7.0 STUDY LIMITATIONS

Golder Associates Ltd. (Golder) has prepared this report in a manner consistent with that level of care and skill normally exercised by other members of the engineering and science professions currently practicing under similar conditions, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied, is made.

This report has been prepared for the specific site, design objective, developments and purpose described to Golder by City of London (the City). The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location.

The information, recommendations and opinions expressed in this report are for the sole benefit of the City. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the City, Golder may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings and other documents as well as all electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the City and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The City and Approved Users may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder. The City acknowledges the electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the City cannot rely upon the electronic media versions of Golder's report or other work products.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the City in the design of the specific project.

The findings and conclusions of this report are valid only as of the date of this report. If new information is discovered in future work, Golder Associates Ltd. should be requested to re-evaluate the conclusions of this report, and to provide amendments as required.

8.0 REFERENCES

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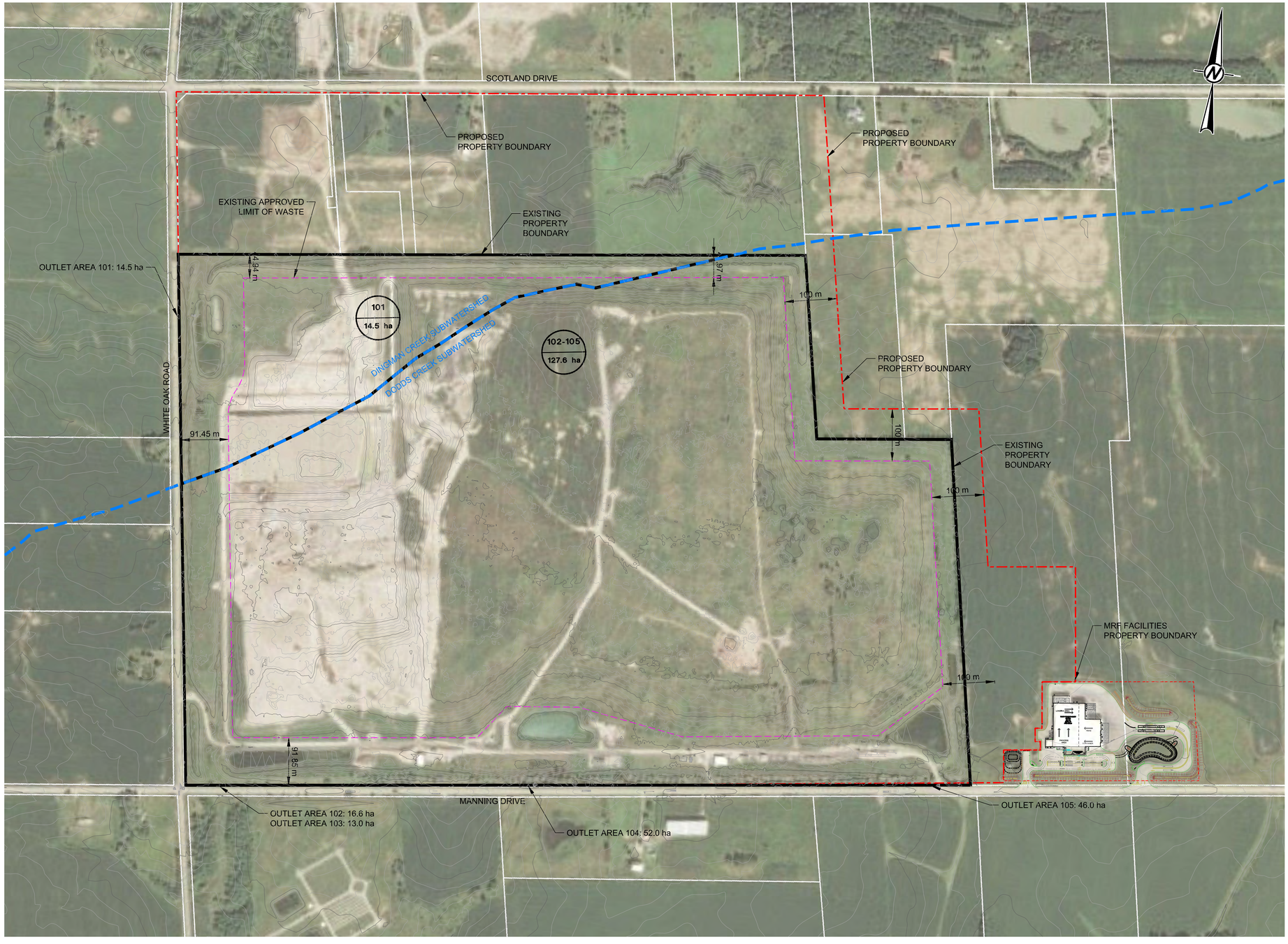

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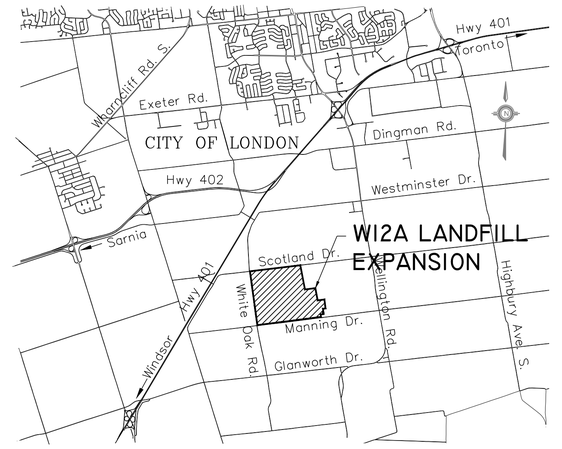

LEGEND

- DRAINAGE BOUNDARY
- 205 / 41.0 ha — DRAINAGE AREA I.D. No. / AREA (ha)
- SITE BOUNDARY

REFERENCE(S)

BASE INFORMATION AND EXISTING CONTOURS AS PER CITY OF LONDON SURVEY DATED NOVEMBER 22, 2016.

NOT FOR CONSTRUCTION

DRAFT

0 200 400
1:4,000 METRES

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
A	2020-08-18	ISSUED FOR CLIENT REVIEW	MHK	ABD	MHK	DVK

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PROJECT
ENVIRONMENTAL ASSESSMENT OF THE PROPOSED W12A LANDFILL EXPANSION

TITLE
PRE-DEVELOPMENT DRAINAGE AREAS

PROJECT NO.	CONTROL	REV.	of	DRAWING
1648176	0016	----		01

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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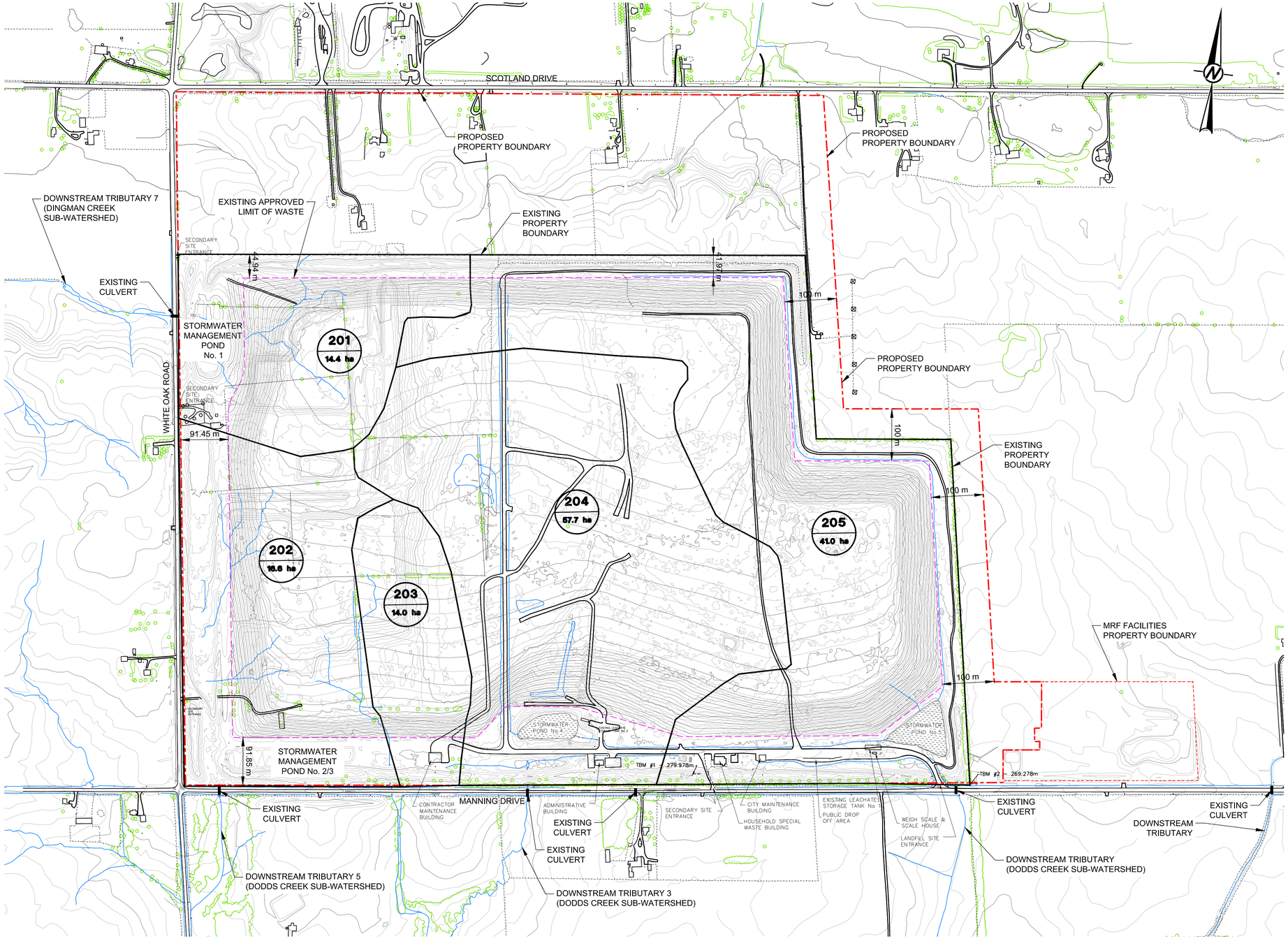

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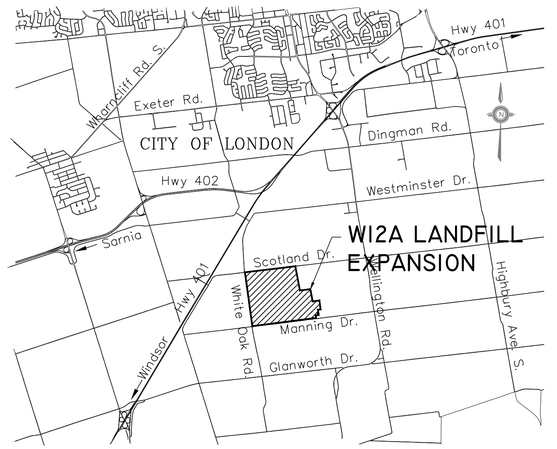

LEGEND

- DRAINAGE BOUNDARY
- 205 / 41.0 ha — DRAINAGE AREA I.D. No. / AREA (ha)
- SITE BOUNDARY

REFERENCE(S)

BASE INFORMATION AND EXISTING CONTOURS AS PER CITY OF LONDON SURVEY DATED NOVEMBER 22, 2016.

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1:4,000 METRES

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PROJECT
ENVIRONMENTAL ASSESSMENT OF THE PROPOSED W12A LANDFILL EXPANSION

TITLE
EXISTING DRAINAGE AREAS

PROJECT NO.	CONTROL	REV.	of	DRAWING
1648176	0016	A		02

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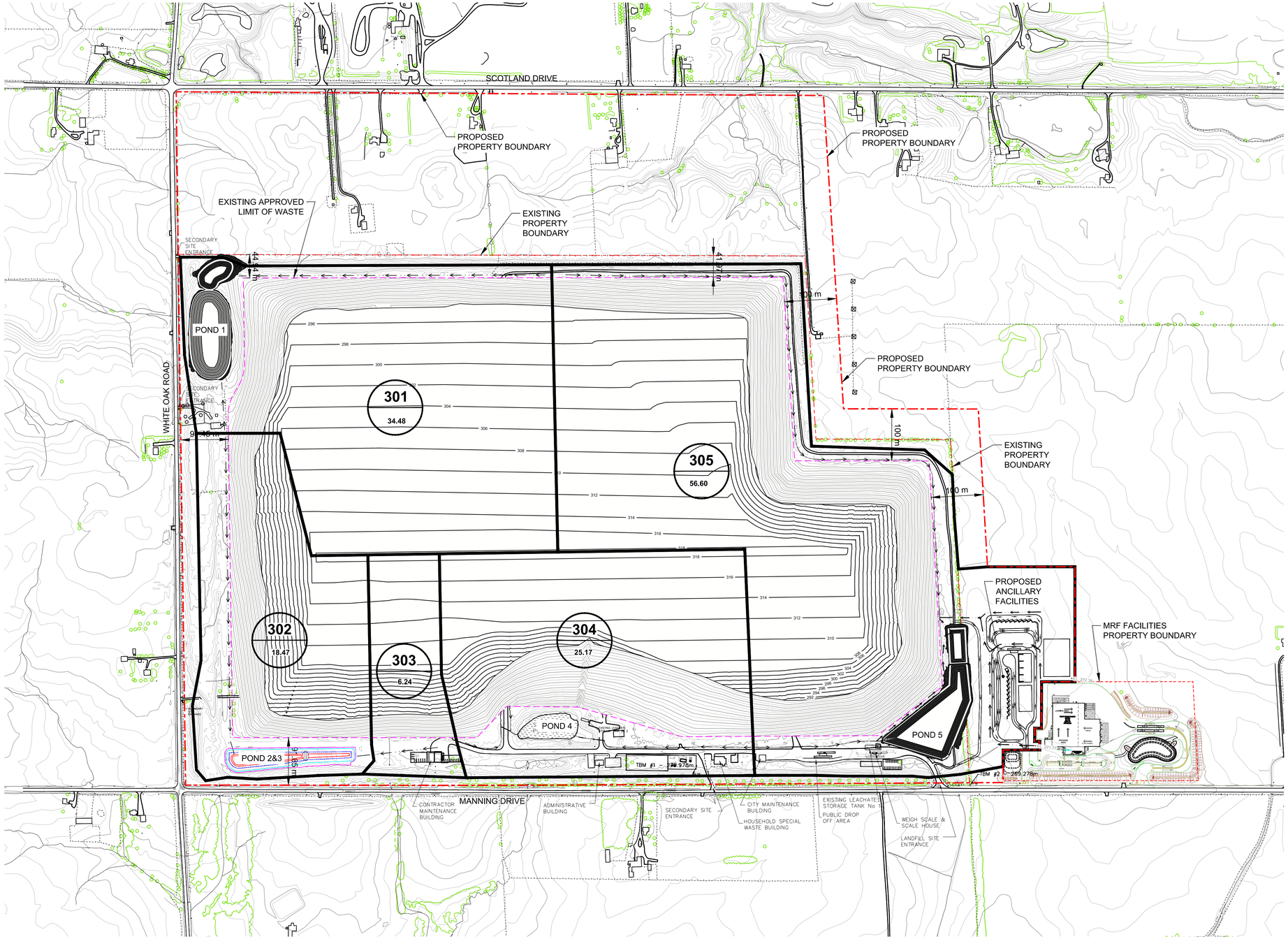

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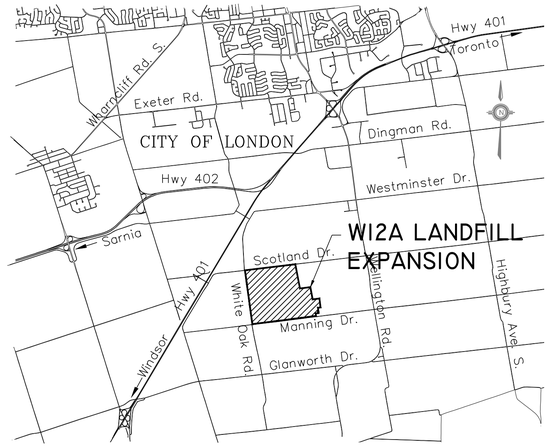

LEGEND

- DRAINAGE BOUNDARY
- 25 / 0.48 — DRAINAGE AREA I.D. No. / RUNOFF COEFFICIENT (1:2 YESR) / AREA (ha)
- SITE BOUNDARY
- EXISTING DITCH FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED DITCH FLOW DIRECTION
- PROPOSED CULVERT

NOTE(S)

1. ELEVATION CONTOURS SHOWN ARE TOP OF WASTE, masl.

REFERENCE(S)

BASE INFORMATION AND EXISTING CONTOURS AS PER CITY OF LONDON SURVEY DATED NOVEMBER 22, 2016.

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1:4,000 METRES

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PROJECT
ENVIRONMENTAL ASSESSMENT OF THE PROPOSED W12A LANDFILL EXPANSION

TITLE
POST -EXPANSION DRAINAGE AREAS

PROJECT NO.	CONTROL	REV.	of	DRAWING
1648176	0016	A		03

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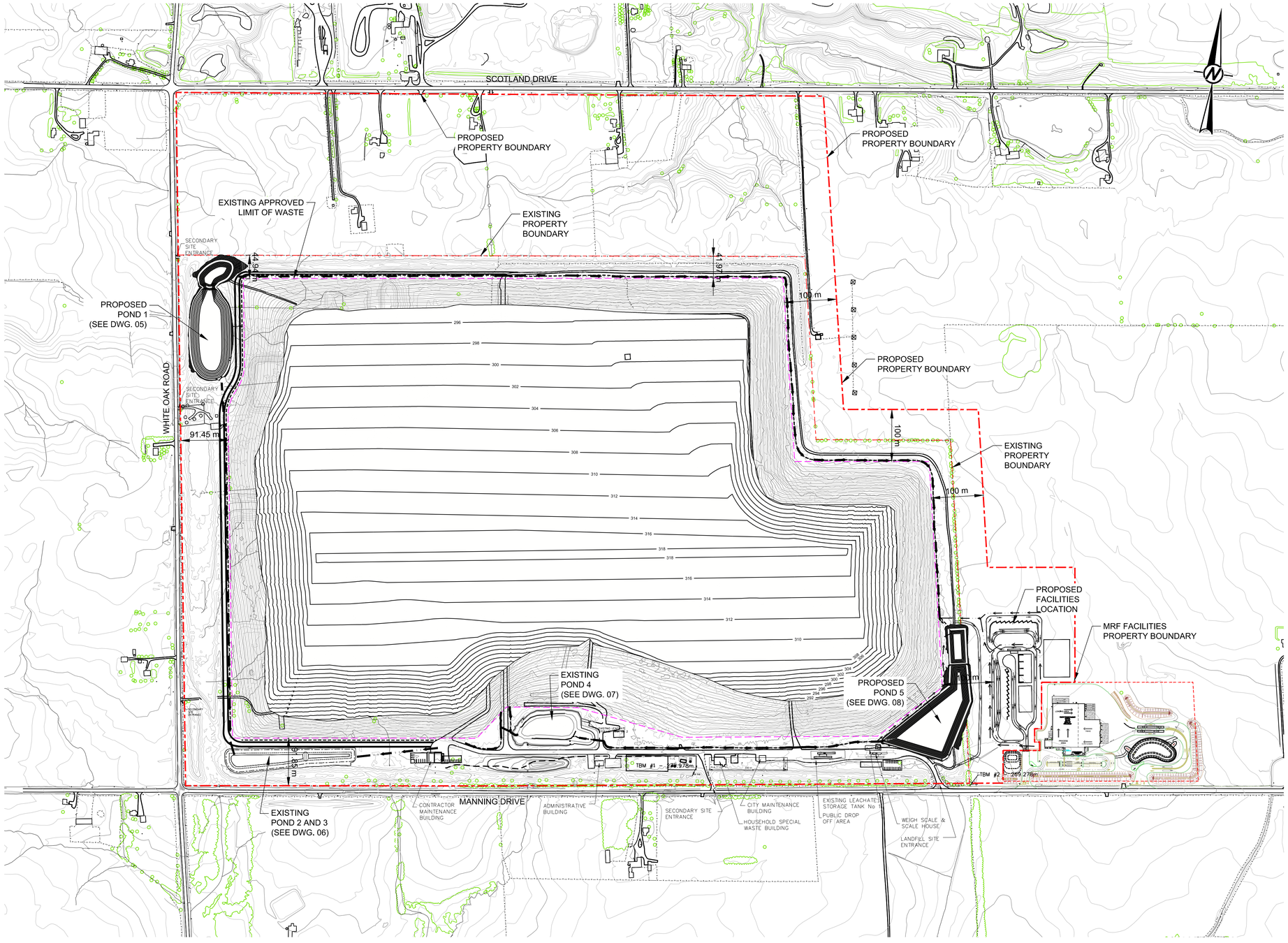

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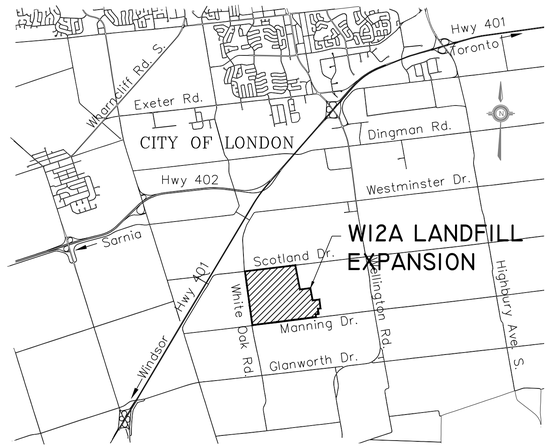

LEGEND

- EXISTING DITCH FLOW DIRECTION
- PROPOSED DITCH FLOW DIRECTION
- SITE BOUNDARY
- LANDFILL PERIMETER DITCH

NOTE(S)

1. ELEVATION CONTOURS SHOWN ARE TOP OF WASTE, masl.

REFERENCE(S)

BASE INFORMATION AND EXISTING CONTOURS AS PER CITY OF LONDON SURVEY DATED NOVEMBER 22, 2016.

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PROJECT
ENVIRONMENTAL ASSESSMENT OF THE PROPOSED W12A LANDFILL EXPANSION

TITLE
OVERALL STORMWATER MANAGEMENT PLAN

PROJECT NO.	CONTROL	REV.	of	DRAWING
1648176	0016	A		04

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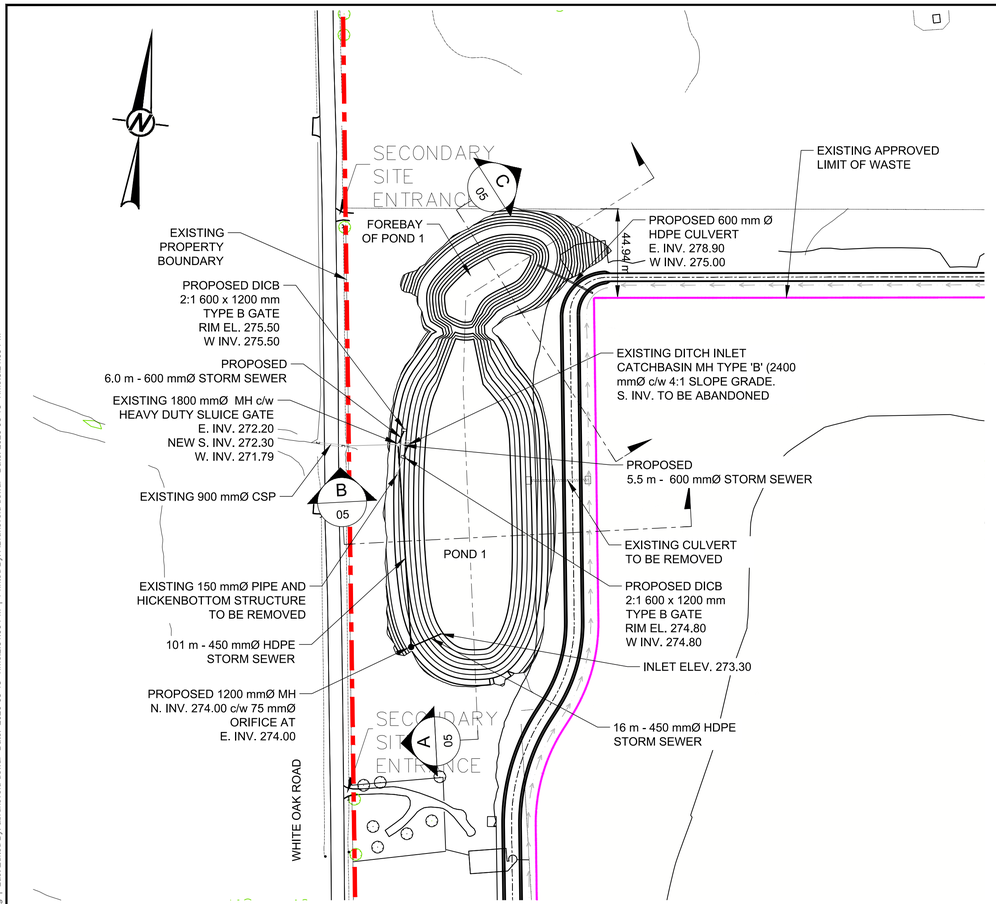
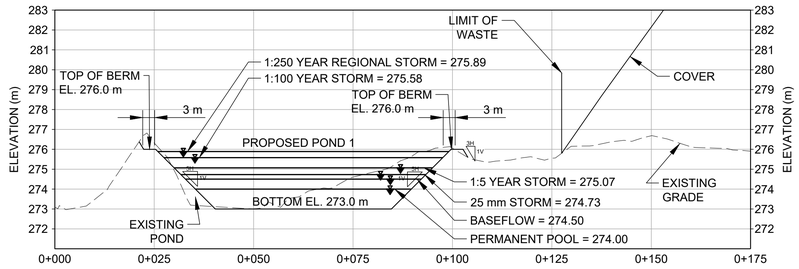


PLAN VIEW OF POND 1 AND FOREBAY

SCALE 1:1,500 m



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V.E.= x5

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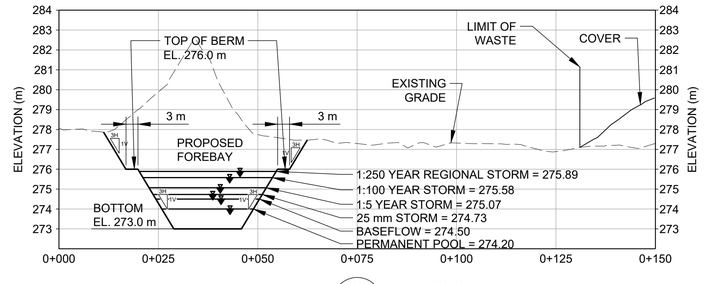

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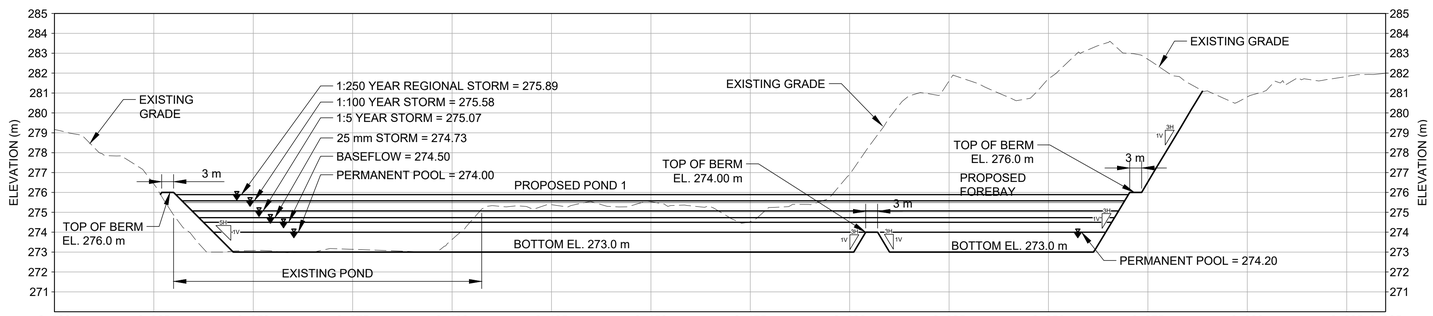

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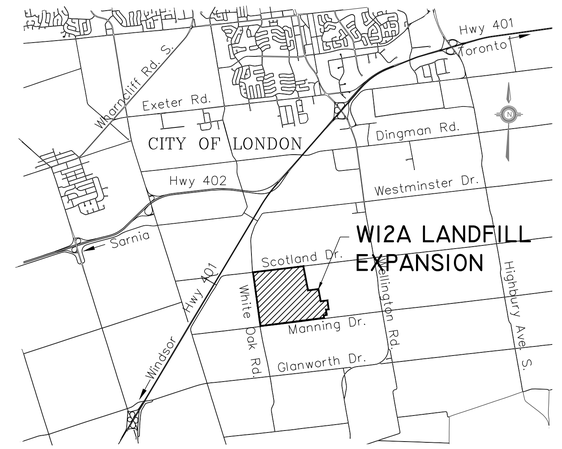
KEY MAP



LEGEND

- SITE BOUNDARY
- EXISTING MH
- EXISTING STORM SEWER
- EXISTING DITCH
- PROPOSED MH
- PROPOSED STORM SEWER

NOTE(S)

1. ELEVATION CONTOURS SHOWN ARE TOP OF WASTE, masl.

REFERENCE(S)

BASE INFORMATION AND EXISTING CONTOURS AS PER CITY OF LONDON SURVEY DATED NOVEMBER 22, 2016.

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1:750 METRES

0 50 100
1:1,500 METRES

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PROJECT
ENVIRONMENTAL ASSESSMENT OF THE PROPOSED W12A LANDFILL EXPANSION

TITLE
POND 1 - PLAN AND SECTIONS

PROJECT NO.	CONTROL	REV.	of	DRAWING
1648176	0016	A		05

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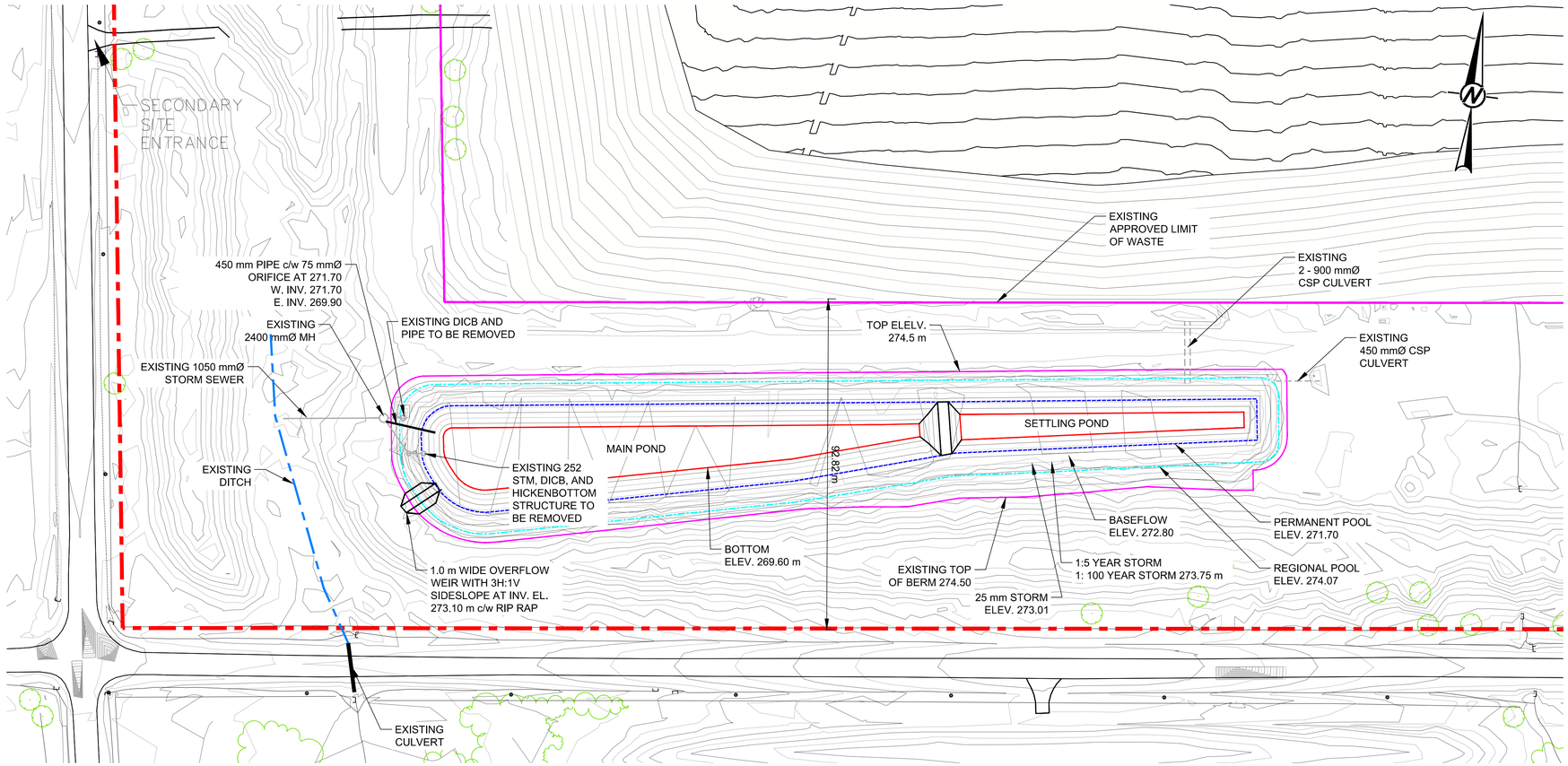
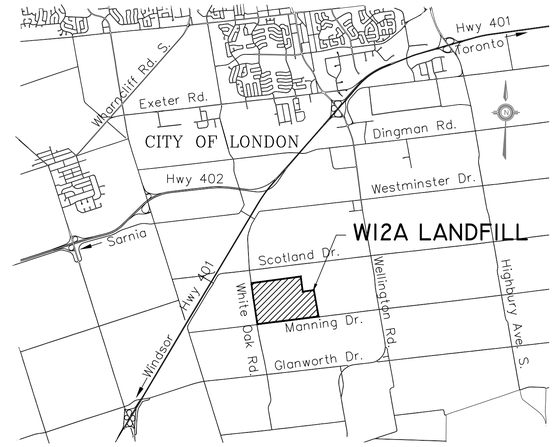


PLAN VIEW OF POND 2 and 3
SCALE 1:750 m

KEY MAP



LEGEND

- SITE BOUNDARY
- EXISTING CULVERT
- EXISTING MH
- EXISTING STORM SEWER
- NEW STORM SEWER

NOTE(S)

1. ELEVATION CONTOURS SHOWN ARE TOP OF WASTE, masl.

REFERENCE(S)

1. BASE INFORMATION AND EXISTING CONTOURS AS PER CITY OF LONDON SURVEY DATED NOVEMBER 22, 2016.
2. MAIN AND SETTLING POND INFORMATION WAS TAKEN FROM EARTH TECH PROJECT No. 91539, DRAWING 2, REVISION 2, AS-BUILT, DATED MARCH 15, 2007.

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PROJECT
ENVIRONMENTAL ASSESSMENT OF THE PROPOSED W12A LANDFILL EXPANSION

TITLE
POND 2 and 3 - PLAN

PROJECT NO.	CONTROL	REV.	of	DRAWING
1648176	0016	A		06

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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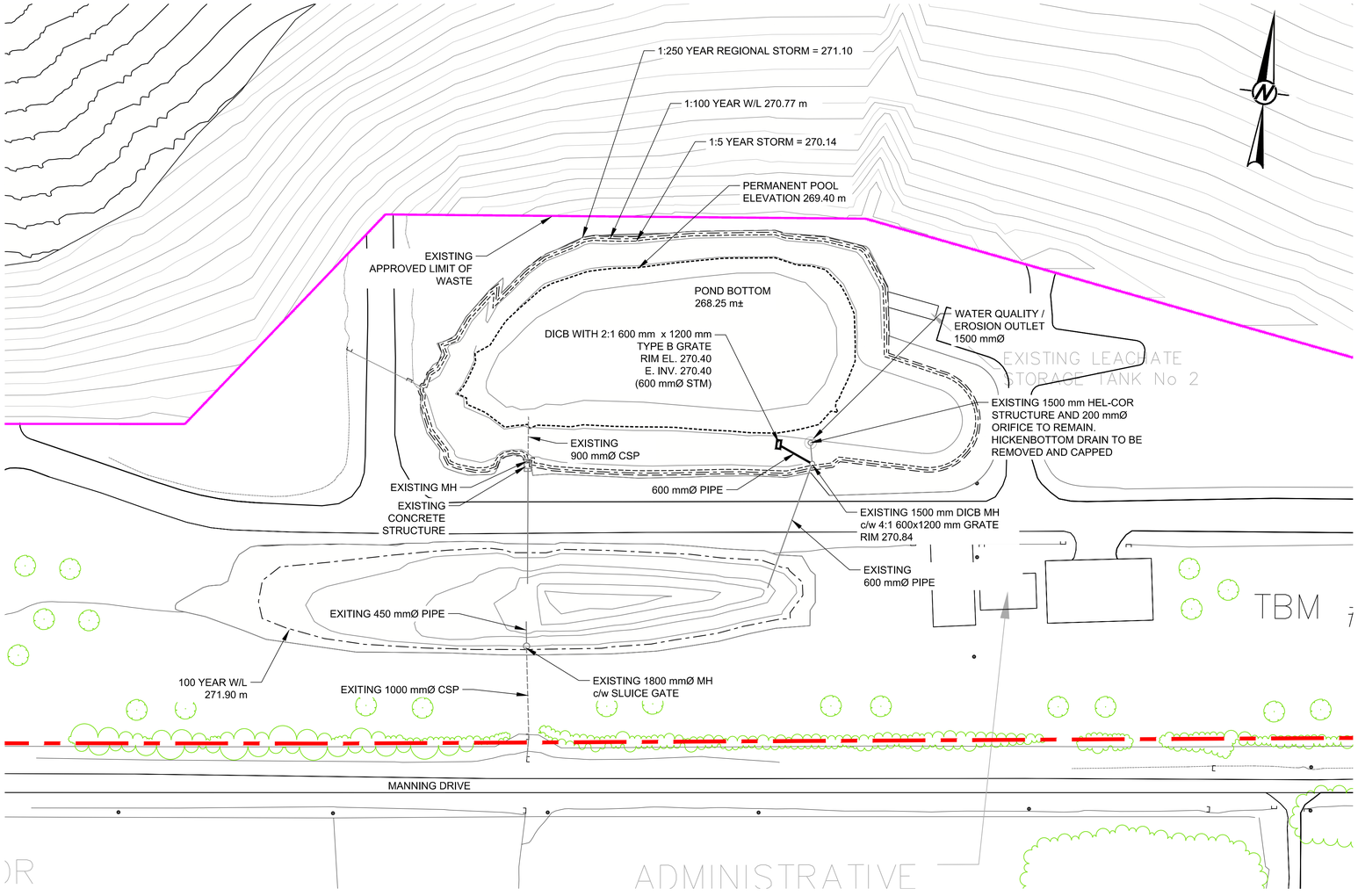
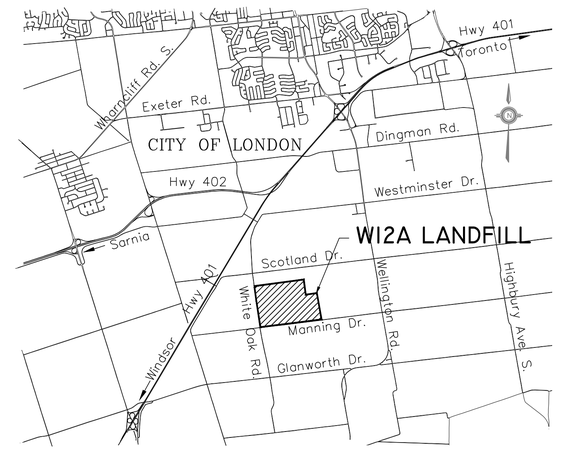


PLAN VIEW
SCALE 1:750 m

KEY MAP



LEGEND

- SITE BOUNDARY
- EXISTING MH OR STRUCTURES
- EXISTING STORM SEWER
- EXISTING CULVERT
- NEW DICB
- NEW STORM SEWER

NOTE(S)

1. ELEVATION CONTOURS SHOWN ARE TOP OF WASTE, masl.

REFERENCE(S)

BASE INFORMATION AND EXISTING CONTOURS AS PER CITY OF LONDON SURVEY DATED NOVEMBER 22, 2016.

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1:750 METRES

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PROJECT
ENVIRONMENTAL ASSESSMENT OF THE PROPOSED W12A LANDFILL EXPANSION

TITLE
POND 4 - PLAN

PROJECT NO.	CONTROL	REV.	of	DRAWING
1648176	0016	A		07

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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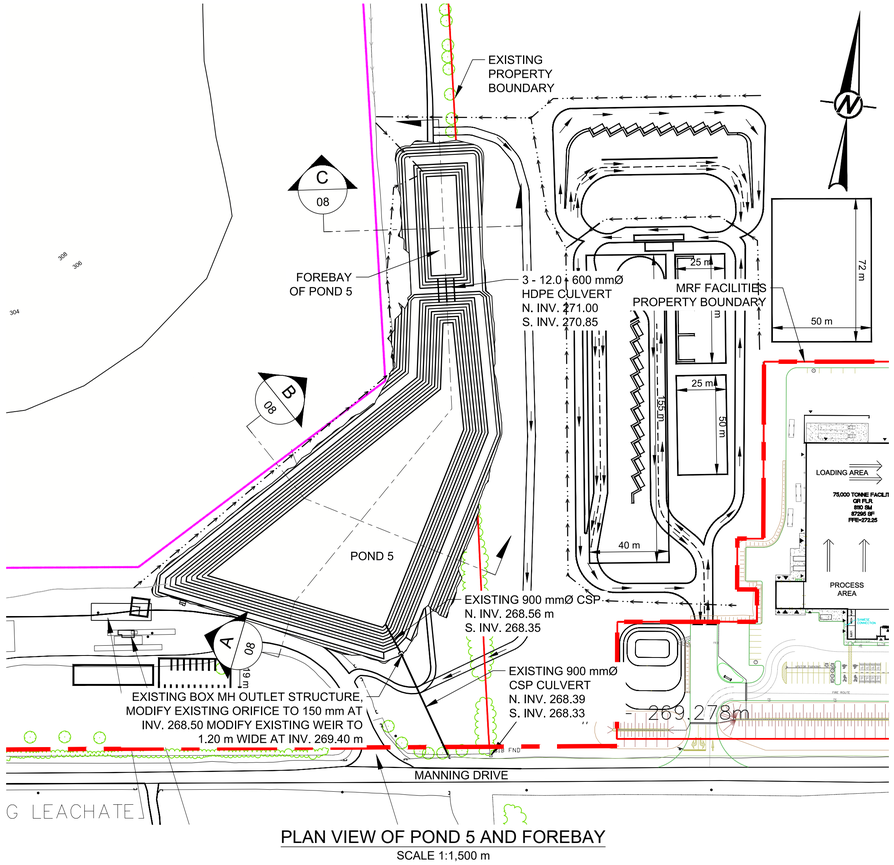
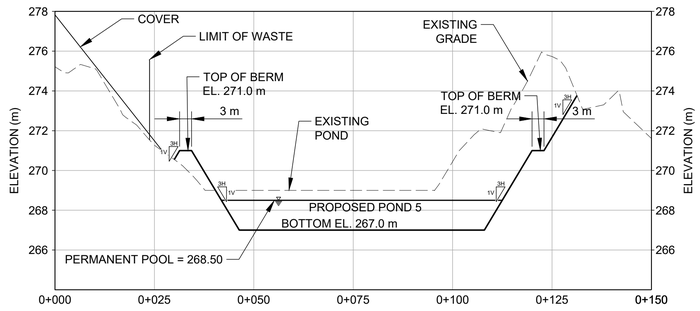


PLAN VIEW OF POND 5 AND FOREBAY

SCALE 1:1,500 m



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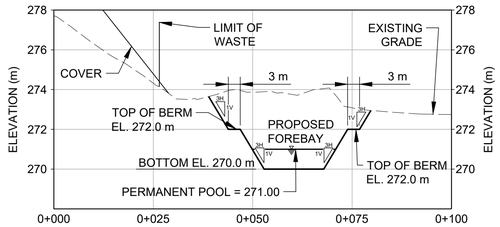

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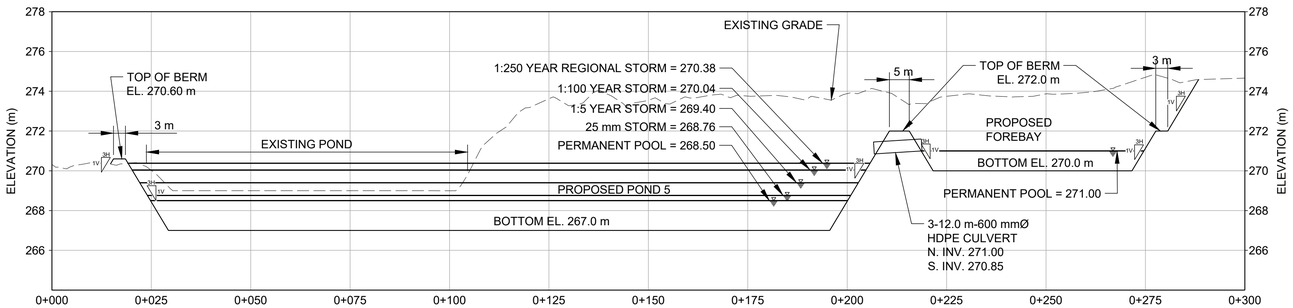

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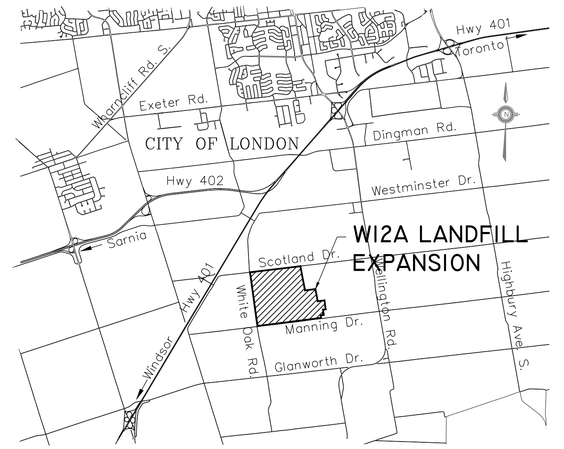
KEY MAP



LEGEND

- SITE BOUNDARY
- EXISTING DITCH
- EXISTING CULVERT
- EXISTING MAINTENANCE HOLE
- PROPOSED DITCH
- PROPOSED CULVERT

NOTE(S)

1. ELEVATION CONTOURS SHOWN ARE TOP OF WASTE, masl.

REFERENCE(S)

BASE INFORMATION AND EXISTING CONTOURS AS PER CITY OF LONDON SURVEY DATED NOVEMBER 22, 2016.

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1:750 METRES

0 50 100
1:1,500 METRES

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A	2020-08-18	ISSUED FOR CLIENT REVIEW	MHK	MLF	MHK	DVK

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CITY OF LONDON
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PROJECT
ENVIRONMENTAL ASSESSMENT OF THE PROPOSED W12A LANDFILL EXPANSION

TITLE
POND 5 - PLAN AND SECTIONS

PROJECT NO.	CONTROL	REV.	of	DRAWING
1648176	0016	A		08

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APPENDIX A

Amended Environmental Compliance Approval Number 1828-9CKRMK

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Ontario

Ministry of the Environment
Ministère de l'Environnement

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER 1828-9CKRMK
Issue Date: December 11, 2013

The Corporation of the City of London
300 Dufferin Ave
Post Office Box, No. 5035
London, Ontario
N6A 4L9

Site Location: W12A Landfill
3502 Manning Dr
City of London, County of Middlesex
N6L 1K6

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

construction of stormwater management facilities, leachate collection and disposal system to service the W12A Landfill Site, located on 3502 Manning Drive, City of London, consisting of the following:

PROPOSED WORKS:

Upgrade the existing 27.5 L/sec capacity submersible pump (**MH701 Pumping Station)** with the following:

- two (2) 30.0 L/sec @ 24.5 m TDH capacity submersible pumps (**MH701 Pumping Station)** (one duty, one standby) and the existing 2,400 mm diameter x 8.80 m deep wet well, equipped with a 14.9 kW motor, a 150 mm diameter cement lined ductile iron pipe forcemain, and one (1) precast concrete valve chamber equipped with magnetic flow monitoring equipment, pumping collected leachate through an **existing** approximately 645 m long 150 mm diameter HDPE forcemain to a 300 mm diameter sanitary sewer described below; and
- all controls and associated appurtenances.

All in accordance with the documents listed in Schedule 'A'.

***PREVIOUS WORKS* APPROVED ON FEBRUARY 10, 2011:**

LEACHATE COLLECTION AND DISPOSAL SYSTEM

upgrade of existing leachate collection and disposal system to convey collected leachate directly to a municipal sanitary sewer for treatment at the Greenway Pollution Control Plant, consisting of the following:

Phase I - Leachate Collection System:

- one (1) existing perimeter leachate collection system serving Cell 1, Cell 2, Cell 3, Cell 4 and part of Cell 5, consisting of a 200 mm diameter perforated pipe installed with a minimum grade slope of

0.3% in a granular envelope about 0.9 m below original grade, equipped with maintenance holes at approximately 90 meter intervals, draining by gravity into a 60 m3 capacity leachate **Storage Tank No. 1** located near the southeast entrance gate of the landfill site;

- one (1) existing perimeter leachate collection system serving Cell 5, consisting of a 200 mm diameter perforated pipe installed with a minimum grade slope of 0.3% in a granular envelope about 0.9 m below original grade, equipped with maintenance holes at approximately 90 meter intervals, draining by gravity into **MH701 Pumping Station** described above;

Phase II - Leachate Collection System:

- one (1) new full underdrain leachate collection system approximately 880 meter long serving Cell 6, Cell 7, and Cell 8, consisting of a 200 mm diameter perforated HDPE pipe installed at 90 meter interval with a minimum grade slope of 0.5% running in a southerly direction discharging into a 200 mm diameter perforated HDPE pipe located at the south toe of the landfill base then into a 200 mm diameter non-perforated HDPE header pipe buried below which eventually drains into **MH701 Pumping Station** described above;
- maintenance holes located at the south limit of the landfill site at the centre of each Cell 6, Cell 7, and Cell 8 installed at 180 meter intervals, and clean-outs located at the north side of each underdrain pipe running in a southerly direction;

Upgraded Leachate Disposal System:

- one (1) **new** approximately 360 m long 300 mm diameter sanitary sewer extending from MH200 through MH201, MH202, MH203, to MH204, discharging to an existing **Storage Tank No. 1** described below;
- one (1) **existing** 60 m3 capacity leachate **Storage Tank No. 1** to be used as a wet well for the proposed new leachate pumping station described below, equipped with low and high level float alarms and one (1) tanker truck loading station to haul leachate as required as a backup system to the new leachate pumping;
- one (1) **existing** 60 m3 capacity leachate **Storage Tank No. 2** located near Pond 4 at the south side of the landfill site, equipped with one (1) 7.5 hp submersible pump, low and high level float alarms, and one (1) tanker truck loading station to haul leachate as required as a backup system to the new leachate pumping station described below;

New Leachate Pumping Station and Forcemain

A prefab pumping station with approximate dimensions of 4.3 m x 3.7 m to be located beside the existing Storage Tank No. 1 and a forcemain consisting of the following:

- one (1) 30 L/sec maximum flow capacity @ 58.3 m TDH self priming centrifugal pump (**High Flow Pump**), equipped with a variable speed drive, 45 kW motor, a 150 mm diameter stainless steel suction pipe from the wet well (**Storage Tank No. 1**), and a 150 mm diameter stainless steel discharge pipe with a knife gate valve, discharging to a common 200 mm diameter discharge header;
- one (1) 10 L/sec maximum flow capacity @ 22.1 m TDH self priming centrifugal pump (**Low Flow Pump**), equipped with a variable speed drive, 7 kW motor, a 150 mm diameter stainless steel suction pipe from the wet well (**Storage Tank No. 1**), and a 150 mm diameter stainless steel discharge pipe with a knife gate valve, discharging to a common 200 mm diameter discharge header and the forcemain described below;
- one (1) approximately 202 m long 200 mm diameter forcemain extending from the leachate

pumping station described above to a 6.6 km long leachate forcemain approved under Certificate of Approval No. 3256-882HLV issued on August 25, 2010.

- including all controls and associated appurtenances.

All in accordance with the documents listed in Schedule 'A'.

PREVIOUS WORKS **APPROVED ON OR BEFORE DECEMBER 10, 2003 UNDER CofA # 8067-5TFKKB:**

STORMWATER MANAGEMENT FACILITY

Stormwater Management Pond - Pond 1:

a stormwater management facility located on the northwest corner of the landfill site, constructed as a wet extended detention pond, receiving stormwater runoff from a total drainage area of 14.4 ha, providing a permanent pool storage capacity of 2470 m 3 and an active storage capacity of 5800 m 3 , designed to provide sufficient detention of stormwater runoff from storm events with 1:100 year return frequency, consisting of the following:

- one (1) inlet structure constructed of a rip-rap on a filter fabric and discharging into a forebay described below;
- one (1) forebay equipped with an outlet berm and an overflow rip-rap structure discharging into a wet detention pond described below;
- one (1) extended wet detention pond with a permanent pool elevation of 273.2 m equipped with one (1) 150 mm diameter Hickenbottom outlet structure placed inside a 1500 mm diameter perforated CSP riser structure with clear stone filter, discharging through one (1) 1200 mm diameter manhole (MH1) equipped with 150 mm diameter gate valve into an existing 900 mm diameter CSP culvert into Tributary 7; and
- one (1) emergency by-pass structure consisting of a 3.2 meter wide rip-rap spillway at invert elevation of 275.0 m discharging into Tributary 7.

Stormwater Management Pond - Pond 2/3:

a stormwater management facility located on the southwest corner of the landfill site, constructed as a wet extended detention pond, receiving stormwater runoff from a total drainage area of 29.6 ha, providing a permanent pool storage capacity of 2660 m 3 and an active storage capacity of 11100 m 3 , designed to provide sufficient detention of stormwater runoff from storm events with 1:100 year return frequency, consisting of the following:

- one (1) inlet structure constructed of a rip-rap on a filter fabric and discharging into a settling pond described below;
- one (1) 52 m long and 31.8 m wide settling pond with a permanent pool elevation of 271.7 m, equipped with one (1) 300 mm diameter Hickenbottom outlet structure placed inside a 1500 mm diameter perforated CSP riser structure with clear stone filter, discharging through one (1) 300 mm diameter 30 m long PVC pipe into a main pond described below, and one (1)14.8 m wide rip-rap overflow structure with invert elevation of 272.2 m;
- one (1) 115 m long and 44.5 m wide extended wet detention pond with a permanent pool elevation of 271.2 m equipped with one (1) 300 mm diameter Hickenbottom outlet structure placed inside a 1500 mm diameter perforated CSP riser structure connected to one (1) 29 m long 300 mm diameter 29 m long PVC pipe passing through one (1) 1200 mm diameter manhole equipped with

300 mm diameter gate valve discharging into an existing outlet ditch which drains into Tributary 5; and one (1) ditch inlet structure with invert elevation of 272.2 m discharging through one (1) 18 m long 750 mm diameter concrete pipe into an existing outlet ditch which drains into Tributary 5;

- one (1) emergency by-pass structure consisting of a 5.0 m wide rip-rap spillway at invert elevation of 274.0 m discharging into Tributary 5.

Stormwater Management Pond - Pond 4:

a stormwater management facility located on the south side of the landfill site, constructed as a wet extended detention pond, receiving stormwater runoff from a total drainage area of 57.7 ha, providing a permanent pool storage capacity of 5200 m 3 and an active storage capacity of 20200 m 3 , designed to provide sufficient detention of stormwater runoff from storm events with 1:100 year return frequency, consisting of the following:

- one (1) inlet structure constructed of a rip-rap on a filter fabric and discharging into a wet detention pond described below;
- one (1) 99 m long 40 m wide extended wet detention pond with a permanent pool elevation of 269.7 m equipped with one (1) 125 mm diameter Hickenbottom outlet structure placed inside a 1500 mm diameter perforated CSP riser structure with clear stone filter, discharging through a 29 m long 150 mm diameter non-perforated PVC pipe equipped with a 150 mm gate valve into one (1) 1200 mm diameter manhole (MH1) and then through a 29 m long 450 mm diameter pipe into an outlet structure described below;
- one (1) outlet ditch equipped with a 1650 mm x 900 mm concrete box with open grated top at invert elevation of 271.0 m and discharging through an existing 1050 mm diameter pipe into Tributary 3.

Stormwater Management Pond - Pond 5:

a stormwater management facility located on the southeast corner of the landfill site, constructed as a wet extended detention pond, receiving stormwater runoff from a total drainage area of 41.0 ha, providing a permanent pool storage capacity of 3690 m 3 and an active storage capacity of 11800 m 3 , designed to provide sufficient detention of stormwater runoff from storm events with 1:100 year return frequency, consisting of the following:

- one (1) forebay equipped with one (1) 125 mm diameter Hickenbottom outlet structure placed inside a 1500 mm diameter perforated CSP riser structure with clear stone filter discharging into a wet detention pond through 25 m long 150 mm diameter pipe; and a 7.0 m wide rip-rip overflow structure at invert elevation of 273.0 m discharging into a wet detention pond described below;
- one (1) 88 m long 84 m wide triangular shaped extended wet detention pond with a permanent pool elevation of 268.5 m discharging through a 900 mm diameter pipe into an outlet structure described below; and

- one (1) outlet structure manhole equipped with an overflow weir at elevation 269.4 m, a 600 mm x 600 mm slide gate valve with one (1) 150 mm diameter orifice, discharging through 900 mm diameter outlet pipe into Tributary 1;

All in accordance with the documents listed in Schedule 'A'.

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

"Approval" means this entire document and any schedules attached to it, and the application;

"BOD5" (also known as TBOD 5) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demand;

"Director" means a person appointed by the Minister pursuant to section 5 of the *EPA* for the purposes of Part II.1 of the *EPA;*

"Emergency Situation" means a structural, mechanical or electrical failure that causes a temporary reduction in the capacity of the *Works* (**Leachate Collection and Disposal System**) or an unforeseen flow condition that may result in:

a) danger to the health or safety of any person; or,
b) injury or damage to any property, or serious risk of injury or damage to any property;

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

"Event" means an action or occurrence, at a given location within the *Works* that causes an *Overflow.* An *Event* ends when there is no recurrence of an *Overflow* in the 12-hour period following the last *Overflow* . Two *Events* are separated by at least 12 hours during which there has been no recurrence of an *Overflow;*

"Ministry" means the ministry of the government of Ontario responsible for the *EPA* and *OWRA* and includes all officials, employees or other persons acting on its behalf;

" *Overflow"* means any discharge from the *Works* **(Leachate Collection and Disposal System**) that does not undergo any treatment or only receives partial treatment before it is discharged to the environment.

"Owner" means the Corporation of the City of London and its successors and assignees;

"OWRA" means the Ontario Water Resources Act , R.S.O. 1990, c. O.40, as amended;

"Previous Works" means those portions of the sewage works previously constructed and approved under an *Approval* ;

"Proposed Works" means the sewage works described in the Owner's application, this Approval, to the extent approved by this *Approval;*

"Substantial Completion" has the same meaning as *"substantial performance"* in the Construction Lien Act ;

"Water Supervisor" means the Water Supervisor for the London offices of the Ministry; and

"Works" means the sewage works described in the *Owner* 's application, and this *Approval* , and includes both *Proposed Works* and *Previous Works.*

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. GENERAL PROVISIONS

(1) The *Owner* shall ensure that any person authorized to carry out work on or operate any aspect of the *Works* is notified of this *Approval* and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

(2) Except as otherwise provided by these conditions, the *Owner* shall design, build, install, operate and maintain the *Works* in accordance with the description given in this *Approval* , and the application for approval of the W *orks.*

(3) Where there is a conflict between a provision of any document in the schedule referred to in this *Approval* and the conditions of this *Approval* , the Conditions in this *Approval* shall take precedence, and where there is a conflict between the documents in the schedule, the document bearing the most recent date shall prevail.

(4) Where there is a conflict between the documents listed in Schedule 'A', and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.

(5) The Conditions of this *Approval* are severable. If any Condition of this *Approval* , or the application of any requirement of this *Approval* to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this *Approval* shall not be affected thereby.

2. EXPIRY OF APPROVAL

The approval issued by this *Approval* will cease to apply to those parts of the *Works* which have not been constructed within five (5) years of the date of this *Approval.*

3. CHANGE OF OWNER

(1) The *Owner* shall notify the *Water Supervisor* and the *Director,* in writing, of any of the following changes within thirty (30) days of the change occurring:

(a) change of *Owner;*

(b) change of address of the *Owner;*

(c) change of partners where the *Owner* 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.B17 shall be included in the notification to the *Water Supervisor;*

(d) change of name of the corporation where the *Owner* is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Information Act , R.S.O. 1990, c. C39 shall be included in the notification to the *Water Supervisor;*

(2) In the event of any change in ownership of the *Works,* other than a change to a successor municipality, the *Owner* shall notify in writing the succeeding owner of the existence of this *Approval,* and a copy of such notice shall be forwarded to the *Water Supervisor* and the *Director.*

4. UPON THE SUBSTANTIAL COMPLETION OF THE WORKS

(1) Upon the *Substantial Completion* of the *Proposed Works,* the Owner shall prepare a statement, certified by a Professional Engineer, that the works are constructed in accordance with this *Approval,*

and upon request, shall make the written statement available for inspection by Ministry personnel.

(2) Within one (1) year of the *Substantial Completion* of the *Proposed Works* , a set of as-built drawings showing the works “as constructed” shall be prepared. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be retained at the *Works* for the operational life of the *Works.*

5. OVERFLOW - COLLECTION SYSTEM AND PUMPING STATIONS

(1) Any *Overflow* is prohibited, except:

(a) in an *Emergency Situation;* and

(b) where the *Overflow* is planned for research or training purposes, the discharger notified the *Water Supervisor* 15 days prior to the *Overflow* and the *Water Supervisor* has given written consent of the *Overflow.*

(2) The *Owner* shall forthwith notify the Spills Action Centre (SAC) and the Medical Officer of Health of all *Overflow Events* except the events occurring under the subsection (1)(b). This notice shall include, at a minimum, the following information:

(a) the date, time, and duration of the *Event;*

(b) the location of the *Event;*

(c) the measured or estimated volume of the *Event;* and

(d) the reason for the *Event;*

(3) The *Owner* shall submit *Overflow Event(s)* report to the Ministry's local office for each quarter only during which *Event(s)* has/have occurred. Each quarterly report shall be submitted no later than each of the following dates for each calendar year: February 14, May 15, August 14, and November 15. *Event* Reports shall be in an electronic format specified by the Ministry. In each Event Report the *Owner* shall include, at a minimum, the following information on any *Events* that occurred during the preceding quarter:

(a) the date, time, and duration of the *Event;*

(b) the location of the *Event*

(c) the measured or estimated volume of the *Event;* and

(d) the reason for the *Event.*

(4) The *Owner* shall maintain a logbook of all *Overflows,* which shall contain, at a minimum, the types of information set out in subsection 2 (a) to 2(d) in respect of each *Overflow.*

(5) The *Owner* shall use best efforts to collect at least one (1) grab sample of the *Overflow* and have it analyzed for leachate indicator parameters outlined in Condition 6 (2), using the protocols specified in Condition 6 (3).

6. MONITORING AND RECORDING

(1) Upon the commencement of the operation of the *Works* (Leachate pumping to sanitary sewer), the *Owner* shall carry out the following leachate monitoring program. Leachate samples shall be collected from a designated sampling location at **Storage Tank No. 1** on a quarterly frequency (**April, June, September, and November**). The samples collected in April, September, and November shall be analyzed for the indicator parameter list in Table 1. The samples collected in June shall be analyzed for the comprehensive parameter list in Table 1.

(2) The *Owner* shall carry out the following surface water monitoring program. Surface water samples shall be collected from the designated sampling locations at the outfall of Pond 1, Pond 2/3, Pond 4 and Pond 5 in **spring and fall and two other sampling events** . The samples collected in spring and fall shall be analyzed for the comprehensive parameter list in Table 1. The samples collected during other two sampling events shall be analyzed for the indicator parameter list in Table 1.

Table 1

Parameter	Leachate Monitoring		Surface Water Monitoring	
	Comprehensive Parameter	Indicator Parameter	Comprehensive Parameter	Indicator Parameter
General				
Alkalinity	X	X	X	X
BOD5	X	X	X	X
COD	X	X	X	X
Conductivity	X	X	X	X
DOC	X	X		
Hardness			X	X
pH	X	X	X	X
Phenols	X	X	X	X
Sulphate	X	X	X	X
Suspended Solids	X	X	X	X
General - Nutrients				
Ammonia	X	X	X	X
Nitrate	X		X	X
Nitrite	X		X	X
TKN	X		X	
Total Phosphorus	X		X	X
General - Major Ions				
Chloride	X	X	X	X
Calcium	X	X		
Iron	X	X	X	X
Magnesium	X			
Manganese	X	X		
Potassium	X	X		
Sodium	X	X		
Trace Metals				
Arsenic	X		X	
Barium	X		X	
Boron	X		X	
Cadmium	X	X	X	
Chromium	X		X	

Copper	X		X	
Lead	X		X	
Mercury	X		X	
Nickel	X	X		
Selenium	X			
Zinc	X		X	
Volatiles				
EPA 624 Scan	X			
Field Test				
Conductivity	X	X	X	X
Dissolved Oxygen			X	X
pH	X	X	X	X
Temperature (Field)			X	X

(3) The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:

(a) the Ministry's Procedure F-10-1, “Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only), as amended from time to time by more recently published editions;

(b) the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions;

(c) the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition), as amended from time to time by more recently published editions;

(4) The *Owner* shall install and maintain flow measuring devices, to measure the total volume of stormwater and leachate from the *Works* with an accuracy to within plus or minus 15 per cent (+/- 15%) of the actual flow for the entire design range of the flow measuring device, and record the total volume and average flow rate of stormwater and leachate at a weekly frequency.

(5) The *Owner* shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this *Approval* .

7. OPERATION AND MAINTENANCE

(1) The *Owner* shall operate the stormwater management facilities (Pond 1, Pond 2/3, Pond 4 and Pond 5) as continuous discharge facilities with the outlet control gate valve normally open (**Level One Operating Procedure**). The monitoring results from the four surface water sampling events outlined in Section 6 (2) of this *Approval* shall be reviewed and assessed against the following **trigger points** in Table 2.

Table 2

Parameter	**Trigger Concentration** (mg/L)
Ammonia (un-ionized)*	>0.3

BOD5	>10.0
Chlorides	>800
Sulphates	>1000

*** Note:** Ammonia (un-ionized) concentration shall be calculated from the monitoring results of ammonia, pH, and field temperature.

(2) In the event that a monitoring result for any of the trigger parameters listed in Table 2 exceeds the corresponding trigger concentration, the *Owner* shall take a surface water sample to confirm the exceedance of a trigger concentration for that parameter. Upon confirmation of the exceedance of a trigger concentration for any parameter, the *Owner* shall commence to operate the stormwater management pond in a batch discharge mode with the gate valve normally closed (**Level Two Operating Procedure**).

(3) During Level Two Operating Procedure, if monitoring results show that there is an exceedance of a trigger concentration for any parameter, the *Owner* shall not allow the discharge of the potentially contaminated stormwater from the pond(s) into the receiving surface water and shall direct such discharges into the leachate collection system. However, if monitoring results show that there is no exceedance of a trigger concentration for any parameter, then the *Owner* shall discharge that batch of stormwater from a pond into the receiving surface water.

(4) During Level Two Operating Procedure, the *Owner* shall conduct a Level One monitoring program plus monitoring of the trigger parameters at the end of each storm event.

(5) A stormwater management pond operating under **Level Two Operating Procedure** shall return to **Level One Operating Procedure** only if the monitoring results from three (3) consecutive surface water sampling events for each trigger parameter from the same pond are less than the corresponding trigger concentration for each parameter.

(6) The *Owner* shall exercise due diligence in ensuring that, at all times, the *Works* and the related equipment and appurtenances used to achieve compliance with this *Approval* are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and requirements of this *Approval* , the *Act* and regulations, process controls and alarms.

(7) The *Owner* shall prepare a revised operations manual within six (6) months of *Substantial Completion* of the *Proposed Works* , that includes, but not necessarily limited to, the following information:

(a) operating procedures for routine operation of the *Works* ;

(b) inspection programs, including frequency of inspection, for the *Works* and the methods or tests employed to detect when maintenance is necessary;

(c) repair and maintenance programs, including the frequency of repair and maintenance for the *Works* ;

(d) procedures for the inspection and calibration of monitoring equipment;

(e) a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the *Water Supervisor* ; and

(f) procedures for receiving, responding and recording public complaints, including recording any follow up actions taken.

(8) The *Owner* shall maintain the operations manual current and retain a copy at the location of the *Works* or operational office of the *Owner* for the operational life of the *Works* . Upon request, the *Owner* shall make the manual available to *Ministry* staff.

(9) The *Owner* shall provide for the overall operation of the *Works* with an operator who holds a licence that is applicable to that type of facility and that is of the same class as or higher than the class of the facility in accordance with Ontario Regulation 129/04.

(10) The Owner shall undertake an inspection of the condition of the stormwater management ponds and ditches, at least once a year, and undertake any necessary cleaning and maintenance to prevent the excessive build-up of sediment and/or decaying vegetation.

(11) The owner shall maintain a logbook to record the results of the stormwater management pond inspections and any cleaning and maintenance operations undertaken and shall keep the logbook at the site or operational office of the *Owner* for inspection by the Ministry.

8. REPORTING

(1) One week prior to the start up of the operation of the *Proposed Works* , the *Owner* shall notify the *Water Supervisor* (in writing) of the pending start up date.

(2) Ten (10) days prior to the date of a planned *Overflow* being conducted pursuant to Condition 5 and as soon as possible for an unplanned *Overflow* , the *Owner* shall notify the *Water Supervisor* (in writing) of the pending start date, in addition to an assessment of the potential adverse effects on the environment and the duration of the *Overflow* .

(3) In addition to the obligations under Part X of the Environmental Protection Act , the *Owner* shall, within 10 working days of the occurrence of any reportable spill as defined in Ontario Regulation 675/98, bypass or loss of any product, by-product, intermediate product, oil, solvent, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the *Water Supervisor* describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.

(4) The *Owner* shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to *Ministry* staff.

(5) The *Owner* shall prepare, and submit to the *Water Supervisor* upon request, a performance report, on an annual basis, within ninety (90) days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the *Works* and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

(a) a description of any operating problems encountered and corrective actions taken;

(b) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the *Works* ;

(c) a summary of all stormwater and leachate monitoring results undertaken in the reporting period and the total volume of leachate disposed off site;

(d) a summary of the calibration and maintenance carried out on all effluent monitoring equipment; and

(e) a summary of all *Overflow* , spill or abnormal discharge events; and

(f) any other information the *Water Supervisor* requires from time to time.

Schedule 'A'

I. *PREVIOUS WORKS* APPROVED ON OR BEFORE DECEMBER 10, 2003 UNDER CofA # 8067-5TFKKB:

1. Application for Approval of Municipal and Private Sewage Works submitted by the City of London dated May 29, 2003 including drawings and specifications.
2. "City of London W12A Landfill, Stormwater Management Master Plan, Supporting Documentation for Approval Section 53 of the Ontario Water Resource Act" prepared by Earth Tech Canada Inc., Hamilton, Ontario, May 2003.
3. "W12A Landfill Certificate of Approval A042102, Leachate Management and Disposal" November 2003, prepared by the City of London.
4. "City of London W12A Landfill, Stormwater Management Master Plan, Class Environmental Assessment, Project File" prepared by Earth Tech Canada Inc., Hamilton, Ontario, December.

II. *PREVIOUS WORKS* APPROVED ON FEBRUARY 10, 2011:

1. Application for Approval of Municipal and Private Sewage Works submitted by the City of London dated August 6, 2010 including drawings and specifications.
2. "Design Brief - W12A Leachate Pumping Station and Forcemain" dated April 2010, prepared by AECOM, London, Ontario.
3. "Environmental Study Report - W12A Landfill Pumping Station" - CD copy - prepared by Environmental & Engineering Services Dept. City of London.

III. *PROPOSED WORK* :

1. Application for Environmental Compliance Approval submitted by the City of London dated April 22, 2013 including drawings and specifications.
2. "W12A Landfill MH701 Pumping Station Upgrade Design Report" dated April 2013 prepared by Dillon Consulting Limited, Oakville, Ontario.

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

1. Condition 1 is imposed to ensure that the *Works* are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the *Approval* and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. The condition also advises the Owners their responsibility to notify any person they authorized to carry out work pursuant to this *Approval* the existence of this *Approval.*

2. Condition 2 is included to ensure that the *Works* are constructed in a timely manner so that standards applicable at the time of Approval of the *Works* are still applicable at the time of construction, to ensure the ongoing protection of the environment.

3. Condition 3 is included to ensure that the *Ministry* records are kept accurate and current with respect to the approved works and to ensure that subsequent owners of the *Works* are made aware of the *Approval* and continue to operate the *Works* in compliance with it.

4. Condition 4 is included to ensure that the *Works* are constructed in accordance with the approval and that record drawings of the *Works* "as constructed" are maintained for future references.

5. Condition 5 is included to indicate that by-passes of untreated sewage to the receiving watercourse is prohibited, save in certain limited circumstances where the failure to *Overflow* could result in greater injury to the public interest than the *Overflow* itself where a *Overflow* will not violate the approved effluent requirements, or where the *Overflow* can be limited or otherwise mitigated by handling it in accordance with an approved contingency plan. The notification and documentation requirements allow the *Ministry* to take action in an informed manner and will ensure the *Owner* is aware of the extent and frequency of *Overflow* events.

6. Condition 6 is included to enable the *Owner* to evaluate and demonstrate the performance of the *Works* , on a continual basis, so that the *Works* are properly operated and maintained at a level which is consistent with the design objectives specified in the *Approval* and that the *Works* does not cause any impairment to the receiving watercourse.

7. Condition 7 is included to require that the *Works* be properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented. As well, the inclusion of a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the owner and made available to the *Ministry* . Such a manual is an integral part of the operation of the *Works* . Its compilation and use should assist the *Owner* in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for *Ministry* staff when reviewing the *Owner'* s operation of the work.

8. Condition 8 is included to provide a performance record for future references, to ensure that the *Ministry* is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in this *Approval,* so that the *Ministry* can work with the *Owner* in resolving any problems in a timely manner.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 4175-8C4SD5 issued on February 10, 2011

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

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**

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

DATED AT TORONTO this 11th day of December, 2013

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

SH/
c: DWMD Supervisor, MOE London - District
Fabiano Gondim, M.Eng., P.Eng., Dillon Consulting Ltd.

2013-E02

Ontario

Ministry of the Environment
Ministère de l'Environnement

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER 1828-9CKRMK
Issue Date: December 11, 2013

The Corporation of the City of London
300 Dufferin Ave
Post Office Box, No. 5035
London, Ontario
N6A 4L9

City Clerk No. 4276
Subject Amended ECA - W12A Landfill - 3502 Manning Dr.
DEC 23 2013
Ref. JBraam
C.C. Labuskhadra UpeCandido

Site Location: W12A Landfill
3502 Manning Dr
City of London, County of Middlesex
N6L 1K6

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

construction of stormwater management facilities, leachate collection and disposal system to service the W12A Landfill Site, located on 3502 Manning Drive, City of London, consisting of the following:

PROPOSED WORKS:

Upgrade the existing 27.5 L/sec capacity submersible pump (MH701 Pumping Station) with the following:

- two (2) 30.0 L/sec @ 24.5 m TDH capacity submersible pumps (MH701 Pumping Station) (one duty, one standby) and the existing 2,400 mm diameter x 8.80 m deep wet well, equipped with a 14.9 kW motor, a 150 mm diameter cement lined ductile iron pipe forcemain, and one (1) precast concrete valve chamber equipped with magnetic flow monitoring equipment, pumping collected leachate through an existing approximately 645 m long 150 mm diameter HDPE forcemain to a 300 mm diameter sanitary sewer described below; and

- all controls and associated appurtenances.

All in accordance with the documents listed in Schedule 'A'.

***PREVIOUS WORKS* APPROVED ON FEBRUARY 10, 2011:**

LEACHATE COLLECTION AND DISPOSAL SYSTEM

upgrade of existing leachate collection and disposal system to convey collected leachate directly to a municipal sanitary sewer for treatment at the Greenway Pollution Control Plant, consisting of the following:

Phase I - Leachate Collection System:

- one (1) existing perimeter leachate collection system serving Cell 1, Cell 2, Cell 3, Cell 4 and part of Cell 5, consisting of a 200 mm diameter perforated pipe installed with a minimum grade slope of 0.3% in a granular envelope about 0.9 m below original grade, equipped with maintenance holes at approximately 90 meter intervals, draining by gravity into a 60 m^3 capacity leachate **Storage Tank No. 1** located near the southeast entrance gate of the landfill site;

- one (1) existing perimeter leachate collection system serving Cell 5, consisting of a 200 mm diameter perforated pipe installed with a minimum grade slope of 0.3% in a granular envelope about 0.9 m below original grade, equipped with maintenance holes at approximately 90 meter intervals, draining by gravity into **MH701 Pumping Station** described above;

Phase II - Leachate Collection System:

- one (1) new full underdrain leachate collection system approximately 880 meter long serving Cell 6, Cell 7, and Cell 8, consisting of a 200 mm diameter perforated HDPE pipe installed at 90 meter interval with a minimum grade slope of 0.5% running in a southerly direction discharging into a 200 mm diameter perforated HDPE pipe located at the south toe of the landfill base then into a 200 mm diameter non-perforated HDPE header pipe buried below which eventually drains into **MH701 Pumping Station** described above;

- maintenance holes located at the south limit of the landfill site at the centre of each Cell 6, Cell 7, and Cell 8 installed at 180 meter intervals, and clean-outs located at the north side of each underdrain pipe running in a southerly direction;

Upgraded Leachate Disposal System:

- one (1) **new** approximately 360 m long 300 mm diameter sanitary sewer extending from MH200 through MH201, MH202, MH203, to MH204, discharging to an existing **Storage Tank No. 1** described below;

- one (1) **existing** 60 m^3 capacity leachate **Storage Tank No. 1** to be used as a wet well for the proposed new leachate pumping station described below, equipped with low and high level

float alarms and one (1) tanker truck loading station to haul leachate as required as a backup system to the new leachate pumping;

- one (1) existing 60 m^3 capacity leachate Storage Tank No. 2 located near Pond 4 at the south side of the landfill site, equipped with one (1) 7.5 hp submersible pump, low and high level float alarms, and one (1) tanker truck loading station to haul leachate as required as a backup system to the new leachate pumping station described below;

New Leachate Pumping Station and Forcemain

A prefab pumping station with approximate dimensions of 4.3 m x 3.7 m to be located beside the existing Storage Tank No. 1 and a forcemain consisting of the following:

- one (1) 30 L/sec maximum flow capacity @ 58.3 m TDH self priming centrifugal pump (**High Flow Pump**), equipped with a variable speed drive, 45 kW motor, a 150 mm diameter stainless steel suction pipe from the wet well (**Storage Tank No. 1**), and a 150 mm diameter stainless steel discharge pipe with a knife gate valve, discharging to a common 200 mm diameter discharge header;

- one (1) 10 L/sec maximum flow capacity @ 22.1 m TDH self priming centrifugal pump (**Low Flow Pump**), equipped with a variable speed drive, 7 kW motor, a 150 mm diameter stainless steel suction pipe from the wet well (**Storage Tank No. 1**), and a 150 mm diameter stainless steel discharge pipe with a knife gate valve, discharging to a common 200 mm diameter discharge header and the forcemain described below;

- one (1) approximately 202 m long 200 mm diameter forcemain extending from the leachate pumping station described above to a 6.6 km long leachate forcemain approved under Certificate of Approval No. 3256-882HLV issued on August 25, 2010.

- including all controls and associated appurtenances.

All in accordance with the documents listed in Schedule 'A'.

PREVIOUS WORKS **APPROVED ON OR BEFORE DECEMBER 10, 2003 UNDER CofA # 8067-STFKKB:**

STORMWATER MANAGEMENT FACILITY

Stormwater Management Pond - Pond 1:

a stormwater management facility located on the northwest corner of the landfill site, constructed as a wet extended detention pond, receiving stormwater runoff from a total drainage area of 14.4 ha, providing a permanent pool storage capacity of 2470 m^3 and an active storage capacity of 5800 m^3, designed to provide sufficient detention of stormwater runoff from storm events with 1:100 year return frequency, consisting of the following:

- one (1) inlet structure constructed of a rip-rap on a filter fabric and discharging into a forebay described below;

- one (1) forebay equipped with an outlet berm and an overflow rip-rap structure discharging into a wet detention pond described below;

- one (1) extended wet detention pond with a permanent pool elevation of 273.2 m equipped with one (1) 150 mm diameter Hickenbottom outlet structure placed inside a 1500 mm diameter perforated CSP riser structure with clear stone filter, discharging through one (1) 1200 mm diameter manhole (MH1) equipped with 150 mm diameter gate valve into an existing 900 mm diameter CSP culvert into Tributary 7; and

- one (1) emergency by-pass structure consisting of a 3.2 meter wide rip-rap spillway at invert elevation of 275.0 m discharging into Tributary 7.

Stormwater Management Pond - Pond 2/3:

a stormwater management facility located on the southwest corner of the landfill site, constructed as a wet extended detention pond, receiving stormwater runoff from a total drainage area of 29.6 ha, providing a permanent pool storage capacity of 2660 m^3 and an active storage capacity of 11100 m^3, designed to provide sufficient detention of stormwater runoff from storm events with 1:100 year return frequency, consisting of the following:

- one (1) inlet structure constructed of a rip-rap on a filter fabric and discharging into a settling pond described below;

- one (1) 52 m long and 31.8 m wide settling pond with a permanent pool elevation of 271.7 m, equipped with one (1) 300 mm diameter Hickenbottom outlet structure placed inside a 1500 mm diameter perforated CSP riser structure with clear stone filter, discharging through one (1) 300 mm diameter 30 m long PVC pipe into a main pond described below, and one (1)14.8 m wide rip-rap overflow structure with invert elevation of 272.2 m;

- one (1) 115 m long and 44.5 m wide extended wet detention pond with a permanent pool elevation of 271.2 m equipped with one (1) 300 mm diameter Hickenbottom outlet structure placed inside a 1500 mm diameter perforated CSP riser structure connected to one (1) 29 m long 300 mm diameter 29 m long PVC pipe passing through one (1) 1200 mm diameter manhole equipped with 300 mm diameter gate valve discharging into an existing outlet ditch which drains into Tributary 5; and one (1) ditch inlet structure with invert elevation of 272.2 m discharging through one (1) 18 m long 750 mm diameter concrete pipe into an existing outlet ditch which drains into Tributary 5;

- one (1) emergency by-pass structure consisting of a 5.0 m wide rip-rap spillway at invert elevation of 274.0 m discharging into Tributary 5.

Stormwater Management Pond - Pond 4:

a stormwater management facility located on the south side of the landfill site, constructed as a wet extended detention pond, receiving stormwater runoff from a total drainage area of 57.7 ha, providing a permanent pool storage capacity of 5200 m^3 and an active storage capacity of 20200 m^3, designed to provide sufficient detention of stormwater runoff from storm events with 1:100 year return frequency, consisting of the following:

- one (1) inlet structure constructed of a rip-rap on a filter fabric and discharging into a wet detention pond described below;

- one (1) 99 m long 40 m wide extended wet detention pond with a permanent pool elevation of 269.7 m equipped with one (1) 125 mm diameter Hickenbottom outlet structure placed inside a 1500 mm diameter perforated CSP riser structure with clear stone filter, discharging through a 29 m long 150 mm diameter non-perforated PVC pipe equipped with a 150 mm gate valve into one (1) 1200 mm diameter manhole (MH1) and then through a 29 m long 450 mm diameter pipe into an outlet structure described below;

- one (1) outlet ditch equipped with a 1650 mm x 900 mm concrete box with open grated top at invert elevation of 271.0 m and discharging through an existing 1050 mm diameter pipe into Tributary 3.

Stormwater Management Pond - Pond 5:

a stormwater management facility located on the southeast corner of the landfill site, constructed as a wet extended detention pond, receiving stormwater runoff from a total drainage area of 41.0 ha, providing a permanent pool storage capacity of 3690 m^3 and an active storage capacity of 11800 m^3, designed to provide sufficient detention of stormwater runoff from storm events with 1:100 year return frequency, consisting of the following:

- one (1) forebay equipped with one (1) 125 mm diameter Hickenbottom outlet structure placed inside a 1500 mm diameter perforated CSP riser structure with clear stone filter discharging into a wet detention pond through 25 m long 150 mm diameter pipe; and a 7.0 m wide rip-rip overflow structure at invert elevation of 273.0 m discharging into a wet detention pond described below;

- one (1) 88 m long 84 m wide triangular shaped extended wet detention pond with a permanent pool elevation of 268.5 m discharging through a 900 mm diameter pipe into an outlet structure described below; and

- one (1) outlet structure manhole equipped with an overflow weir at elevation 269.4 m, a 600 mm x 600 mm slide gate valve with one (1) 150 mm diameter orifice, discharging through 900 mm diameter outlet pipe into Tributary 1;

All in accordance with the documents listed in Schedule 'A'.

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

"Approval" means this entire document and any schedules attached to it, and the application;

"BOD5" (also known as $TBOD_5$) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demand;

"Director" means a person appointed by the Minister pursuant to section 5 of the *EPA* for the purposes of Part II.1 of the *EPA;*

"Emergency Situation" means a structural, mechanical or electrical failure that causes a temporary reduction in the capacity of the *Works* (Leachate Collection and Disposal System) or an unforeseen flow condition that may result in:

a) danger to the health or safety of any person; or,
b) injury or damage to any property, or serious risk of injury or damage to any property;

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

"Event" means an action or occurrence, at a given location within the *Works* that causes an *Overflow.* An *Event* ends when there is no recurrence of an *Overflow* in the 12-hour period following the last *Overflow* . Two *Events* are separated by at least 12 hours during which there has been no recurrence of an *Overflow;*

"Ministry" means the ministry of the government of Ontario responsible for the *EPA* and *OWRA* and includes all officials, employees or other persons acting on its behalf;

"Overflow" means any discharge from the *Works* (Leachate Collection and Disposal System) that does not undergo any treatment or only receives partial treatment before it is discharged to the environment.

"Owner" means the Corporation of the City of London and its successors and assignees;

"OWRA" means the Ontario Water Resources Act, R.S.O. 1990, c. O.40, as amended;

"Previous Works" means those portions of the sewage works previously constructed and approved under an *Approval* ;

"Proposed Works" means the sewage works described in the Owner's application, this Approval, to the extent approved by this *Approval;*

"Substantial Completion" has the same meaning as *"substantial performance"* in the Construction Lien Act;

"Water Supervisor" means the Water Supervisor for the London offices of the Ministry; and

"Works" means the sewage works described in the *Owner* 's application, and this *Approval* , and includes both *Proposed Works* and *Previous Works.*

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. GENERAL PROVISIONS

(1) The *Owner* shall ensure that any person authorized to carry out work on or operate any aspect of the *Works* is notified of this *Approval* and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

(2) Except as otherwise provided by these conditions, the *Owner* shall design, build, install, operate and maintain the *Works* in accordance with the description given in this *Approval* , and the application for approval of the *Works.*

(3) Where there is a conflict between a provision of any document in the schedule referred to in this *Approval* and the conditions of this *Approval* , the Conditions in this *Approval* shall take precedence, and where there is a conflict between the documents in the schedule, the document bearing the most recent date shall prevail.

(4) Where there is a conflict between the documents listed in Schedule 'A', and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.

(5) The Conditions of this *Approval* are severable. If any Condition of this *Approval* , or the application of any requirement of this *Approval* to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this *Approval* shall not be affected thereby.

2. EXPIRY OF APPROVAL

The approval issued by this *Approval* will cease to apply to those parts of the *Works* which have not been constructed within five (5) years of the date of this *Approval.*

3. CHANGE OF OWNER

(1) The *Owner* shall notify the *Water Supervisor* and the *Director,* in writing, of any of the following changes within thirty (30) days of the change occurring:

(a) change of *Owner;*

(b) change of address of the *Owner;*

(c) change of partners where the *Owner* 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.B17 shall be included in the notification to the *Water Supervisor;*

(d) change of name of the corporation where the *Owner* is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Information Act, R.S.O. 1990, c. C39 shall be included in the notification to the *Water Supervisor;*

(2) In the event of any change in ownership of the *Works,* other than a change to a successor municipality, the *Owner* shall notify in writing the succeeding owner of the existence of this *Approval,* and a copy of such notice shall be forwarded to the *Water Supervisor* and the *Director.*

4. UPON THE SUBSTANTIAL COMPLETION OF THE WORKS

(1) Upon the *Substantial Completion* of the *Proposed Works,* the Owner shall prepare a statement, certified by a Professional Engineer, that the works are constructed in accordance with this *Approval,* and upon request, shall make the written statement available for inspection by Ministry personnel.

(2) Within one (1) year of the *Substantial Completion* of the *Proposed Works* , a set of as-built drawings showing the works "as constructed" shall be prepared. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be retained at the *Works* for the operational life of the *Works.*

5. OVERFLOW - COLLECTION SYSTEM AND PUMPING STATIONS

(1) Any *Overflow* is prohibited, except:

(a) in an *Emergency Situation;* and

(b) where the *Overflow* is planned for research or training purposes, the discharger notified the *Water Supervisor* 15 days prior to the *Overflow* and the *Water Supervisor* has given written consent of the *Overflow.*

(2) The *Owner* shall forthwith notify the Spills Action Centre (SAC) and the Medical Officer of Health of all *Overflow Events* except the events occurring under the subsection (1)(b). This notice shall include, at a minimum, the following information:

(a) the date, time, and duration of the *Event;*

(b) the location of the *Event;*

(c) the measured or estimated volume of the *Event;* and

(d) the reason for the *Event;*

(3) The *Owner* shall submit *Overflow Event(s)* report to the Ministry's local office for each quarter only during which *Event(s)* has/have occurred. Each quarterly report shall be submitted no later than each of the following dates for each calendar year: February 14, May 15, August 14, and November 15. *Event* Reports shall be in an electronic format specified by the Ministry. In each Event Report the *Owner* shall include, at a minimum, the following information on any *Events* that occurred during the preceding quarter:

(a) the date, time, and duration of the *Event;*

(b) the location of the *Event*

(c) the measured or estimated volume of the *Event;* and

(d) the reason for the *Event.*

(4) The *Owner* shall maintain a logbook of all *Overflows,* which shall contain, at a minimum, the types of information set out in subsection 2 (a) to 2(d) in respect of each *Overflow.*

(5) The *Owner* shall use best efforts to collect at least one (1) grab sample of the *Overflow* and have it analyzed for leachate indicator parameters outlined in Condition 6 (2), using the protocols specified in Condition 6 (3).

6. MONITORING AND RECORDING

(1) Upon the commencement of the operation of the *Works* (Leachate pumping to sanitary sewer), the *Owner* shall carry out the following leachate monitoring program. Leachate samples shall be collected from a designated sampling location at Storage Tank No. 1 on a quarterly frequency (April, June, September, and November). The samples collected in April, September, and November shall be analyzed for the indicator parameter list in Table 1. The samples collected in June shall be analyzed for the comprehensive parameter list in Table 1.

(2) The *Owner* shall carry out the following surface water monitoring program. Surface water samples shall be collected from the designated sampling locations at the outfall of Pond 1, Pond 2/3, Pond 4 and Pond 5 in spring and fall and two other sampling events. The samples collected in spring and fall shall be analyzed for the comprehensive parameter list in Table 1. The samples collected during other two sampling events shall be analyzed for the

indicator parameter list in Table 1.

Table 1

Parameter	Leachate Monitoring		Surface Water Monitoring	
	Comprehensive Parameter	Indicator Parameter	Comprehensive Parameter	Indicator Parameter
General				
Alkalinity	X	X	X	X
BOD_5	X	X	X	X
COD	X	X	X	X
Conductivity	X	X	X	X
DOC	X	X		
Hardness			X	X
pH	X	X	X	X
Phenols	X	X	X	X
Sulphate	X	X	X	X
Suspended Solids	X	X	X	X
General - Nutrients				
Ammonia	X	X	X	X
Nitrate	X		X	X
Nitrite	X		X	X
TKN	X		X	
Total Phosphorus	X		X	X
General - Major Ions				
Chloride	X	X	X	X
Calcium	X	X		
Iron	X	X	X	X
Magnesium	X			
Manganese	X	X		
Potassium	X	X		
Sodium	X	X		
Trace Metals				
Arsenic	X		X	
Barium	X		X	
Boron	X		X	
Cadmium	X	X	X	
Chromium	X		X	
Copper	X		X	
Lead	X		X	
Mercury	X		X	
Nickel	X	X		

Selenium	X			
Zinc	X		X	
Volatiles				
EPA 624 Scan	X			
Field Test				
Conductivity	X	X	X	X
Dissolved Oxygen			X	X
pH	X	X	X	X
Temperature (Field)			X	X

(3) The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:

(a) the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only), as amended from time to time by more recently published editions;

(b) the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions;

(c) the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition), as amended from time to time by more recently published editions;

(4) The *Owner* shall install and maintain flow measuring devices, to measure the total volume of stormwater and leachate from the *Works* with an accuracy to within plus or minus 15 per cent (+/- 15%) of the actual flow for the entire design range of the flow measuring device, and record the total volume and average flow rate of stormwater and leachate at a weekly frequency.

(5) The *Owner* shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this *Approval* .

7. OPERATION AND MAINTENANCE

(1) The *Owner* shall operate the stormwater management facilities (Pond 1, Pond 2/3, Pond 4 and Pond 5) as continuous discharge facilities with the outlet control gate valve normally open (**Level One Operating Procedure**). The monitoring results from the four surface water sampling events outlined in Section 6 (2) of this *Approval* shall be reviewed and assessed against the following trigger points in Table 2.

Table 2

Parameter	Trigger Concentration (mg/L)
Ammonia (un-ionized)*	>0.3
BOD_5	>10.0
Chlorides	>800
Sulphates	>1000

* Note: Ammonia (un-ionized) concentration shall be calculated from the monitoring results of ammonia, pH, and field temperature.

(2) In the event that a monitoring result for any of the trigger parameters listed in Table 2 exceeds the corresponding trigger concentration, the *Owner* shall take a surface water sample to confirm the exceedance of a trigger concentration for that parameter. Upon confirmation of the exceedance of a trigger concentration for any parameter, the *Owner* shall commence to operate the stormwater management pond in a batch discharge mode with the gate valve normally closed **(Level Two Operating Procedure).**

(3) During Level Two Operating Procedure, if monitoring results show that there is an exceedance of a trigger concentration for any parameter, the *Owner* shall not allow the discharge of the potentially contaminated stormwater from the pond(s) into the receiving surface water and shall direct such discharges into the leachate collection system. However, if monitoring results show that there is no exceedance of a trigger concentration for any parameter, then the *Owner* shall discharge that batch of stormwater from a pond into the receiving surface water.

(4) During Level Two Operating Procedure, the *Owner* shall conduct a Level One monitoring program plus monitoring of the trigger parameters at the end of each storm event.

(5) A stormwater management pond operating under **Level Two Operating Procedure** shall return to **Level One Operating Procedure** only if the monitoring results from three (3) consecutive surface water sampling events for each trigger parameter from the same pond are less than the corresponding trigger concentration for each parameter.

(6) The *Owner* shall exercise due diligence in ensuring that, at all times, the *Works* and the related equipment and appurtenances used to achieve compliance with this *Approval* are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and requirements of this *Approval* , the *Act* and regulations, process controls and alarms.

(7) The *Owner* shall prepare a revised operations manual within six (6) months of *Substantial Completion* of the *Proposed Works* , that includes, but not necessarily limited to, the following information:

(a) operating procedures for routine operation of the *Works* ;

(b) inspection programs, including frequency of inspection, for the *Works* and the methods or tests employed to detect when maintenance is necessary;

(c) repair and maintenance programs, including the frequency of repair and maintenance for the *Works* ;

(d) procedures for the inspection and calibration of monitoring equipment;

(e) a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the *Water Supervisor* ; and

(f) procedures for receiving, responding and recording public complaints, including recording any follow up actions taken.

(8) The *Owner* shall maintain the operations manual current and retain a copy at the location of the *Works* or operational office of the *Owner* for the operational life of the *Works* . Upon request, the *Owner* shall make the manual available to *Ministry* staff.

(9) The *Owner* shall provide for the overall operation of the *Works* with an operator who holds a licence that is applicable to that type of facility and that is of the same class as or higher than the class of the facility in accordance with Ontario Regulation 129/04.

(10) The Owner shall undertake an inspection of the condition of the stormwater management ponds and ditches, at least once a year, and undertake any necessary cleaning and maintenance to prevent the excessive build-up of sediment and/or decaying vegetation.

(11) The owner shall maintain a logbook to record the results of the stormwater management pond inspections and any cleaning and maintenance operations undertaken and shall keep the logbook at the site or operational office of the *Owner* for inspection by the Ministry.

8. REPORTING

(1) One week prior to the start up of the operation of the *Proposed Works* , the *Owner* shall notify the *Water Supervisor* (in writing) of the pending start up date.

(2) Ten (10) days prior to the date of a planned *Overflow* being conducted pursuant to Condition 5 and as soon as possible for an unplanned *Overflow* , the *Owner* shall notify the *Water Supervisor* (in writing) of the pending start date, in addition to an assessment of the potential adverse effects on the environment and the duration of the *Overflow* .

(3) In addition to the obligations under Part X of the Environmental Protection Act, the *Owner* shall, within 10 working days of the occurrence of any reportable spill as defined in Ontario

Regulation 675/98, bypass or loss of any product, by-product, intermediate product, oil, solvent, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the *Water Supervisor* describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.

(4) The *Owner* shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to *Ministry* staff.

(5) The *Owner* shall prepare, and submit to the *Water Supervisor* upon request, a performance report, on an annual basis, within ninety (90) days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the *Works* and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

(a) a description of any operating problems encountered and corrective actions taken;

(b) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the *Works* ;

(c) a summary of all stormwater and leachate monitoring results undertaken in the reporting period and the total volume of leachate disposed off site;

(d) a summary of the calibration and maintenance carried out on all effluent monitoring equipment; and

(e) a summary of all *Overflow* , spill or abnormal discharge events; and

(f) any other information the *Water Supervisor* requires from time to time.

Schedule 'A'

I. *PREVIOUS WORKS* APPROVED ON OR BEFORE DECEMBER 10, 2003 UNDER CofA # 8067-5TFKKB:

1. Application for Approval of Municipal and Private Sewage Works submitted by the City of London dated May 29, 2003 including drawings and specifications.

2. "City of London W12A Landfill, Stormwater Management Master Plan, Supporting Documentation for Approval Section 53 of the Ontario Water Resource Act" prepared by Earth Tech Canada Inc., Hamilton, Ontario, May 2003.

3. "W12A Landfill Certificate of Approval A042102, Leachate Management and Disposal" November 2003, prepared by the City of London.

4. "City of London W12A Landfill, Stormwater Management Master Plan, Class Environmental Assessment, Project File" prepared by Earth Tech Canada Inc., Hamilton, Ontario, December.

II. *PREVIOUS WORKS* APPROVED ON FEBRUARY 10, 2011:

1. Application for Approval of Municipal and Private Sewage Works submitted by the City of London dated August 6, 2010 including drawings and specifications.

2. "Design Brief - W12A Leachate Pumping Station and Forcemain" dated April 2010, prepared by AECOM, London, Ontario.

3. "Environmental Study Report - W12A Landfill Pumping Station" - CD copy - prepared by Environmental & Engineering Services Dept. City of London.

III. *PROPOSED WORK*:

1. Application for Environmental Compliance Approval submitted by the City of London dated April 22, 2013 including drawings and specifications.

2. "W12A Landfill MH701 Pumping Station Upgrade Design Report" dated April 2013 prepared by Dillon Consulting Limited, Oakville, Ontario.

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

1. Condition 1 is imposed to ensure that the *Works* are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the *Approval* and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. The condition also advises the Owners their responsibility to notify any person they authorized to carry out work pursuant to this *Approval* the existence of this *Approval.*

2. Condition 2 is included to ensure that the *Works* are constructed in a timely manner so that standards applicable at the time of Approval of the *Works* are still applicable at the time of construction, to ensure the ongoing protection of the environment.

3. Condition 3 is included to ensure that the *Ministry* records are kept accurate and current with respect to the approved works and to ensure that subsequent owners of the *Works* are made aware of the *Approval* and continue to operate the *Works* in compliance with it.

4. Condition 4 is included to ensure that the *Works* are constructed in accordance with the approval and that record drawings of the *Works* "as constructed" are maintained for future references.

5. Condition 5 is included to indicate that by-passes of untreated sewage to the receiving watercourse is prohibited, save in certain limited circumstances where the failure to *Overflow* could result in greater injury to the public interest than the *Overflow* itself where a *Overflow* will not violate the approved effluent requirements, or where the *Overflow* can be limited or otherwise mitigated by handling it in accordance with an approved contingency plan. The notification and documentation requirements allow the *Ministry* to take action in an informed manner and will ensure the *Owner* is aware of the extent and frequency of *Overflow* events.

6. Condition 6 is included to enable the *Owner* to evaluate and demonstrate the performance of the *Works* , on a continual basis, so that the *Works* are properly operated and maintained at a level which is consistent with the design objectives specified in the *Approval* and that the *Works* does not cause any impairment to the receiving watercourse.

7. Condition 7 is included to require that the *Works* be properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or

damage to any person or property is prevented. As well, the inclusion of a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the owner and made available to the *Ministry* . Such a manual is an integral part of the operation of the *Works* . Its compilation and use should assist the *Owner* in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for *Ministry* staff when reviewing the *Owner'* s operation of the work.

8. Condition 8 is included to provide a performance record for future references, to ensure that the *Ministry* is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in this *Approval,* so that the *Ministry* can work with the *Owner* in resolving any problems in a timely manner.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 4175-8C4SD5 issued on February 10, 2011

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

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
M5G 1E5

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**

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

DATED AT TORONTO this 11th day of December, 2013

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

SH/
c: DWMD Supervisor, MOE London - District
Fabiano Gondim, M.Eng., P.Eng., Dillon Consulting Ltd.