0.404	146.07	145.41	0.67	266.32	1.41	234.98	204.50
P-4	239.00	78	150.0	0.00	Open	Open	0.404	145.22	139.53	5.69	23.79	1.41	202.64	149.95
P-5	317.00	78	150.0	0.00	Open	Open	0.404	139.53	131.99	7.54	23.79	1.41	149.95	40.97
P-8	8.00	100	150.0	0.00	Open	Open	0.404	127.10	127.05	0.06	7.09	0.86	28.41	10.25
P-14	11.00	100	150.0	0.00	Open	Open	-0.404	127.10	127.18	0.08	7.09	0.86	28.41	26.24
P-9	1.50	100	150.0	1.00	Open	Open	0.404	127.05	127.00	0.05	32.03	0.86	10.25	
P-12	2.50	78	150.0	0.00	Open	Open	0.000	127.18	127.18	0.00	0.00	0.00	-13.86	29.18
P-13	18.00	78	150.0	0.00	Open	Open	0.000	127.18	127.18	0.00	0.00	0.00	29.18	23.31
P-10	0.10	300	150.0	0.00	Open	Open	0.000	125.00	125.00	0.00	0.00	0.00		4.89
P-11	14.00	78	150.0	2.00	Open	Open	0.000	127.18	127.18	0.00	0.00	0.00	26.24	-13.86
P-15	16.00	78	150.0	0.00	Open	Open	0.000	127.18	127.18	0.00	0.00	0.00	26.24	21.35
P-17	11.00	78	150.0	0.00	Open	Open	-0.404	127.18	127.44	0.26	23.79	1.41	26.24	28.80
P-16	46.00	78	150.0	0.00	Open	Open	0.000	127.18	127.18	0.00	0.00	0.00	21.35	23.31
P-18	20.00	78	150.0	0.00	Open	Open	-0.404	127.44	127.92	0.48	23.79	1.41	28.80	28.57
P-19	171.00	78	150.0	0.00	Open	Open	-0.404	127.92	131.99	4.07	23.79	1.41	28.57	40.97

# Scenario: Base Steady State Analysis Junction Report

Node Label	Elevation (m)	Demand Type	Demand (m³/min)		Calculated Demand (m³/min)	Calculated Hydraulic Grade (m)	Pressure (kPa)
J-3	124.50	Demand	0.000	Fixed	0.000	145.41	204.50
J-2	124.50	Demand	0.000	Fixed	0.000	145.22	202.64
J-4	124.20	Demand	0.000	Fixed	0.000	139.53	149.95
J-5	127.80	Demand	0.000	Fixed	0.000	131.99	40.97
J-7	124.20	Demand	0.000	Fixed	0.000	127.10	28.41
J-8	126.00	Demand	0.000	Fixed	0.000	127.05	10.25
J-11	128.60	Demand	0.000	Fixed	0.000	127.18	-13.86
J-12	124.20	Demand	0.000	Fixed	0.000	127.18	29.18
J-13	124.80	Demand	0.000	Fixed	0.000	127.18	23.31
J-14	124.50	Demand	0.000	Fixed	0.000	127.18	26.24
J-15	125.00	Demand	0.000	Fixed	0.000	127.18	21.35
J-16	124.50	Demand	0.000	Fixed	0.000	127.44	28.80
J-17	125.00	Demand	0.000	Fixed	0.000	127.92	28.57

# Scenario: Base **Steady State Analysis Pump Report**

Link Label	Input Pump Power (kW)		Shutoff Discharga (m³/min)	Head		Operating		Status	Start Calculated Hydraulic Grade (m)	Calculated			
PS2		31.70	0.000	24.40	0.378	9.10	0.757	On	122.50	146.07	0.404	23.57	1.55
PS1		27.70	0.000	25.90	0.227	15.20	0.416	Off	125.00	127.18	0.000	0.00	0.00

# Scenario: Base **Steady State Analysis Reservoir Report**

	Reservoir Surface Elevation (m)	Inflow	Calculated Hydraulic Grade (m)
R-2	122.50	-0.404	122.50
LST	127.00	0.404	127.00
R-4	125.00	0.000	125.00

ALIGNMENT OPTION 1 PS1 (EXISTING PUMP) AND PS2 – ON C=120

# Scenario: Base Steady State Analysis Pipe Report

Link Label	Length (m)	Diameter (mm)	Roughness	Minor Loss	Initial Status		Discharge (m³/min)	Calculated	End Calculated Hydraulic Grade (m)	Headloss (m)	Friction Slope (m/km)			End Pressure (kPa)
P-3	8.00	78	120.0	0.00	Open	Open	0.337	147.66	147.45	0.21	25.72	1.18	226.54	224.53
P-1	0.10	300	120.0	0.00	Open	Open	0.337	122.50	122.50	0.00	0.00	0.08		4.40
P-2	2.50	78	120.0	6.00	Open	Open	0.337	148.15	147.66	0.49	194.56	1.18	255.27	226.54
P-4	239.00	78	120.0	0.00	Open	Open	0.337	147.45	141.31	6.15	25.72	1.18	224.53	167.35
P-5	317.00	78	120.0	0.00	Open	Open	0.337	141.31	133.16	8.15	25.72	1.18	167.35	52.39
P-8	8.00	100	120.0	0.00	Open	Open	0.816	127.53	127.21	0.32	39.42	1.73	32.55	11.86
P-14	11.00	100	120.0	0.00	Open	Open	-0.816	127.53	127.96	0.43	39.43	1.73	32.55	33.86
P-9	1.50	100	120.0	1.00	Open	Open	0.816	127.21	127.00	0.21	141.35	1.73	11.86	
P-12	2.50	78	120.0	0.00	Open	Open	0.479	132.04	131.91	0.12	49.39	1.67	33.61	75.44
P-13	18.00	78	120.0	0.00	Open	Open	0.479	131.91	131.02	0.89	49.39	1.67	75.44	60.88
P-10	0.10	300	120.0	0.00	Open	Open	0.479	125.00	125.00	0.93e-5	0.09	0.11		4.89
P-11	14.00	78	120.0	2.00	Open	Open	0.479	133.01	132.04	0.98	69.74	1.67	83.27	33.61
P-15	16.00	78	120.0	0.00	Open	Open	-0.479	127.96	128.75	0.79	49.39	1.67	33.86	36.70
P-17	11.00	78	120.0	0.00	Open	Open	-0.337	127.96	128.24	0.28	25.72	1.18	33.86	36.62
P-16	46.00	78	120.0	0.00	Open	Open	-0.479	128.75	131.02	2.27	49.39	1.67	36.70	60.88
P-18	20.00	78	120.0	0.00	Open	Open	-0.337	128.24	128.76	0.51	25.72	1.18	36.62	36.76
P-19	171.00	78	120.0	0.00	Open	Open	-0.337	128.76	133.16	4.40	25.72	1.18	36.76	52.39

# Scenario: Base **Steady State Analysis Junction Report**

Node Label	Elevation (m)	Demand Type	Demand (m³/min)		Calculated Demand (m³/min)	Calculated Hydraulic Grade (m)	Pressure (kPa)
J-3	124.50	Demand	0.000	Fixed	0.000	147.66	226.54
J-2	124.50	Demand	0.000	Fixed	0.000	147.45	224.53
J-4	124.20	Demand	0.000	Fixed	0.000	141.31	167.35
J-5	127.80	Demand	0.000	Fixed	0.000	133.16	52.39
J-7	124.20	Demand	0.000	Fixed	0.000	127.53	32.55
J-8	126.00	Demand	0.000	Fixed	0.000	127.21	11.86
J-11	128.60	Demand	0.000	Fixed	0.000	132.04	33.61
J-12	124.20	Demand	0.000	Fixed	0.000	131.91	75.44
J-13	124.80	Demand	0.000	Fixed	0.000	131.02	60.88
J-14	124.50	Demand	0.000	Fixed	0.000	127.96	33.86
J-15	125.00	Demand	0.000	Fixed	0.000	128.75	36.70
J-16	124.50	Demand	0.000	Fixed	0.000	128.24	36.62
J-17	125.00	Demand	0.000	Fixed	0.000	128.76	36.76

# Scenario: Base Steady State Analysis Pump Report

Link Label	Input Pump Power (kW)	Head		Head		Operating	Maximum Operating Discharge (m³/min)	Status	Start Calculated Hydraulic Grade (m)	Calculated			
PS2		31.70	0.000	24.40	0.378	9.10	0.757	On	122.50	148.15	0.337	25.65	1.41
PS1		27.70	0.000	25.90	0.227	15.20	0.416	On	125.00	133.01	0.479	8.01	0.63

# Scenario: Base Steady State Analysis Reservoir Report

Label	Reservoir Surface Elevation (m)	Inflow	Calculated Hydraulic Grade (m)
R-2	122.50	-0.337	122.50
LST	127.00	0.816	127.00
R-4	125.00	-0.479	125.00

ALIGNMENT OPTION 1 PS1 (EXISTING PUMP) AND PS2 – ON C=150

# Scenario: Base **Steady State Analysis Pipe Report**

Link Label	Length (m)	Diameter (mm)	Roughness	Minor Loss	Initial Status		Díscharge (m³/min)	Calculated	End Calculated Hydraulic Grade (m)	Headloss (m)	Friction Slope (m/km)	,		End Pressure (kPa)
P-3	8.00	78	150.0	0.00	Open	Open	0.399	145.59	145.41	0.19	23.22	1.39	206.35	204.53
P-1	0.10	300	150.0	0.00	Open	Open	0.399	122.50	122.50	0.00		0.09		4.40
P-2	2.50	78	150.0	6.00	Open	Open	0.399	146.24	145.59	0.65	259.46	1.39	236.66	206.35
P-4	239.00	78	150.0	0.00	Open	Open	0.399	145.41	139.86	5.55	23.22	1.39	204.53	153.18
P-5	317.00	78	150.0	0.00	Open	Open	0.399	139.86	132.50	7.36	23.22	1.39	153.18	45.97
P-8	8.00	100	150.0	0.00	Open	Open	0.890	127.47	127.23	0.24	30.60	1.89	32.01	12.01
P-14	11.00	100	150.0	0.00	Open	Open	-0.890	127.47	127.81	0.34	30.60	1.89	32.01	32.37
P-9	1.50	100	150.0	1.00	Open	Open	0.890	127.23	127.00	0.23	151.71	1.89	12.01	
P-12	2.50	78	150.0	0.00	Open	Open	0.491	130.63	130.55	0.09	34.20	1.71	19.86	62.07
P-13	18.00	78	150.0	0.00	Open	Open	0.491	130.55	129.93	0.62	34.20	1.71	62.07	50.18
P-10	0.10	300	150.0	0.00	Open	Open	0.491	125.00	125.00	0.93e-5	0.09	0.12		4.89
P-11	14.00	78	150.0	2.00	Open	Open	0.491	131.41	130.63	0.78	55.57	1.71	67.58	19.86
P-15	16.00	78	150.0	0.00	Open	Open	-0.491	127.81	128.36	0.55	34.20	1.71	32.37	32.83
P-17	11.00	78	150.0	0.00	Open	Open	-0.399	127.81	128.06	0.26	23.22	1.39	32.37	34.87
P-16	46.00	78	150.0	0.00	Open	Open	-0.491	128.36	129.93	1.57	34.20	1.71	32.83	50.18
P-18	20.00	78	150.0	0.00	Open	Open	-0.399	128.06	128.53	0.46	23.22	1.39	34.87	34.52
P-19	171.00	78	150.0	0.00	Open	Open	-0.399	128.53	132.50	3.97	23.22	1.39	34.52	45.97

# Scenario: Base **Steady State Analysis Junction Report**

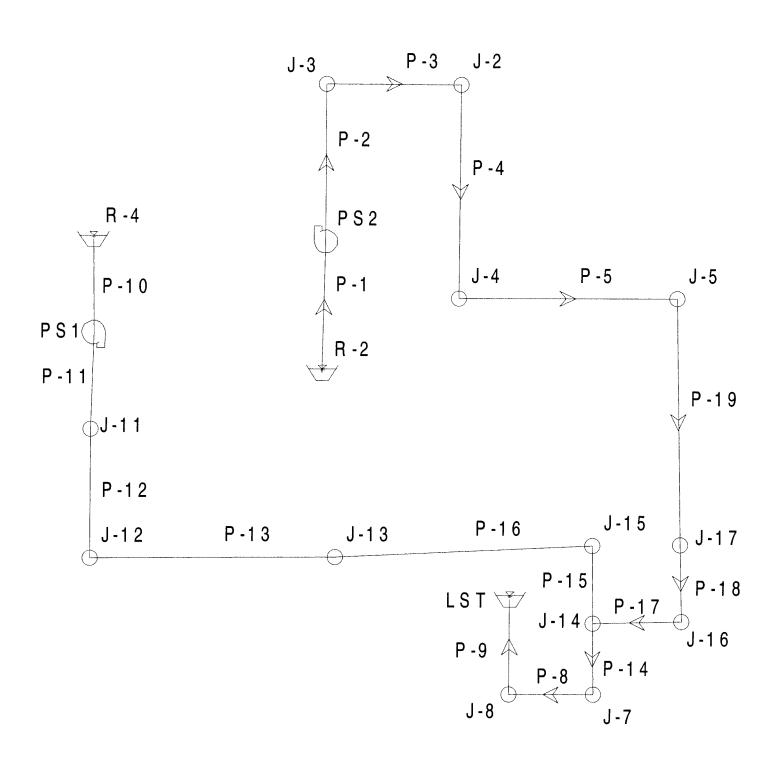
Node Label	Elevation (m)	Demand Type	Demand (m³/min)		Calculated Demand (m³/min)	Calculated Hydraulic Grade (m)	Pressure (kPa)
J-3	124.50	Demand	0.000	Fixed	0.000	145.59	206.35
J-2	124.50	Demand	0.000	Fixed	0.000	145.41	204.53
J-4	124.20	Demand	0.000	Fixed	0.000	139.86	153.18
J-5	127.80	Demand	0.000	Fixed	0.000	132.50	45.97
J-7	124.20	Demand	0.000	Fixed	0.000	127.47	32.01
J-8	126.00	Demand	0.000	Fixed	0.000	127.23	12.01
J-11	128.60	Demand	0.000	Fixed	0.000	130.63	19.86
J-12	124.20	Demand	0.000	Fixed	0.000	130.55	62.07
J-13	124.80	Demand	0.000	Fixed	0.000	129.93	50.18
J-14	124.50	Demand	0.000	Fixed	0.000	127.81	32.37
J-15	125.00	Demand	0.000	Fixed	0.000	128.36	32.83
J-16	124.50	Demand	0.000	Fixed	0.000	128.06	34.87
J-17	125.00	Demand	0.000	Fixed	0.000	128.53	34.52

# Scenario: Base Steady State Analysis Reservoir Report

Label	Reservoir Surface Elevation (m)	Inflow	Calculated Hydraulic Grade (m)
R-2	122.50	-0.399	122.50
LST	127.00	0.890	127.00
R-4	125.00	-0.491	125.00

ALIGNMENT OPTION 2 PS2 – ON C=120

#### Scenario: Base



# Scenario: Base **Steady State Analysis Pipe Report**

Link		Diameter	Roughness	Minor Loss			Discharge			Headloss	Friction	Velocity	Start	End
Label	(m)	(mm)			Status	Status	(m³/min)		Calculated Hydraulic Grade (m)	(m)	Slope (m/km)		Pressure (kPa)	Pressure (kPa)
P-3	2.00	78	120.0	0.00	Open	Open	0.438	143.98	143.89	0.08	41.83	1.53	205.18	204.36
P-1	0.10	300	120.0	0.00	Open	Open	0.438	122.50	122.50	0.93e-5	0.09	0.10		4.40
P-2	2.50	78	120.0	7.00	Open	Open	0.438	144.91	143.98	0.94	375.11	1.53	223.65	205.18
P-4	303.00	78	120.0	0.00	Open	Open	0.438	143.89	131.22	12.67	41.83	1.53	204.36	26.59
P-5	5.00	78	120.0	2.00	Open	Open	0.438	131.22	130.77	0.45	89.44	1.53	26.59	36.89
P-8	8.00	100	120.0	0.00	Open	Open	0.438	127.16	127.06	0.10	12.47	0.93	28.98	10.40
P-14	11.00	100	120.0	0.00	Open	Open	-0.438	127.16	127.30	0.14	12.47	0.93	28.98	27.39
P-9	1.50	100	120.0	1.00	Open	Open	0.438	127.06	127.00	0.06	41.85	0.93	10.40	
P-12	2.50	78	120.0	0.00	Open	Open	0.000	127.30	127.30	0.00	0.00	0.00	-12.72	30.32
P-13	18.00	78	120.0	0.00	Open	Open	0.000	127.30	127.30	0.00	0.00	0.00	30.32	24.45
P-10	0.10	300	120.0	0.00	Open	Open	0.000	125.00	125.00	0.00	0.00	0.00		4.89
P-11	14.00	78	120.0	2.00	Open	Open	0.000	127.30	127.30	0.00	0.00	0.00	27.39	-12.72
P-15	21.00	78	120.0	0.00	Open	Open	0.000	127.30	127.30	0.00	0.00	0.00	27.39	22.50
P-17	11.00	78	120.0	0.00	Open	Open	-0.438	127.30	127.76	0.46	41.83	1.53	27.39	31.89
P-16	47.00	78	120.0	0.00	Open	Open	0.000	127.30	127.30	0.00	0.00	0.00	22.50	24.45
P-18	20.00	78	120.0	0.00	Open	Open	-0.438	127.76	128.60	0.84	41.83	1.53	31.89	35.18
P-19	52.00	78	120.0	0.00	Open	Open	-0.438	128.60	130.77	2.17	41.83	1.53	35.18	36.89

# Scenario: Base **Steady State Analysis Junction Report**

Node Label	Elevation (m)	Demand Type	l .	Demand Pattern	Calculated Demand (m³/min)	Calculated Hydraulic Grade (m)	Pressure (kPa)
J-3	123.00	Demand	0.000	Fixed	0.000	143.98	205.18
J-2	123.00	Demand	0.000	Fixed	0.000	143.89	204.36
J-4	128.50	Demand	0.000	Fixed	0.000	131.22	26.59
J-5	127.00	Demand	0.000	Fixed	0.000	130.77	36.89
J-7	124.20	Demand	0.000	Fixed	0.000	127.16	28.98
J-8	126.00	Demand	0.000	Fixed	0.000	127.06	10.40
J-11	128.60	Demand	0.000	Fixed	0.000	127.30	-12.72
J-12	124.20	Demand	0.000	Fixed	0.000	127.30	30.32
J-13	124.80	Demand	0.000	Fixed	0.000	127.30	24.45
J-14	124.50	Demand	0.000	Fixed	0.000	127.30	27.39
J-15	125.00	Demand	0.000	Fixed	0.000	127.30	22.50
J-16	124.50	Demand	0.000	Fixed	0.000	127.76	31.89
J-17	125.00	Demand	0.000	Fixed	0.000	128.60	35.18

# Scenario: Base **Steady State Analysis Pump Report**

		Shutoff Discharge (m³/min)	Head		Operating		Status	Start Calculated Hydraulic Grade (m)	Calculated			
PS2	31.70	0.000	24.40	0.378	9.10	0.757	On	122.50	144.91	0.438	22.41	1.60
PS1	27.70	0.000	25.90	0.227	15.20	0.416	Off	125.00	127.30	0.000	0.00	0.00

# Scenario: Base Steady State Analysis Reservoir Report

Label	Reservoir Surface Elevation (m)	Inflow	Calculated Hydraulic Grade (m)
R-2	122.50	-0.438	122.50
LST	127.00	0.438	127.00
R-4	125.00	0.000	125.00

ALIGNMENT OPTION 2 PS2 – ON C=150

Link Label	Length (m)	Diameter (mm)	Roughness	Minor Loss	Initial Status		Discharge (m³/mìn)	Calculated	End Calculated Hydraulic Grade (m)	Headloss (m)	Friction Slope (m/km)	(m/s)	•	End Pressure (kPa)
P-3	2.00	78	150.0	0.00	Open	Open	0.501	141.50	141.42	0.07	35.39	1.75	180.92	180.23
P-1	0.10	300	150.0	0.00	Open	Open	0.501	122.50	122.50	0.93e-5	0.09	0.12		4.40
P-2	2.50	78	150.0	7.00	Open	Open	0.501	142.67	141.50	1.18	470.18	1.75	201.71	180.92
P-4	303.00	78	150.0	0.00	Open	Open	0.501	141.42	130.70	10.73	35.40	1.75	180.23	21.51
P-5	5.00	78	150.0	2.00	Open	Open	0.501	130.70	130.21	0.49	97.51	1.75	21.51	31.42
P-8	8.00	100	150.0	0.00	Open	Open	0.501	127.16	127.07	0.08	10.56	1.06	28.93	10.50
P-14	11.00	100	150.0	0.00	Open	Open	-0.501	127.16	127.27	0.12	10.55	1.06	28.93	27.13
P-9	1.50	100	150.0	1.00	Open	Open	0.501	127.07	127.00	0.07	48.87	1.06	10.50	
P-12	2.50	78	150.0	0.00	Open	Open	0.000	127.27	127.27	0.00	0.00	0.00	-12.97	30.07
P-13	18.00	78	150.0	0.00	Open	Open	0.000	127.27	127.27	0.00	0.00	0.00	30.07	24.20
P-10	0.10	300	150.0	0.00	Open	Open	0.000	125.00	125.00	0.00	0.00	0.00		4.89
P-11	14.00	78	150.0	2.00	Open	Open	0.000	127.27	127.27	0.00	0.00	0.00	27.13	-12.97
P-15	21.00	78	150.0	0.00	Open	Open	0.000	127.27	127.27	0.00	0.00	0.00	27.13	22.24
P-17	11.00	78	150.0	0.00	Open	Open	-0.501	127.27	127.66	0.39	35.40	1.75	27.13	30.94
P-16	47.00	78	150.0	0.00	Open	Open	0.000	127.27	127.27	0.00	0.00	0.00	22.24	24.20
P-18	20.00	78	150.0	0.00	Open	Open	-0.501	127.66	128.37	0.71	35.40	1.75	30.94	32.98
P-19	52.00	78	150.0	0.00	Open	Open	-0.501	128.37	130.21	1.84	35.40	1.75	32.98	31.42

Node Label	Elevation (m)	Demand Type	1	Demand Pattern	Calculated Demand (m³/min)	Calculated Hydraulic Grade (m)	Pressure (kPa)
J-3	123.00	Demand	0.000	Fixed	0.000	141.50	180.92
J-2	123.00	Demand	0.000	Fixed	0.000	141.42	180.23
J-4	128.50	Demand	0.000	Fixed	0.000	130.70	21.51
J-5	127.00	Demand	0.000	Fixed	0.000	130.21	31.42
J-7	124.20	Demand	0.000	Fixed	0.000	127.16	28.93
J-8	126.00	Demand	0.000	Fixed	0.000	127.07	10.50
J-11	128.60	Demand	0.000	Fixed	0.000	127.27	-12.97
J-12	124.20	Demand	0.000	Fixed	0.000	127.27	30.07
J-13	124.80	Demand	0.000	Fixed	0.000	127.27	24.20
J-14	124.50	Demand	0.000	Fixed	0.000	127.27	27.13
J-15	125.00	Demand	0.000	Fixed	0.000	127.27	22.24
J-16	124.50	Demand	0.000	Fixed	0.000	127.66	30.94
J-17	125.00	Demand	0.000	Fixed	0.000	128.37	32.98

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	Input Pump Power (kW)	Head	Shutoff Discharge (m³/min)			Operating		Status	Start Calculated Hydraulic Grade (m)	Calculated			
PS2		31.70	0.000	24.40	0.378	9.10	0.757	On	122.50	142.67	0.501	20.17	1.65
PS1		27.70	0.000	25.90	0.227	15.20	0.416	Off	125.00	127.27	0.000	0.00	0.00

Project Engineer: Brian Scott

# Scenario: Base Steady State Analysis Reservoir Report

Label	Reservoir Surface Elevation (m)	Inflow	Calculated Hydraulic Grade (m)
R-2	122.50	-0.501	122.50
LST	127.00	0.501	127.00
R-4	125.00	0.000	125.00

ALIGNMENT OPTION 2
PS1 (EXISTING PUMP) AND PS2 – ON
C=120

Link Label	Length (m)	Diameter (mm)	Roughness	Minor Loss	Initial Status		Discharge (m³/min)	Calculated	End Calculated Hydraulic Grade (m)	Headloss (m)	Friction Slope (m/km)		Start Pressure (kPa)	End Pressure (kPa)
						_		` ′						
P-3	2.00	78	120.0	0.00		Open	0.430		144.20	0.08	40.42	ŀ	208.20	207.41
P-1	0.10	300	120.0		Open	Open	0.430	122.50	122.50	0.93e-5	0.09	0.10		4.40
P-2	2.50	78	120.0	7.00	Open	Open	0.430	145.19	144.28	0.90	361.62	1.50	226.34	208.20
P-4	303.00	78	120.0	0.00	Open	Open	0.430	144.20	131.96	12.25	40.42	1.50	207.41	33.80
P-5	5.00	78	120.0	2.00	Open	Open	0.430	131.96	131.52	0.43	86.31	1.50	33.80	44.25
P-8	8.00	100	120.0	0.00	Open	Open	0.906	127.64	127.26	0.38	47.84	1.92	33.68	12.33
P-14	11.00	100	120.0	0.00	Open	Open	-0.906	127.64	128.17	0.53	47.84	1.92	33.68	35.89
P-9	1.50	100	120.0	1.00	Open	Open	0.906	127.26	127.00	0.26	173.47	1.92	12.33	
P-12	2.50	78	120.0	0.00	Open	Open	0.476	132.48	132.36	0.12	48.76	1.66	37.99	79.84
P-13	18.00	78	120.0	0.00	Open	Open	0.476	132.36	131.48	0.88	48.76	1.66	79.84	65.39
P-10	0.10	300	120.0	0.00	Open	Open	0.476	125.00	125.00	0.93e-5	0.09	0.11		4.89
P-11	14.00	78	120.0	2.00	Open	Open	0.476	133.45	132.48	0.96	68.83	1.66	87.52	37.99
P-15	21.00	78	120.0	0.00	Open	Open	-0.476	128.17	129.19	1.02	48.76	1.66	35.89	41.02
P-17	11.00	78	120.0	0.00	Open	Open	-0.430	128.17	128.61	0.44	40.42	1.50	35.89	40.24
P-16	47.00	78	120.0	0.00	Open	Open	-0.476	129.19	131.48	2.29	48.76	1.66	41.02	65.39
P-18	20.00	78	120.0		Open		-0.430	128.61	129.42	0.81	40.42	1.50	40.24	43.26
P-19	52.00	78	120.0		Open	Open	-0.430	129.42	131.52	2.10	40.42	1.50	43.26	44.25

Node Label	Elevation (m)	Demand Type		Demand Pattern	Calculated Demand (m³/min)	Calculated Hydraulic Grade (m)	Pressure (kPa)
J-3	123.00	Demand	0.000	Fixed	0.000	144.28	208.20
J-2	123.00	Demand	0.000	Fixed	0.000	144.20	207.41
J-4	128.50	Demand	0.000	Fixed	0.000	131.96	33.80
J-5	127.00	Demand	0.000	Fixed	0.000	131.52	44.25
J-7	124.20	Demand	0.000	Fixed	0.000	127.64	33.68
J-8	126.00	Demand	0.000	Fixed	0.000	127.26	12.33
J-11	128.60	Demand	0.000	Fixed	0.000	132.48	37.99
J-12	124.20	Demand	0.000	Fixed	0.000	132.36	79.84
J-13	124.80	Demand	0.000	Fixed	0.000	131.48	65.39
J-14	124.50	Demand	0.000	Fixed	0.000	128.17	35.89
J-15	125.00	Demand	0.000	Fixed	0.000	129.19	41.02
J-16	124.50	Demand	0.000	Fixed	0.000	128.61	40.24
J-17	125.00	Demand	0.000	Fixed	0.000	129.42	43.26

Link Label	Input Pump Power (kW)			Head		Operating	Maximum Operating Discharge (m³/min)	Status	Start Calculated Hydraulic Grade (m)	Calculated			
PS2		31.70	0.000	24.40	0.378	9.10	0.757	On	122.50	145.19	0.430	22.69	1.59
PS1		27.70	0.000	25.90	0.227	15.20	0.416	On	125.00	133.45	0.476	8.45	0.66

# Scenario: Base Steady State Analysis Reservoir Report

Label		Inflow	Calculated Hydraulic Grade (m)
R-2	122.50	-0.430	122.50
LST	127.00	0.906	127.00
R-4	125.00	-0.476	125.00

ALIGNMENT OPTION 2 PS1 (EXISTING PUMP) AND PS2 – ON C=150

Link Label	Length (m)	Diameter (mm)	Roughness	Minor Loss	Initial Status		Discharge (m³/min)	Calculated	End Calculated Hydraulic	Headloss (m)	Friction Slope (m/km)			End Pressure (kPa)
								Grade (m)	Grade (m)				` ,	, ,
P-3	2.00	78	150.0	0.00	Open	Open	0.493	141.81	141.74	0.07	34.44	1.72	183.97	183.29
P-1	0.10	300	150.0	0.00	Open	Open	0.493	122.50	122.50	0.93e-5	0.09	0.12		4.40
P-2	2.50	78	150.0	7.00	Open	Open	0.493	142.95	141.81	1.14	456.40	1.72	204.42	183.97
P-4	303.00	78	150.0	0.00	Open	Open	0.493	141.74	131.31	10.43	34.43	1.72	183.29	27.44
P-5	5.00	78	150.0	2.00	Open	Open	0.493	131.31	130.83	0.47	94.71	1.72	27.44	37.48
P-8	8.00	100	150.0	0.00	Open	Open	0.982	127.57	127.28	0.29	36.72	2.08	32.97	12.48
P-14	11.00	100	150.0	0.00	Open	Open	-0.982	127.57	127.97	0.40	36.72	2.08	32.97	33.98
P-9	1.50	100	150.0	1.00	Open	Open	0.982	127.28	127.00	0.28	184.21	2.08	12.48	
P-12	2.50	78	150.0	0.00	Open	Open	0.489	130.97	130.89	0.08	33.89	1.71	23.21	65.42
P-13	18.00	78	150.0	0.00	Open	Open	0.489	130.89	130.28	0.61	33.89	1.71	65.42	53.59
P-10	0.10	300	150.0	0.00	Open	Open	0.489	125.00	125.00	0.93e-5	0.09	0.12		4.89
P-11	14.00	78	150.0	2.00	Open	Open	0.489	131.74	130.97	0.77	55.05	1.71	70.86	23.21
P-15	21.00	78	150.0	0.00	Open	Open	-0.489	127.97	128.69	0.71	33.89	1.71	33.98	36.05
P-17	11.00	78	150.0	0.00	Open	Open	-0.493	127.97	128.35	0.38	34.43	1.72	33.98	37.69
P-16	47.00	78	150.0	0.00	Open	Open	-0.489	128.69	130.28	1.59	33.89	1.71	36.05	53.59
P-18	20.00	78	150.0	0.00	Open	Open	-0.493	128.35	129.04	0.69	34.43	1.72	37.69	39.53
P-19	52.00	78	150.0	0.00	Open	Open	-0.493	129.04	130.83	1.79	34.43	1.72	39.53	37.48

Node Label	Elevation (m)	Demand Type		Demand Pattern		Calculated Hydraulic Grade (m)	
J-3	123.00	Demand	0.000	Fixed	0.000	141.81	183.97
J-2	123.00	Demand	0.000	Fixed	0.000	141.74	183.29
J-4	128.50	Demand	0.000	Fixed	0.000	131.31	27.44
J-5	127.00	Demand	0.000	Fixed	0.000	130.83	37.48
J-7	124.20	Demand	0.000	Fixed	0.000	127.57	32.97
J-8	126.00	Demand	0.000	Fixed	0.000	127.28	12.48
J-11	128.60	Demand	0.000	Fixed	0.000	130.97	23.21
J-12	124.20	Demand	0.000	Fixed	0.000	130.89	65.42
J-13	124.80	Demand	0.000	Fixed	0.000	130.28	53.59
J-14	124.50	Demand	0.000	Fixed	0.000	127.97	33.98
J-15	125.00	Demand	0.000	Fixed	0.000	128.69	36.05
J-16	124.50	Demand	0.000	Fixed	0.000	128.35	37.69
J-17	125.00	Demand	0.000	Fixed	0.000	129.04	39.53

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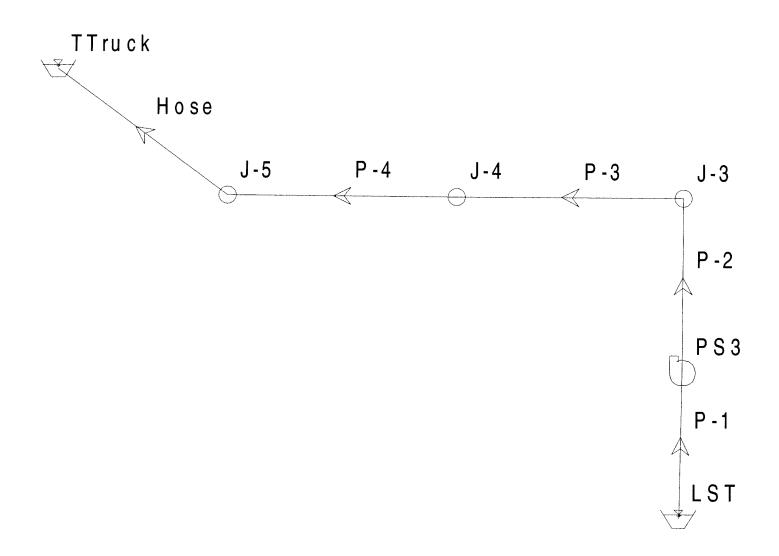
1	Input Pump Power (kW)	Head	Shutoff Discharge (m³/min)	Head		Operating	Maximum Operating Discharge (m³/min)	Status	Start Calculated Hydraulic Grade (m)	Calculated			
PS2		31.70	0.000	24.40	0.378	9.10	0.757	On	122.50	142.95	0.493	20.45	1.65
PS1		27.70	0.000	25.90	0.227	15.20	0.416	On	125.00	131.74	0.489	6.74	0.54

# Scenario: Base **Steady State Analysis Reservoir Report**

Node Label		Inflow	Calculated Hydraulic Grade (m)
R-2	122.50	-0.493	122.50
LST	127.00	0.982	127.00
R-4	125.00	-0.489	125.00

# **APPENDIX B-2**

# **PS3 - TANKER TRUCK LOADING**



LST – FULL TANKER TRUCK – EMPTY C=120

Link Label		Diameter (mm)	Roughness			Current Status	(m³/min)	Calculated	End Calculated Hydraulic Grade (m)	` '	Friction Slope (m/km)	(m/s)		End Pressure (kPa)
P-3	6.50	100	120.0	0.30	Open	Open	1.425	129.61	128.75	0.86	131.96	3.02	25.00	16.02
P-4	3.50	100	120.0	0.50	Open	Open	1.425	128.75	128.13	0.62	177.00	3.02	16.02	9.57
Hose	6.00	100	120.0	1.00	Open	Open	1.425	128.13	127.00	1.13	188.09	3.02	9.57	•
P-1	0.10	300	120.0	0.00	Open	Open	1.425	127.00	127.00	0.56e-4	0.56	0.34		31.30
P-2	3.50	78	120.0	1.00	Open	Open	1.425	132.16	129.61	2.55	729.95	4.97	81.78	25.00

Node Label	Elevation (m)				Calculated Demand (m³/min)	Calculated Hydraulic Grade (m)	Pressure (kPa)
J-3	127.05	Demand	0.000	Fixed	0.000	129.61	25.00
J-4	127.11	Demand	0.000	Fixed	0.000	128.75	16.02
J-5	127.15	Demand	0.000	Fixed	0.000	128.13	9.57

	Head		Head		Operating	Maximum Operating Discharge (m³/min)	Status	Start Calculated Hydraulic Grade (m)	Calculated			
PS3	18.60	0.000	12.20	0.946	3.60	1.514	On	127.00	132.16	1.425	5.16	1.20

Project Engineer: Brian Scott

Cybernet v3.1 [071]

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# Scenario: Base **Steady State Analysis** Reservoir Report

Label	Reservoir Surface Elevation (m)	Inflow	Calculated Hydraulic Grade (m)
TTruck	127.00	1.425	127.00
LST	127.00	-1.425	127.00

LST – FULL TANKER TRUCK – EMPTY C=150

Link Label	Length (m)	Diameter (mm)	Roughness				, ,	Calculated	End Calculated Hydraulic Grade (m)	٠,	Friction Slope (m/km)	(m/s)		End Pressure (kPa)
P-3	6.50	100	150.0	0.30	Open	Open	1.470	129.13	128.48	0.65	100.33	3.12	20.36	13.39
P-4	3.50	100	150.0	0.50	Open	Open	1.470	128.48	127.96	0.52	148.26	3.12	13.39	7.93
Hose	6.00	100	150.0	1.00	Open	Open	1.470	127.96	127.00	0.96	160.07	3.12	7.93	
P-1	0.10	300	150.0	0.00	Open	Open	1.470	127.00	127.00	0.37e-4	0.37	0.35		31.30
P-2	3.50	78	150.0	1.00	Open	Open	1.470	131.38	129.13	2.25	642.35	5.13	74.14	20.36

Node Label	Elevation (m)				Calculated Demand (m³/min)		
J-3	127.05	Demand	0.000	Fixed	0.000	129.13	20.36
J-4	127.11	Demand	0.000	Fixed	0.000	128.48	13.39
J-5	127.15	Demand	0.000	Fixed	0.000	127.96	7.93

Link Label	 Head	Shutoff Discharge (m³/min)	Head		Operating		Status	Start Calculated Hydraulic Grade (m)	Calculated			
PS3	18.60	0.000	12.20	0.946	3.60	1.514	On	127.00	131.38	1.470	4.38	1.05

# Scenario: Base **Steady State Analysis** Reservoir Report

Label	Reservoir Surface Elevation (m)	Inflow	Calculated Hydraulic Grade (m)
TTruck	127.00	1.470	127.00
LST	127.00	-1.470	127.00

LST – EMPTY TANKER TRUCK – FULL C=120

Link Label	Length (m)	Diameter (mm)	Roughness	Minor Loss			(m³/min)	Calculated	End Calculated Hydraulic Grade (m)		Friction Slope (m/km)	(m/s)		End Pressure (kPa)
P-3	6.50	100	120.0	0.30	Open	Open	1.202	130.89	130.26	0.62	95.91	2.55	37.53	30.84
P-4	3.50	100	120.0	0.50	Open	Open	1.202	130.26	129.81	0.45	127.94	2.55	30.84	26.07
Hose	6.00	100	120.0	1.00	Open	Open	1.202	129.81	129.00	0.82	135.83	2.55	26.07	
P-1	0.10	300	120.0	0.00	Open	Open	1.202	124.00	124.00	0.37e-4	0.37	0.28		1.96
P-2	3.50	78	120.0	1.00	Open	Open	1.202	132.73	130.89	1.84	526.07	4.19	87.33	37.53

Node Label	Elevation (m)		Demand (m³/min)		Calculated Demand (m³/min)	Calculated Hydraulic Grade (m)	
J-3	127.05	Demand	0.000	Fixed	0.000	130.89	37.53
J-4	127.11	Demand	0.000	Fixed	0.000	130.26	30.84
J-5	127.15	Demand	0.000	Fixed	0.000	129.81	26.07

Cybernet v3.1 [071]

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Lin Lab	Input Pump Power (kW)	Head	Shutoff Discharge (m³/min)	Head		Operating		Status	Start Calculated Hydraulic Grade (m)	Calculated			
PS3		18.60	0.000	12.20	0.946	3.60	1.514	On	124.00	132.73	1.202	8.73	1.71

#### Scenario: Base **Steady State Analysis Reservoir Report**

Label	Reservoir Surface Elevation (m)	Inflow	Calculated Hydraulic Grade (m)
TTruck	129.00	1.202	129.00
LST	124.00	-1.202	124.00

LST EMPTY
TANKER TRUCK – FULL
C=150

Link Label		Diameter (mm)	Roughness					Calculated	End Calculated Hydraulic Grade (m)	. , ,	Friction Slope (m/km)	(m/s) Î		End Pressure (kPa)
P-3	6.50	100	150.0	0.30	Open	Open	1.240	130.54	130.07	0.47	72.79	2.63	34.13	28.91
P-4	3.50	100	150.0	0.50	Open	Open	1.240	130.07	129.69	0.37	106.88	2.63	28.91	24.86
Hose	6.00	100	150.0	1.00	Open	Open	1.240	129.69	129.00	0.69	115.28	2.63	24.86	
P-1	0.10	300	150.0	0.00	Open	Open	1.240	124.00	124.00	0.28e-4	0.28	0.29		1.96
P-2	3.50	78	150.0	1.00	Open	Open	1.240	132.15	130.54	1.62	461.68	4.32	81.73	34.13

Cybernet v3.1 [071]

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Node Label	Elevation (m)					Calculated Hydraulic Grade (m)	Pressure (kPa)
J-3	127.05	Demand	0.000	Fixed	0.000	130.54	34.13
J-4	127.11	Demand	0.000	Fixed	0.000	130.07	28.91
J-5	127.15	Demand	0.000	Fixed	0.000	129.69	24.86

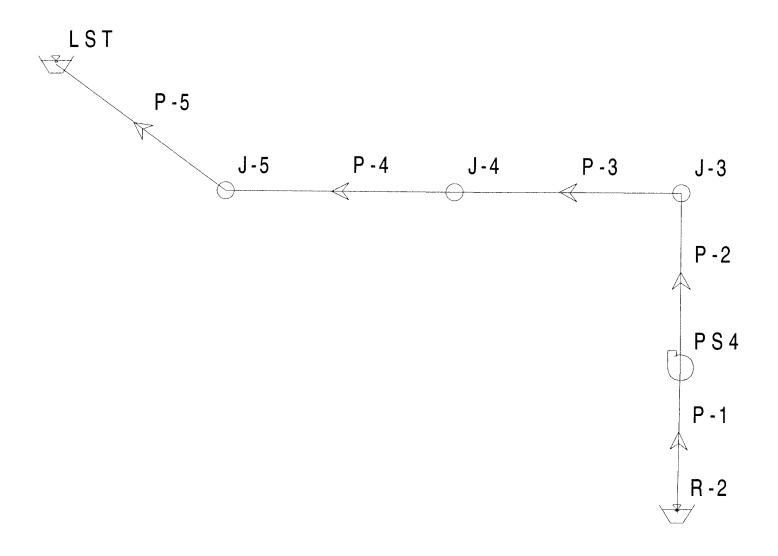
	Head	Shutoff Discharge (m³/min)	Head		Operating		Status	Start Calculated Hydraulic Grade (m)	Calculated		Head	
PS3	18.60	0.000	12.20	0.946	3.60	1.514	On	124.00		1.240	8.15	1.65

#### Scenario: Base Steady State Analysis Reservoir Report

Label	Reservoir Surface Elevation (m)	Inflow	Calculated Hydraulic Grade (m)
TTruck	129.00	1.240	129.00
LST	124.00	-1.240	124.00

## **APPENDIX B-3**

# PS4 – SPILLED LEACHATE RETURN TO LEACHATE STORAGE TANK



LST – FULL C=150

#### Scenario: Base **Steady State Analysis** Pipe Report

Link Label	, ,	Diameter (mm)	Roughness	Minor Loss		Current Status		Calculated	End Calculated Hydraulic Grade (m)		Friction Slope (m/km)	,		End Pressure (kPa)
P-3	11.00	52	150.0	0.30	Open	Open	0.220	128.59	127.93	0.66	59.72	1.72	44.87	38.44
P-4	10.50	52	150.0	0.00	Open	Open	0.220	127.93	127.35	0.58	55.59	1.72	38.44	1.43
P-5	3.50	52	150.0	1.00	Open	Open	0.220	127.35	127.00	0.35	98.86	1.72	1.43	1
P-1	0.10	300	150.0	0.00	Open	Open	0.220	123.80	123.80	0.00	0.00	0.05		4.89
P-2	1.00	50	150.0	7.00	Open	Open	0.220	129.89	128.59	1.31	1,307.54	1.87	64.50	44.87

#### Scenario: Base **Steady State Analysis Junction Report**

Node Label	Elevation (m)		Demand (m³/min)		Calculated Demand (m³/min)	Calculated Hydraulic Grade (m)	Pressure (kPa)
J-3	124.00	Demand	0.000	Fixed	0.000	128.59	44.87
J-4	124.00	Demand	0.000	Fixed	0.000	127.93	38.44
J-5	127.20	Demand	0.000	Fixed	0.000	127.35	1.43

#### Scenario: Base Steady State Analysis Pump Report

1	Input Pump Power (kW)	Head	Shutoff Discharge (m³/min)	Head		Operating		Status	Start Calculated Hydraulic Grade (m)	Calculated			
PS4		7.50	0.000	5.00	0.360	2.00	0.708	On	123.80	` '	0.220	6.09	0.22

Project Engineer: Brian Scott

Cybernet v3.1 [071]

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#### Scenario: Base **Steady State Analysis Reservoir Report**

Label	Reservoir Surface Elevation (m)	Inflow	Calculated Hydraulic Grade (m)
LST	127.00	0.220	127.00
R-2	123.80	-0.220	123.80

LST – FULL C=120

#### Scenario: Base Steady State Analysis Pipe Report

Link Label	Length (m)	Diameter (mm)	Roughness			Current Status		Calculated	End Calculated Hydraulic Grade (m)		Friction Slope (m/km)	,		End Pressure (kPa)
P-3	11.00	52	120.0	0.30	Open	Open	0.200	128.93	128.11	0.81	73.99	1.57	48.20	40.24
P-4	10.50	52	120.0	0.00	Open	Open	0.200	128.11	127.37	0.74	70.57	1.57	40.24	1.69
P-5	3.50	52	120.0	1.00	Open	Open	0.200	127.37	127.00	0.37	106.42	1.57	1.69	
P-1	0.10	300	120.0	0.00	Open	Open	0.200	123.80	123.80	0.00	0.00	0.05		4.89
P-2	1.00	50	120.0	7.00	Open	Open	0.200	130.04	128.93	1.11	1,112.84	1.70	65.93	48.20

#### Scenario: Base **Steady State Analysis Junction Report**

Node Label	Elevation (m)				Calculated Demand (m³/min)		
J-3	124.00	Demand	0.000	Fixed	0.000	128.93	48.20
J-4	124.00	Demand	0.000	Fixed	0.000	128.11	40.24
J-5	127.20	Demand	0.000	Fixed	0.000	127.37	1.69

#### Scenario: Base **Steady State Analysis Pump Report**

	Input Pump Power (kW)	Head	Shutoff Discharge (m³/min)	Head		Operating		Status	Start Calculated Hydraulic Grade (m)	Calculated			
PS4		7.50	0.000	5.00	0.360	2.00	0.708	On	123.80	130.04	0.200	6.24	0.20

#### Scenario: Base Steady State Analysis Reservoir Report

Label	Reservoir Surface Elevation (m)	Inflow	Calculated Hydraulic Grade (m)
LST	127.00	0.200	127.00
R-2	123.80	-0.200	123.80

LST – EMPTY C=120

#### Scenario: Base **Steady State Analysis Pipe Report**

Link Label		Diameter (mm)	Roughness	3		Current Status		Calculated	End Calculated Hydraulic Grade (m)		Friction Slope (m/km)			End Pressure (kPa)
P-3	11.00	52	120.0	0.30	Open	Open	0.273	127.43	125.99	1.45	131.52	2.14	33.57	19.42
P-4	10.50	52	120.0	0.00	Open	Open	0.273	125.99	124.67	1.31	125.16	2.14	19.42	-24.74
P-5	3.50	52	120.0	1.00	Open	Open	0.273	124.67	124.00	0.67	191.76	2.14	-24.74	
P-1	0.10	300	120.0	0.00	Open	Open	0.273	123.80	123.80	0.00	0.00	0.06		4.89
P-2	1.00	50	120.0	7.00	Open	Open	0.273	129.49	127.43	2.06	2,060.33	2.31	60.57	33.57

#### Scenario: Base **Steady State Analysis Junction Report**

Node Label	Elevation (m)		Demand (m³/min)		Calculated Demand (m³/min)	Calculated Hydraulic Grade (m)	Pressure (kPa)
J-3	124.00	Demand	0.000	Fixed	0.000	127.43	33.57
J-4	124.00	Demand	0.000	Fixed	0.000	125.99	19.42
J-5	127.20	Demand	0.000	Fixed	0.000	124.67	-24.74

#### Scenario: Base Steady State Analysis Pump Report

	Head	Shutoff Discharge (m³/min)			Operating		Status	Start Calculated Hydraulic Grade (m)	Calculated			
PS4	7.50	0.000	5.00	0.360	2.00	0.708	On	123.80	129.49	0.273	5.69	0.25

Project Engineer: Brian Scott

#### Scenario: Base Steady State Analysis Reservoir Report

Label	Reservoir Surface Elevation (m)	Inflow	Calculated Hydraulic Grade (m)
LST	124.00	0.273	124.00
R-2	123.80	-0.273	123.80

LST – EMPTY C=150

#### Scenario: Base **Steady State Analysis Pipe Report**

Link Label	Length (m)	Diameter (mm)	Roughness	Minor Loss				Calculated	End Calculated Hydraulic Grade (m)		Friction Slope (m/km)			End Pressure (kPa)
P-3	11.00	52	150.0	0.30	Open	Open	0.300	126.84	125.67	1.17	106.72	2.36	27.81	16.32
P-4	10.50	52	150.0	0.00	Open	Open	0.300	125.67	124.63	1.04	99.01	2.36	16.32	-25.15
P-5	3.50	52	150.0	1.00	Open	Open	0.300	124.63	124.00	0.63	179.77	2.36	-25.15	
P-1	0.10	300	150.0	0.00	Open	Open	0.300	123.80	123.80	0.00	0.00	0.07		4.89
P-2	1.00	50	150.0	7.00	Open	Open	0.300	129.28	126.84	2.43	2,434.70	2.55	58.47	27.81

#### Scenario: Base **Steady State Analysis Junction Report**

Node Label	Elevation (m)				Calculated Demand (m³/min)		
J-3	124.00	Demand	0.000	Fixed	0.000	126.84	27.81
J-4	124.00	Demand	0.000	Fixed	0.000	125.67	16.32
J-5	127.20	Demand	0.000	Fixed	0.000	124.63	-25.15

#### Scenario: Base Steady State Analysis Pump Report

	Head		Head		Operating	Maximum Operating Discharge (m³/min)	Status	Start Calculated Hydraulic Grade (m)	Calculated			
PS4	7.50	0.000	5.00	0.360	2.00	0.708	On	123.80	129.28	0.300	5.48	0.27

Title: Richmond Landfill - Leachate Storage g:\...\richmondlandfill drain chamber.wcd 24/10/14 03:27:25 PM © Haestad Method

#### Scenario: Base **Steady State Analysis** Reservoir Report

Label	Reservoir Surface Elevation (m)	Inflow	Calculated Hydraulic Grade (m)
LST	124.00	0.300	124.00
R-2	123.80	-0.300	123.80

Attachment 3

Proof of Consultation/Notification



**WASTE MANAGEMENT** 

1271 Beechwood Road Napanee, ON K7R 3L1 (613) 388-1057 (613) 388-2785 fax

081-12493-00 (8570G)

January 8, 2015

Re: Environmental Compliance Approval Application – Leachate Storage System

Waste Management of Canada Corporation - Richmond Landfill Site

#### Dear Resident:

Waste Management of Canada Corporation (WM) has submitted an application to the Ministry of the Environment and Climate Change (MOECC) requesting an amendment to Environmental Compliance Approval No. A371203, issued by the MOECC on January 9, 2012. WM is requesting approval for a leachate storage system designed to simplify and improve leachate removal and truck loading operations.

Included in the application is a design brief outlining the leachate storage system components, functionality, and supporting hydraulic calculations. Drawings of the system components have also been included in the submission.

Should you have any questions, concerns, or objections to the proposal, you must send written comments to:

Director, Environmental Approvals – Access and Service Integration Branch Ministry of Environment and Climate Change 2 St. Clair Avenue West, Floor 12A Toronto, ON M4V 1L5

Written comments must be received within 15 days of receipt of the notice. Should you have any questions or comments regarding the application before expressing these comments to the Ministry, please do not hesitate to contact Ms. Linda Cooper at the Richmond Landfill site.

Yours very truly,

#### WASTE MANAGEMENT OF CANADA CORPORATION

Mr. Ross Wallace - Landfill Manager

### Waste Management of Canada Corporation - Richmond Landfill Application to Amend Environmental Compliance Approval No. A371203 (Leachate Storage System)

#### **Notification to Neighbouring Residents of Application Submission**

Resident Name	Residence Address
Resident	1097 Beechwood Road, Napanee, ON
Mr. and Mrs. Paul Martin	1121 Beechwood Road, Napanee, ON
Mr. Andrew Martin	1144 Beechwood Road, Napanee, ON
Mr. Doug Lewis	1250 Beechwood Road, Napanee, ON
Mr. and Mrs. Lyn Russell	3424 Selby Road, Napanee, ON
Mary Blair and Leona Wells	3684 Selby Road, Napanee, ON
Mr. Bob Russell	3591 Selby Road, Napanee, ON
The Bakers	3462 Selby Road, Napanee, ON
R. C. Murray	3703 Selby Road, Napanee, ON
Mr. and Mrs. Leo Walsh	3832 Selby Road, Napanee, ON
Resident	1464 Callaghan Side Road, Napanee, ON
Mrs Angela Scharf	1398 Callaghan Side Road, Napanee, ON
Mr. and Mrs. Doug Cranston	1388 Callaghan Side Road, Napanee, ON
Mr. and Mrs. Cory Wilson	1360 Callaghan Side Road, Napanee, ON
Mr. Ken Brown	1379 Callaghan Side Road, Napanee, ON
Mr. and Mrs. James Shearer	172 Tuckers Lane, Marysville, ON
Mr. Gary Tucker	138 Tuckers Lane, Marysville, ON
Mr. and Mrs. Ron Allison	207 Tuckers Lane, Marysville, ON
Mr. Ken Sutcliffe	37 Johnson Side Road, Napanee, ON

# Waste Management of Canada Corporation - Richmond Landfill Application to Amend Environmental Compliance Approval No. A371203 (Leachate Storage System)

#### **Notification to Neighbouring Residents of Application Submission**

Resident Name	Residence Address
Mr. Tim Dillenbeck	66 Johnson Side Road, Napanee, ON
Ms. Julie Butcher	66 Johnson Side Road, Napanee, ON
Resident	67 Johnson Side Rd, Napanee ON
Resident	71 Johnson Side Rd, Napanee ON
Resident	75 Johnson Side Rd, Napanee ON
Resident	185 Johnson Side Rd, Napanee ON
Mr. and Mrs. Brian Powers	603 Kennelly Road, Napanee, ON
Mr. Charles Goodfellow	554 Kennelly Road, Napanee, ON
Mr. Shaun Kennelly	494 Kennelly Road, Napanee, ON

NOTE: 3427 Selby Road has no mailbox, therefore no letter was left.